

Leadership in Nursing: Experiences from the European Nordic Countries

Thóra B. Hafsteinsdóttir
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Contents

1	Introduction on Leadership, Nursing and the Nordic Countries	1
	Thóra B. Hafsteinsdóttir	
Part I Nursing Leadership in Denmark		
2	The State of Nursing Science in Denmark	21
	Kirsten Lomborg	
3	Evidence-Based Clinical Practice	33
	Jeanette Finderup and Kirsten Lomborg	
4	Higher Education in Nursing in a Changing Danish Society	47
	Kirsten Frederiksen and Kirsten Beedholm	
5	Pioneers in an Old Culture. Developing and Leading a Research and Development Capacity Building Program.	57
	Bibi Hølge-Hazelton	
Part II Nursing Leadership in Finland		
6	State of Nursing Science in Finland	69
	Helena Leino-Kilpi and Minna Stolt	
7	Leading Evidence-Based Practice in Finnish Healthcare	83
	Riitta Suhonen, Minna Ylönen, Leena Jalonen, and Arja Holopainen	
8	Nursing Education and Nurse Education Research in Finland	99
	Leena Salminen, Sanna Koskinen, Asta Heikkilä, Camilla Strandell-Laine, Elina Haavisto, and Helena Leino-Kilpi	
9	Professional Practice Competence Framework for the Nurse Leader.	115
	Riitta Meretoja, Kirsi Lindfors, and Jaana Kotila	
Part III Nursing Leadership in Iceland		
10	State of Leadership in Nursing Science in Iceland	131
	Helga Jónsdóttir	

11	Complexity Leadership in the Collaboration Between Academia and Clinical Nursing: Searching for Harmony	149
	Marianne E. Klinke and Helga Jónsdóttir	
12	Towards the Future: The Education of Nurses in Iceland Reconsidered	161
	Herdís Sveinsdóttir, Þóra Jenný Gunnarsdóttir, and Kristín Björnsdóttir	
13	A Nurse-Managed Follow-Up Practice for Patients After Discharge from the Intensive Care Unit: Development, Testing and Implementation	177
	Rannveig J. Jónasdóttir and Helga Jónsdóttir	
Part IV Nursing Leadership in Norway		
14	Historical Development and the State of Nursing Science in Norway.	195
	Marit Kirkevold	
15	Research Development in the Clinical Field.	215
	Hilde Wøien and Sigrid Rannem	
16	Research in Nursing Education in Norway	231
	Ida Torunn Bjørk	
17	Developing a Clinical Nursing Research Programme: The Case of Promoting Psychosocial Well-Being in Stroke Survivors	251
	Marit Kirkevold	
Part V Nursing Leadership in Sweden		
18	Nursing Science in Sweden: Internal and External Forces Contributing to Its Development.	269
	Ingalill Rahm Hallberg	
19	Clinical Practice Project Implementing Evidence-Based Practice.	287
	Ami Hommel	
20	Nursing Leadership in Transition: From Matriarch and Instructor to University Teacher and Researcher	307
	Gerd Ahlström	
21	Nursing Research in Sweden: Academic Leadership	325
	Jimmie Kristensson and Ingalill Rahm Hallberg	

About the Editors



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Ingalill Rahm Hallberg, RN, RNT, PhD, FEANS, FAAN is professor emeritus at Lund University in Sweden. She is honorary member of the Swedish Medical Society. She worked about 20 years as a nurse, mainly in mental health. After obtaining her PhD, she was elected pro-dean at the Medical Faculty, Lund University, for 6 years. She also was the head of the Vårdalinstitutet during 6 years, and there she built up this interdisciplinary research environment. Thereafter, she was assistant vice-chancellor at Lund University. Before retirement, she was also pro-vice-chancellor at the same university. She has been the main supervisor of 29

nurses obtaining a PhD and co-supervisor to 8 nurses obtaining their PhD. She has published more than 225 original papers in international peer-reviewed papers and several books or book chapters, internationally as well as in Swedish. Her current research is exploring the relationship between body and mind, specifically “The molecular fingerprints of psychological resilience in breast cancer patients,” a study initiated by her. In addition, she is researching the care of people with dementia in nine Swedish municipalities.



Introduction on Leadership, Nursing and the Nordic Countries

1

Thóra B. Hafsteinsdóttir

Nurses must be leaders who learn and help others to learn
—Florence Nightingale (1820–1910).

The nursing profession is the largest group of healthcare professionals within the professional global health workforce [1], and nurses play a vital role in rapidly changing healthcare settings and evolving healthcare systems. Nurses work on the front line of patient care, providing up to 80% of all care for patients [1] and attending to the complex needs of patients across the range of diverse health systems worldwide. Various reports have called for nurses to take leadership in all arenas of healthcare [2–8]. Aiming to establish a unified voice and vision for the future of nursing and midwifery that will advance global health while simultaneously strengthening professional roles the Global Advisory panel on the Future of Nursing and Midwifery [4] published an extensive report on global healthcare issues and professional nursing priorities [4]. Convening leaders and stakeholders from all regions and global organizations, they identified leadership as one of the main professional priorities for nursing to focus on, and they repeatedly noted that strong leadership provides the foundation for advancement of all other professional areas of nursing, including policy and regulation, workforce, practice, education and research,—vital to furthering nursing and midwifery as being interrelated, equally important and mutually reliant on leadership [4]. The Nursing Now campaign, recently launched in collaboration with global organizations, aims to raise the status and profile of nursing worldwide and to enhance nurses influence and maximize their contributions to ensure that everyone everywhere has access to health and healthcare. Strengthening nursing globally by increasing the number of nurses and making sure their contribution is properly understood and enabling them to work to their full potential will have the *triple impact* of improving health, promoting

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gender equality and supporting economic growth [2]. In order to be able to effectively respond to the future global challenges, nurses need to strengthen their leadership competencies in the areas of health policy, academe, system improvement, evidence-based practice and competency in specific content areas like in education and research including universities or the like [2]. Thereby, nurses will be able to deliver high-quality care and to lead change and advance the health of patients, clients and communities worldwide.

This book is about leadership in Nursing in the Nordic countries. Why a book on *leadership* in nursing in Nordic countries? The word leadership is found in every language and is almost as old as civilization itself. The interest in leadership has been growing through the years, with wide variations in the definitions of leadership. One definition describes leadership as “the skill of motivating, guiding, and empowering a team towards a socially responsible vision” [9], while another defines leadership as “being able to see the present for what it really is, see the future for what it could be and then take action to close the gap between today’s reality and the preferred future of tomorrow” [10]. Recently, person-centred leadership was defined as “a style of leadership in which a leader tries to enable associate coming into own while working towards a shared vision/common goal” [11]. At its heart, leadership is broadly accepted in the nursing literature to be about influencing others to accomplish common goals and is described as a complex and multifaceted process which involves providing support, motivation, coordination and resources to enable individuals and teams to achieve collective objectives [12, 13].

In recent years a wide range of leadership approaches have been used and researched in nursing including transformational leadership [14, 15], servant leadership [16], leadership based on emotional intelligence [17] and situational leadership [18]. However none of these originates from nursing research. The context of nursing and healthcare is, however, more complex than many other organizational contexts. Healthcare has to do with the deepest values of human beings and therefore, nurse leaders have to consider “roles, relationships and practices that are made within contexts and through social interactions, while learning with people who share these contexts” ([19], p. 257). In line with this, more recent leadership approaches originating from nursing include person-centred situational leadership [11, 20] and leadership moral courage framework [21]. Some argue that it is through their unseen relational work that nurses achieve positive patient and professional outcomes [22]. Transformational leadership, also a relationship-oriented approach, seems to be the most frequently used in nursing, with growing evidence for its impact on patient, professional, nurses and organizational outcomes [10, 23–34].

The approach to leadership presented in this book is based on the view that leadership is strongly founded in relationships and helping people and organizations to move towards creating and achieving a vision,—is context driven, is about creating a long-term strategic vision, enabling people to work towards change and involves helping people to develop a shared sense of mission, inspiring and motivating others and tackling political, organizational and resource barriers [35]. Also, academic leadership is an important approach in this book. Academic nursing provides leadership

in the three following areas: research leadership, patient care leadership and workforce development leadership [3]. Academic nursing encompasses the integration of practice, education and research within baccalaureate and graduate schools of nursing. Faculty engaged in academic nursing demonstrate a commitment to inquiry, generate new knowledge for the discipline, connect practice with education and lead scholarly pursuits that improve health and healthcare [3].

Although the concepts of leadership and management are often used interchangeably, both are important, but profoundly different and distinct. Management is centrally concerned with strategic and more often focusing on operational aspects of planning, organizing and monitoring service delivery and generally takes place in complex environments, requiring leadership, but leaders are not necessarily managers [36]. A manager is a person who needs to keep control of an enterprise and will do his/her utmost to keep the organization on track, whereas the leader promulgates a mission that supports his or her vision for organizational direction [15]. It is important for a manager also to be a leader—the manager is in a formal power position, which is of great importance in terms of leadership as the positions of power often are essential to realize change.

Leadership in this book is discussed in relation to societal developments and phenomena in the community which influenced the development of nursing and were influential within nursing. In some cases, individual nurses and groups of nurses showed strong leadership, influenced other nurses in the process and were instrumental in the development of nursing as a profession, the education and nursing science. Through the history societal changes took place influencing nursing, the working conditions for nurses improved as well as their status, moving the profession forward. Nurses had a strong vision on the importance of public healthcare and often were influential in the development of healthcare within and across countries. Leadership is further discussed in relation to the developments of nursing education, the development of evidence-based practice and research and the leadership role of nurses in these. Further, exemplary evidence-based practice projects, educational and research projects are described and discussed and the leadership role of nurses in these.

Along with the societal developments taking place in Europe, nurses from the Nordic countries took part in founding the International Council of Nurses (ICN) in 1899,—they established a collaboration within Nordic Nurses Federation (NNF) in 1920 and were among the founders of the World Health Organization (WHO) in 1946. Later they collaborated with other nurses from Western Europe in establishing the Workgroup of European Nurse Researchers (WENR) in 1978 and the European Academy of Nursing Science (EANS) in 1998. However, although nurses from the Nordic countries played an important role in these developments, the societal changes taking place at the same time called for improved education, and there were growing demands of know-how in working life. In the Nordic countries, education policy has been a part of welfare policy. Social and regional equality have been central political goals to developing education, including academic development of nursing science within and across countries in Europe and international at that time [37].

Why a book about the *Nordic countries*? The book explores the development of nursing in the Nordic countries of Europe, namely, Denmark, Finland, Iceland, Norway and Sweden. The Nordic countries also include Greenland and Faroe Islands, which are both constituent countries within the Kingdom of Denmark, as well as the Åland Islands, which constitute autonomous, Swedish speaking, smallest region within Finland. The Nordic countries have considerable resemblance in cultural, religious, social and political environments and healthcare structures. Through the Nordic Council of Ministers (founded in 1971), the Nordic countries have major collaboration on educational programmes, research and teacher and student exchange [38]. The number of inhabitants in each of the countries is small, with a total population of slightly more than 27 million people, and the number of registered nurses (RNs) is estimated to be more than 300,000 [39, 40]. When looking into the social, healthcare and economic developments within these countries, it seems clear that many of these developments also have influenced the development of nursing and the fact that nurses were able to operate in the way they did at the time. The Nordic countries also differentiate from other countries due to the role that the following factors may have played herein:

- The Nordic countries are among the world's strongest developed democratic societies, and according to the World Economic Forum, they are rated among the top ten on the Democratic Index (Norway no. 1, Iceland no. 2, Sweden no. 3, Denmark no. 5, Finland no. 9) [41].
- The Nordic countries have strongly socialized healthcare, which is especially well-established with regard to primary and preventive healthcare and have highly developed hospital services. Healthcare systems are taxation based, locally administrated with every citizen having equal access to services, but require copayments by patients for hospital care and medicines. In general, the markets have a low level of influence on the functioning of healthcare systems. Healthcare in the Nordic countries score among the highest according to the 2018 WHO's ranking of the world's health systems (Norway no. 11, Iceland no. 15, Sweden no. 23, Finland no. 31, Denmark no. 34) [42].
- Equality between men and women is a fundamental value in the Nordic countries. This may be due to the strong history of women's liberation movement which resulted in a larger proportion of women working full time, having higher functions in society and proportionally more women in national organizations and governments. Gender equality refers to equal rights, responsibilities and opportunities in every area of life of men and women and boys and girls. It means that every person, regardless of gender, have equal power in society. Using indicators and statistics that reflect the realities of lives of men and women, the Nordic region is the most gender equal region in the world due to Nordic collaboration on gender issues. The Nordic countries rank among the highest in closing the gender gap especially in politics, health and education (Iceland no. 1, Norway no. 2, Finland no. 3, Sweden no. 5, Denmark no. 14) [43].
- Education, including university education, within the Nordic countries is free of charge for all citizens, which is of vital importance in terms of giving all citizens

the same opportunity. These countries also have a rather high position in education according to the OECD Programme for International Student Assessment, PISA, which has become the world's premier yardstick for evaluating the quality, equity and efficiency of school systems (Finland is among the top four countries, with Denmark, Norway and Sweden scoring above the OECD average) [44].

- The Nordic countries score among the highest in the Human Development Index of the United Nations, which takes into account factors including life expectancy, education and schooling and gross national income (Norway no. 1, Denmark no. 5, Iceland no. 9, Sweden no. 14, Finland no. 24) [45].
- The Nordic countries have since 1952 a passport travel-free area and form a collaborative entity via the Nordic Council of Ministers since 1971, which is guided by a special collaboration programme [46].

1.1 Historical Development of Nursing Science

When reviewing the history on academization of nursing, Florence Nightingale (1820–1910) was both a devoted scientist and a clinical practitioner and laid the foundation for the professional practice of nursing and scientific outcomes. Her insights remain applicable and relevant in the twenty-first century nursing practice. Nightingale may have had the most dominant influence on the early development of nursing, also within the Nordic countries [47, 48]. She developed educational and hospital plans, which were implemented within the Nordic countries, and she developed nursing education with an apprenticeship system (1861) attended by students from Nordic countries [47–50]. In the early 1900, when nursing education changed from hospital training to educational programmes, Nightingale emphasized nursing as an autonomous profession. To Nightingale, there were no differences between the scientific level of theories related to medicine and those related to gender characteristics, and therefore there were no relevant scientific distinctions which could justify nursing as a subordinate profession to medicine [47–49]. From the very beginning of the history of modern nursing, nurses strongly defended this view. Metaphysical theories of gender characteristics changed over time. In the last part of the nineteenth century, the scientific foundation for the medical profession changed dramatically from a metaphysical towards a clinical experimental foundation. Nurses insisted on the original foundation and therefore on metaphysical, humanistic and social scientific changes. Nurses' struggle for professional recognition and an academic anchoring of nursing practice, education and research has continued until today [39].

Although modern nursing has its roots in Europe, the academization of nursing however, started in North America. In 1899 the first university course for nurse leaders, which focused on hospital economics, was established at the Teachers College of Columbia University in New York. Ten years later (1909), the first basic nursing degree programme was initiated at the University of Minnesota, and within a decade, the University of Vancouver in Canada started a Bachelor of Arts in Applied Science (Nursing). The first doctoral programme for nurses was founded in 1924 at

Teacher College, Columbia University [51–54]. The early development of academic nursing education models in the United States need to be seen as a part of the history of the higher education system in Europe. During these early years, however, nurses continued to fight for improved working conditions, women's rights, professional recognition and academization of the profession and were at the same time able to unify within national and international professional organizations.

The International Council of Nurses (ICN) was founded in 1899 as the first international organization for healthcare professionals and for women in the world. ICN originated in the intersection of women's rights, social progressivism and healthcare reforms, in a milieu of great social change. The nurses who founded ICN were deeply engaged in the international women's movement, fighting for women's rights and improvement of women's working condition, and they were among the first to express the idea of university education for nurses [55]. The nurses in the Nordic countries unified in national nurses associations, which were founded in the years between 1896 and 1919 and established close connections both among themselves and internationally [56]. National nursing organizations closely followed the development of nursing education in neighbouring countries. The First World War (1914–1918) caused huge disruption in the work and activities of the ICN. The results of the work of ICN obtained before the war, especially those regarding the improvement of women's working conditions, were thrown into question. After the war, nurses were nevertheless considered as having a key role to play in public healthcare [57]. It was not until 1922 that ICN leaders were able to continue the work within the organization and further its mission after the First World War.

The Northern Nurses Federation (NNF) was founded in 1920 with the formalization of Nordic collaboration between nurses in the Nordic countries, which at the time included nurses from Denmark, Finland, Norway and Sweden. This first idea of a Nordic collaboration had emerged in 1912 during the ICN congress in Cologne, but was delayed due to the First World War,—however became a reality in 1920. At that time, the national nursing associations had already been founded,—in Finland (1897), Denmark (1899), Sweden (1910) and Norway (1912). The Icelandic association of nurses (founded in 1919) became a member of the NNF in 1923, and the Faroese association of nurses joined the collaboration in 1998. National nursing organizations monitored closely international models and the development of nursing education in neighbouring countries. The NNF encouraged national nursing associations to further develop education in nursing and thereby prepare for a common Nordic institution of higher education of nurses [58], establishing close connections both among themselves and nurses international. In the 1950s the development of nursing research in North America had an impact on the NNF's goal setting, and the discussions at the time clearly reveal a breakthrough in “research mindedness” of nurses [55].

In the first decades of the twentieth century, the stimuli for the university training of nurses arrived in the Nordic countries in a similar manner as in other European countries,—through individual nurses furthering their education by attending either the Teachers College of Columbia University in New York, the nursing programme

at the University of Minnesota or following other educational programmes like psychology in their own country. Nurses, who travelled abroad for their further education, brought home new and innovative ideas about the importance of higher education for nurses and academization of nursing. As early as 1901, the ICN had expressed the idea of university education for nurses and chairs of nursing creating a link between nursing education in Europe and North America [56]. In the 1950s and 1960s, the WHO expert committee on nursing strongly recommended linking nurses' basic and further education with the highest level of education in each country and emphasized the importance of the development of research within nursing. In 1950 the expert committee recommended that "every post basic education program should be given under the aegis of universities on the same level as a graduate study in other disciplines and with teaching staff of comparable qualifications; or else it should be set up as an independent educational activity with educational standards and academic recognition comparable to those of the programmes in universities" ([58], p. 15). Also, in 1966, the report reaffirmed earlier recommendations and emphasized the importance of placing nursing education in higher education or universities [59]. Again in 1972, the report emphasized its earlier recommendations to carry out nursing education at the highest level of education and underlined that applicants for nursing education should fill the same requirements as all students entering universities [60]. The further development and expansion of higher education in the Nordic countries is characterized by the following factors: (a) There was an increased call for education by individuals and a growing demand of know-how in the workforce and in the society, including political goals and ambitions. (b) In the Nordic countries, education policy has always been a part of welfare policy. (c) Social and regional equality have been central political goals to developing education. (d) Most universities are state owned and mostly financed from the state budget [37, 61]. Even though the nursing profession is a global one, nursing mainly developed from national needs within each country, but was greatly influenced by the international collaboration of nurses. Also, the basic characteristics of the universities and higher education are both national and international. Although the academization and development of higher nursing education in the Nordic countries has been somewhat similar, some distinct differences are noted, and it is interesting to note how academization has taken different shapes in these countries.

In Denmark, the first nursing education was started in 1860 by the Danish deacons. However from 1938 nurses were able to attend further education at the Danish School of Advanced Nursing Studies located by Aarhus University, where they could attend courses on leadership, teaching and health visiting [37]. Later, the health administration started further education of public health nurses in an institute located by (but not a part of) the Aarhus University, with the financial support of the Rockefeller Foundation and Danish insurance companies [55]. Throughout the following decades, a long-lasting process took place in an attempt to establish further education at university level for nurses and to further the academization of the nursing profession. Many different stakeholders were involved including the Danish Nurses' Organization (DNO), the Danish Council of Health Science, the Health Government Department, representatives from regions, municipalities and teachers

from different levels of nursing education programmes. Since 1991 Danish nurses could enrol in academic education in nursing at Aarhus University to achieve an academic degree.

In Finland the early beginnings of formal nursing education were in the late nineteenth century, and in 1890 there was one nursing school with nine nursing students [62]. The academization of nursing started in the 1940s and 1950s when Finnish nurses established the School of Advanced Education, later the Helsinki College of Nursing, to become a higher education institution [37]. The beginning of systematic nursing research in Finland was marked by the establishment of the Research Institute of Nursing in Helsinki in 1966. The trade unions of nurses and public health nurses together with the Educational Foundation of Nurses (1944) had committed themselves to the development of this research institute. A support organization was founded with membership of more than 30 separate organizations and over 100 individuals [63]. At first, research activities focused on nursing practice, and during the time research programmes were developed more purposefully and focusing more on the maintenance of health and the development of nursing work. University education leading to the master's degree in Finland originated in 1979 and resulted in the transfer of a large portion of research effort to the universities in the 1980s [63].

In Iceland nursing as a formal occupation developed in the latter part of the nineteenth century. In 1915 Icelandic nurses founded the first nursing organization Mercy (Líkn) to provide the poor with free healthcare, and in 1919 they founded the Icelandic Nursing Association (INA). An important issue for the Icelandic nurses in the INA was the development of a 3-year education for nurses which was mainly influenced by the NNF. The INA also aimed to train for nurses before they went for formal education to Denmark or other Nordic countries [64, 65]. Nursing education in Iceland, like in other European countries, was provided in one traditional nursing schools linked with the national hospital [66]. Iceland was, however, the first of the Nordic countries to open university education for nurses by establishing a Bachelor of Science programme in nursing in the year 1973 [67].

In Norway the Norwegian Nurses' Association (NNA) set its goal on the founding of a nursing institute in a university in the 1960s. The School of Advanced Education administered by NNA was the most important driving force in striving for university education for nurses including an own research domain that should be developed so that it would meet the standards of a higher education institution [65, 68]. The NNA encouraged nurses to take university degrees and also provided financial support to those who were studying in universities. After their university studies, the scholarship students of the NNA were obliged to enter employment in the School of Advanced Education [65].

In Sweden, the society first assumed overall responsibility for nursing education with the nursing reform of 1916 as the few private schools of nursing had proved to be insufficient to serve the community and therefore a large number of hospital-based schools were established. The State School in Nursing, founded in Stockholm in 1939, offered nurses studies in political science and sociology, which were

unusual subjects to women as well as nurses [37]. Later the State School collaborated with the university. Important were the NNF meetings on nursing research held in Copenhagen in 1966 in collaboration with WHO and the collaborative efforts between Sweden and Finland during the 1970s initiated by nurse educators of both countries. A decisive meeting was the Nordic symposium on the nursing process held in Helsinki 1975, and research conferences were held in Uppsala (1975, 1977) and Linköping (1976). The Workgroup of European Nurse Researchers (WENR), founded in 1978, played an important role in the early development of nursing research in Sweden, which organized the first open conference with the Swedish Nursing Organization in 1982 [69].

Although many prominent individuals emphasized the importance of university education for nurses, these issues did not develop further in Europe until the middle and late part of the twentieth century [70]. In 1995 the Nordic countries held a joint symposium to discuss priorities in research in nursing science, to develop a strategy for the future and presented the following research priorities: (a) promoting health and well-being across the life span, (b) symptom management, (c) care of the elderly, (d) cost-effectiveness evaluation, (e) restructuring healthcare systems, (f) self-care or self-management of health and illness and (g) developing knowledge for practice from a theoretical/philosophical perspective [71]. The growth and development of nursing research in Europe, including the Nordic countries, progressed through four remarkably similar stages: First, nursing research emerged as a “bottom up” initiative, pioneered by forward-looking individual nurses or “avant-garde” establishments. Second, it was a collective activity in the form of “top down” initiative, with government support for research training for nurses and support from national nursing associations. Third, there was a gradual growth of research infrastructure, mainly as a result of entry to, or affiliation with the university system. Fourth, there was a shift from ad hoc opportunistic initiatives to a more strategic approach [71, 72]. The Councils of Europe’s Nursing Research Report (1996) [71] urged governments to facilitate the development and implementation of a coherent national strategy for nursing research and emphasized the importance of formalized structure and organization of nursing research, integration of research and practice, education for nursing research, funding for research and national and international collaboration in nursing research within and across countries [71, 72].

1.2 Nursing Education Reforms

The Nordic countries, like other European countries, experienced recurring reforms in nursing education, with the driving forces, efforts for professional development of nursing and efforts to integrate the nursing programmes into higher education. The single most important reform of higher education took place in Western Europe with the “Bologna Process”, which was to affect millions of nurses including clinical practice, education and research. The Bologna process was launched in 1999 when representatives from various EU countries signed the “Bologna Declaration”

[73, 74] aiming to create convergence among a European countries to harmonize higher education with the following objectives:

1. to adopt a system of academic degrees which are transparent and easily compared, including the introduction of the diploma supplement;
2. to adopt a system based on two cycles: the undergraduate cycle of 3 years of study, which is mainly aimed at providing qualified personnel for the job market, and the postgraduate cycle for master's and doctoral degrees, conditional upon completion of the undergraduate cycle;
3. to establish the European Credit Transfer System (ECTS);
4. to promote the mobility of students, teachers and researchers;
5. to promote cooperation in quality assurance and
6. to promote European dimensions in higher education [40, 73, 74].

A systematic review analysing nursing education in Europe showed that there were more similarities than differences in nursing education between the European countries [75]. The majorities of educational programmes in Europe last for 3 years (58%), whereas 31% of nursing education programmes last 4 years. As stated in Article 31 of the EU Directive 2005/36EC, nursing training at higher education levels must be at least 3 years long or include 46,000 hours of theoretical and clinical training (EU, 2005) [76]. All countries with higher nursing education programmes must comply with this requirement. Nursing education in the Nordic countries lasts from 3 to 4 years—in Denmark, Finland and Sweden 3.5 years and in Iceland and Norway 4 years [75].

Although the Bologna agreement has had a profound impact on nursing education in Europe and especially within the Nordic countries, much work is still to be done, and various challenges have been identified. In some parts of Europe, nursing is still considered a practical profession, and the move to higher education is seen as an unnecessary added cost. Some countries struggle with the transition, like Switzerland, where the German-speaking area still regard nursing as a practical profession, whereas the French-speaking area has made the move into higher education. Also, a lack of language proficiency is seen as a barrier to student and graduate mobility between countries [77]. The following challenges have been identified as a minimal target for future nursing education:

- Competency categories for registered nurses should be demonstrated by curricula. This implies the need for integration of theoretical studies, clinical training in healthcare organization and research skills relating to changing needs of society and advances in scientific knowledge. Clinical learning environments have a special importance.
- Quality of nursing education should be evaluated in local, national and international networks.
- Nursing curricula should be more specific with regard to content, learning strategies and evaluation of learning outcomes.
- Student-centred learning culture needs to be improved.

- Conditions for student and educator mobility should substantially increase, requiring knowledge about cross-cultural activities and willingness to understand other societies.
- Nurse educators should have clinical, pedagogical and research skills and skills for research implementation [78].

Further it is recommended that the European Union should enact legislation that sets out a clear framework for standardizing outcome between European countries [78]. However, in terms of undergraduate nursing programmes, Bologna has provided an important impetus to raise the educational status of nurses from diploma to graduate level education and shifted the education to the university setting [37, 77, 78]. The Bologna Process has continued, and by now in 2018, a total of 48 European countries have signed up and taken part in the review progress on action lines in various declarations and summits [79]. During this process representatives from Australia, New Zealand and the United States of America have also attended the Bologna summits [79]. Much work however is still to be done.

1.3 Organization of Health Services

The healthcare sector in the Nordic countries is mainly public, and all the countries have well-established systems of primary healthcare. In addition to general medical practitioner services, preventive services were established early on for mothers and infants, as well as schools of healthcare and dental care for children and young people. Preventive occupational health services and general measures for the protection of the environment were also established in all the countries. The countries generally have well-developed hospital sectors with highly advanced specialist treatment, which also is offered outside hospitals. The healthcare services are provided in accordance with legislation and are largely financed by public spending or through statutory health insurance schemes. Some patient charges are, however, payable for pharmaceutical products and to some extent also for treatment. Salary or cash allowances are payable to employees during illness. Self-employed people have the possibility of insuring themselves against illness [80].

The last decade, however, globalization has brought an increased focus on competitiveness in high-quality, low-cost and safe patient healthcare to healthcare systems in these countries in an effort to maintain strong welfare systems and wealth [81]. At the same time, the healthcare systems face challenges from ageing populations, increasing prevalence of chronic illness, earlier discharge of patients from hospitals, greater emphasis on self-care and a greater need for informal caregivers. Professional roles of nurses and other professionals and skill mix in healthcare are adapting to meet these challenges, with interdisciplinary working and innovative technology increasingly the norm. Also, in the future, there will be a more need for reflective nurses and other professionals who are able to balance different societal, cultural, ethical, economic, political and professional concerns and to withdraw knowledge regarding evidence, experience and patient perspective in the cross line between the different goals

and means human science and natural science often create. These developments further bring the need for talent development and competitiveness. However, among the challenges when it comes to talent development in Nordic countries is the strong egalitarian tendency in these countries' social-democratic traditions, founded in equal opportunities for everyone and where equity and equality are found to be of high value [81]. All these developments will influence nurses, whether with new responsibilities in new or expanded roles or in more traditional roles.

Nurses are committed to transforming the wide variety of settings where they work and see the effects of health and social policies on patients, families and communities' access to care, costs of healthcare and how policy changes impact healthcare provision [82–86]. Nurses are expected to have the appropriate knowledge, skills and attitudes needed to provide evidence-based and cost-effective care to patients. Evidence is growing for the impact of nursing on patient and healthcare outcomes. Adequate nurse staffing has been demonstrated to decrease deaths, injury and permanent damage [87–92], and evidence shows that nurses provide cost-effective, accessible quality care with greater or equal clinical outcomes and patient satisfaction where local policies and politics enable them to offer these services [93–99]. Growing evidence supports the premise that nurse education levels affect patient outcomes as studies have shown that more highly educated nurses lead to lower mortality, lower complication rates, shorter length of stay in hospitals and may lead to lower costs by avoiding costs of poor quality [87, 100, 101]. The World Health Organization acknowledges the positive contribution that well-educated nurses can make to delivering cost-effective healthcare [7, 8]. More highly educated nurses are needed (a) in clinical practice to provide, stimulate and facilitate evidence based-care; (b) in education to provide evidence-based teaching and to teach nursing students about evidence-based care for clients in various healthcare settings and (c) in research to conduct high-quality research, including interdisciplinary and to work in national/international research collaborations. More nurses need to be actively involved in health policy development, promotion and implementation as local, regional and global leaders. The academization of nursing science including the development of research, education and high-quality clinical care within the Nordic countries is important in this context and will be described in the following parts and chapters.

Based on this background and after thorough discussions, the authors set out to reflect on the development of the nursing profession and nursing and to explore the driving forces behind the academic development of nursing within their countries and international. Therefore this book is about three things:

- *Nursing, Leadership and the Nordic Countries*

1.4 Goal of This Book

The goal of this book is to describe leadership in nursing within the Nordic countries from the early developments of nursing, through nursing entering into higher education, the development of nursing as an academic and scientific discipline with special focus in evidence-based clinical practice, education and research.

1.5 Organization of This Book

The book is organized in five parts, one part for each of the five Nordic countries: Denmark, Finland, Iceland, Norway and Sweden. Although, the five parts generally *have the same structure*, there are variations in how the content is approached by the authors.

The parts in this book generally start with a first chapter, touching on the development of nursing as a profession, leading up to the academic status and the state of nursing science within the country. These developments are discussed in relation to the leadership of nurses and driving forces of groups and individuals who may have led important changes in the development of the nursing profession within each country. Also, societal developments, like the women's movement, governmental structure, education, and the development of healthcare which all may have influenced and led to how nursing developed in these countries.

The second chapter of each part generally describes the use of research/evidence in clinical practice and may focus on exemplary clinical practice project, linking evidence to clinical practice, providing an example of clinical practice project and how leadership is needed to change clinical practice on multiple levels of health care. In this case the exemplary clinical practice project may be led by a nurse as an exemplary leader or group of nurses who together may be seen as leaders driving the change within healthcare focusing on specific or general topic.

The third chapter of each part may provide an overview of the development of nursing education or research on nursing education. This chapter may also focus on an exemplary educational research project led by nurses, who may be seen as leaders driving change within nursing education and focusing on a specific or general topic.

The fourth chapter of each part generally describes an exemplary research project, which may impact the care of patients and/or patient outcomes on a local or national level and the leadership role of the nurse or nurses in conducting that research. This chapter may also describe the setting up/development of an exemplary research programme by one or more nurses, who may be seen as leaders driving national and international research collaboration(s).

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Part I

Nursing Leadership in Denmark

Kirsten Lomborg



Kirsten Lomborg

2.1 Introduction

Nursing is crucial to improve the health and well-being of people. Nurses meet people in different stages of life and in different places, and the nursing profession values a holistic approach towards cure and care of people, whether admitted to hospital or at home where they live, go to school, work, socialise, suffer and enjoy life. The chapter encompasses facts, strategies and events that have influenced nursing science in Denmark and directly or indirectly contributed to empower nursing leadership. Aiming to improve the health and well-being of people in Denmark and elsewhere, an integrated approach to nursing education, research and development of clinical practice is considered in this chapter to be the most important means of nursing leadership. Further, the organisation of Danish nurses is considered a strong driving force in the development of nursing as a profession and scientific discipline.

Although the number of Danish nursing scholars is limited, the development of academic nursing in Denmark is rapidly growing. Compared to the other Nordic countries, Denmark was a late starter and has not yet reached a satisfactory volume of academic nurses in relation to the total number of Danish registered nurses. The trend has—largely—followed the same pattern as that in Norway and the other Nordic countries.

The following sections describe four important conditions for the development of nursing science, namely, nursing education, academic positions, authorisation and organisational association.

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2.1.1 Nursing Education

In Denmark, nursing education includes 3.5 years of theoretical and practical teaching, leading to a degree of “professional bachelor” in nursing. Nursing students are trained “to work critically reflectively, systematically, and to think and act innovative in relation to patients and coworkers” [1]. For further elaboration, see Chap. 4. Approx. 6% of the Danish nurses have a higher academic degree (master’s level) either in nursing science, general health sciences or other areas. The total number of nurses with a doctoral degree is unknown. A register from 2017 administered by the Danish Nurses Organisation (DNO) counts 275 doctoral nurses (approx. 0.3%), but the total number may be considerable higher.

2.1.2 Academic Positions at Universities

Nursing science is a small but upcoming discipline, forming a part of health sciences in Denmark where faculties of health are established at Aalborg University, Aarhus University, University of Copenhagen and University of Southern Denmark. These four faculties have Master of Science in Nursing programmes, and the master’s degree in nursing gives equal access to the doctoral programmes in health as do all the other master’s degrees. The employees responsible for the master programmes in nursing and the supervisors of doctoral nursing students are mainly associate professors and professors in nursing or other relevant areas of health. The number of nursing professors at the Danish universities is to date approximately 17 or 20 (depending on whether professors emeriti are included). The number has rapidly increased within the last decade. Most of these professorships are focused on nursing, but others focus on rehabilitation, patient and public involvement or health promotion. In addition, three Danish senior researchers have part-time professorships in nursing at Norwegian university colleges.

2.1.3 Nursing Authorisation in Denmark

With the professional bachelor diploma in hand, the nurses may seek authorisation to practise as a nurse. Historically, the protected title “registered nurse” (RN) was not an easy battle to win. After 26 years of political struggle, the protected title was stated by law in 1933 [2]. To date approximately 122,500 nurses are registered by the Danish Patient Safety Authority [3].

According to the Danish Authorisation Act [4], nurses are required to practise their profession with due care and conscientiousness. It is underscored that the provision of nursing also implies sound communication with patients, relatives, other healthcare professionals, etc. In case of an abuse or disease which makes the nurse no longer able to perform nursing properly, the authorisation can be deprived. The entitlement to practise as a nurse expires at the age of 75, but the right to use the professional title is maintained. Nurses educated outside Denmark must hold Danish authorisation to be able to use the title nurse in Denmark, Greenland and the Faroe Islands.

2.1.4 Professional Community and Unity

The Danish Nurses Organisation (DNO) was founded in 1899 and handles today the interest of approximately 75,000 nurses who can voluntarily join the organisation [3]. The DNO functions as a labour union for nurses and, as most such unions, continually strives to improve the conditions and salary of nurses in Denmark. Further, the DNO aims to influence health political issues, development and research in nursing and collaborates with other national, Nordic and international organisations. To have a strong professional voice, the DNO collaborates with the Danish nursing society DASYS [Danish abbreviation], founded in 2002 with three advisory boards within research, education and documentation and a centre for clinical guidelines [5]. The latter will be elaborated in a forthcoming paragraph. DNO also collaborates with the 36 professional societies that during the last two decades have been established in close connection to the DNO [3]. These professional societies are nationwide networks of professional nurses working on nursing development within a specific scope of nursing practice. The scope of their practice can either be clinical nursing care, supervision and coordination of nursing care, communication of nursing care or development of nursing care. The societies contribute to promote collegial unity between their members, provide support to engage in mutual training, contribute to members' continuing learning and participation in meetings and courses, encourage and assist in research within the specific scope of nursing practice, support nursing development and promote cooperation across the professional societies. The National Board of Health in Denmark increasingly approaches the DNO and DASYS to participate in councils and committees. Thereby, nurses are an increasingly important factor and gaining stronger voice in Danish health, policy and politics and contribute with their nursing expertise as well as their clinical and managerial skills.

2.2 The Welfare and Healthcare System in Denmark

A presentation of the interests of the Danish nursing profession can obviously not stand alone but must be seen in the context of the society and the health political wind blowing at the time. Before exploring the contribution of academic scholarship to professional leadership of nursing and healthcare, the chapter presents a broad overview of the Danish welfare and healthcare system as a frame within which current developmental trends in which nursing must be understood.

The basic principle of the Danish welfare system, often referred to as the Scandinavian welfare model, is that all citizens have equal rights to social security. In the Danish welfare system, citizens have free access to additional benefits including education at all levels, child allowance, old age retirement, early retirement for incapacitated citizens and high-quality primary and secondary healthcare services, all financed by taxes [6]. Thus, public spending is relative high and so are consequently the taxes. These conditions are eagerly discussed both by politicians and citizens. The overall impression is that the Danes are both proud of and satisfied with the welfare system, but from time to time, there are comprehensive analytical

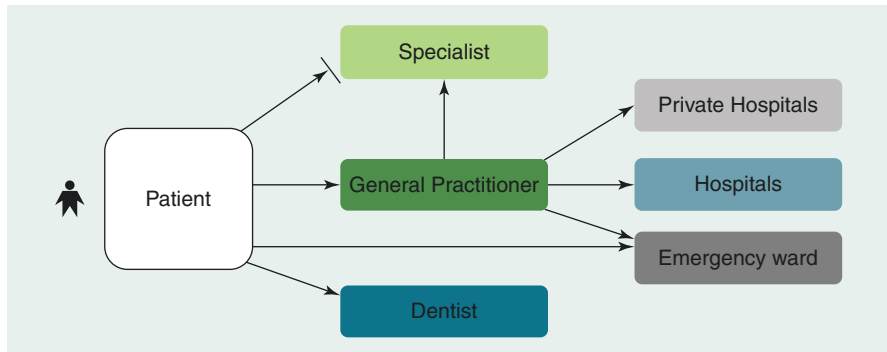


Fig. 2.1 Access structure of the Danish healthcare system. Note: Not all specialist care, such as dental treatment, requires the referral from a general practitioner. Reprinted from *Healthcare in Denmark—An Overview* 7, p. 14

discussions of the increasingly more state-controlled government [7]. This discussion is further elaborated in Chap. 4 regarding its influence on higher nursing education.

The Ministry of Health is responsible for the provision of health and elderly care, including legislation of the organisation and the provision of health and elderly care services, patients' rights, healthcare professionals, hospitals and pharmacies, medicinal products, vaccinations, maternity care and child healthcare [6]. The organisation covers 5 regions and 98 municipalities. The regions are responsible for hospital care, including emergency care and psychiatry. Further, they are responsible for health services provided by general practitioners (GPs) and medical and other specialists in private practice. In these years the 98 municipalities and the GPs are being responsible for more and more health and social services under the slogan "citizenship health". Local health and elderly care services include disease prevention and health promotion, rehabilitation outside hospital, home nursing, school health services, child dental treatment, child nursing, physiotherapy, alcohol and drug abuse treatment, home care services, nursing homes and other services for elderly people. In addition, municipalities cofinance regional rehabilitation services and training facilities. Figure 2.1 illustrates the structure.

The legislation covers the tasks of the regions, municipalities and the other authorities within the area of health. The purpose of the act of health is to improve public health and prevent and treat diseases, suffering and functional limitations of the individual. The act specifies the following requirements for the health service to ensure respect for the individual, its integrity and self-determination and to meet the need for:

1. Easy and equal access to healthcare
2. High-quality treatment
3. The connection between the services
4. Freedom of choice

5. Easy access to information
6. A transparent health service
7. Short waiting time for treatment

The legal rights of patients are protected by laws which aim to ensure that patients receive the best possible care and regulate complaint procedures and compensation for injuries caused by services.

Although not the only pioneer, Denmark is rightly seen by the The Organisation for Economic Co-operation and Development (OECD) as one of the countries that has built a strong infrastructure for continuing healthcare quality improvement [8]. Yet, like all other countries, Denmark faces numerous healthcare challenges concerning (a) the continuity of care from the highly specialised hospital sector with still shorter stays and earlier discharge back into the community and (b) a rise in the number of elderly patients with multiple long-term conditions, requiring safe and effective coordination of care and avoiding unnecessary hospitalisation.

Primary care is currently an area of concern. While Danish GPs have fulfilled the primary care function well over many years, the challenges outlined above demand a different, stronger and modernised primary care sector, which according to OECD [8] has not yet been realised. Health system reforms in recent years have focused on efforts to improve quality and efficiency in the hospital sector. Going forward, specific quality initiatives in primary care are focusing on coordination between primary and secondary care and the establishment of quality clusters of GPs. Another important part of the solutions that are currently initiated is patient and public involvement (PPI) in healthcare services. The rationale for PPI will be elaborated in the following paragraphs.

2.2.1 Patient and Public Involvement

Patient and Public Involvement (PPI) is increasingly being discussed and sought after in Danish health politics and governance—often with the triple aim of improving health and quality of care with less costs per capita. Inviting (former) patients and relatives to speak up and map their experiences provides inputs to the work on quality improvement in the healthcare system. At the individual level, the concept of patient involvement refers specifically to: “the right and the benefits of patients to have a central position in the healthcare process. The benefits of this are expected to be a better outcome for the patient as a result of the improved interaction between the healthcare provider and the patient” ([9], p. 14). Thus, patient involvement has the potential to empower patients by strengthening their capacity to develop, control and apply their own resources [10].

A precondition for PPI is access to information. Among the Danish initiatives, a formal Danish webpage provides citizens with continuous information about the clinical and organisational quality of healthcare services to enable patients to make an informed choice of hospital [6]. Citizens can access some personal services and data including their records from hospitals and general information on health,

diseases and patient rights. Every year the 5 regions invite 250,000 inpatients and outpatients to participate in a national survey of patient experience. The survey gives hospitals the opportunity to receive systematic feedback from their patients regarding clinical service, safety, patient and staff member continuity, involvement and communication, information, inter-sectorial cooperation, free hospital choice and waiting time. Every second year, a survey is also conducted among elderly people who either receive homecare services or services at a nursing facility. The questions focus on service quality and satisfaction, the number of workers, the stability of help and support services provided, whether the citizens feel more self-sufficient after receiving help, and if they know about their rights to choose between different service providers [6]. The structural and organisational conditions described above do, however, not per se ensure authentic PPI.

Shared decision-making (SDM) can be defined as “a process in which clinicians (doctors, nurses, therapists and other health professionals) and patients work together to select tests, treatment, management or support packages, based on clinical evidence and the patient’s informed preferences” ([11], p. 6). SDM is a cornerstone in individual patient involvement [12] and is viewed as “an ethical imperative that respect the patient’s right to autonomy, but also recognised as their right to delegate decisions if they wish to” ([11], p. 6). Obviously, the concept is highly relevant within nursing [13], and an example is elaborated in Chap. 3. Ministry of Health actively promotes the development of patient decision aids. For example, in 2016 they provided funds of 40 million DDK (equivalent to about 5.4 million EUR) to support 28 specific decision support projects at various Danish hospitals and municipalities. The largest patient association, Danish Cancer Society, also promotes and supports SDM by offering grants for research, development and dissemination of decision aids into cancer treatment. The contribution of nursing and other healthcare professionals to increase and qualify SDM is, however, still in its early stage.

Since 2016, patient-reported outcomes (PRO) defined as “any report of the status of a patient’s health condition that comes directly from the patient, without interpretation of the patient’s response by a clinician or anyone else” ([14], p. 79) is promoted on a large scale based on national initiatives [15]. The utilisation of PRO measures is relevant in quality development, research and person-centred care of the individual patients and their relatives. PRO measures do not per se guarantee person-centredness, but such measures of the patient perspective clearly have some potential to set the patient at the centre of healthcare service delivery—a statement that will be elaborated in the discussion part of this chapter.

2.3 The Danish History of Academic Nursing: Looking Back

Although the historical roots of Danish nursing go back to the days of Florence Nightingale and before, this chapter will focus on the last four decades. The story is not to be understood as an exhaustive historical description of the driving forces and the commendable and significant business of leading nurses and other influencing

persons. Many nursing pioneers contributed to this history, but only two of the important pioneers in nursing are referred to by name. The story, on the other hand, is based on subjectively selected points of impact, which can hopefully inspire nursing leaders around the world to choose their strategic matches carefully to improve nursing in all facets of the profession for the benefit of those in need of nursing care.

2.3.1 Discussion on Nursing Values

Back in 1980, DNO established the Danish Institute for Health and Nursing Research (DISS) [16] focusing on developing a data base for nursing diagnosis, inspired by the American nursing tradition. This was linked to the fact that the Danish nurses had a great desire to participate when the World Health Organization WHO launched its major medium-term nursing and midwife programme in Europe in 1980. Until the end of DISS in 1999, the department was an important part of the DNO strategy to ensure nursing research in Denmark. As part of a new nursing research strategy, DNO decided 19 years later to move its support for nursing research to Aarhus University which was the first Danish university to establish a nursing science department within the Faculty of Health Sciences. Thus in 1999 the DISS was closed. DISS has undoubtedly played an important role in the development of nursing research, both with its own focus on building a systematic nomenclature and hierarchy of nursing diagnoses and, not least, as a trigger for discussions and emphasis on care values as the essential defining feature of nursing. The strongest advocate for the care values, unlike the so-called biomedical reductionist and anti-humanistic thinking, was Professor Kari Martinsen, who was approached from Norway in 1990 to 1995 to strengthen the academic world in Danish nursing. Through the years Kari Martinsen has had an enormously valuable significance for Danish nursing. It would thus be impossible to find a nurse or nursing student in 2018 who has not heard of Kari Martinsen's philosophical reflections with the Danish theologian K. E. Løgstrup as the main source of inspiration and with a keen appeal that nurses, rather than relying on evidence-based clinical guidelines, should use all their senses, their intuition and their imagination when making a clinical judgement. Kari Martinsen was employed at the School of Advanced Nursing Studies, which was geographically located on the Aarhus University campus, but which was not yet a formal part of the university. In 2000, the School of Advanced Nursing Studies was "transferred" to the Faculty of Health Sciences at Aarhus University. At this time, Professor Marit Kirkevold from Norway received professorship at the Department of Nursing Science at Aarhus University (from 2002 to 2013). Her professorship was of great importance for Danish nursing research. Marit Kirkevold's approach was strategically more balanced in defending care values while placing academic nursing as a recognised part of health science. Her position was critical and theoretical, and she had a consistent focus on the improvement of clinical nursing for the benefit of the patients in need of nursing care. In her era at Aarhus University, clinical nursing research reached a mature level and span, and a real nursing research milieu took shape.

2.3.2 Theoretical and Practical Nursing: A Collaboration in Development

Nurses are the largest professional group employed in the Danish healthcare services, mainly in the somatic hospitals but also in psychiatry and the primary and private sector. The five Danish regions each have one university hospital and some five to eight regional hospitals within the geographical area of the region [6]. The tradition of cooperation between healthcare and education institutions is strong, and the infrastructure well established between the hospitals, municipalities and university colleges. Aarhus University was in 2000–2014 the only university with a graduate degree in nursing (see Chap. 4). During this period close collaboration between Aarhus University and Aarhus University Hospital was established with shared positions in Nursing Research and Development and reciprocal participation in advisory boards, steering groups and working groups in both organisations. Strong leadership at both sides and close collaboration has over decades supported both parties to follow each their desires to develop the nursing discipline in the direction of proper, evidence-based nursing practice. Other universities and university hospitals have since been established. The newest Danish university hospital is the one in Region Zealand where strong efforts are put into capacity building as described in Chap. 5.

One of the major collaborative initiatives was the establishment of a national clearing house for evidence-based clinical guidelines or “Centre for Clinical Guidelines—National Clearinghouse for Nursing” [17] in 2008 after years of preparation of the Danish hospitals and the Faculty of Health at Aarhus University. The centre was led by DASYS and financed by membership fees from Danish hospitals and other organisations with an interest in nursing. The overall purpose was to assess clinical guidelines submitted from the members for peer review and to create and maintain a base of approved evidence-based clinical guidelines. To ensure the scientific quality of the guidelines, the centre was hosted by Aarhus University, Faculty of Health, Department of Public Health, Section for Nursing [18]. The centre is currently hosted by Aalborg University and has until now launched 70 clinical nursing guidelines and contributed to 79 interprofessional guidelines hosted by the Danish Health Authority and other formal authorities [17].

2.3.3 Support from the Novo Nordisk Foundation

Conducting research requires stable funding. Although nursing research typically does not require expensive equipment, funding is a crucial condition which is indeed hard to reach. As in most countries, Danish research including nursing research is financed partly by internal university funding and partly by external grant funding. It has been difficult for nursing scientists to compete with other health scientists in receiving funding. However, since 1996, the Novo Nordisk Foundation (NNF) has been an important sponsor of nursing research. The NNF’s vision is “to contribute significantly to research and development that improves the

lives of people and the sustainability of society”, and it aims “to improve the lives of people through better health, education and the development of a knowledge-based sustainable society” [19]. Within NNF, an independent committee on nursing research, which is free of commercial interests, has the role of prioritising grants to research projects in all areas of nursing. (The organisational construct of NNF is explained in footnote¹.) The members of the committee on nursing research currently count four Dane and one Norwegian member, all of whom are nurses with a research background in nursing (currently four professors and one associate professor) [20]. In the early days, the grants provided by NNF were small, but today the foundation allocates larger and more competitive grants, including the running of a 5-year nursing programme, three fully funded 3-year PhD scholarships, three fully funded 3-year postdoctoral scholarships, project support and an annual nursing symposium with international keynote speakers which is open to interested participants for free. The total budget 2018 amounted DDK 21,3 million equivalent to EUR 2,852,414.

So far, nursing research has not had significant breakthroughs in the tough competition about the grants from the Independent Research Fund Denmark that apparently tends to favour biomedicine over clinical nursing projects. Therefore, the NNF is highly appreciated by nurses and others who wish to promote the type of research relevant for nursing. It is important to note that the Lundbeck Foundation also provides postdoctoral scholarships for nurses and that the DNO and some of the patient association offer grant to nursing research. Although smaller amounts of economic support are offered, these contributions significantly encourage nursing research. In addition, nurses can apply for regional research funding in open competition with other health researchers. Over the years, the most prominent nursing managers have helped to place academic nurses in the assessment committees, and academic nurses therefore have a significant responsibility for promoting relevant and methodologically well-described nursing research.

2.4 Opportunities and Challenges Calling for Leadership in Nursing

In the following, a discussion is raised about leadership in nursing. Some challenges are discussed, and the viewpoint that PPI can be a window of opportunity for future nursing is argued.

In the years to come, the emphasis on primary nursing is expected to grow. Until now, major efforts have been put into improving clinical nursing, nursing education and nursing research in the secondary healthcare sector. The developmental strategies that have worked well in the past do not necessarily fit future organisational structures where (a) the privately driven GP clusters may be given extended

¹The NNF awards grant from its wholly owned subsidiary Novo Holding A/S that manages the foundations commercial activities including control over the Novo Nordisk A/S and Novozymes A/S.

responsibility for treatment and care of long-term condition such as diabetes, chronic obstructive pulmonary disease, cardiovascular insufficiency, skeletal diseases and late effects of cancer treatment and (b) the municipalities are expected to manage complex patient problems and simultaneously to initiate health promotion and rehabilitation with a stronger focus on life quality in the broadest sense. These challenges call for strong nursing leadership.

For many years, nurses across the world including in Denmark have advanced patient-centred care as a valuable approach to assisting people in need of healthcare services. The globally well-known American nursing leader and scholar Virginia Henderson described the nature of nursing as:

The unique function of the nurse is to assist the individual, sick or well, in the performance of those activities contributing to health or its recovery (or to peaceful death) that he would perform unaided if he had the necessary strength, will or knowledge [21].

Although criticised at times, this definition is still acknowledged and appreciated by most nurses worldwide. Essentially, nursing, like other health professional practices, is characterised by the meeting with everyone in need of healthcare services and by a strong intention to help “solving” those health problems and the related challenges that the individual is confronted with in his or her everyday life. With co-production of healthcare on the political agenda, the division and gap between health professional experts at the one side and patients and their relatives on the other are being redesigned, and patients and their relatives are becoming partners in their own treatment and care. As indicated earlier, the trend can be explained by strong demographic, democratic and socioeconomic forces in the society. The population is growing older implying more people with long-term conditions and late effects from cancer treatment. The coming generation of elderly people has high expectations regarding healthcare services being delivered according to their individual preferences, and the economic burdens of keeping up to the population’s expectations are increasing. This combination calls for PPI aiming to reach the triple aims of improving health and quality of care with less costs per capita. Thus, future patients and relatives will be more intensively involved in their hospital pathways and healthcare services delivery at home. This trend calls for holistic nursing that, as described by Henderson, assist the individual, sick or well, in the performance of health-promoting activities based on individual preferences. New opportunities of technological solutions and e-health are progressing with high intensity, and a large part of future nursing will be digitally performed. Used in the right way, methods and tools for SDM and PRO measures can benefit future patients and the public by easing the communication and ensuring that the patient perspective is clarified and taken seriously into account in all decisions regarding treatment and care. It assumes that nurses are well prepared to coach patients and to develop evidence-based decision aids and relevant and valid measurements of the patient outcomes. Nurses need to show leadership, be proactive and need to make sure that they are involved and take part in interdisciplinary research and development of technological innovations and tools to improve the care and lives of patients and clients. We cannot remotely criticise the technological achievements as inhumane or

otherwise “inappropriate” relative to the values the nursing relies on. Nurses in collaboration with other professionals need to take an active part in solve the new challenges that lie ahead. However, if we achieve the necessary competences to invite patients and their relatives into the interdisciplinary teamwork together with nurses, doctors and other health professionals, it seems obvious that PPI—with SDM and PRO as pivot points—is aligned with nursing values and traditional beliefs in person-centred care.

2.5 Conclusion

In this chapter an overview is offered of the state of Danish nursing science and some of the pivotal organisational and professional nursing initiatives and events within the context of the Danish healthcare system, healthcare and education, politics and other driving forces in Denmark. The viewpoint has been promoted that nursing practice and research focusing on patient involvement are a strong combination. The nursing professions is well positioned to encourage patients to raise their voice, make their choice and co-produce healthcare services, and PPI can therefore be the nurse’s friend and an opportunity to lead the integration of patient preferences and nursing knowledge for the benefit of those in need of nursing care.

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3.1 A Translational Research Model

A translational research model has been developed. The model is called patient-to-PC and PC-to-patient and integrates clinical practice and research and demonstrates a dynamic process ensuring an evidence-based practice as shown in Fig. 3.1. PC is the abbreviation for ‘personal computer’.

The model is inspired by a research programme at the Sainte-Anne Hospital in Paris, France (<http://www.ch-sainte-anne.fr/>), also referred to as the Brain hospital owing to its dual expertise in psychiatry and neurosciences. At the Brain hospital, major scientific discoveries have been made, and some of the researchers have even won the Nobel Prize. They ascribe these achievements to their dual expertise and to the fact that they perform translational research. Their translational research model bench-to-bedside and bedside-to-bench inspired the present research programme.

The patient is the focus for nursing. It can be the patient in a bed at the hospital but also in all other settings, such as the outpatient clinic. The patient is the place of practicing nursing. Nursing research could be done in different setting, but the most common setting for nursing research is by the computer, working with data at a PC.

In the patient-to-PC and PC-to-patient model, we see the integration between nursing and research. Nurses meet patients in a variety of settings, and often clinical questions arise, e.g., how best to guide a patient to prevent urinary tracts infections? Which bandage to use for this specific wound? These clinical questions need to be answered for nursing practice to be firmly based on evidence. Four elements are

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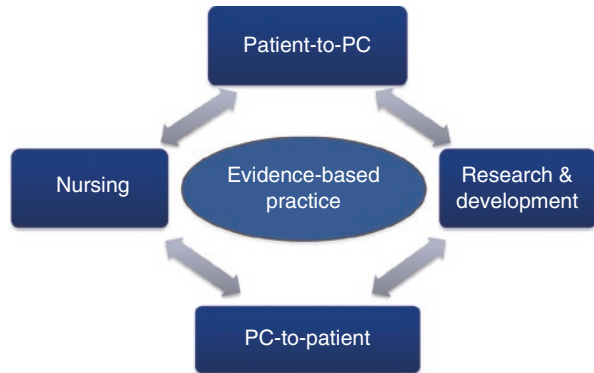
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Fig. 3.1 Patient-to-PC and PC-to-patient



important in answering questions like these, research, clinical experiences, patient preferences and clinical resources [1]. If no research is immediately available, the researcher must search for such knowledge, using a PC to identify research conducted and published internationally, or she must conduct the research herself. In the translational research model, this is the *patient-to-PC* avenue. To start a research project based on questions arising from the patient's condition ensures that the research is useful and connected to clinical practice, seeking to answer a question raised rooted in a wish to ensure the best care for the patient; furthermore, it solves a real problem in clinical practice. The other avenue in translational research, *PC-to-Patient*, is equally important. Using much time in front of the PC and producing evidence published in papers with high impact factor that has not been implemented in clinical practice is wasteful from a patient, and clinical practice perspective as implementation of research should be part of the research process in nursing. When the research question is rooted in a clinical question asked by a nurse during her interaction with a patient, it is easier to implement the answer the research brings forth. Thus, the interaction between the clinical setting and the research setting must be close all the way along, and it should be more like an iterative process than a one circle process. The following six recommendations have been made for enhancing the integration of research and practice: (1) anticipate and address likely barriers to dissemination; (2) appreciate and integrate multiple types of evidence; (3) adopt research designs such as practical clinical and behavioural trials and multiple baseline across settings that address concerns of clinicians and policy-makers; (4) conduct broader evaluations that include multiple outcomes, address generalisability, and report on contextual factors; (5) design multilevel programmes using systems and social/ecological models that attend to 'connectedness' and integration across programme components and levels; (6) do not expect a programme to work perfectly initially, but plan for adaptation and refinement to fit local condition and emerging issues [2]. The 'Brain hospital' in Paris did not only focus on the translational research model but also on their expertise. Therefore, clinical practice needs to have a research programme focusing on the clinical expertise that is required by the patients and conduct proper nursing.

3.2 A Research Programme Integrating Evidence into Clinical Practice: An Example

The specific clinical practice to be addressed in this example is that of renal care where care is provided for patients with chronic kidney disease. Whether patients receive dialysis treatment or not, they will experience disease-specific symptoms that influence their life and activities of daily living. Evidence shows that patients with chronic kidney disease report up to 20 symptoms affecting their life [3]. The care for these patients therefore needs to focus on symptom management, mainly symptoms of uraemia which arise because urea accumulates in the blood. In the field of renal care, the purpose of nursing is to alleviate or manage uraemia symptoms, which is the focus in clinical practice and hence also the field of research. Uraemia care research resorts to a combination of natural and human science. Transplantation, dialysis and conservative care are the most effective treatments available [4] (Fig. 3.2).

Research into uraemia symptoms is sparse, and knowledge of how to manage these symptoms is limited. Furthermore, uraemia symptoms are underrecognized and not well managed in routine renal practice although they are the most important predictor of reduced quality of life among people with chronic kidney disease [3]. Consequently, this research programme answers to a need both in the field of research and in clinical practice. The current research programme is designed in line with the transitional approach to research. In the next section, we will illustrate how a research project in renal care based on the translational research model and the research programme for renal care was designed.

3.3 Shared Decision-Making and Dialysis Choice

The project used the method of complex intervention. A complex intervention is defined as:

Activities that contain a number of component parts with the potential for interactions between them which, when applied to the intended target population, produce a range of possible and variable outcomes [5].

Most health services are complex interventions, but only few of the components of the intervention are reported. Knowledge about the components of a complex intervention is crucial for understanding the effect of the intervention and then the reason for implementing the intervention and how to replicate the intervention [6]. The method was developed by the Medical Research Council in the UK, and the most recent guideline presents an iterative model for developing and evaluating a complex intervention using the five phases: (1) developing an intervention, (2) piloting and feasibility, (3) evaluating an intervention, (4) reporting and (5) implementation [7]. The iterative process is between phase 1, 2, 3 and phase 5, whereas phase 4, the reporting, is a part of all the phases.



Fig. 3.2 The renal care research programme

The description of the project ‘shared decision-making and dialysis choice’ is structured by phase 1 to phase 45 of the model, including a short introduction on the dialysis choice and a description of the intervention. There the focus is on the development phase, which is how the research project is initiated in clinical practice by the patients and how new knowledge is created in front of the PC through reflection, systematic literature search and analysis of data. The focus is also on the evaluation phase, which is how to evaluate an intervention in clinical practice generating data for the research project but also generating data to ensure a safe pathway for the patient and to develop clinical practice.

3.3.1 Dialysis Choice

When patients are in a need of dialysis, they have two options:

1. Haemodialysis, which is cleaning the patients' blood through a filter via a machine
2. Peritoneal dialysis, which is cleaning the blood using the peritoneum as a filter

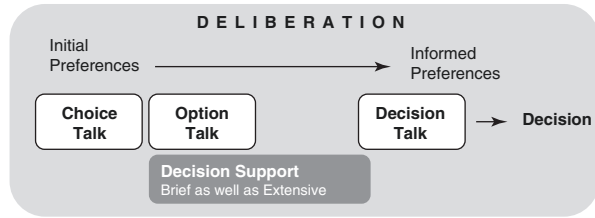
Patients may be able to perform both dialysis modes on their own or with help from a healthcare professional. Evidence on how to guide the patient's decision-making concerning choice of dialysis is inconclusive. International and national guidelines therefore recommend involving the patient in the decision to choose the dialysis mode most suitable for him or her. Nevertheless, studies show that patients are not sufficiently involved in this specific decision-making process [8–10].

3.3.2 The Development Process

The key factors in the development process of a complex intervention are identifying the evidence base, identifying the theory and modelling process and outcomes [7]. One paper states how to optimize the development process for complex intervention to increase value and reduce waste. The way to optimize the development process is consistent with the transitional research model, patient-to-PC and PC-to-patient. The development process must be based on knowledge regarding the causal mechanisms and interactions within the intended clinical context and have to fit daily practice and to be beneficial for the end-user, which in this case is both the patient and the healthcare professional [11].

At the Department of Renal Medicine at Aarhus University Hospital in Denmark, some patient cases were identified where it looked like that the patients were not involved in the decision-making process regarding dialysis choice, and questions arose if the 'right decisions' were made. The managers of the department chose to investigate this clinical problem further. They used the method of 'shadowing' to explore specific patient pathways as they appeared from the patient's perspective. These observations showed that the pathway for decision-making of dialysis choice in the department was inconsistent. No changes were made, but the management team wanted to investigate this problem further, and the manager invited the department's clinical nurse specialist to elaborate the problem further. The aim of this study was to gather information about how patients experienced involvement in the decision concerning the choice of dialysis modality just after they had made the decision and before starting dialysis. This study, which was published in 2015, also encompassed a literature review about patient involvement and dialysis choice [12]. The findings of this study showed that patients felt appropriately involved in decision-making, even though there was a variation in the extent to which they wished to

Fig. 3.3 Shared decision-making: a model for clinical practice



be involved. Information, dialogue and advice increased the feeling of being involved. Information, dialogue and advice correspond with the method of shared decision-making, and the department therefore wanted to improve the patient pathway in relation to dialysis choice using the method of shared decision-making [12]. Through a literature search regarding shared decision-making, a model for shared decision-making in clinical practice' was identified [13] (Fig. 3.3).

Through three talks, a *choice talk*, an *option talk* and a *decision talk*, as described in the model [13], the patient is supported in making a decision not based on initial preferences but based on informed preferences. The patient is supported in the decision-making process by *decision coaching* performed by the healthcare professionals and by decision aids [13]. In the present case, an intervention was described based on the shared decision-making model and including a decision aid. Using decision aids is new in Denmark. Very few decision aids have been developed and none for dialysis choice. A systematic literature search was made regarding decision aids and dialysis choice including both scientific and the grey literature and international networks in renal care were used to identify interventions regarding decision aids and dialysis choice. Nine decision aids were identified, and of these only five have been used as part of an intervention, and only four have been evaluated [14]. None of the interventions targeted both the patients and the healthcare professionals. Implementing shared decision-making into clinical practice seems to be very difficult according to the latest Cochrane review in the area [15]. In the present case and based on the findings in the review [14], it was decided to develop a decision aid intervention targeting both the patient and the professional, which would improve the implementation of shared decision-making.

The decision aid intervention, 'dialysis choice', was developed using International Patient Decision Aids Standards (IPDAS) for the developing process [16]. The IPDAS describes a need for involving patients and users in the development process. One group of patients and healthcare professionals developed the decision aid, and another group of patients and healthcare professionals gave feedback during the process. Involving both a group of patients and a group of healthcare professionals enhanced the commitment in both groups [17]. The development process of the intervention has been published [14], and the decision aid has been assessed both internal and external by the IPDAS criteria. Also, the decision aid is published on the international webpage for decision aids (<https://decisionaid.ohri.ca/>).

3.3.3 The Intervention Shared Decision-Making and Dialysis Choice

The intervention, shared decision-making and dialysis choice (SDM-DC), consists of three meetings and is integrated into the patients' pathway. See Fig. 3.4 for an illustration of the intervention.

The first meeting is the *choice talk*, making sure that the patient knows about the options available. The patient receives the decision aid, called 'dialysis choice', consisting of all the tools, to bring home after this first meeting. During this first meeting, two tools are in use: the decision map and the overview of symptoms. The second meeting is the *option talk*, providing more detailed information about the options. During this meeting, one tool offering an overview of options and two videos with patients at home managing either peritoneal dialysis or home haemodialysis are used. The development of this tool was inspired by some of the identified decision aids for dialysis choice and is based on (a) the knowledge gained from the literature study with a focus on involvement and dialysis choice [14] and (b) interviews with patients before and after starting dialysis [12]. The overview of options is supported by several questions frequently asked by patients. For each dialysis mode, answers are based on a combination of evidence and practice-based knowledge. The third meeting is the *decision talk* supporting the considered preferences and deciding what is best. One tool, the 'Ottawa Personal Decision Guide' [18], is used for this meeting. This guide has been translated and culturally adapted to the Danish population [19]. The patient receives the tool at the second meeting. The tool consists of some reflecting questions, and the patient answers these questions together with his relative before the third meeting.

The intervention is provided by a nurse, appointed as a dialysis coordinator and very experienced in renal care. The dialysis coordinators deliver the intervention based on tailoring the intervention to the patient's needs and using three different communication skills: mirroring [20], active listening [21] and value clarification [22].

3.3.4 Pilot Test

The key factors in the feasibility and piloting are testing the procedures, estimating recruitment and retention and determining sample size [7]. The aim of the pilot testing was to investigate the feasibility and acceptability of the intervention

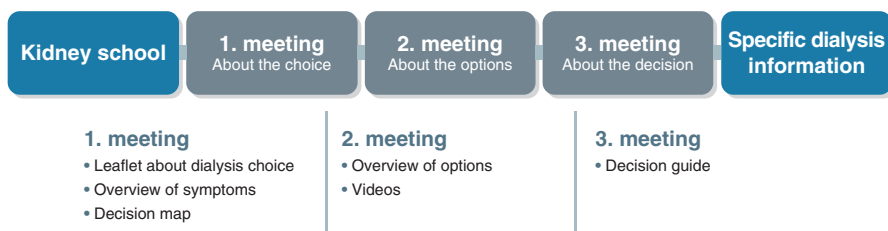


Fig. 3.4 The intervention, SDM-DC

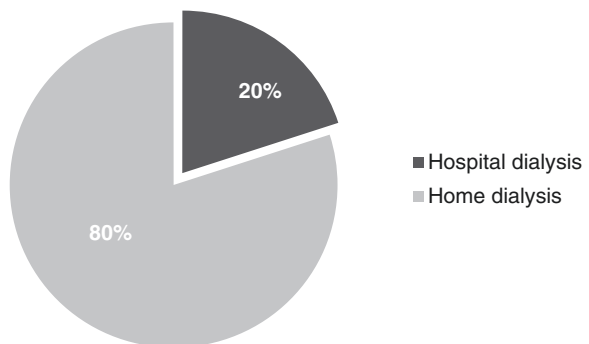
and the methods used for evaluation. From August 2015 to September 2016, 137 patients took part in a pilot test of the intervention. All adult patients with chronic kidney disease referred to the department during the study period were offered the intervention. Different methods were used in the pilot testing, which has been published [14]. The following will feature some of the highlights from the pilot test. The shared decision-making questionnaire was used to measure if the decision was based on shared decision-making [23]. The questionnaire consists of nine statements. The patients were asked to rate each statement on a 6-point Likert scale from zero indicating 'completely disagree' to five indicating 'completely agree'. The findings showed that for all nine items, an average score of 4.0 was obtained, reflecting that the patients strongly agreed that the intervention was based on shared decision-making. The statement 'the dialysis coordinator and I selected a dialysis treatment option together' obtained the lowest score at 3.6. The patients who gave a low score for this item had all written the same comment: 'I made the decision myself'. Furthermore, the Decision Quality Measurement instrument [24] was used to measure the quality of the decision. The questionnaire consisted of six knowledge statements about dialysis choice and six readiness statements about being ready to make a decision. The patients were asked to answer each statement by 'yes', 'no' or 'unsure'. An average was calculated for the knowledge statements for the patients choosing the right answer. The patients answered an average of 87% of the knowledge questions correctly. An average was made for the readiness statements for patient choosing 'yes' for each statement. An average at 78% of the readiness questions was scored as a 'yes' by the patients. 'I can imagine what it would be like to live with each options' obtained the lowest score.

The patients' choice of dialysis mode was also measured (Fig. 3.5). Eighty percent of the patient chose either peritoneal dialysis or home haemodialysis. Twenty percent chose dialysis at the hospital.

Not all of the 137 patients had started dialysis yet; but of those who had started dialysis ($n = 56$), 91% of the patients received the treatment they had chosen. A total of 73% had started dialysis at home.

A register study was performed investigating the number of patients starting home dialysis versus hospital dialysis before and after implementing the intervention.

Fig. 3.5 Patient's choice of dialysis mode ($n = 137$)



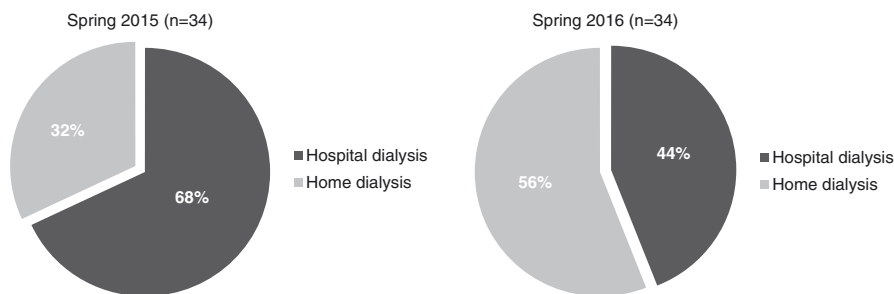


Fig. 3.6 Patients starting home dialysis versus hospital dialysis

Figure 3.6 illustrates how the intervention influenced the number of patient starting dialysis at home.

The first pie chart shows that before the intervention, 32% of the patients in our department started dialysis at home. The second pie chart shows that after the intervention 56% of the patients in the department started dialysis at home. The intervention reflects an increased number of patients starting dialysis at home, and it is statistic significant (chi $p = 0.05$). The conclusion of the pilot testing was that an intervention based on shared decision-making supported by decision aids seemed to increase the number of patients starting dialysis at home. Both the intervention and the methods used for evaluation were found feasible and acceptable by the patients. Further research is needed to gain insight into the patients' experiences of involvement and the implications for their choice of dialysis mode. This is the focus in the evaluation study which is currently taking place.

The development process and the pilot testing were part of a larger implementation programme for *user involvement* launched by the hospital in the same period. The aim of this user involvement programme was to test the development and implementation of two methods for patient involvement in a larger scale at Aarhus University Hospital and, thereafter, to develop and disseminate generic tool boxes with open access to a variety of material with tips and tricks to be used by any hospital or other health institution in Denmark [25]. Eighteen departments from Aarhus University Hospital participated in the user involvement programme and used either the method 'shared decision-making' or the method 'patient-led care' (similar to self-management support and individual care planning) [26]. The Department of Renal Medicine chose to be a part of the *user involvement programme* because it neatly suited the wish to use *shared decision-making* to improve the patient pathway for dialysis choice. When considering participation in a larger programme of user involvement, both some advantages and disadvantages were noted. The advantages were networking with other professionals working with shared decision-making and an access to further knowledge on shared decision-making. Furthermore, being part of a larger programme highlighted the local *shared decision-making project* by increasing attention from the hospital CEOs and even CEOs on a regional and national level. The disadvantages, however, could be a threat of losing ownership because the local

project became a part of something bigger and thereby may be not perceived by the department managers and staff as something useful and important in the care for patients.

3.4 Evaluation and First Results

The key factors in an evaluation are assessing effectiveness, understanding change process and assessing cost-effectiveness [7]. The aim of the evaluation study was to investigate if the intervention SDM-DC influences how the patients (1) experience to be involved in the choice of dialysis modality, (2) take care of life with chronic kidney disease and (3) are involved in their own care and treatment. The aim was also to investigate if SDM-DC influences the number of patient choosing dialysis at home and maintains this decision. It was decided not to include cost-effectiveness in this evaluation because the focus was patients undergoing suitable treatment and not on the delivery of the most cost-effective healthcare service.

The evaluation of the SDM-DC intervention is conducted using five different studies, which are currently taking place at four different hospitals including Holstebro, Hillerød, Sønderborg and Aarhus and in collaboration with the Danish Kidney Foundation. The four different hospitals cover three different regions in Denmark. Aarhus University Hospital has initiated the intervention and has the chairing position. The SDM-DC intervention and the methods for evaluation were only changed slightly after the pilot testing. Some words in the decision aid were changed. Although the healthcare professionals from the three other hospitals were part neither of the development process nor the pilot testing, they were able to take part in the evaluation study and implement the intervention at their hospital and in their departments. The involved staff were all invited to comment on the intervention and suggest changes, and only some minor changes were made, like a way to qualify the decision aid. The main evaluation study ran from 1 October 2016 to the end of May 2018. In total, 300 patients were planned to be included for the intervention. Both qualitative (study I and II) and quantitative (study III, IV and V) methods for outcome and process evaluation of the SDM-DC intervention are used. The study numbers have been chosen randomly, and there is no hierarchy between the studies. Data collection and data analysis have been conducted simultaneously between the studies, though study II is followed by study I. The data from study III has been used in the data collection for study I.

Study I: A quality interview study with 29 patients just after they participated in the SDM-DC showed that the patients experienced the decision on the dialyse modality to be their own but that both the meetings with the dialysis coordinators and the decision aid contributed to the decision-making process. The patients experienced the decision-making process to be circular and iterative (Submitted for publication). This study has not only evaluated the outcome of the intervention but also some of the processes and the fidelity of the intervention.

Study II: A qualitative study including interviews with patients from Study I after they started dialysis ($n = 12$) is currently ongoing. When the patients from study I

start dialysis, another interview is conducted to explore whether they experience their choice of treatment as expected and how they handle their life with kidney disease after the intervention.

Study III: A survey study measuring shared decision-making and the decision quality ($n = 300$) is currently ongoing. All patients who have received the intervention are invited to take part and to fill in two questionnaires after they have finished the intervention. One questionnaire measures if the patients experience the intervention to be based on shared decision-making and the other measures the quality of the decision.

Study IV: A retrospective register study with a historical control group ($n = 300/300$) is conducted. The pathway for patient starting dialysis at the four different hospitals is measured. The period ran from 1 October 2016 to 31 May 2018 as an intervention group compared to the period 1 October 2013 to 31 May 2015 as a historical control group. This study is not only an evaluation study but also measures the implementation phase of the complex intervention. Furthermore, this study monitors the dissemination of the intervention, surveillance and long-term follow-up.

Study V: A quantitative study will be conducted using video observations of two interventions for each dialysis coordinator ($n = 12$). All the six dialysis coordinators who perform the intervention are observed using video recordings while they provide the intervention to two randomly selected patients. All the meetings with the patients are video recorded. Afterwards, these videos will be observed and scored by two persons using the OPTION5 [27] and DSAT10 [28] to measure if the intervention is performed like shared decision-making. The two persons, who perform the scoring, are both healthcare professionals and have a master's degree in nursing, but are not a part of the project and the clinical environment. The videos will also be observed for element of tailoring and communications skills, mirroring and active listening.

3.5 The Implementation Process

The three key factors in the implementation phase are monitoring the dissemination of the intervention, surveillance and long-term follow-up [7]. Some of these key factors are monitored in study IV described in the evaluation. The Normalization Process Theory described by May et al. [29] has shown how to motivate and shape the implementation process of complex interventions and affect their outcomes. This theory has four constructs: coherence, cognitive participation, collective action and reflexive monitoring. These four constructs have been strived for in different ways in the implementation process. The intervention, the SDM-DC, is a complex intervention but is made as simple as possible. The key components in the interventions are explicated, but there is no manual for the different hospitals on how to implement the intervention into their clinical pathway. Some of the departments have changed their clinical pathway for dialysis choice radically, and some have made no changes. None of the participating departments received any funding for

performing the intervention but only for data collection. They had to find their own resources to conduct the interventions. A meeting with all the dialysis coordinators was held every 6 months to discuss the implementation process and the preliminary results of the evaluations. The project period ended in May 2018, and all the participating departments have decided to continue the intervention.

The leadership of this project has been directed by the translation research model. Thus, decisions in this project have taken the clinical practice into account, and the project leader has collaborated very close with patients and healthcare professionals.

3.6 Conclusion

This chapter has described the development of an intervention for dialysis choice based on shared decision-making. The intervention is seen as a complex intervention using the MRC-model for complex interventions for the developing, piloting and evaluating process. The patient-to-PC and PC-to-patient' model has been used to establish nursing leadership within renal care where symptoms of uraemia are the most important issues experienced by patients which nurses need to address. The chapter has demonstrated the implications of the case of renal care being nested at a university hospital where many other agendas are ongoing, some of these being initiated to support local clinical initiatives and research and development within patient involvement at the hospital. The chapter is meant to illustrate how nurse leaders must collaborate, navigate and proactively seek benefits from opportunities showing up—both inside and outside the organization.

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Higher Education in Nursing in a Changing Danish Society

4

Kirsten Frederiksen and Kirsten Beedholm

4.1 Introduction

In 1863, the Danish deacons started an education programme for young women to become nurses. Five years later a secular education programme to become nurses was established. This programme was inspired by the Florence Nightingale School at St Thomas Hospital in London, as in many other countries, but had also its own characteristics and was developed in accordance with the developing Danish welfare state. From the very beginning, the education programme was a subject for discussions on what the becoming nurses should learn, how they should learn it and how independently the nursing profession could be allowed to develop [1]. These discussions have been ongoing ever since. Central is the question of the connection between theory and practice [2], and the viewpoint that becoming knowledgeable through theoretical education may compromise skills in the practical part of nursing was posed from different positions in society [3, 4]. Thus, since the physicians in Denmark in the middle of the nineteenth century discussed whether it was appropriate for nurses to attend a 3-week course in theory before taking up nursing in hospital wards, a distinction between the hand, heart and brain has been installed in the educational discourse on nursing education [1].

In this chapter the process of how academic nursing education developed in Denmark is outlined. The development of the post-war welfare state and its transformation to what contemporary is being discussed as “a competition state” is mirrored in educational, social and political milieus in the Danish society [5, 6]. Having outlined this, the outcome of higher education is discussed by introducing two different concepts: *building* as inherited from the Humboldt University and *competences* stemming from the European Bologna Process. Here the specific Danish

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interpretation of the Bologna Declaration that focusses on development of workplace-related competencies will be discussed [7]. With reference to Schön [8] who has played an important role in Danish discussions on education, it is argued that the objective for higher education of nurses throughout the years has been to educate reflective practitioner to meet the demands in whatever practice they take up after graduation, irrespectively of which terminology has been used in the shifting curriculum.

4.2 The Danish Master's Degree in Nursing Takes Form

In 1966 the World Health Organization (WHO) expert committee recommended all governments to support research in nursing and suggested research in nursing to be enrolled and funded in research programmes within health services. To reach this goal, WHO called upon the governments to establish education for nurses to enable them to carry out research. Furthermore, WHO suggested both undergraduate and graduate education programmes for nurses to be enrolled in the university system as fast as the national conditions allowed [9].

Throughout the following decades, a long-lasting process took place in the attempt to facilitate research in nursing and to initiate further education at university level for nurses. Many different stakeholders were involved in this process including the Danish Nurses' Organization, the Danish Council of Health Science, the Health Government Department, representatives from regions, municipalities and teachers from different levels of nursing education programmes. Hence, since 1991 Danish nurses were able to follow academic postgraduate education as the last of the Northern countries [10].

However, since 1938 nurses in Denmark were able to follow further education at The Danish School of Advanced Nursing Studies by Aarhus University (DSH), where nurses could follow educational programmes to become health visitors, nursing leaders or teachers. The term "by Aarhus University" did not indicate that the education took place at the university but referred both a close collaboration between DSH and the university, as well to the physical placement at Aarhus University's campus [11, 12].

The education programme for nurses to become health visitors was initiated by the government to reduce the infant death rate in the period 1929–1935. In this programme nurses with knowledge on hygiene and prevention visited mothers with infants in their homes with the aim of promote health and prevent death among infants. The initiative was a success and led to a trial period for a health visitor education with support from the Rockefeller Foundation and Danish Life Insurance Companies. Moreover, education programmes to become either leader in nursing or nurse teacher were initiated [11, 12], but these programmes did not lead to university degrees, and they were not recognized as equivalent to degrees in the university system. However, the outcome of these education programmes was highly recognized in the health system [13]. Hence, a long tradition in Danish health system to

recruit well-educated nursing leaders to have leading positions in the health system was initiated [14] and took place at DSH until 2001.

In 1991, it became possible for Danish nurses to enrol in academic education in nursing and to achieve an academic degree, as DSH was recognized as provider of master's programmes equivalent to university programmes. Students wanting to continue to PhD level had to change to the medical faculty at Aarhus University, as DSH was not entitled to grant doctoral degrees [15, 16]. Thirty nursing students were admitted to the first 2 years master's course and received the title "candidatas curationes", which means masters in curare, or masters in caring. After 10 years, in 2001, the "by Aarhus University" was replaced by "at Aarhus University", and the master's programme in nursing was established in the university [17].

From this time, it has been possible for Danish nurses to acquire an academic degree within their profession and to study nursing to the level of doctoral degree. However, due to the particular Danish structure, the education to become registered nurse was not established as an university education but continued to take place at nursing schools, which were changed into university colleges in 2001 [18]. Hence, while the education to become a registered nurse in many of the European countries is placed within the university system, in Denmark the nurse education is still placed within institutions that do not have status as a university and therefore have their own regulative. As an example, the university colleges do not claim their teaching to be research based but state that the teaching must be based on rather blurred specifications such as "knowledge from research and development within the field of nursing" and "knowledge on the practise the education is directed towards". The university colleges are not permitted to provide education to higher levels than diploma degree. However, the university colleges have the right to do research, and strong efforts are made to recruit more teachers with a PhD degree to support the research milieu and research-based teaching in the colleges [19, 20].

Hence, nurses do not achieve a Bachelor of Science degree but a title as a "professional bachelor". However, despite this, the nursing students do achieve high-level education, which is mirrored in the fact that they are allowed entrance to certain university studies on master's level directly after their graduation as nurses [19–21].

4.3 The Danish Welfare State

Since the nurses made their entrance into the university, the education system has changed, and concordantly the master's programme in nursing has gone through several changes since 1991. These changes can be viewed in the light of changes in the Danish welfare state. An often-cited definition of a welfare state was introduced by the British professor in sociology Asa Briggs in 1961:

A "welfare state" is a state in which organized power is deliberately used (through politics and administration) in an effort to modify the play of market forces in at least three directions - first, by guaranteeing individuals and families a minimum income irrespective of the

market value of their work or their property; second, by narrowing the extent of insecurity by enabling individuals and families to meet certain “social contingencies” (for example sickness, old age and unemployment) which lead otherwise to individual and family crisis; and third, by ensuring that all citizens without distinction of status or class are offered the best standard available in relation to a certain agreed range of social services. ([22], p. 228)

The Danish version of a welfare state is commonly classified as a typical Nordic welfare state, based on a universal welfare model following the basic principle that all citizens have equal rights to several common services such as free access to school, physicians or general practitioners (GP) and hospitals independent of income. In addition, citizens have the right to child benefit, social security, old age benefit and, if unemployed without the right to unemployment support, citizens will be supported by cash benefit [23].

The development of this welfare state took its starting point around 1800 with the industrialization and hence the movement of the citizens from earning their living from agriculture towards becoming industrial workers. This movement led to working class families living in the growing cities with health problems derived from living without adequate sanitary arrangements and with all the well-known social challenges stemming from children’s working in the industry, heavy drinking among workers, etc. [24]. In this process, the relief and support of the poor changed from charity to legal right for all citizens if their life circumstances made them incapable to earn their living by themselves [1, 24].

Resulting from these changes in society, more and more areas were enrolled in the expanding welfare state target area during the nineteenth and twentieth century, and strong efforts were made to keep the population healthy and fit for work [1] with the so-called Steincke’s social reform from 1933 as a crucial milestone [24]. The Steincke’s social reform established that citizens have the right to health-care benefits and to be supported when unemployed or struck by sickness or invalidity. The right to benefit was closely linked to the obligation to work and to support own family if possible. Hence, the most intense development of the welfare state took place from the middle of the twentieth century. However, throughout the twentieth century, as still more services were enrolled as part of the Danish welfare system, critiques of the system argued that it had become difficult to identify the limits for the welfare state’s involvement in the citizens’ lives and that the costs were a burden on society, and efforts were therefore made to reduce the costs.

According to the professor in comparative political studies Ove Kaj Pedersen [5, 6], the welfare state since the 1990s has undergone a change from being a typical welfare state to becoming a *competition state*, a term introduced by former US president Clinton, who in 1993 stated that “businesses compete and so do nations” [25]. The welfare state was characterized by post-war ideals of peace and stability until the beginning of the 1990s, and despite political differences, shifting governments were guided by an overall shared goal of securing equality among citizens. The competition state is characterized by a reorganization of the welfare state with the goal to force public employees to work efficiently with the lowest cost possible to mobilize the state to participate in the global competition. According to Pedersen, increasing difficulties for the state to finance the growing public sector, economic

pressure from other countries such as China, and unpredictability in the international context, forces nations to build strategies for enhancing their future competitiveness [5].

4.4 Critique of the Competition State

Pedersen's diagnosis of the transformation of the welfare state into a competition state gave rise to heavy discussions in Denmark in [26, 27]. Central in these discussions was the Danish professor in psychology, Svend Brinkmann, who voiced strong standpoints on the transformation of the Danish welfare state into a competition state. According to Brinkmann, employees are met with a demand to adapt to ongoing and never-ending structural changes that forces employees to be flexible and prepared for development of own personality [28]. Brinkmann follows an often-voiced critique of the contemporary society in which New Public Management is the guiding principle for the organization of work within the public work places, described as goal-orientated leadership, benchmarking and measuring of outcome, evaluations, and accreditation are essential and often the goal for the criticism. Brinkmann takes the stand that we do not have to give in to this transformation. He introduces the concept of *building* in his argumentation that citizenship is about more than the education of citizens that can manoeuvre on the labour market in the competition with other countries labour forces. Building relates to the process of being formed as an enlightened citizen and is about more than developing competencies with the labour market as goal and the values of the competition state as reference. Building relates to human virtues, even though this terminology might sound awkward in modern society. To becoming "build", we must develop our characters towards the classical virtues [29].

4.5 Higher Education and Building: The Heritage from the German Humboldt University

An issue in planning curriculums for higher educations is the question of how to manage the heritage from the German Humboldt University zu Berlin that was established by the German liberal politician and philosopher Karl Wilhelm von Humboldt (1767–1835) [30]. Humboldt used exactly the concept *building*, stemming from the Greek word *paideia*, to address the objective for what students should gain through their higher education. Building can easily be translated to the Danish word "dannelse", while suggestions in English such as "well educated", "formed" or "cultivated" do not capture the full meaning of the concept. The nearest description is education to "behave as a gentleman" [31]. For Humboldt building was a lifelong project inseparable from the lived life of the individual, and therefore a spiritual and moral process, which also involved the others: "build yourself" and "affect others through who you are". Building takes place through scholarship and science (*Bildung durch wissenschaft*) and specialized professionalized insight

(Ausbildung) [7]. Humboldt regarded science, scholarship and education as processes meant to encourage the urge to investigate the world. Knowledge was not gained through repetitions of textbooks but through a gradually achieved insight and hence the ability for independently thoughts. Humboldt understood both the humanities and science as foundation for building. In the process towards building, a person should seek the truth in the direction the consciousness by itself moved free from any market interests. From here stems the ideal of free science, which has been an ideal for universities all over the world [7], while the seeking of knowledge without a practical purpose but purely to increase the stock of knowledge corresponds to basic science as it is defined in the Frascati Manual [32].

The ideals from the Humboldt University have been challenged in the period since the masters' degree in nursing was established in 1991 and university programmes have changed in accordance with changes in the society and education system. Hence, the master's education in nursing has changed from being situated in a rather self-governing institution, DSH, into large university faculties of health and organized within the framework defined by Danish Qualification Framework, inlaid in the Bologna Declaration [33]. Moreover, the universities must undergo institutional accreditation [34].

4.6 The Bologna Process and the Bologna Declaration

In the 1990th Denmark took part in to the Bologna Process and committed to the Bologna Declaration in 1999 [33]. Hence, the target-oriented principles for educational planning have been revived and now permeate all the educational system. In this revival, the concept of *competence* plays a crucial role. The Bologna Process and the following European Bologna Declaration draws on the competence concept. Following from this, the Danish educational system is organized with competence as the key concept, and all curriculums from undergraduate schools to master's level must be built up within this framework. However, the Bologna Process and the Bologna Declaration have been a source of critique from educators at all levels of the educational system. The Danish Scholar Laura Sarauw [34] scrutinized the specific Danish interpretation of the Bologna Declaration and states that there has been a specific Danish interpretation of the Bologna Process and the Bologna Declaration's use of the competence concept. She argues that the critique of the Bologna Process to focus entirely on the labour market was a Danish misinterpretation as the Bologna process was not least dominated by a democratic narrative of the Bologna Process as a [35] counterpoint to the economical-monetary collaboration in the EU. In 2005 the European Qualification Framework was published which differed from the Danish interpretation by putting equal weight on:

- Preparation for the labour market.
- Preparation for the life as an active citizen in a democratic society.
- Development of the personality.
- Development of a broad and advanced fundament of knowledge [35].

However, in the Danish interpretation, several of the international objectives were excluded in preference of an exclusive labour market oriented narrative formulating preparation for the labour market as the absolute value in a university education. Therefore, Sarauw argues that even though we in Denmark claim the Bologna Process to be the foundation for our curriculums we cannot explain the heavy weight on development of competencies related to the labour market with reference to the Bologna Process nor to the declaration [34].

4.7 Competencies as a Management Tool

With the Bologna Declaration focus shifted from the question of what should be taught to the question of what should be learned. At universities, many teachers attended courses on how to teach in university based on the Australian professor in educational psychology, John Biggs [36], who suggests that educators should secure alignment between the activities in the lessons and exams outlined in clear and measurable learning objectives. This is meant to enable the students to know exactly what is expected from them, and thereby also to learn what they should expect from the exams. Moreover, following the Danish Qualification Framework, these learning objectives must be formulated within a system in which competences are divided into knowledge, skills and competences [32]. A target-oriented curriculum is not a new phenomenon but was abandoned in the 1990s due to critique of the behaviouristic perspective [37]. However, with the approval of the Bologna Declaration, the target-oriented principles for educational planning were revived with competence as the key concept, and all curriculums from undergraduate schools to master's level must be build up within this framework [32].

4.8 University Education with a Double Aim

University education has always had a double aim of serving both human building and educating to perform the duties of certain areas in society [7]. With the Danish interpretation of the Bologna Declaration, there has been a movement away from regarding building as the most important outcome of university education. Within the Danish Qualification Framework, focus has changed towards the students' specific capability to meet the demands from the labour market. Andersen and Jacobsen [7] suggest that universities historically have been operating partly towards universal basic knowledge, defined by Aristoteles as *episteme*, and partly towards useable knowledge, defined as *phronesis*. However, they argue that of these two movements, the former towards universal knowledge has been prevailing, and they also point out that the universities survived after World War II by doing exactly what universities have always been doing, namely, producing values and critical thinking. To capture this double aim of higher education, they introduce the concept employability defined as:

a set of achievements – skills, understandings and personal attributes – that make graduates more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy [38].

Hence, employability is the result of a scholarly and professional progression with the composition of knowledge, skills and competences throughout an aggregated education process, not only to the benefit for the labour market but also for the community and themselves [7].

4.9 Educating Nurses to Become Reflective Practitioners

Despite of changes in use of terminology and the challenges in composing curriculums in terms of competences aiming towards specific tasks at the labour market, sticking to the double aim of education curriculums for nurses' higher education has been maintained. The shifting curriculums have aimed at both building and workability to build reflective practitioners with reference to American philosopher and town planner, Donald Schön [8]. Schön called attention to the problems professionals face in their work and indicated that these problems are complex and without conclusive answers. Therefore, the skilled practitioner must be able to reflect both in and over his or her practice. The reflective practitioner does not follow standards or guidelines nor do as they use to do [8]. To become a reflective practitioner, a nurse must draw on both scientific knowledge and experiences from problems she has met in her profession; she must both know about nursing and about how to develop and evaluate this knowledge. Thus, these reflections must rest upon academic and scientific knowledge and be accompanied by critical thinking which is exactly what employability is about.

4.10 Conclusion

Master's programmes in nursing should provide nurses with specific, sought-after competences that add to a nurse's employability. However, it is of equal importance that the nurses during their study develop their ability to reflect and critique as has always been the objective of the universities [7]. Technological developments and the never-ending reforms [5] call for nurses educated to a level where they can influence structures in the welfare state positively by challenging prevailing understandings based on their reflective thinking.

With the current suggestion to the minister of education and research to introduce a philosophy course as a mandatory subject for all university students [39], a need for students that are build, not only competent, is recognized. With the title *Academia*, the suggested course aims at developing students' curiosity and critical thinking [39] and should enable universities to meet the obligation to develop students as persons, professionals and citizens. This course will probably not be part of academic nursing training because it will be part of the bachelor's programme into

which the nursing education is not enrolled. However, within the masters' in nursing programme, this call for building already seems to have been met, which was demonstrated when two nurses who recently graduated with the master's degree both articulated that the nurses' ability to deeper reflection and critical thinking was the most important and useful outcome of their study.

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Pioneers in an Old Culture. Developing and Leading a Research and Development Capacity Building Program

Bibi Hølge-Hazelton

5.1 Capacity Building

Capacity can be described as the sum of processes, values and climate in an organization [1]. Capacity building in health is not a unitary term but is, according to Crisp and colleagues [2], regardless of the strategies and processes, a concept that can be used to describe ongoing interventions “that have changed an organization’s or community’s ability to address health issues by creating new structures, approaches, and/or values” ([3], p. 100). The authors have identified four different approaches to organizational capacity building that can work individually but in practice they often impact each other:

1. Bottom-up organizational approach. Here the staff are encouraged to become reflective practitioners, and they are trained and provided with skills and knowledge that benefit the organization.
2. Top-down organizational approach. This strategy often begins with changing of policies or practices.
3. Partnerships. Here the strengthening of networks and relationships between organizations is in focus.
4. Community organization approach. Here individual staff members are included in existing or new organizations to actively transform the community.

Capacity building focuses both on common problem-solving and on competence development. Ideally capacity building has spread the decision-making power across the organizations, and that change in processes takes place with a high degree

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of involvement and participation. Thus, capacity building is highly contextually anchored, and it is therefore necessary to focus on the culture of the overall organization as well as the individuals within the organization [3, 4].

5.1.1 Culture

Although culture is a complex concept, one approach is to describe it as a “boundary-object” [5] meaning that culture is both flexible enough to meet local needs, for instance, in a hospital unit, and simultaneously robust enough to maintain a common identity, for instance, across an entire hospital. Culture is a powerful abstraction and organizational culture can be defined as:

A pattern of shared basic assumptions that a group has learned as it solved its problems of external adaptation and internal integration that has worked well enough to be considered valid and therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems. ([6], p. 12)

Put forward more simply, culture can be described as *how things are done around here* [7].

5.1.2 Knowledge Transfer and Developing Research and Development Capacity

Research and development capacity building is internationally recognized as important in order to provide a strong evidence base for clinical practice [8, 9] and for developing nursing research culture [10]. However, a balance between the two activities must be established if research is to become more than an “academic endeavour” [11].

Knowledge is generally difficult to transfer, and knowledge coming from research is particularly difficult, since it often fails to interact with practice settings [12]. Several explanations and models to overcome this challenge exist, among them the Dynamic Knowledge Transfer Capacity model [13]. The model advances a generic framework to identify the components required for social systems to generate, disseminate and use new knowledge to meet the needs in the organization, and it is useful to illustrate the complexities at play when knowledge is to be mobilized or transferred. It highlights that one must develop and balance multilevel capabilities coming from different knowledge domains and complexity levels. If one component is given too much attention, there is a risk that it will dominate the other components. If, for example, an organization, as part of its research strategy, focuses on strengthening nursing research capacity (generative capacity) by including a high number of research trained staff and is paying special attention to peer-reviewed publications, staff with other profiles who are responsible for practice-focused development initiatives and knowledge brokering (disseminative capacity) may experience tensions and may consequently struggle to maintain their positions [14].

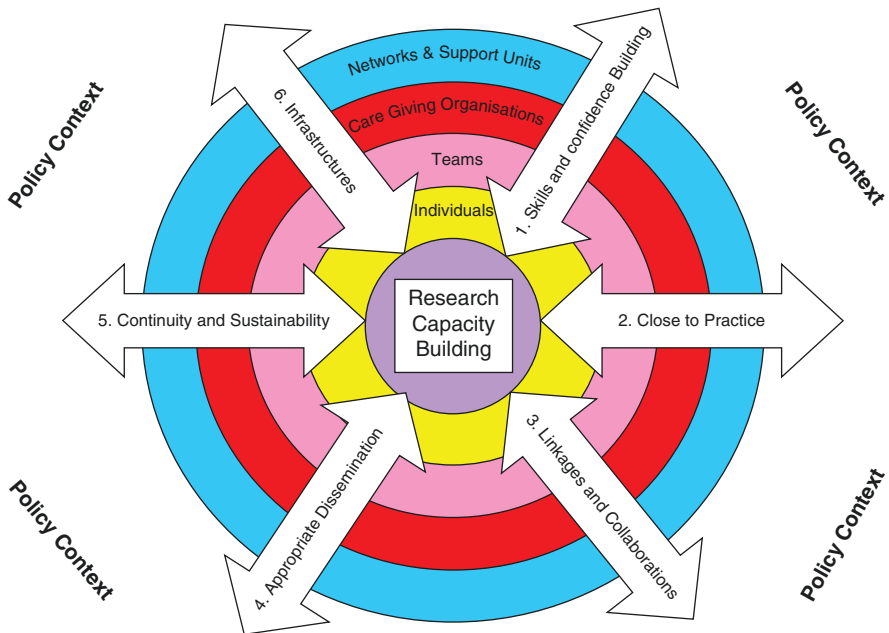


Fig. 5.1 Research capacity building: a framework for evaluation. *Re-printed with permission from the author [8]*

Leading processes of research and development capacity building are complex and iterative [15], and examples of documentation and evaluation of such processes are rare in the literature. However, one very illustrative and useful evaluation framework for research capacity building, including documentation of processes, has been developed by Cooke [8] (Fig. 5.1). The framework is embedded in a policy context and consists of two dimensions. The first dimension consists of four structural levels of development activity: individual, team, organizational and network. The second dimension consists of six principles of capacity building, where each principle must operate at *all* structural levels:

1. Develop skills and confidence of professionals, which include increasing professional enthusiasm, and supporting the application of critical thinking, and the use of evidence in practice.
2. Support linkages, collaborations and partnerships.
3. Ensure the research is “close to practice”.
4. Develop appropriate dissemination.
5. Build elements of sustainability and continuity.
6. Invest in infrastructure.

Within the work leading a large research and development capacity building process at Zealand University Hospital, the framework is helpful as a constant

reminder of how to document and measure the work. In this context, development capacity is added to the centre of the model, and the six principles cover the activity level well.

5.2 Working with Research and Development Capacity Building Within a University Hospital

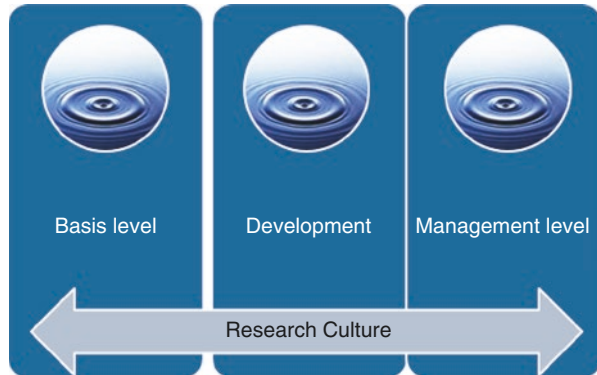
The specific context of the following description is the new university hospital as described in the beginning of this chapter. The hospital is placed in a region in Denmark without a strong tradition for nursing research, and when the hospital management established a director of research position, it was prepared for a nurse at senior research level. The hospital management wanted an active and established researcher on the post, as the management had experienced that less experienced researchers did not have the desired impact, especially in the interdisciplinary collaboration with other health-care professionals like medical doctors. The content of the position was 50% own research activities and 50% research administrative activities. The main task was formulated as *creating, developing and supporting a research culture within the nursing and allied health professions*.

5.2.1 Background, Vision and Strategy

To create an overview of the exiting culture, one of the first steps the director of research took was to have meetings with all departments including head nurses, ward managers, key-personnel such as clinical nurse specialists and if possible research responsible doctors and all support functions at the hospital such as library, quality insurance unit and education unit. The hospital had a network among clinical nurse specialists, a research and development council for nursing and allied health, an educational council and an overall research council, and she became a member of all these groups.

It quickly became clear that research was something most of the nursing staff regarded as relevant for doctors with academic ambitions; it was not for them. Very few nurses had education on master's level, there was a lack of structure for new projects and there was very little tradition of documenting results coming from development projects. Further, there was a lack of focus and knowledge regarding research among leading nurses. Registered nurses (RNs) at all levels of the hospital collaborated in developing the following vision: *Our research culture should be constructive, creative, inclusive and visible at all levels of the hospital*. The strategy was visualized in a figure symbolizing that the culture should be everybody's business and include all levels of nursing and that the levels are interdependent and dynamic like when drops fall into the water, which may symbolize how the "drop" referring to the culture may influence other professionals on each level (Fig. 5.2). By stating that the strategy was focusing on all levels, "bottom up, top down and don't forget the middle", the intention was of emphasizing that the approach to the

Fig. 5.2 Research culture capacity model: Bottom up, top down and don't forget the middle



research should be participatory, applied and clinically relevant [16] and should have the support and attention of the hospital management.

By including the concepts *constructive*, *creative*, *inclusive* and *visible*, it was possible to signal:

- *Constructive*, which refers to a collaborative approach that acknowledges the exiting and ongoing projects, ideas and initiatives within the nursing and allied health professions.
- *Creative*, which refers to a broad understanding of what counts as relevant evidence [17, 18] and an acknowledgement that new knowledge can be developed by different methods and approaches [19].
- *Inclusive*, which refers to an attitude that welcomed new ideas and initiates across the hospital and disciplines.
- *Visible*, which refer to the importance of being visible and present in all parts and levels of the hospital but also outside, national and international, including physical presence at research and practice-focused conferences, workshops, seminars and network meetings and by writing papers in scientific and other journals.

5.2.2 Concrete Initiatives

With a strategy and infrastructure that were supported at many important levels in the organization, including the director of nursing, head nurses and clinical nurse specialists, and acknowledgement from the medical director and medical head of research, several initiatives were taken. The underlying approach was that the initiatives should be clinically relevant and participatory. Examples of initiatives were:

- Development of academic career pathways from newly educated bachelor in nursing to professor. This included articulation of the ambition of having doctoral nursing or allied health students and postdoctoral nursing or allied health-care staff at department levels.

- Establishment of a new intra-organizational network of RNs and allied health professional responsible for education, development and research.
- Initiation of an article writing course for nurses and other health-care professionals, in order to secure documentation of the many undocumented research and development projects [20].
- Initiation of a journal club facilitation course, targeted at clinical specialists [12].
- Surveys among RNs in order to understand barriers for continuing education and for participating in research [21].
- Initiation of research courses targeted at managers at ward and unit levels [22].
- Initiation of an intensive research course for RNs and allied health professionals [23].

If possible, the capacity building initiatives were documented in peer-reviewed publications or in practice journal articles and book chapters depending on relevance. By doing so, it was signalled that it was necessary to *walk our own talk* (be critically reflective and document new initiatives) and simultaneously demonstrate that research and development in capacity building is not something that falls from the sky, but is based on professional, complex and theoretically based academic competencies that include perspectives coming from the humanities and social sciences.

One example of such publications is the free online book series (in Danish) *Research and Development Culture*. The first book *Research and Development Culture—In Clinical Practice* [24] consisted of 12 chapters written by RNs and allied health professionals at different levels in the organization, sharing their reflections and experiences with the first steps of building research and development capacity. The book was followed the next year by another free online book, *Research and Development Culture—From Idea to Publication* [25]. Here, several articles developed through the article writing course were gathered and presented together. The third book *Research and Development Culture—Researchers in Clinical Practice* was published in September 2018 [26]. Here, a group of researchers with nursing and allied health background, employed at the hospital, described their experiences and reflections regarding these new positions in clinical practice.

Knowing that both reading a foreign language and book prices can be barriers to accessing and reading professional literature, the books are in Danish and free of charge. The idea behind the book series is to raise attention to the strategy and share the experiences with developing the culture as easily as possible with as many colleagues possible. It is also a way to ensure that all possible publications written within the organization, on this topic, are published. The contributions in the books are very different; some required a lot of editing and mentoring and others hardly any, but the aim was that the nurses and health-care professionals published together, and that is a strong symbol of working together with a common purpose.

5.2.3 Educating and Recruiting Researchers

Having worked at all levels of the organization, to establish the best possible foundation for a research and developmental culture which “only” needed researchers

may seem to be easy to do—but this was by no means a simple process. Even though many doctoral students with medical background were employed at the hospital, no single head nurse was willing to take the economic risk and become the first department to establish a doctoral nursing student scholarship. This barrier was addressed in the Research and Development Council, and at nurse management meetings, resulting in two initiatives.

In the first initiative, 16 leaders agreed to support the first doctoral nursing student to conduct a PhD study with a small amount each year, which covered the student's salary for the 3 years it takes to complete a PhD in Denmark. This meant that it was needed to establish a study everybody found relevant. The solution was a study focusing on general palliative nursing care, conducted by a RN employed at the hospital. The RN had just completed her master's thesis and was very interested in the subject. The conditions were not optimal, but on the other hand there was a tremendous interest and support to the nurse researcher and the theme, and by the completion of the study [27], it had gained substantial external funding, for instance, from the Novo Nordisk Foundation for nursing research, with some co-funding from the departments.

The other initiative was the announcement from the director of nursing of funding of 1-year salary to another PhD student within nursing and allied health. This, together with the positive funding experiences from the first study, resulted in several applications and initiations of studies.

As it became increasingly apparent that educated researchers were needed in clinical practice to support the research and development culture and capacity building, it became possible to gain further support from the hospital management, which resulted in five 50% postdoctoral positions financed by the hospital management and the other 50% of the position co-financed by the departments. Currently there are 22 RNs and allied health professionals working in junior research functions, like doctoral nursing students, or in senior research functions, like postdoctoral nurses, assistant professors, associate professor and professor.

It is important to note that not all RNs or allied health professionals who have gained a PhD degree wish to or, for different reasons, can continue with academic careers at university level. From the experiences so far, it is clear that some postdoctoral nurses, rather than aiming for personal academic careers at the universities, prefer to use their research background in positions, where they focus on practice development and research at the hospital [28].

5.2.4 Establishing Professorships and Nursing Research Program

As an important part of the newly gained university hospital status, nursing and allied health is now part of the official professor plan. The hospital's ambition is to have five professors in nursing or allied health before 2021. The hospital primarily collaborates with the University of Copenhagen, but most academic nurses and allied health professionals are associated with the University of

Southern Denmark, as this has specific master's programmes in nursing, physiotherapy, midwifery and occupational therapy. Others are associated with Aarhus University, Roskilde University and some with Lund University in Sweden. Now, three nursing professors are associated to the hospital: a professor of clinical nursing who is also the director of nursing/allied health research and two international visiting professors. There is no doubt that professors can act as research frontrunners, but the art is to keep a sharp focus on the balance between the different capacity levels [8, 13–15] and respect that change of culture takes time. There is a need of professors in clinical practice but also a need of assistant and associate professor positions, and they need to be established in close collaboration with the specific department in order to secure that mutual expectations are clarified and adjusted [28].

The last initiative is the establishment of a 5-year research programme CAPAN (capacity building in clinical nursing). The PARIHS framework has inspired us in setting up the programme because it focuses on interactions between evidence, context and facilitation [17, 29]. Further, the approach to nursing practice is inspired by the person-centred framework [30]. Both frameworks are reflected in the vision and strategy for nursing and allied health at the hospital.

The overall purpose of CAPAN is to facilitate the generation, dissemination and absorption of a development and research culture that is constructive, creative, inclusive and visible at all levels. This means that the programme builds on the previous work and includes producing and transferring knowledge to, from and between nurses, patients and collaborators (researchers and non-researchers) in clinical practice. The specific components of the first year have been:

- Establishing a programme database.
- Validating and translating the Context Assessment Index [31] used in a nurse survey [32].
- Preparing and distributing a nurse survey to all nurses in the region.
- Developing a department specific survey feedback strategy.
- Developing and testing a generic reflection tool.
- Developing a supervision programme for head nurses.
- Establishing a network regarding nurse-led clinics at the hospital.
- Developing a collaborative research training programme for researchers/non-researchers.
- Establishing a closed Facebook group for all nurses at the hospital.
- Linking international visiting professors to the programme.

The degree of implementation of the CAPAN programme components over time and across different clinical settings is continuously being documented. This includes focus on contextual factors, development of new action-driven initiatives and reports on how participants engage in and respond to the programme components. The framework for evaluating research (and development) capacity building [8] (Fig. 5.1) is a helpful inspiration and reminder of how complex and important the task is.

5.3 Conclusion

The approach to research and development capacity building described in this chapter takes its point of departure in an understanding of capacity building as emancipatory and empowering with a vision that welcomes curiosity, critique and creativity. This means that the ultimate goal is to spread decision-making power across the organization and to establish a culture that is open to interruptions and to the unexpected. The consequence of this approach is that it is imperative that all involved are able to endure the uncertainty of not knowing what exact results the process will lead to.

It is an approach that moves beyond approaches like the Plan-Do-Study-Act (PDSA) cycle [33] or SMART targets [34], models that are often used to work with and solve specific and measurable quality problems in the health-care sector. Establishing such a programme can be described as “pioneers working in an old culture”, and securing support from all structural levels across the hospital is a delicate and sometimes difficult ambition.

Nevertheless, and most importantly, despite the ever-changing demands, CAPAN is positively recognized and supported by many nurses, patients and other collaborators in clinical practice, and that is the primary driving force in the years to come.

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Part II

Nursing Leadership in Finland

Helena Leino-Kilpi



Helena Leino-Kilpi and Minna Stolt

6.1 Introduction

In Finland, the formal history of nursing science roots back to the late 1950s. Currently, nursing science is established at five universities. The implementation of research results into nursing and health-care practice is made both at universities of applied sciences in professional education and at health-care organizations in health-care districts and primary health care. Academic nursing education was established in the late 1970s because the need for health-related knowledge had grown strongly, and there was a need for structuring a new discipline. The steps of development of nursing science have been rather clear, and all the important signs of the discipline have been well established. Important aspects in this process, characteristic for Finland, have been the national collaboration between universities, universities' own research profiles and also partly different educational profiles. These have given strength to the development and provided the scope for researchers and new students as well as for a national network that brings together universities, universities of applied sciences and professionals in health-care practice.

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6.2 Establishment and Development of the New Discipline of Nursing Science

The first sign of the new discipline of nursing science in Finland was the establishment of the *Yearbook of Nursing* (Sairaanhoidon vuosikirja) in 1958 and the Research Institute of Nursing (Sairaanhoidon tutkimuslaitos) in 1966. The *Yearbook of Nursing* was published by the Finnish Nursing Education Foundation (Sairaanhoitajien koulutussäätiö SHKS) which was established in 1944. At that time there was no academic nursing education in the country, and the Research Institute of Nursing did not have any educational duties, because it was set up for research purposes. In the late 1970s, for example, the Institute coordinated the Finnish part of the medium-term nursing research and developmental programme by the European Regional Office of WHO, which was the very first programme in the field of nursing research in Finland. Today, the Research Institute no longer exists; it was integrated into the Nursing Research Foundation in 2005. It was, however, an important first step in Finland, based on the collaborative work of many pioneers in those days [1–3]. The Finnish Nursing Education Foundation, which still exists today, is the main national foundation funding purely nursing research.

Academic university nursing education at Master's level began in 1979 at the University of Kuopio. The planning of university education had, however, started years before; the first initiative to establish academic nursing education in Finland was made in the 1920s. Professional nursing education was established in Finland in the late 1800s, became state owned in the 1930s, and went through some reforms in the 1960s. In the 1970s, the time was finally right to launch formal academic nursing educational programmes, for several reasons. First, in the early 1970s, a new law on primary health care [4] was passed, broadening the perspective of health care and nursing, taking particularly into account primary health care and prevention. Second, the country was becoming economically stable after all the large reforms implemented after the Second World War, day-care institutions were established, and many other institutions facilitated women's career development. Third, universities were stable, and other new educational programmes were also established, and fourth, international educational trends and collaboration between countries increased. In nursing, this meant that pioneers in the field established connections with international partners. In Great Britain, university nursing education began already in the 1950s, with many good examples seen. Although many experts in health care expressed the need to establish a new discipline and research-based development of the nursing profession, there were, however, also sceptical voices to be heard in different parts of the country.

University-based Masters' programmes spread quickly throughout the country, to all main universities: University of Helsinki (1981), Tampere (1981), Oulu (1986), Turku (1986), the Swedish-speaking university Åbo Akademi (1987) and University of Jyväskylä (1992). However, the educational programmes in Helsinki (1993) and Jyväskylä (2007) were later closed down, resulting in nursing science programmes at five universities today (Table. 6.1). In the first years, there was one

Table 6.1 Academic nursing education in Finland (situation in 2018)

University	Faculty	Department/ Unit	Master's degree	PhD degree
University of Eastern Finland	Faculty of Health Sciences	Department of Nursing Science	<ul style="list-style-type: none"> – Nursing leadership and management – Preventive nursing science – Nurse teacher education 	PhD degree, health sciences (nursing science)
University of Oulu	Faculty of Medicine	The Research Unit of Nursing Science and Health Management	<ul style="list-style-type: none"> – Nursing Science – Teacher Education in Health Sciences 	PhD degree, health sciences (nursing science)
University of Tampere	Faculty of Social Sciences	Unit of Nursing science	<ul style="list-style-type: none"> – Nursing management – Teaching of nursing 	PhD degree, health sciences (nursing science)
University of Turku	Faculty of Medicine	Department of Nursing Science	<ul style="list-style-type: none"> – Gerontological nursing science – Clinical nursing science – Mental health and psychiatric nursing science – Health sciences teacher education 	PhD degree, health sciences (nursing science)
Åbo Akademi (Swedish language)	Faculty of Education and Welfare Studies	Caring science	<ul style="list-style-type: none"> – Clinical caring science – Health care administration and management – Didactics of health sciences, health care education – Health technology 	PhD degree, health sciences (caring science)

academic professor chair in every university. However, the universities rapidly established more positions for professors and other academic staff. In 2018, a total of 19 full professorships have been established at five universities, in addition to other faculty members, researchers and tenure track posts. The Masters' education was aimed at those already having professional qualification. Thus, the students were mainly nurses, public health nurses, midwives and professionals in all allied health fields. These entry requirements have been rather constant over the years; only Åbo Akademi has admitted students without professional education after high school graduation. In the coming years, however, there will be a reform of admission strategies to the universities in Finland.

In Finland, we currently have a formal dual model in education [5] consisting of universities and universities of applied sciences. The Ministry of Education and

Culture is responsible for the planning and implementation of higher education and science policy. The mission of universities is to conduct scientific research and provide education based on research evidence. Universities of applied sciences (UAS) provide practical education aiming to respond to the needs of the labour market. Universities offering higher scientific and artistic education award Bachelor's and Master's degrees as well as postgraduate degrees, i.e. licentiate and doctoral degrees. Universities of applied sciences award UAS Bachelor's degrees and UAS Master's degrees. In this chapter, however, we concentrate on the universities and the development of nursing science.

The academic education in the early years—like today—was public, strongly based on governmental funding and national juridical acts. At most of the universities, the programmes in nursing science were established in the faculties of medicine or health sciences, whereas two of them still exist as independent units. These locations of the educational programmes also inform about the nature of education and research: they are oriented as health sciences, with health, human beings, nursing and caring actions and environment as central concepts. In Åbo Akademi, which does not have a faculty of medicine or health sciences, the education has been more oriented to caring sciences [6], and it has engaged in Nordic collaboration more than the other universities. In the first years, the educational programmes led to a degree in health-care/nursing education and administration. In 1991, in the University of Turku, the first clinical nurse specialist master's programme in older people care was established, followed by a programme in clinical nursing science in 1993 and in mental health and psychiatric care in 2014. There are also programmes in prevention and health promotion in the University of Eastern Finland (earlier Kuopio). All five universities have implemented Master's programmes for nurse and health-care teachers and administrators. Academic nursing education had a good start in Finland: the programmes were popular; the students graduated and found high-level professional positions in Finnish society. In the beginning, the universities admitted about 20 students per year, the current numbers being 45–50 per year/university and around 40 graduations per year/university—thus approximately 200 new nurses graduate yearly with a Master's degree from universities, and these nurses find new positions corresponding with their university education, based on the follow-ups of the universities [7].

In the early years, also other aspects/symbols of the early development of nursing science as a discipline were established. For example, the *Journal of Nursing Science* (Hoitotiede) was founded in 1989 in collaboration with the Finnish Association of Nursing Research (Hoitotieteiden tutkimusseura)—both being strong symbols of the discipline. Furthermore, the Finnish Association of Nursing Research decided that Finnish National Conference will be held every second year. Professors at the universities had regular national meetings, and they decided that every university would in turn assume responsibility for the management of the Association, the national conference and the *Journal*—this decision still holds in 2018. In national collaboration, a National Doctoral Education Network was also established in 1995, in addition to the already established PhD programmes of the universities. This network has been very important for the development of doctoral

programmes but also for the development of research and nursing as a scientific discipline. The national collaboration has provided the opportunity to invite international experts to Finland, made research collaboration easier, and guaranteed high-level national education for PhD students. In summing up the establishment and the first steps in the development of nursing science in Finland, which was characterized by strong enthusiastic attitude of the people working at the universities and in the field, it is important to note that the universities offering these programmes have been working together, have made collaborative decisions and have supported each other. This collaborative approach has been a characteristic of Finnish nursing academe, in addition to the collaboration with other health sciences.

6.3 Characteristics of the Discipline of Nursing Science

The discipline of nursing science, which developed quickly in Finland, over a period of just 40 years, can be analysed by (1) critical mass educated in the field, (2) looking at the nature and topics of research in the field and (3) methodological solutions (see, e.g. [8, 9]). These will be described in detail in the next chapters.

6.3.1 Critical Mass in Nursing Science

The critical mass of nurses with an academic degree has increased rather rapidly in Finland: a total of 499 nurses had finished a doctoral degree (PhD degree) at the end of 2017 (Fig. 6.1) and thousands of nurses have finished a Master's degree (no

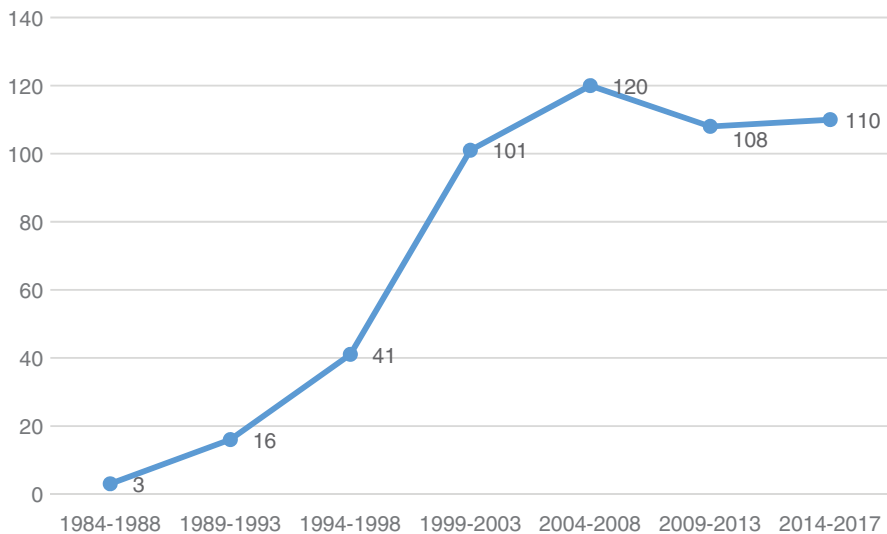


Fig. 6.1 Number of doctoral dissertations in nursing science in Finland in 1984–2017

statistics available). Approximately 200 nurses finish a Master's degree and approximately 20 nurses finish a PhD degree from universities every year. This means that we have nurses with university nursing degrees in all areas of society: in health care, in education, in the third sector, in politics, in the business sector and in research.

Universities have provided Master's education within nursing and health-care education. Internationally, there are many differences between countries in health-care education and the required competence of educators [10]. In Finland, nursing and health-care educators are needed in two levels: in universities of applied sciences (UAS) and in universities. All educators in UAS have a minimum of Master's degree, with nursing science as the main discipline and minors in educational sciences. Some nursing educators in leading positions and in the UAS Master's programmes also have a PhD qualification. In the universities, a PhD degree is the main competence criterion of faculty members. Nursing educators with Master's or PhD qualification also work in health-care organizations, mainly in the coordination of clinical teaching but also in management positions. This means that both in the field of clinical practice and education, the level of teachers and their knowledge about nursing research is rather high. This gives more potential for evidence-based nursing in the country.

As for nurse leaders and managers, their educational background is not quite as clear as that of teachers, even though the programme for nurse managers was the first one to be established in the University of Kuopio in 1979 [11]. Nurse leaders and managers in health districts and primary health care have a Master's degree from university; some leading directors also have a PhD degree—either in nursing science or health-care administration. Thus, compared with many other European countries, the leaders and managers have a rather high level of education, allowing them to implement evidence-based nursing and to support the implementation of nursing research in health-care organizations. In recent years, however, the number of nursing administrator positions has decreased due to the financial situation in the health-care organizations.

In Finnish clinical practice, there are also clinical nurse specialists educated at universities and nurse practitioners educated at either universities or universities of applied sciences. The positions, however, are concentrated in university hospitals, mostly in Helsinki and Turku. In the University Hospital of Oulu, the most northern university hospital, they have had one of the very first clinical specialists in nursing science. However, the work role of these clinical specialists varies, and their role is not strictly defined in Finland. The same goes for advanced nurse practitioners (APN) in general: there is a variation in their education and the nature of their positions. They do, however, have a national Finnish network that enables collaboration and future development. In Finnish health-care organizations, nurses have a major role: in 2009, Finland had 9.6 nurses per every 1.000 inhabitants—at the time a larger proportion compared to the other Nordic nations, whereas we had 2.7 practising physicians per every 1000 people, which is very low compared to the other Nordic countries. This can partly be explained by the importance placed on the changing role of nurses taking on more responsibilities from physicians and which greatly reduces the need for practising physicians.

6.3.2 Nursing Research Within the Finnish Health-Care System

The Finnish health-care system is organized around primary health care and 21 health-care districts owned by the municipalities [12]. Finnish health care can be considered a success based on several indicators. Over the past few decades, there has been a remarkable improvement in life expectancy, and infant mortality and maternal mortality are among the lowest in the world. Particular success can also be seen in regards to specialized medical care and the coverage of screening, like breast cancer screening, and vaccination programmes. According to the Euro Health Consumer Index (2017) [13], Finland placed fourth in its 2015 survey, being a leader in value-for-money health care. In the future, lower fertility rates and multi-dimensional health issues of older population bring new challenges to the Finnish health-care system. As there will be fewer people to pay for health and social care, it is predicted that many of the ageing population will be affected and the old age dependency ratio in Finland will be the highest among all EU countries in 2025. Therefore, in the coming years, a large reform of the social and health-care sector is planned to be implemented.

In health-care districts, especially in university districts, research strategies are important instruments for the development of evidence-based practice. For example, in the Health District of South-West Finland, in the area of Turku University Hospital, the strategy of nursing research [14] emphasizes research in the field of patient-centred services and patient resources, nursing professionals' resources and health-care service systems. In the Kuopio [15], the corresponding fields are functionality of the health-care service systems, leadership in health-care and development-related interventions. In all the health districts, the Ministry of Social Affairs and Health distributes annual research funding (referred to as state research funding, VTR). This funding is also aimed at nursing research in the area, based on competition with all other clinical fields. In different health districts, nursing researchers have succeeded rather well in competing for funding, mainly because nursing concentrates more than other disciplines on the development of the organization of health care, also implementing health service research. Development of the organization of health care has for many years been the focus of funding allocated by the Ministry of Social Affairs and Health.

From the very early years of nursing research, patient orientation has been fundamental in nursing research in Finland. To strengthen nursing research for patients, all universities have established cross-appointments of nursing professors in the university hospitals, health-care districts and primary care: in Kuopio, where three professorships were established (1990, 2000, 2011); in Turku, where four professorships were established (1991, 2006, 2007, 2012); and in Oulu (1994), Tampere (1995), Åbo Akademi (1996) and Helsinki (2011), where one professorship was established at each of the universities. In these cross-appointments, there is variation and the work profile of the professors depends on the district. In some of the districts, also other collaborative positions have been established. They all, however, conduct their own research in the hospitals of the health districts and primary health care, which provide the professors with an

effective research environment, close connections with nurses in working in clinical practice and supporting the implementation of research results or evidence into the clinical practice.

The implementation of the results of nursing research, or evidence-based practice, has been rather successful in many parts of health-care organization. Implementation, however, seems to be a challenge both nationally [16] and internationally [17]. An organization, *Hoitotyön tutkimussäätiö* (Nursing Research Foundation, NRF) [18], was established (in the year 2005) aimed to improve the implementation and is responsible for the nursing recommendations and their implementation and also for improving the utilization of nursing research. The results, however, are not yet very consistent, and there is a continuous need to develop systematically evidence-based nursing. In health districts and primary health care—based on law—this is the duty of nurse directors [19]. The factors inhibiting the use of research findings in nursing practice are mainly dependent on the organizations, not so much on the nurses. Studies have shown that nurses lack the time to familiarize themselves with nursing research, they lack opportunities to read about research during working hours, and an organizational culture is not facilitating them to provide evidence-based nursing care [16]. Similar challenges have been identified in nursing education [20].

6.3.3 Quality of Nursing Research

Every university in Finland is responsible for the evaluation of their programmes, outcomes and the arrangements needed for improving the quality and effectiveness of education and research. Approximately 25 years after the launch of academic nursing education (1979), nursing research was evaluated in 2003, by the Academy of Finland (2003) [21]. The main task of the Academy is to support high-level research with funding. In the committee for research related to health, nursing science is described as one of the disciplines of health sciences, which guarantees the formal position of nursing science. An international evaluative expert committee was invited in 2003, and all five universities produced material for the evaluative analysis. As a summary, the evaluative committee stated that:

... there have been many very positive developments and achievements in nursing science in Finland over its relatively short history. Finland was fortunate in having had visionary nurse scholars who led the first all-important developments in the early years that resulted in the introduction of research into Finnish nursing, and the introduction of nursing into Finland's university system. ([21], p. 58)

Despite these positive comments, the evaluative committee, however, made the following recommendations: to move away from small-scale studies to larger-scale national and international research and international multicentre research and to create more research focusing on clinical outcomes and measuring the effectiveness of nursing interventions. Also, they recommended a stronger leadership of research programmes and pointed out the heavy teaching demands on staff in the nursing

science departments. Furthermore, they recommended to strengthen the group identity of PhD students as well as emphasizing the need for post-doctoral training fellowships. Based on these recommendations, many outcomes can be identified. At the University of Turku, a professorship in clinical nursing science was established in 2008, and the Finnish national doctoral network was strengthened. However, setting up a post-doctoral training programme, as recommended, took a while and was established in Turku in 2013. Other universities have since followed suit. In conclusion, the international evaluation conducted in 2003 by the Academy of Finland was extremely useful for the discipline of nursing science in Finland.

After that, evaluations have been performed at the universities as part of their general evaluation [22, 23]. Generally, the level of nursing research has been valued as high. In 2016 the nursing science department at the University of Turku, for example, scored very high or “excellent” in all 14 areas of the evaluation. Furthermore, nursing research at the University of Turku has ranked high in the International QS ranking [24] and the Shanghai ranking [25]. Also, the University of Eastern Finland ranked high, coming in the second position in Finland. Units of nursing/caring science in all Finnish universities, however, have been very successful and productive.

6.4 Development of Nursing Research

Nursing research in Finland has been influenced by national alignments and health-care policy reforms throughout the years. In the 1990s, societal, educational and health policy reforms demanded that nursing science should influence the health of the Finnish population to support citizens’ empowerment. Nursing research has been guided by information on population health needs, national-level statistics, strategies and policy papers. The research orientations are also influenced by demographic changes such as ageing, health disparities between different population groups and the organization of health-care services. Moreover, technological developments and international trends, particularly globalization and progress of the European Union, guide the nursing research in Finland. The trends of Finnish nursing research have been developed, supported and promoted by several parties. Departments and units of nursing science at academic universities, university hospitals, research institutes, the Ministry of Social Affairs and Health and trade unions have their role in collaboration and the direction of nursing research. Collaboration and well-targeted research is needed to increase the implementation of research findings into clinical practice at different levels of health-care organizations.

One of the main symbols of research are doctoral dissertations, the first of which in nursing science was published in Finland in 1984 (in the University of Kuopio). Since then, public defence of dissertations has become a normal part of academic life. The development of nursing research in Finland has been growing steadily; during its first 32 years (1984–2015), a total of 443 doctoral dissertations have been published [26]. This means that on a yearly basis, approximately 30 new doctors of health sciences (main discipline nursing science) graduate from the five academic

universities. The development and progress of nursing research in Finland is evident; however, there is no systematic description or national-level database where to collect central information about nursing research. Different level degrees accomplished in nursing science are compiled in a national archive/database (Vipunen—Education Statistics Finland) [27], whereas the number of scientific publications is registered solely in university-level registries. Leadership in Finnish nursing science has not been a very common topic. Based on the analysis of all doctoral dissertations in nursing science, only a small proportion (4%, $n = 16$) of studies focused on leadership. The studies were conducted predominantly between the years 2010 and 2015. Their main focus has been on leadership styles, nurse staffing and workplace culture. Although research on dissertation level in nursing science is limited, there are several researchers and research projects studying leadership in Finnish health care, and there are educational units at the universities purely for this purpose. The research focus, for example, on leaders' wellbeing [28], management competencies [29] and leadership in general [30]. These studies naturally have relevance for nursing leadership as well.

6.4.1 Finnish Nursing Science: A Strong and Versatile Discipline

Nursing science in the five Finnish universities is realized with research programmes. Since the 1990s, most of the universities have their own research programmes and areas of expertise in the field of nursing science. Currently, based on the most recent research programmes, in the University of Eastern Finland, the focus of nursing research is on basic and applied research on health promotion and its impact on patient care [31]. In the University of Oulu, nursing research focuses on adherence to self-care, counselling and health coaching, the wellbeing of older people and the competence of health professionals, students and teachers [32]. The University of Tampere has a strong focus on family nursing science with investigations on health and care of families [33]. The University of Turku aims to empower populations, patients and professionals in health care with research focusing on ethics in health care, digital nursing, mental health, older individuals, children and families at early life, patient and nursing education and clinical quality [34]. Åbo Akademi conducts basic research in caring science with a humanistic and hermeneutic approach [6].

Some analyses of nursing research in Finland have been made through the years. The first comprehensive review, analysing Finnish nursing research from 1958 to 1995, was published in 1998 [35]. In the early years, the research designs and methods were mainly descriptive, with data collected using interviews and questionnaires. The key conclusions at that time were that nursing research is mainly descriptive, lacking methodological articles and concept analyses. Moreover, national centredness in data collection was evident [35]. A review analysing Finnish nursing research during the years 1984–2015 shows a clear trend towards more complex and multi-method type of studies [26]. In addition, there are reviews and synopses in special nursing research areas. Research in nursing education, accounting for about 12% of all Finnish doctoral dissertations published, focuses strongly on structural factors in

nursing education, nurse teacherhood, teaching activities and learning outcomes, students being the predominant group of informants, followed by nurse mentors and educators [36]. One example of successful national collaboration in nursing education research is a research project focusing on the competence of health-care educators. All five Finnish universities offering nursing science take part in this project (University of Turku, competence of health-care educators) [37]. The collaboration has resulted in the main professional textbook [38] in the field and brought up many relevant ideas for nursing education at universities of applied sciences and for clinical practice in health-care organizations. Among important research areas in nursing science is older people nursing science with about 10% of doctoral dissertations published in Finland [39]. Research in older people nursing science focuses on clinical nursing settings [39]. A typical characteristic of this research is the emphasis on the individualization of the care and the ethical basis of the care of older people [40]. At the moment and in the coming years, person-centred care will be the main principle in the new health and social care reform in Finland.

Interest in historical studies on nursing science has been rather limited in Finland, accounting for only 2% of the doctoral studies published and concentrating mainly on health-care professionals [41]. The value basis and ethics of nursing and health care has been a topic of research since the beginning of the discipline. Over the years, the focus of ethics research has evolved from descriptive studies towards complex cross-sectional and intervention studies. Nevertheless, the informants have remained the same, namely, patients, professionals, educators and health-care organizations. Moreover, today the content of ethics research covers caring ethics, clinical ethics, empirical ethics and organizational ethics [42]. This research has important connections, for example, with the development of collegiality issues in the country and analysis of the realization of patients' rights. The largest research field in nursing science is clinical nursing research, investigating persons' real and potential health problems, decision-making procedures and nursing interventions. Clinical nursing research aims to prevent, care and control these health problems. At the same time, individuals, their families and significant others and the population are encouraged and supported to take part in the care of their own health, decision-making and activities. Clinical nursing research is basic research or applied research by its nature, and it is the prevailing area of research in all units of nursing science in Finland. However, in the University of Turku, the Department of Nursing Science holds a specific professorship in clinical nursing science, having a strong research focus on digitalization of nursing and producing innovations in the field of nursing practice. Mental health nursing research is conducted in multidisciplinary teams with strong focus on cross-sectional and intervention studies [43]. All in all, nursing research in Finland seems to be strong and stable. Each university has its own research programmes and focuses clearly on its own topics so that overlapping in research between universities is minimal. Despite the distinct research areas, all universities work together in many academic activities, for example, in doctoral education, and have strong networks to support each other in society. In most of the research, nurse researchers collaborate with other disciplines, mainly medicine, social and educational sciences, information technology and ethics.

6.4.2 Research Funding: A Prerequisite for Research

National research funding sources for nursing research is limited. In Finland, two foundations or associations target their grants to nursing science, namely, the Foundation of Nursing Education and the Finnish Association of Nursing Research. In addition, nursing research is supported by state research funding coordinated by the Ministry of Social Affairs and Health. The state research funding is allocated on general level to research promoting health and wellbeing conducted within the health service system [44], and the areas of funding are published by the Ministry. Nurse researchers in many health districts have been successful in receiving funding from the State Research Funding, indicating the relevance of nursing research for the development of the organization of health care. Currently, the Academy of Finland funds several research projects led by senior or post-doc nursing science researchers. The number of grants and the amount of funding awarded by the Academy of Finland for nursing science have increased notably compared to the evaluation conducted in 2003 [21]. Moreover, nursing researchers have been successful in obtaining grants from several national foundations which provide financial support for nursing research, such as the Finnish Cultural Foundation, the Finnish Work Environment Fund and the Foundation for Municipal Development sr.

International research funding comes predominantly from the European Union. The Horizon 2020 research and innovation programme has provided funding for Finnish nursing research. Moreover, interdisciplinary research networks and mobility grants have been obtained from other funding instruments of the European Commission, like Erasmus Plus. However, despite these funding opportunities, nurse researchers need to take part in strong competition with other more traditional disciplines often making it challenging for them to receive funding. The fact remains that nursing research needs more funding to support the further development of nursing science in Finland.

6.5 Conclusions

Nursing science in Finland is characterized by the rapid development and strong connection with health and social care organizations. Nursing science is organized in academic universities where each nursing science department has its own profile and established research programmes. Also, within these nursing science departments, professors in nursing have cross-appointments in the health-care organizations. During its rather short existence, nursing science has been rated highly in national discipline-related evaluations [21, 23]. Moreover, single nursing science departments in the University of Turku and University of Eastern Finland have received excellent ratings in QS world university rankings [24], which shows that nursing science in Finland is growing fast and being highly successful. In the future, strengthening of multidisciplinary and international research collaboration is highly important, as is the strengthening of the theoretical base of nursing science in Finland: in order to be strong in multidisciplinary research teams, nursing

science needs to have a strong scientific base of its own. Moreover, the importance of collaboration with health and social care organizations is strongly needed to support fluent implementation of research in clinical practice of health care.

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Leading Evidence-Based Practice in Finnish Healthcare

7

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7.1 Introduction

Decision-making in healthcare regarding patient care is based on evidence, which is the best multi-faceted knowledge and information available. The information sources to be used are research-based knowledge, customer/patient preferences and expectations, information on the situation and resources of the care context and professional knowledge [1, 2]. Like in other countries in Finland, the evidence-based practice has its roots in medicine and in the interdisciplinary (multidiscipline) and multi-professional collaboration for gathering evidence for organizing healthcare and services for patients. Evidence-based nursing practice has been developed through learning from the processes and structures of evidence-based medicine (www.kaypahoito.fi, www.hotus.fi). When the activities of the collaborative

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network of the Nursing Research Foundation (NRF) began in 2006, the recognition and usefulness of evidence-based nursing practice gained a new meaning. However, the NRF has its roots in the Relief Association of NRI (Sairaanhoidon tutkimuslaitoksen kannatusyhdistys ry), which was established in the beginning of the 1960s and was later established as the Nursing Research Institute (NRI) (Sairaanhoidon tutkimuslaitos) in 1966.

Articles about the need for the use of research, especially systematic reviews, in developing practice and evidence-based nursing care were published more frequently and their number increased rapidly in the nursing research literature [3, 4]. Finally, evidence-based nursing practice now appears in governmental strategies and action plans with a strong demand for leading such practices in the twenty-first century. The current development stage of evidence-based nursing practice is the introduction and acceptance for government funding, giving evidence-based practice a legal status, also in nursing.

7.2 Determinants for Evidence-Based Practice in Finnish Healthcare

By law [5], Finnish healthcare must be based on evidence-based practice [5]. Citizens and patients based on the Act [5] on the Status and Rights of the Patient [6] have the right to good quality of care and services. Based on the Health Care Act (§2, §7) [5], the service system needs to offer quality and safe care and use effective and otherwise meaningful care and practices for the patients. Furthermore, healthcare professionals are entitled to frequently develop their competence, including knowledge, skills and activities. The Act on Health Care Professionals [7] states that in their professional activities, healthcare professionals must employ generally accepted, empirically justified methods in accordance with their training, which should be continually supplemented (§15). For example, this legislation sets the requirement for the healthcare professionals to use research evidence in order to achieve the best outcomes [8]. As it is a requirement having its basis in law, this is also an ethical demand for healthcare and activities [9]. Patients' right to quality care is also stated in the ethical guidelines, as are the duties and competence of the professionals and their collaboration [9]. Doing good, avoiding harm and striving for the best for the patients is the ethical obligation of all healthcare professionals [10], including nursing professionals [11].

During the many social and healthcare reforms undertaken, the content of the services has also been on the agenda [12]. In the current Strategic programme of Prime Minister Juha Sipilä's Government [13], health and wellbeing is one of the key projects for the term; the programme states that health and social care services are to be based on customer needs, the public service promise must be defined, and the cost and quality of the services must be made transparent. Unjustified variation in the delivery of care and services and variation in the methods and practices have been regarded as a reason for inequalities between clients and patients as well as for the increase in adverse events, harms and costs.

7.2.1 Governmental Steering by Guidelines and Programmes

Although the origin of evidence-based practice lies in the medical field [14], the general discussions and recognition of the activities and the need of developing evidence-based practice including in nursing started later, at the end of the 1990s [15, 16]. Even before this discussion, the importance and need of using research evidence in nursing and its development was recognized [17, 18]. However, it was only in the beginning of the 2000s that evidence-based practice and nursing came to be guided by a national action plan in Finland. The Ministry of Social Affairs and Health launched a national action plan for the development of nursing in Finland [19]. The goal was to increase the effectiveness of nursing by strengthening the expertise and harmonizing the aims and practices of nursing personnel and by embedding evidence-based practice among them.

The work done in the County Administrative Boards, hospital districts, health centres and long-term care institutions in the implementation of this programme was guided by national governance and leadership. Universities, polytechnics (also referred to as universities of applied sciences) and other healthcare education institutes in the field of nursing were also expected to be involved in the implementation of evidence-based nursing practice in the different regions of Finland. In 2008, a report on the “Health and wellbeing through evidence-based nursing” action plan [19] and activities included in it [20] was published. The evaluation focused on two targets: (1) describing development work and the support structures and practices initiated in the regions in healthcare and educational bodies and (2) evaluating if the programme was successful including the benefits of the programme implementation and whether its objectives were realized. The action plan was perceived as topical, and a corresponding programme was soon needed to harmonize services in terms of practices, integration, effectiveness and the quality of care of children and older people. The management focus was set on the need to improve the attraction, know-how and effectiveness of nursing. Thus, the importance of leadership and management was recognized as a key factor in the development, evaluation and implementation of evidence-based nursing practice.

Another national action plan was launched by the Ministry of Social Affairs and Health [21] aiming to increase the effectiveness and attractiveness of nursing care by means of management. This action plan was also implemented on national level, highlighting management and leadership as the main contributing factors for effective and attractive healthcare. The action plan was set up to support directors of nursing in developing the skills and professional activities of the nursing staff. For example, the activities used client-oriented and safe ways of operation and made use of evidence-based and good practices in the services. The implementation of this action plan took place within the project “Attractive and health promotive healthcare” [21]. Evidence-based nursing care was defined in terms of the use of the best available knowledge and evidence in the care of clients, patients and their families, including health promotion. The aim was to respond to nursing care needs by using effective, evidence-based methods and care practices [21].

7.2.2 Studies About the Situation of Evidence-Based Nursing

The precondition for evidence-based practice is the availability of reliable evidence and knowledge [2]. Other preconditions are proper structures, processes and leadership regarding the implementation of best practices and clinical guidelines. Some studies investigating the use of research utilization or evidence-based nursing practice and the preconditions needed have been conducted in Finland. One of the earliest was a dissertation by Leena Elomaa in 2003 [22] from the Department of Nursing at the University of Turku. This dissertation focused on evidence-based practice education. Later, Asta Heikkilä's [23] doctoral dissertation, also in the nursing education field, focused on the research use of graduating nurses, showing that nurses' education does not support the use of research in practice.

The status of evidence-based practice activity has also been empirically verified. In their study, Oranta et al. [24] aimed to identify and describe the barriers to and facilitators of research utilization from the point of view of Finnish Registered Nurses ($n = 253$, 80%). The barriers were that most research is published in a foreign language, that physicians will not co-operate with implementation and that statistical analyses are difficult to understand. The facilitators mentioned most often were nurses' positive attitudes and abilities, the support and activity of a ward sister (operative management and leadership) as well as encouragement, favourable attitude and collaboration on the part of all staff members [24].

A very recent national survey on the realization of evidence-based nursing practice ($N = 51,064$), conducted by the Nursing Research Foundation and Finnish Nurses Association in 2017 [25], focused on registered nurses ($n = 1063$), leaders and clinical nurse specialists ($n = 340$). The results published in 2018 pointed out that the goals and structures for evidence-based nursing practice are weakly realized in some regions. Around 63% of the nurse leaders reported evidence-based practice as one of the strategic aims of the organization. Many registered nurses in clinical practice (58%) perceived that the care practices are not based on evidence or scientific research or the latest clinical or best practice guidelines (61%). Although structures and processes have been developed nationally and internationally, the recognition and knowledge of these remain weak. Moreover, the collaboration between the regional healthcare and educational organizations does not seem to work well. Over the last 15 years, the situation has not changed much: leadership in evidence-based practice is important but still remains a challenge.

7.3 Framework for Evidence-Based Practice in Finnish Healthcare

Two Finnish organizations focus on improving evidence-based healthcare on national level. Current Care supports evidence-based decision-making by producing and disseminating evidence-based clinical guidelines, particularly for physicians (www.kaypahoito.fi) [26]. The Nursing Research Foundation (NRF) has the same purpose, but the target group is nurses (www.hotus.fi) [27]. Both

organizations publish the clinical guidelines on their websites, available free of charge. Most of the work is publicly financed by the government. A milestone for evidence-based nursing was 2017 when the Nursing Research Foundation's activity of producing and disseminating guidelines became permanently funded from the national budget, in the same way as medical guidelines. The clinical guidelines include evidence-based recommendations for professionals about the care of patients with specific conditions, helping professionals to make informed clinical decisions [28, 29]. Care should not vary between healthcare organizations or healthcare professionals without justification [29–31]. Clinical guidelines are intended to improve the quality of care and safety, and they can inform patients and clients about the best available options concerning their care and services [29].

Although clinical guidelines as well as systematic reviews are important in applying the best available evidence to clinical settings [28], they are not enough. Furthermore, it is crucial to incorporate the evidence into decision-making in practice [32]. Therefore, healthcare organizations should have structures and processes in place for disseminating and implementing the evidence. For example, through information dissemination infrastructures (e.g. library resources), the organization can ensure that clinical guidelines are available for professionals [32, 33]. In addition, it is essential that processes for implementation are in order because they help to realize what should be done so that evidence-based consistent practices are possible [30, 33]. For example, it is important to understand whether a clinical guideline is feasible and sustainable in a specific context and what are the procedures to ensure it [34]. The role and structural commitment of directors, managers and leaders (including all other professionals) are particularly crucial when creating structures and processes for the organization to ensure evidence-based practices in healthcare facilities [28, 30].

7.3.1 Special Positions and Roles to Support Evidence-Based Practice

In addition to directors, managers, other professionals and leaders, one driving force behind the implementation of evidence-based nursing practice is expert nurses in clinical nurse specialists' (CNS) roles and, more generally, advanced practice nursing. The role of the CNS was first established within hospital care in Finland in the beginning of the 2000s [35]. Many larger hospitals, especially university hospitals and their catchment areas and regions, have established special advanced practice nursing (APN) positions, such as CNS positions. Such positions are mainly held by individual nurses having master's degree education from universities. In 2009, the Ministry of Social Affairs and Health developed a four-category model to define the different expert roles of nurses in Finland (see [36], Suutarla and the Finnish Nurses Association's APN expert group): (1) nurses in clinical care, (2) specialized nurses in clinical care, (3) clinical nurse specialists and (4) specialists in clinical nursing science. However, some recent studies from the Nordic countries have shown that no consensus exists on the definition of APN [37, 38]. Wisur-Hokkanen and

colleagues [39] suggested that the role of APN could be strengthened by strategic leadership and support from organizations on all management levels, including nursing organizations and unions. As Jokiniemi and colleagues have stated [40], “Despite the history of specialist level practice and existing APN educational programs, advanced-level nursing roles have not been nationally conceptualized in a Finnish context, authorized by the National Supervisory Authority for Welfare and Health, or regulated by the government” (p. 79), still more work needs to be done in this field.

One major area of expertise of these CNSs is supporting evidence-based practice [40] through mentoring, especially in the areas of research, development and educational activities and expertise. CNS roles are more common in specialized healthcare than in primary healthcare. At the moment, only a few such roles exist in primary healthcare. A total of 78 clinical nurse specialists form a network (updated statistics 3.1.2018); two of them are clearly working in primary healthcare, while 2–3 are working broadly in the hospital district, also including primary healthcare. The majority of them work in specialized healthcare, in hospital settings. Therefore, there has been a need in primary healthcare organizations to include the leadership in evidence-based nursing practice into formal leader positions. In addition to these roles, a large number of nurses having masters’ degree in health sciences and nursing science work in the leadership roles in healthcare organizations. The APN and different roles of nurses have also been clarified in 2016 [41]. In addition, the Finnish professors in nursing science may also have cross-appointments, as they work at a nursing science department at the university and have a part-time position of director of nursing or a head nurse. These positions are clearly focused on supporting leadership, management and development activities in the healthcare systems based on research, especially evidence-based practice. Such cross-appointment positions are bound to almost all professorships in nursing science in the four Finnish-speaking universities offering nursing science.

7.3.2 National-Level Support for Evidence-Based Nursing

The NRF supports the dissemination and implementation of evidence by developing structures on national level for effective, meaningful, appropriate and feasible evidence-based practices in collaboration with its stakeholders. The two models generally used for dissemination and implementation are the Action Model of Expertise (AME) and the Operational Model for Evidence-Based Consistent Practices (OMCP). The first model (AME) includes the roles of four different types of experts and their core competencies with emphasis on EBP and actions for its implementation. These experts have their own strengths and duties in clinical practice. Together they can ensure that clinical practices are based on evidence and thus support the quality of healthcare and the expected patient outcomes [33].

The second model (OMCP) describes the development process of evidence-based consistent practices. The process begins when professionals compare their

practices, for example, to the clinical guideline or the systematic review and identify potential development needs of the current practices. The next phase is to plan what kinds of changes are needed and what kind of strengths and barriers there are to the change. After that, the professionals develop a new consistent practice which is based on evidence (e.g. clinical guidelines). In the individual decision-making situation with a patient, consistent practice provides evidence-based information which together with the patient's preferences, information about resources and care context as well as the professional's expertise supports the best possible decision for the patient. The process of evidence-based consistent practices continues, and the next phase includes monitoring and evaluation. It is important that professionals monitor and evaluate outcomes before a new practice is established as a new consistent practice [42].

7.3.3 Operational Model for Evidence-Based Consistent Practices (OMCP)

The development of evidence-based practice needs clear processes and protocols. The OMCP model for evidence-based practices is increasingly being adopted. Here are some examples of how evidence-based consistent practices are developed by using the OMCP model. The NRF and Oulu University Hospital developed a model for monitoring professionals' hand hygiene performance in a hospital setting. The aim was to develop consistent evidence-based hand hygiene practices and thus decrease healthcare-associated infections [43]. This model for monitoring professionals' hand hygiene is disseminated almost nationwide; several healthcare organizations in primary and specialized healthcare as well as in the private sector have adopted it in their practice. An outcome study investigating the impact of the model for monitoring professionals' hand hygiene has already provided some preliminary results showing that, e.g. the number of catheterization-related infections has decreased.

Another example concerns pressure ulcer prevention. The University of Turku, the Satakunta Hospital District and the NRF used the model of the OMCP when they developed a new consistent practice for pressure ulcer prevention in primary healthcare. The project is ongoing in the year 2018. The studies around the project indicate that the results of the project are promising and the model of OMCP is usable in projects of this kind.

One of the challenges in healthcare has been to ensure that evidence-based practices are consistent across the entire care chain so that the continuity of care is ensured and practices do not vary without justification. For this reason, projects are needed where consistent practices are developed throughout the care chain, not just in a single work unit or organization. However, local conditions should always be considered when using consistent practices in a new context [34]. For example, if a practice has been developed in a hospital environment, the different requirements of the environment must be considered before it is disseminated into primary care settings.

7.4 Developing and Leading Evidence-Based Ulcer Care

Responsibility for the implementation does not lie solely with the units and each individual professional; the organization has to provide all the possibilities, resources, structures and support needed for the implementation of evidence-based practice [2]. The development of evidence-based nursing practice has been conducted especially in hospitals and hospital districts. Hospital districts, especially those operating close to universities and university hospitals, have a longer tradition in the implementation of evidence-based practice and nursing practice than primary healthcare. The advantage of this has been the more homogenous context of specialized healthcare. In contrast, municipalities, which are responsible for primary healthcare and social services, have a very heterogeneous organizational context and network of professionals. In such organizations, the roles and positions to support and implement evidence-based practice are tied to all leadership and management roles, usually in inter-professional and interdisciplinary collaboration. Implementation of evidence-based practice has been done in many regions in Finland. However, systematic leadership of evidence-based practices using an interdisciplinary approach is not common.

The next example from the City of Turku, one of the largest cities in Finland (about 184,000 citizens, 3000 professionals), gives a description of the activities of how the implementation of evidence-based practice has been put on the agenda and implemented in practice through leadership and management in the formal management structure of the organization. The example is from ulcer care, a common health problem, particularly in older age, demanding efficient care, treatment and supply. Furthermore, ulcer care is one of the areas most regulated by guidelines.

7.4.1 Leading the Organization, Structures and Practice for Ulcer Care

In the City of Turku Welfare Division, wound and ulcer care has been seen as a formal part of the strategic level patient safety programme. This activity has been led and monitored by the highest nursing and other healthcare leaders. In 2015, a commission (strategic level leadership) for development of wound and ulcer care was established to support strategic, tactical and operative management. This means that the organization gives direction to the implementation of evidence-based ulcer care according to the best available evidence. As the evidence-based practice is enacted by law, the organization needs to take care of the implementation. Before 2015, there was already an “ulcer care team” consisting of multi-professional experts in the field (including operative nurse leadership and expertise), supporting both tactical and operative management. This team was incorporated into the commission as one of its subgroups, with responsibility for carrying out concrete development work within the whole organization and in all fields of nursing care including health promotion and preventive care, acute care, rehabilitation and institutional

care for older people. Development of ulcer nursing care is based on national recommendations and guidelines [44–46].

In order to ensure quality and patient safety, evidence-based ulcer care in the entire large organization needs structures, processes, leadership and management. The tasks of the ulcer care commission include implementing national recommendations and guidelines, drawing up recommendations for wound and ulcer care, organizing ulcer care education, giving guidance on consistent ulcer care practices and monitoring expenditure on treatment supplies. The ulcer care commission uses the knowledge gathered systematically from the different units of the whole social and healthcare organization to monitor the advancement of the issue. Knowledge is developed based on the assessments of patients' and clients' needs in daily care recorded in the patient documentation system. For example, RAI evaluation system [47] is used in the care settings for older people to assess care and service needs. Other frequent information resources are frequent process and outcome assessments, such as annually conducted wound mapping, quality and content assessment of patient documentation and reporting patient safety incidents (HaiPro) [48]. All of these are produced through electronic documentation systems. An example of this is the following: after registering a patient safety incident or close call in the HaiPro system, the municipality-based information from HaiPro is added to the national registry and can be used for national-level quality assessment. In addition to these sources of information and statistics, for example, knowledge from Braden scale (for predicting pressure ulcer risk) measurements in daily practice is used to guide and to control the quality of care in order to provide knowledge for leaders on tactical and operative level leadership and management. Thus, nurse leaders and other leaders responsible for the management of this activity can have actual knowledge of the current situation from the whole organization, allowing them to lead nurses' work and identify the needs for education and development.

Supervision and leadership is largely based on the knowledge gathered from the units and practice using these electronic documentation systems. However, it is not only the operational and tactical level of management that operates with the knowledge developed from the databases. Wound and ulcer care development is reported as part of patient safety reports to the Welfare Division's executive committee, i.e. the strategic level management. Thereby, the maintenance of evidence-based practice is reported to the highest level of healthcare facilities in the organization, being an indicator of quality of care.

Taking care of patients with ulcers requires competent nursing staff and a comprehensive view of patients and, in this case, evidence-based nursing practices on ulcer care. Regarding ulcer care, it is not enough to have proper care and treatment of ulcers. According to the evidence-based practice guidelines, prevention of ulcers is equally important, and patients' nutritional status plays a significant role in the prevention. This means that nurses use systematic ways to evaluate patients' nutritional status and that they also know how to support patients in maintaining good nutritional status [49]. Measurement of nutritional status was set as a requirement for the comprehensive assessment of patients and is registered in the patient documentation system. Nurses also need to know how to support ulcer healing. There are

many other issues to consider, such as patient's illness, the ulcer itself (e.g. location and duration), nurses' competence and knowledge, resources and treatment [50]. Thereby, it is important to provide effective ways to heal ulcers as fast as possible because slow healing affects patients' wellbeing and social life and is also expensive. These reflect the outcomes of care which are shared on the tactical and strategic level of management. With the aid of the documentation systems, the leaders and managers on a strategic level are able to follow the outcomes often from the organization's output point of view but also from the patient care quality output and service user perspective.

7.4.2 Leading by Knowledge: Leading Evidence-Based Ulcer Care

Leading evidence-based practice is based on the knowledge and information about activities, structures and processes. Different forms of information are needed to lead evidence-based practices. The four following information sources are important to use when leading evidence-based ulcer care in the example organization: (1) annual wound and ulcer mapping, (2) patient safety notifications, (3) patient documentation system and (4) pressure ulcer assessment. Similar activities, structures and processes have been developed for many other areas besides ulcer care.

7.4.3 Wound and Ulcer Mapping as a Source of Knowledge

Information is a precondition for evaluating the prevalence of ulcers in the whole organization. Wound and ulcer care mapping has been conducted yearly since 2012 with the aim of counting the number, type and other characteristics of the ulcers. Cross-sectional knowledge about all the wounds and ulcers taken care of in all of the units of the Welfare Division is collected with an electronic survey over the course of 1 week. A nurse who is actually taking care of a patient having an ulcer fills in a questionnaire including information about the wound/ulcer size (length and width). In the first year of the implementation of the survey, many questionnaires were returned without information about wound/ulcer size. However, during the last 2 years, information about the quality and size of the ulcer has been well documented. Nurses are also requested to describe the wound/ulcer treatment and nursing practices. Analysis of these mapping results requires expertise in ulcer care and acknowledging best practices in ulcer care. All nurses participate in producing this information guided by an authorized expert nurse, one example of nursing leadership in practice. Therefore, the authorized expert nurse conducts the analysis which forms the basis for education, update of practices and development needs in ulcer care. These activities can be targeted at certain units, sectors or the whole organization. The number of reported wounds/ulcers has increased year by year. This does not necessarily mean an increase in prevalence of ulcers but rather that nurses are able to identify them better. When interpreting the results, it should be kept in mind

that information about the ulcer type is provided by nurses who observe and may not be based on a diagnosis by a physician. Each year, 200 nursing staff members participate in the education and training by the ulcer and wound expert professionals in the organization.

7.4.4 Patient Safety Notification as a Source of Information

The leaders of the City of Turku Welfare Division have instructed that all ulcers as well as all safety incidents in ulcer care should be reported. Safety incidents are reported and recorded in the HaiPro register. It is important to know how many patients had ulcers when they were admitted to the care units. Especially important for the organization is information on whether an ulcer has appeared during a care period in any unit.

7.4.5 Patient Documentation as a Source of Information

Professionals document ulcer assessment and the care given in patient records. From the year 2011, this documentation has been conducted according to the structured documentation of nursing care headings (Finnish Care Classification) [51]. After the adoption of these instructions, it is easy to find patient-based information on ulcer care from the patient records. Experts in producing information from the databases provide reports at the request of leaders. This information is available for the secondary use of quality assurance and should be used more often in development work in organizations. Assessments of patients' situation as well as ulcer assessment are included in the patient documentation. In addition to this, it is important to document ulcer characteristics with uniform terms. To help documentation, the PRYB (pink, red, yellow, black colour classification) [52] colour classification to describe ulcer appearance is used.

In the Welfare Division, the electronic nursing care documentation analysis questionnaire is used, making it possible for the operative and tactical level leaders to analyse the entire nursing process of patients. Thereby it is possible also to target the analysis of the data of patients with ulcers. Especially information on ulcer duration is sometimes difficult to find in patient records.

7.4.6 Pressure Ulcer as Quality Indicator in Nursing Care

Pressure ulcer (PU) is a key quality indicator in nursing care [53, 54]; it is why nurse managers should have up-to-date information about PUs and staff's competence to take care of them. According to previous research, nurses seem to lack competence particularly in the prevention of PUs as well as in taking care of them [55, 56]. Patients at risk of PU must be recognized as early as possible using a uniform assessment method, namely, "the Pressure ulcer prevention and identification in

adult patient care” [46]. The prevention procedures are decided based on patients’ individual situation and PU risk assessment.

In the City of Turku Welfare Division, systematic development work with PU risk assessment was started in 2007, and the Braden PU risk assessment instrument [57] was set up in the electronic patient record system. The first assessments in the City of Turku were started in 2004 in one department [57, 58]. The Braden PU instrument is used on all patients once a month, and the results are used in planning and evaluating nursing care. All the Braden results are stored and visible in the Welfare Divisions’ Data Warehouse. Although the Braden scale is increasingly being used, it is most frequently used in long-term care, where the results are used, for example, in budgeting justification in planning and resource allocation to new mattresses. In 2013, a total of 5202 Braden assessments on 3505 patients were conducted, and in 2016 there were 16,522 assessments on 4113 patients. The result shows that the annual distribution of risk classes has remained at the same level. However, the proportion of patients at high risk of PUs has decreased. About half of the patients still have a medium risk to develop PU, and therefore, there is a great need for individual PU prevention plans.

In 2016, a survey of pressure ulcer prevention [53] was conducted among professional nurses. The results showed that nurses’ knowledge of PU prevention was on average level and they had knowledge gaps in recognizing PU risks. Based on the results, there is still a need to develop nurses’ competence to recognize how to prevent PUs.

Nurse leaders and managers have access to organization-based information and knowledge about care processes, structures and activities. However, this knowledge may not be used in the optimal way by leaders and managers in developing ulcer care. Achieving consistent practices requires that all nurses work according to unified instructions, in this case, based on the evidence-based practice guidelines adopted by the organization, and that nursing managers follow and lead this development work.

7.5 Conclusion

By law, Finnish healthcare is required to be based on evidence-based practice. Evidence-based practice is strongly founded on state administrative documents and policy guidelines. Many Finnish healthcare organizations have implemented evidence-based practice in specific areas such as wound care or prevention of pressure ulcers. However, the evidence shows that there is a considerable variability between Finnish regions in how evidence-based healthcare is maintained. This, in turn, has led to inequality for citizens and patients. All citizens and patients are entitled to high-quality and safe care and services. Therefore, the systematic implementation and use of evidence requires further development. Among others, there is a need to evaluate evidence-based practices as well as processes, activities and the culture of continuous development from an evidence-based practice point of view. Furthermore, there is a pressing need for nurse managers to show strong leadership

concerning evidence-based practice, to take this to a systematic level, creating forums and possibilities and ensuring facilities and, most of all, setting goals for quality.

Also there is a need for action aimed at strengthening the processes and activities among nursing professionals, including support to professional nurses' knowledge and competence. In addition to the knowledge about professionals working in practice, knowledge about the outcomes of such practice is needed for a continuous improvement of the quality of care and services. The ongoing work in leading the change towards the full implementation of evidence-based practice which has been launched in the university hospitals is a good example of such an assessment and quality improvement. At the moment, in 2018, a team of nurse leaders is developing nursing sensitive outcome measures for benchmarking the quality of care and evidence-based practice. Such outcome measures are used, for example, in accreditation of care processes from the quality point of view. Several university hospitals with specific areas such as cancer care are striving for accreditation. The current development work is aimed at the university hospitals. However, there is also need for other areas of healthcare to improve evidence-based practices and to lead such activity. This requires strong leadership from managers who, at the same time, are able to show the impact of evidence-based practice also from an effectiveness, economy and cost-effectiveness point of view.

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Nursing Education and Nurse Education Research in Finland

8

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8.1 Introduction

The societal task of higher education is to produce skilful workforce for the labour market. The essential element in this is employees' abilities, which lay the foundation for their whole career. Nurses are the largest group of health-care professionals. In Finland, approximately 404,000 individuals are employed in health and social work activities [1], and of these 77,459 are registered nurses (RNs) [2]. Although the number of nursing graduates has increased in recent years in many countries, there has been a modest increase in Finland resulting in 69 new nurse graduates per 100,000 population, the average being around 46 across OECD countries [3]. However, the largest group of health-care professionals with a protected occupational title is practical nurses for social and health care. In 2015, there were about 124,260 practical nurses [2], and they are widely employed in the fields of health care and well-being. Practical nurse education is a 3-year vocational education [4]. However, consideration of practical nurses and vocational education is not included within the scope of this chapter.

The competence of nurses is an important issue in health care as it is related to professional standards, patient safety and the quality of nursing care [5]. In addition, promoting nursing competence is one of the key factors in retaining nursing staff. Overall, 9% of the European nurses have intended to leave their profession (range 5–17%); however, this number was 10% of nurses for Finland [6]. Newly graduated

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nurses have a high turnover rate within the first year of employment, which confirms the need for greater nursing workforce management to reduce nurses' turnover intention [7]. According to our findings, intention to leave the nursing profession is very high in Finland, particularly among young nurses [7]; among the reasons for this are dissatisfaction with career advancement opportunities for nurses [7] and unsupportive clinical environment. All in all, the future nursing shortage is partly a result of retirement of nurses [8].

8.2 Nursing Education in Finland

The Finnish higher education system is divided into two parallel sectors: universities of applied sciences (UAS; also referred to as polytechnics) and universities. UASs are professionally oriented, whereas the universities in Finland are engaged in scientific research and provide the highest academic level of education based on scientific research [4]. This division also concerns nursing education and has some implications, particularly after Bachelor's degree. Bachelor's degree in Nursing leading to the qualification to practice as a RN [9] is provided in 22 UASs [4] and lasts 3.5 years (210 ECTS credits including 90 ECTS credits of clinical studies) [9, 10]. After receiving a Bachelor's degree from UAS, a RN has two options if one wants to continue to Master's studies (nursing science). First option is to apply to university right away after graduation. Studies at university are research oriented, and the thesis is a small-scale scientific research [11]. Second option is to first work for 3 years as a RN and then continue at a UAS; 3 years of working experience is mandatory before one can apply to UAS to do the Master's studies. Master's studies at the UAS are working life oriented, and the thesis is a research-based practical development project commonly conducted in student's workplace [12]. In addition to degree studies, RNs can also take further education in administration, management, and leadership—the possibilities for these, however, vary according to UASs in terms of the content and extent of the studies. These programmes are offered by the UAS as specialization studies level (30–60 ECTS credits).

The Ministry of Education and Culture chairs and finances higher education institutions. In addition other governmental bodies guide and regulate nursing education. The educational requirement of nurses and other health-care professionals is regulated in the law on Finnish health-care professionals or Health Care Act [13] and [14] as well as the Directives of the European Union [15]. A major reform on health and social services is currently underway in Finland, aiming to guarantee equal services to all individuals and reduce inequality throughout the country [16]. This has and will continue to have an impact on nursing education as well. Among others the content of nursing curricula will need to meet the required competency outcomes, such as interprofessional collaboration.

The Bachelor's degree in Nursing in UAS is based on the competence-based approach, defined by the directives of the European Union [15], the European Qualifications Framework [17] and the national recommendations. The professional competence of nurses is based on knowledge of nursing science, while other

scientific areas, such as the medical, natural and social sciences, are important complementary subjects. The nursing education includes nine nationally defined domains of professional competences in general nursing. The nursing professional competence areas are client-centredness, ethics and professionalism in nursing, leadership and entrepreneurship, clinical nursing, evidence-based practice and decision-making, education and teaching competence, promotion of health and functional ability, social and health-care environment and quality and safety of social and health-care services [9].

Five universities in Finland offer basic degree and doctoral programmes in *health sciences*, which in four the major subject is *nursing science* and *caring science* in Åbo Akademi University. The contents of the basic degree programmes differ slightly across the universities. The students can choose the following minor subject studies: clinical nursing science, preventive nursing science, nursing teacher education and training and nursing management and leadership. The management and leadership studies are available in all university, but there are variations in the organization of the studies. For example, these studies can be chosen for a minor subject. When graduating, students have expertise of the management of the organizations of social welfare and public health service and of their operation processes and the management of nursing and are well equipped to work in administration in the middle and strategic management of social services and health services. Single management, leadership and entrepreneurship courses can be taken as optional courses in the Master's programme as well. Nurses who graduated from the Master's programmes with the management and leadership as a minor subject area are generally employed as clinical nurse specialists or ward managers. Leadership as a subject area is also taught in nursing teacher education, mainly from the perspective of management.

8.3 State of the Art in Nursing Education Research and Practice

Research concerning nursing education has always been an important part of nursing science in Finland. From the very beginning, all universities have offered academic Master's degree programmes in health-care education. Nursing education research is a clear area of research in Finland. Despite of the fact that doctoral dissertations focusing on nursing education constitute only approximately 12% of all the dissertations in nursing and caring sciences. From 1990, when the first dissertation on nursing education research was published [18] to this day, over 52 Finnish doctoral dissertations have been published in the field of nursing education research [19, 20]. The focus of the dissertations has been classified into four main categories: (1) structural factors in nursing education, (2) nurse teacherhood, (3) teaching activities in nursing education and (4) learning and learning outcomes in nursing education. On the other hand, research focusing on teaching methods in nursing is notably scarce [20].

The doctoral dissertations targeting structural factors in nursing education focus on curricula reform and future, historical and multidisciplinary orientations. The

aim of these dissertations was to develop nursing education: its management, curricula, evaluation, innovative approaches and student selection—to meet the needs and demands of working life of nursing professionals and Finnish society. The themes of the dissertations on nurse teacherhood were classified into nurse educators' relationship to nursing and the role of a nurse educator and well-being of a nurse educator; the requirements of nurse educators were also investigated. Teaching and learning activities in nursing education are overlapping, which is why in quite a few dissertations, the focus was not only on teaching but also on learning. Furthermore, teaching activities were studied both in the area of teaching clinical skills and teaching generic skills [20].

The most central focus of research has been learning and learning outcomes in nursing education. Research has covered areas including academic performance, assessment of learning, clinical learning and clinical learning environment, learning in clinical skills, learning in generic skills, meaningful learning experiences and students' relationship to nursing. Consequently, the main informant group included in these studies were bachelor nurse students [20].

In addition to dissertations, nursing education research is constantly conducted in the nursing science departments as part of established research programmes. Research has been and is being conducted in close collaboration with the UASs, which enables direct implementation of the results into education. There is also substantial research collaboration between all the five universities. One of the research collaborations focuses on the competence of health-care educators, described in the doctoral thesis of Salminen [21], and included the development of the Evaluation of Requirements of Nurse Teachers Scale (ERNT), which aims to evaluate the competence and work of health-care educators. The most recent national evaluation of the competence and work of health-care educators was conducted in 2010 [22]. Currently, a new state-funded project (2017–2019) is ongoing, aiming to define national competence requirements for health sciences and social service teachers and to develop and integrate a model for continuous education, and a new study module in digitalization will be piloted [23].

Research collaboration in education research links together universities, UASs and the health-care organizations. Research collaboration supports health-care organizations, like hospital districts, in their constant quality assurance efforts in areas such as development of a clinical learning environment and the professional competence of nurses. Moreover, research collaboration has addressed areas including reforming student selection in nursing education and defining the competence requirements of nurses responsible for general care, of which the central collaborative partner is the Finnish Nurses Association, among other nongovernmental organizations.

8.4 Outcomes of Nursing Education

Research focusing on competence, often considered an “end product” or outcome of nursing education, has been a growing area of research interest in Finland. Since the early 2000s, research on the competence of nurses and nurse students has been

one of the strongest research areas in the Department of Nursing Science at the University of Turku. Although not initially regarded as nursing education research, the competence research has expanded particularly after the development in 2003 of the Nurse Competence Scale (NCS), which is today the most widely used instrument globally to measure nurses' generic competence [24, 25].

Despite the many definitions of "competence" and "competencies" [26] following the theoretical background of the NCS, competence can be defined as "functional adequacy and capacity to integrate knowledge and skills to attitudes and values into specific contextual situations of practice" [24, 26]. The evaluation of competence is multidimensional and depends on who is the evaluator. Competence evaluation is usually divided into two areas: generic and specified competence.

8.4.1 Generic Competence

When looking back at the history of research on generic competence, in the 1990s, students' command of nursing functioning was found to be "fairly good" according to both the students themselves and teachers. The study was conducted by Räsänen [27] at a time when nursing education was gradually moving from nursing schools (non-tertiary education) to UASs. One of the aims of the study was to compare graduates from different educational institutions, and the findings showed that the graduates of UASs were less competent in nearly all nursing areas compared to graduates of the nursing schools [28]. Back in the early years of the 2000s, when the first new nurses graduated from UASs, it was claimed that nursing education did not provide new nurses with sufficient competences from the viewpoint of working life. Since then, nursing education has been developed, but the debate concerning newly graduated nurses' readiness for practice is still ongoing. According to the most recent evaluation, the self-assessed competence of graduating Finnish nurse students corresponds well with the expected demands of working life. The most significant factors related to competence were (a) readiness for practice based on nursing education, (b) the pedagogical atmosphere on the ward, (c) the supervisory relationship between student and mentor and (d) being in paid work in health care at the moment of the study. However, when students' competence was assessed by their mentors, the results were clearly poorer. Differences between the assessments were statistically significant in the areas of helping role, diagnostic functions, teaching-coaching, ensuring quality and therapeutic interventions. The assessments were more alike in the areas of managing situations and work role. The differences between the students' self-assessments and the mentors' assessments may be due to (1) a different understanding of nurse competence, (2) the inexperience of students to assess their nurse competence or (3) critical mentor based on a different reference point in relation to required competence [29]. In addition to looking into competence as a whole like the above, it is important to investigate it from other perspectives as well due to its multidimensionality. The following paragraphs represent some findings from the perspectives of research utilization and relationship between nurse students and patients.

Research utilization (RU) is one of the key competences to be achieved during nursing education [9, 15]. RU is interpreted as a process which includes the acquisition of research knowledge, critical reading (including evaluation) and the application of research findings. The Competence in Research Utilization (CompRU) of nurse students was evaluated in 2003 [30] and again in 2012 [31]. The results of the later study did not indicate any improvement in the RU attitudes, knowledge or skills of graduating nurse students in the 9-year period. The results do, however, indicate a positive change in students' familiarity with information sources. An encouraging finding was also that students' attitudes were mainly positive in both cohorts. Another recent national study showed that there are major problems in the implementation of evidence-based practice. The findings showed that the majority of the nurses thought that the use of evidence was not visible, there were no functional practices to disseminate or implement the evidence and information concerning evidence-based practice was not disseminated in their organizations [32].

Another important perspective to competence is the relationship between nurse students and patients. Studies have shown that the student-patient relationship is important to meet patients' health needs and thus to enhance the quality of patient care [33]. Studies have revealed three types of student-patient relationship: a mechanistic relationship focusing on the student's learning needs, an authoritative relationship focusing on what the student assumes is in the patient's best interest and a facilitative relationship focusing on the common good of both the student and the patient [34]. Students viewed their relationship with patients more often as facilitative and authoritative than mechanistic, while in patients' assessments, the authoritative relationship occurred most frequently and the facilitative relationship least frequently. In general, patients appreciate being involved in students' clinical education, but there is much variation between individual patients, ranging from active participants contributing to students' learning and followers of care and advice to learning platforms with whom students practice their skills. Although there are indications that patient involvement in clinical education benefits both students and patients, further experimental and longitudinal research is needed to learn more about how the potential of this untapped resource can be fully realized in terms of the impact and processes of patient involvement in clinical education [33].

In addition to national investigations concerning the competence of nurse students, international cross-country studies are also needed to develop the European nursing education. Recently the large international PROCOMPurse (Professional Competence in Nursing) research project (2017–2021) was launched to study the professional competence of graduating nurse students (GNSs) and newly graduated nurses (NGNs) in six European countries: Finland, Germany, Iceland, Ireland, Lithuania and Spain. The aims of the project are to (1) assess and compare the level of professional competence in nursing at graduation and after 1 year, (2) explore factors (individual, educational, organizational, value-based) connected with the level of professional competence in nursing, (3) model the best practices for assessing and improving sufficient high-level professional competence in nursing and (4) model successful beginning of nurse career. However it is also important to know the views of stakeholders; therefore, data on the professional competence of GNSs

and NGNs will be collected from nursing administrators (nurse leaders) as well as data on the professional competence of GNSs from patients [35]. The first results of this study are however not expected until at the end of 2019.

8.4.2 Specified Competence

Different specified competences of nurse students or other relevant outcomes of education have been studied over the years. Some selected viewpoints are presented here as examples. Among the research on specific competence, some study investigated the views and knowledge base of graduating nurse students taking care of children in pain. Although the results indicated that students' views and attitudes were mainly positive, the students, however, lacked knowledge especially in the area of pain medications and in the assessment of pain [36]. More recent examples of studies conducted on specific competences are from areas of intensive and critical care nursing, medication, vaccination and career intentions of students, if they are planning on working with older people.

In the field of intensive and critical care nursing, in one study graduating nurse students self-rated their clinical and professional competence as "good" and their knowledge and skills base as "moderate". Especially the biological and physiological knowledge base was rated as "poor". Differences in basic competence emerged between graduating nurse students and ICU nurses. The students' self-ratings of both their basic competence and clinical and professional competence were significantly lower than the nurses' ratings. The students' self-ratings of their knowledge and skill base were also statistically significantly lower than the nurses' ratings. However, both groups reported the same attitude and value base, as "excellent" [37].

In the area of post-registration anaesthesia nursing education in the Nordic countries, a systematic review analysing various information sources revealed that Finland differs clearly from the other Nordic countries. Specialization in anaesthesia nursing care is not compulsory for anaesthesia nursing care although specialist education for anaesthesia care at Master's level is recommended internationally. The findings recommended the development of a specialized educational programme for anaesthesia nursing for the future of anaesthesia nursing in Finland [38]. Further research in this area can be expected in the near future to guide the development of nursing education in this field of nursing specialty.

In the field of medication competence, medication competence of nurse students was slightly better than in previous studies [39], but deficiencies still exist. There was a difference between the students at the beginning and end of education. At the beginning, students' previous academic success had a stronger association with medication competence, while at the end of the education, students' abilities in self-regulated learning and study motivation were more significant factors [40]. Further research about medication competence is required because medication-related adverse outcomes are common and the most relate to nurses' competence, like wrong dosage, omissions and wrong administration techniques. Among the most important factors contributing to these errors are nurse-related issues, such as

knowledge and performance deficit and miscalculation of dosage or infusion rate [41].

The self-assessed vaccination competence of graduating public health nurse students (PHN students) was significantly lower than that of graduated nurses working in the field of vaccination. Based on the defined level of satisfactory vaccination competence, students almost reached, and PHNs did reach, satisfactory level in their overall self-assessment. On the knowledge test, the students did not achieve the level “satisfactory” in their total score, although PHNs did [42]. The results of this study led to a national collaboration project (2013–2015) between three UASs and the National Institute for Health and Welfare funded by the Ministry of Social Affairs and Health to prepare for the new Infectious Diseases Act (1227/2016). In the project, a new educational course on vaccination competence was developed to be included in the curricula of nursing degree programmes nationally. An updating training is also offered for the practicing PHNs, RNs and midwives.

In view of the required competence areas in the future, nurse students’ career intentions concerning gerontological nursing or older people nursing can be seen as one desirable outcome. Finnish nurse students have been reluctant in choosing a career focusing on working older adult care. The most consistent factors related to nurse students’ career plans in older people nursing were found to be nursing work experience and various educational preparations in the field. Moreover, the involvement of older people in education had a positive impact on students and their choices to pursue careers in older people nursing [43]. The results from Finland are in line with the international literature, because lack of interest in older people nursing as a career option is a worldwide phenomenon. Globally, the contributing reasons for not choosing gerontological nursing as a career option relate to (1) socio-demographic factors; (2) experiences, perceptions and knowledge about ageing; (3) perceptions concerning the nature or status of gerontological nursing; and (4) theoretical studies and practical education in the nursing curriculum [44]. Although the reasons for not pursuing career in older people nursing are multifold, the influence of nursing education cannot be understated. Nurse students spend considerable time within the nursing education sphere of influence, and therefore it is important to try to remould students’ perceptions and attitudes more favourable towards a career in older people nursing. New evidence-based interventions are welcomed in this area.

As presented above, various outcomes have been investigated in terms of nurse students’ generic and specified competences. Although it appears that generic competence and overall competence are met in some specified areas, there are some subareas where students’ competence still needs to be improved. The goal of research has always been to recognize and meet these current and future competence requirements in the field of clinical nursing as well as in society at large by providing scientific evidence for the use of nursing education. All in all, even if research concerning nursing education is quite scarce, it has been conducted since the very beginning of nursing science in Finland. Therefore, the research tradition in this field is strong. However, most of the studies have been carried out as Master’s theses and doctoral dissertations. The field would benefit from larger-scale research projects having national influence to start with.

8.5 The Role and Competence of the Nurse Educators

In Finland, nurse educators must have (a) a qualification as a registered nurse (e.g. RN, midwife or paramedical nurse), (b) at least 3 years of working experience in health care and (c) a Master's degree. Pedagogical studies of at least 60 ECTS credits are required for teaching and working in practical nurse education (at diploma level) and are also suggested Bachelor's degree in Nursing in UAS Nursing Education in UAS. Nurse educators teaching and working in Master's level programmes in UASs must have at least licentiate degree or PhD qualification. Approximately 60% of Finnish nurse educators have a Master's degree in nursing science, and about 10–15% have a doctorate, mostly in nursing science [22]. Educational programmes for nurse educators provide them with the pedagogical, scientific and leadership competence needed for teaching in nursing education.

Nurse teacherhood consists of the tasks, different roles and personal interpretations of teachers [45]. Nurse educators are expected to have wide pedagogical and research competence, skills in international networking, leadership and management [46] as well as wide-ranging knowledge and complete so-called twenty-first century skills [47]. Teachers must master digital learning environments, professional cooperation and evidence-based practice and be self-directed. Moreover, a doctoral-level qualification is seen as desirable for nurse teachers as it provides the basis for future research leaders in nursing. The following competence areas of nurse teachers are described including curriculum planning, implementation and evaluation; having substantial theoretical and practical knowledge and skills relevant for working life; creating and applying evidence-based knowledge; management and leadership of people and organizations; pedagogical competence in theories of education, learning and evaluation; digital competence in different teaching environments; generic skills including critical thinking, communication, collaboration and decision-making; ethical professional conduct; and continuous professional development [47–49].

In the review by Vierula et al. [20], the category “nurse teacherhood” was identified as the topic of only seven dissertations and was thus the least studied research field. The phenomenon of nurse teacherhood was classified into three subcategories: nurse educators' relationship to nursing, role of a nurse educator [19] and well-being of a nurse teacher [50]. Moreover, the category “nurse teacherhood” covered studies focusing on nurses interested in being and becoming a nurse educator, working life and characteristics of a nurse educator's role [18, 21] as well as nurse teachers' views of the world of nursing and its actions [45]. Because there is scarcity of earlier research of the nurse teacherhood, it remains essential to be examined it.

However, some examples of earlier research in the area of nursing educators in Finland deserve to be mentioned. From the very beginning of the 1990s, Janhonen [51] conducted several studies concerning nurse educators from that point of view that nurse educators' thoughts about nursing and their actions have implications for the respective views and actions of nurse students [52]. Moreover, at the turn of the millennium, Koivula et al. [53] examined the Finnish and British nurse teacher

students' experiences of becoming reflective nurse teachers during teaching practicum. The results indicated significance both of the mentor role and collaboration with peer students.

Later, the large Nurse Teachers Competence and its Evaluation research project [22] was carried out in cooperation with five universities in Finland that offer nursing teacher education and training in nursing science. The aim of this study was to assess the competence of nurse teachers based on their own evaluations as well as those of nurse students, educational administrators, nurse leaders and nurse mentors and to describe the collaboration between teachers and educational administrators, nurse leaders and nurse mentors. In this research, the competence of nurse teachers was divided into five competence categories: nursing competence, pedagogical competence, evaluation skills, personality factors and relationships with students. A descriptive, cross-sectional survey design was used. In general, the competence of nurse teachers varied. The teachers rated their own competence highest compared to the evaluations of others. Nurse students were the most critical and gave the lowest evaluation to their teachers [22]. When speaking of evidence-based teaching and the use of research in teaching, the main findings about nurse teachers' research utilization were in general rated to be "moderately good" but differed depending on to the academic degree, working position, research and development activities, as well as number of publications [54].

The role of the teacher has changed from being a clinical expert to a provider of the circumstances and arenas in which students can have high-quality clinical learning environments to support nurse students' clinical learning. The role of teachers in supporting mentors in nurse students' supervision during the clinical practicum is increasingly important. Mentors need both clinical and academic support in their role [55].

8.6 Collaboration Between Nursing Education and Health-Care Facilities

The partnership between working life and higher education is highly important and seen as a central element for developing future workers and the society. The collaboration between nursing education (UASs), nursing science education (universities) and health-care organizations is versatile, and its objectives vary in scope. Collaboration can be roughly divided to two areas: the organization of clinical placements and training of students both in basic nursing education, postgraduate education and joint research and development activities. For the organization of clinical placements, it is evident that the collaboration is daily work because clinical training is mandatory part of nurse students' education. For postgraduate studies, master students commonly lead small research projects requested by the health-care organizations. These opportunities naturally support master students to apply and integrate their theoretical knowledge into the clinical practice like in their future roles, for instance, as clinical nurse specialist.

For the joint research and development activities, development can be targeted at local or national level for health-care and/or nursing education so that the collaboration network is wide and includes experts from numerous fields. In the first example of cooperation on national level between nursing education and health-care organizations, the professional competence of a nurse responsible for general care (180 ECTS credits) was defined in a national, two-phase research project. The result of the study was a minimum required competency standard including descriptions and contents as well as ECTS credits [9] which are used by all UAS nursing programmes in Finland. A wide range of experts from higher health-care education, the Finnish Nurses Association and the Ministry of Social Affairs and Health were involved in the project.

The second example of national collaboration concerns student selection. Student selection practices should be developed in a way that extensively measures suitability for the profession. There is, however, a limited evidence for the best way to select students [56]. The research project “Reforming student selections in nursing education” (ReSSNE, 2015–2021) targets the development of a national electronic student selection method for nursing education that is objective, reliable, evidence-based and cost-effective. As a result of this study, the structure of the new entrance examination includes three sections: learning skills, social skills and certainty of career choice. This entrance examination is currently being used in six UAS; by 2019, part of it will be used in all nursing education organizations. Representatives of health-care organizations have taken part in the work of the group developing student selection.

The third example of collaboration between health-care organizations and the health-care education system is the systematic data collection with the Clinical Learning Environment Scale (CLES) created by docent Saarikoski. The CLES assesses students’ experienced quality of the clinical learning environment and supervision [57]. All hospital districts in Finland and in many other European countries use this scale to collect feedback from students at the end of a single clinical practice period to improve the quality of the supervision as well as the learning outcomes in clinical learning environments. The results of the use of the scale are promising, and students are now supervised better than 10 years ago.

Collaboration between health-care and nursing education is also conducted to improve evidence-based practices and competencies, which is usually accomplished locally. The first example of this collaboration is an intervention where nursing journal clubs were used in the promotion of evidence-based nursing for nurses and students and in the development of a new teaching and collaboration method between education and clinical practice. The intervention was planned by researchers and directors of a university hospital. In the journal clubs, answers to nursing problems specified by each ward or outpatient unit were sought in scientific nursing articles. Nurse students paired up, and each pair made an oral presentation about a research article to staff nurses. Today, the use of the journal club has been extended to different UAS [58].

The second example of this collaboration is an action research entitled “Developing a model for clinical supervision” which was generated and

implemented by a UAS and a university central hospital [59, 60]. This collaboration was launched to improve supervision and cooperation between nursing education and health care. However, the implementation of supervision has been found to be heterogeneous. In addition to the competence of supervisors, a prerequisite was that in the new model, two clinical teachers worked in the hospital. The results were promising, in terms of supervisory relationships and the leadership style of the ward manager, for instance, and the premises of nursing and of learning on the ward were better during the implementation of supervision.

In Finnish universities, a wide range of research on teaching methods has been conducted in collaboration with health-care organizations. Saaranen et al. [61] found that simulation in nursing education is a very valuable method in learning interpersonal and interprofessional communication in the challenging interactive situations in the field of health care. This was quite unique because only a few studies had been published on using the simulation method in learning interaction between teachers, managers and experts in health care. Digital learning environments have been used and studied when teaching, for example, evidence-based nursing, professional communication and clinical skills. Web conferencing has been found to be a very useful way of teaching these topics. Web conferencing brings the patient into the classroom and makes teaching and learning very authentic [62]. A new mobile application with which the teacher can contact and cooperate with students and mentors distantly has been developed and tested [62, 63], indicating future uses and strengthening the cooperation between nurse teacher, students and mentors. The students' opinions of this application are very positive. Moreover, blogs have been used as a cooperation method between teachers, students and mentors. Young mentors were more willing to use blogs than older mentors [64].

8.7 Conclusions

Nursing education and nursing science education in Finland have undergone many changes during the last decades. In education, evidence-based practice, particularly based on nursing research, is emphasized. The role of nursing science is to produce research-based results and knowledge for nursing practice. Nurses have the main role in implementing the results of research findings into practice, which is why it is very important that nurse students learn to utilize research during nursing education. Nurses who graduate from universities with a Master's degree have several opportunities to implement evidence-based practice as they go on to good positions: they work in management and as superiors; in teaching and education; in consultation and projects, research, planning, development and administration; and some in clinical work. The majority (80%) of the graduates are satisfied with the Master's education in health sciences regarding their own career [64].

Health care is complex and the diseases of patients are complicated. As a consequence of the changes in health-care systems, there is a need for more nurse educators with PhD degrees to advance the science of nursing education, design educational systems that implement efficient and cost-effective programmes of

learning and lead the improvement and redesign of the health-care system. A qualification on PhD level emphasizes the nurse educator's demands of research-based education and evidence-based nursing practice. A study found that PhD-qualified teachers use the most recent research-based knowledge more than teachers with a Master's degree [54]. In addition, educators must have up-to-date professional knowledge and high-level pedagogical competence when teaching nursing. They must understand the new generation's way of living and learning. New digital and other innovative practices in education should be recognized and implemented, and teachers should be ready to embrace the reform. There is increasingly a need for interprofessional and entrepreneurship competence, multicultural competence and more patient-centred competence.

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Professional Practice Competence Framework for the Nurse Leader

9

Riitta Meretoja, Kirsi Lindfors, and Jaana Kotila

9.1 Introduction

Leadership competency frameworks for professional nursing practice offer a way to make the vision for nursing concrete and visible for practicing nurses. Competency frameworks specify the expected competence levels of novice nurses and advanced beginners, competent and proficient level nurses and nurses practicing on advanced practice level. The professional competence profiles of healthcare practitioners are changing constantly. Therefore, healthcare leaders lead the redesign of personnel's work roles on organizational level. This is imperative in order to face the challenges of society in an appropriate manner.

9.2 Competence Framework for Professional Nursing Practice

Development of a competency framework for professional nursing practice to promote nurses' career advancement started in Finland at Helsinki University Hospital in the 1990s (Fig. 9.1). Some international development projects in this field were reported at that time, mostly from the United States. This framework includes

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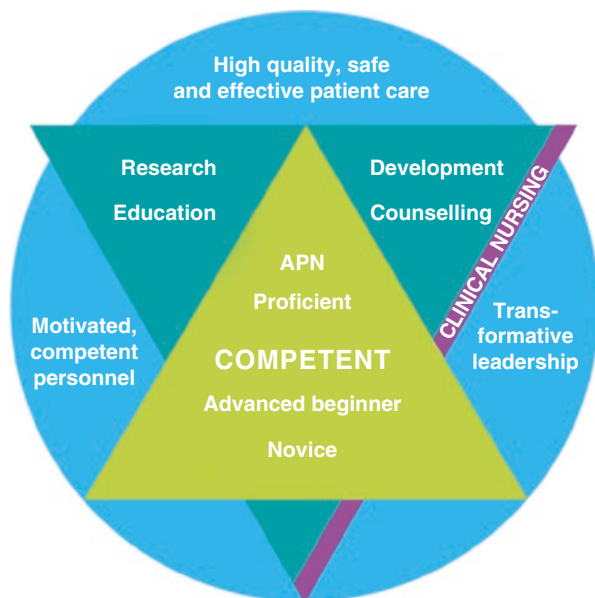
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Fig. 9.1 The nursing staff professional career model
©HUS [1]



competency descriptions for registered nurses, licensed practical nurses, laboratory nurses, radiography nurses and physiotherapists. The five competency levels are based on Patricia Benner's theoretical model [1, 2]. Selected publications from 1995 to 2018 related to the development of competence framework are reported in detail in the Appendix. Professional nursing practice competence infrastructure consists of interventions for developing knowledge, skills, attitudes and values in professional nursing practice to promote the quality and efficacy of patient care. It offers a practical tool for nurse leaders and supervisors to develop professional practice in a systematic manner. Leaders encourage and support the development of skilled nursing professionals. This framework enables nurses, supervisors and leaders to reflect on professional practices and develop them further. Self, supervisor, manager and peer evaluations are based on professional competency descriptions. Manager reviews are conducted on a yearly basis. These reviews are based on the evaluation of nurses' actual competence levels, which are further reflected to optimal competence profiles defined for specific clinical settings [3]. This information is used in planning in-hospital educational interventions, career planning and when recruiting new personnel.

A transformative leadership culture is fundamental in order to systematically assess and vitally develop nursing competencies in changing environments. That enables continuous professional development and the use of nurses' full competency potential to provide high-quality, safe and effective patient care. Nurse leaders need valid information on nurses' competence profiles in clinical settings. Systematic competence assessments provide evidence for nurse leaders on when to implement training and mentoring interventions and how to create organizational culture and conditions to motivate nurses to increase their clinical expertise.

9.3 The Nurse Competence Scale

The generic Nurse Competence Scale (NCS) [4] was designed for the purposes of systematic competence management in nursing. Instrument formulation was conducted to overcome the shortcomings of competence instruments [5–8]. Generic instruments allow comparisons between clinical settings. Other generic instruments are the Competency Inventory for Registered Nurses [9], the European Questionnaire Tool [10–12] and the Holistic Nursing Competence Scale [13].

Indicators for competent nursing practice were defined by experts in clinical nursing and management when we started to develop the professional practice framework in Helsinki University Hospital [14]. Instrument development, testing and usage have been reported in scientific and professional journals (Appendix). The NCS measures nurses' generic competence defined as functional adequacy and capacity to integrate knowledge, skills, attitudes and values in specific contextual situations [15]. The theoretical framework of the 73-item NCS is based on Benner's [2] From Novice to Expert framework [16] and its seven theoretical categories: helping role, teaching-coaching, diagnostic functions, managing situations, therapeutic interventions, ensuring quality and work role competencies. Two assessment scales are used. The level of competence is measured with a visual analogue scale (VAS, 0 = very low, 100 = very high). The relevance of the competences across settings is measured by the frequency of use: 0 = 'not applicable in my work'; 1 = 'used very seldom'; 2 = 'used occasionally'; and 3 = 'used very often in my work'.

The NCS is currently the most widely used generic instrument to measure registered nurses' competence in different settings and career phases. We reviewed 20 studies from Europe and 10 from outside Europe from 2004 to 2015 [16]. These replicative or intervention studies were reported in 43 publications and consisted of more than 11,000 competence assessments (from nurse students to very experienced nurses), mainly in hospital settings. The length of work experience, age, higher education, permanent employment and participation in educational programmes correlated positively with competence. Leadership variables like encouraging nurses' empowerment and professional commitment, good practice working environment and good quality of patient care are associated with higher competence [16].

9.4 Leadership Interventions for Nurses' Professional Development

9.4.1 Novice Nurses and Advanced Beginners

Clinical skills, critical thinking, effective communication skills and overall readiness for practice are essential prerequisites for novice nurses at the beginning of their career. They are often expected to be job-ready, competent in evidence-based care, independent, accountable and responsible for their own actions [17]. In reviewed articles, internship and residency programmes, mentorship and

preceptorship and simulation-based programmes have been seen as vehicles to increase novice nurses’ perceived competence. Internship and residency programmes and orientation programmes increase their knowledge, confidence and job satisfaction and decrease perceived stress. The effects of these programmes on novice nurses’ retention rates are conclusive. However, there is no evidence to indicate which programmes are more effective than others [18, 19].

During the stressful transition phase, orientation models, mentor and peer support opportunities make a difference in novice nurses’ experiences of nursing profession. Mentors can be seen as stress reducers; they provide support and guidance to novice nurses, while peer support gives them opportunities to reflect on their own emotions during the orientation process [20]. A longer orientation period increases their professional satisfaction and enhances their ability to relate to their patients, other professionals, their support system and their jobs. A communal commitment to the orientation process, strong professional orientation know-how and supportive leadership are the elements of a successful orientation period. With these elements we can ensure a supportive transition to clinical practice for newly graduated nurses and give them opportunities to develop their professional competence [21]. Novice nurses are encouraged and given support to become skilled professionals. The first two levels of the competence framework concentrate on novice nurses and advanced beginners (Fig. 9.2).

The transition phase from novice nurses to competent professionals is supported by an intensive orientation period including organizational orientation programmes and clinical specialty orientation programmes at unit level as well as mentoring programmes. The orientation period lasts from 1 week to up to 6 weeks, depending on the clinical setting. The orientation period focuses on clinical skills and mentoring on professional development by improving nurses’ critical thinking skills and

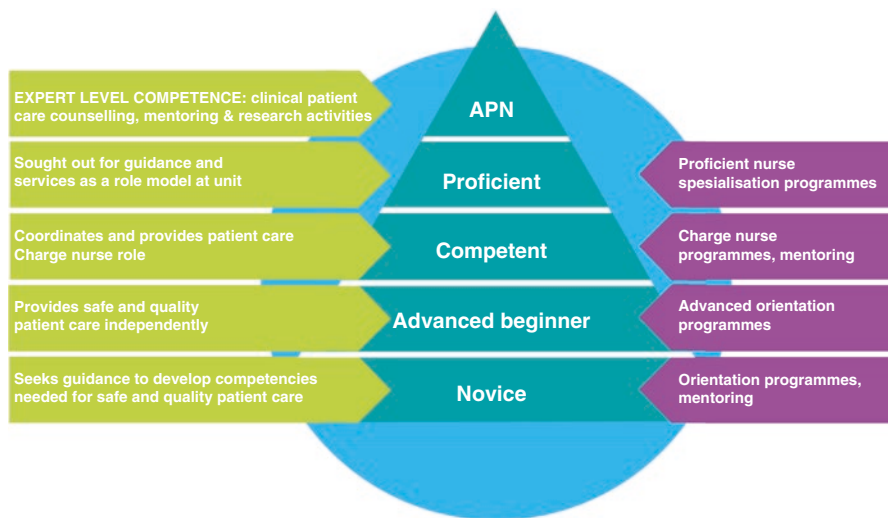


Fig. 9.2 Leadership elements for professional nursing practice

decision-making skills. During the first year of practice, nurses have an opportunity to take part in unit-level clinical mentoring programmes. Mentors provide support and guidance to novice nurses, and peer support gives them an opportunity to reflect on their own emotions during the transition phase. Mentoring may last from several months to up to 1 year depending on nurses' clinical background, professional needs and clinical settings.

During the second year of practice, advanced beginner nurses gain special support and guidance on professional development by attending advanced orientation programmes. These nurses are already experienced in multiple nursing tasks. They already show clinical competence and have mastered skills related to guidance of novice nurses and students. To further improve their professional competence and to recognize a more holistic approach to patient care, the hospital provides advanced orientation programmes on intensive care nursing, general nursing and psychiatric nursing. These programmes comprise training modules, which include self-learning tasks, simulation cases, lectures and teamwork rehearsals, and they are carried out within 1 year. The aim of these advanced orientation programmes is to deepen nurses' knowledge on evidence-based nursing practice, clinical and ethical decision-making skills and skills in guiding patients and students. Advanced beginner nurses are given support to reach competent level within two or 3 years, and they are expected to maintain this level during their working career. This requires nurses to continuously update their professional competences and take part in further education.

9.4.2 Competent Professional Practice

A competence framework creates opportunities to broaden job roles and to increase expertise. A nurse practicing at competent level should be able to master tasks related to their specialty area and have the knowledge, skills and evidence-based knowledge to perform daily nursing practices capably in changing clinical situations. Nursing practice on competent level should be theoretically well-grounded and autonomously well-planned and carried out. Competent nurses are encouraged to commit to the strategic goals and values of the organization. They share their professional expertise as part of a multi-professional team, are committed to continuous reflection and improvement of their own professional competence, are motivated to guide and to support co-workers and students and improve the processes of patient care.

During the third year of practice, competent level nurses participate in charge nurse training programmes. Charge nurse is a new work role for competent level nurses. Charge nurses practice as front-line team leaders. They have a central role in patient outcomes and safety, the well-being of nursing staff, liability prevention and managing a multidisciplinary team [22, 23]. Charge nurses are expected to quickly manage changing situations, understand broader viewpoints to organize daily work and support clinical nurses. Frequent decision-making situations, regular interruptions and high expectations of constant availability and assistance make it one of the

most stressful roles in nursing [24]. In order to prepare charge nurses to cope with these stressful situations, leadership training and ongoing mentorship should be provided. Investment in front-line leadership education will benefit patients, staff teams, the organization and the profession [25].

In-hospital training programmes support clinically competent nurses to take over the daily leadership roles assigned by the hospital (see Fig. 9.2). Investment in the charge nurses' training programmes brings benefits to the hospital in terms of nurse empowerment and the acquisition of leadership skills. This charge nurses' training programme started in 2013. Clinical nurse specialists are in charge of the programme. The first module focuses on charge nurses' work role competencies, employees' occupational health and safety, the organization's privacy policies and risk management. The second module concentrates more on daily leadership skills and managing challenging situations, offers vehicles to implement evidence-based nursing practice and improves critical thinking skills and the skills needed in daily leadership practices.

9.4.3 Proficient Nurses, Experts in Evidence-Based Nursing

Progression to a proficient nurse is based on individual nurse's professional goals, motivation and the needs of the organization, and it requires additional specialist training (see Fig. 9.2). According to the ICN definition, 'a nurse specialist is a nurse prepared beyond the level of a nurse generalist and authorized to practice as a specialist with advanced expertise in a branch of the nursing field' [26]. Competent level nurses can apply for 2-year in-service specialization on proficient level. Proficient nurses have broad professional competence that is based on theoretical knowledge and research competencies, additional professional training and clinical experience. Proficient nurses are capable of developing the processes of nursing care based on research evidence and are able to unify nursing practices. They adapt evidence-based knowledge into practice in their own specialist field. Proficient nurses keep their knowledge updated on evidence-based nursing practice in their clinical practice settings. They work as consultants within and outside of their own unit according to their area of responsibility.

According to the Finnish Healthcare Act, nurses are expected to build decisions upon scientific evidence [27]. Special competencies for the implementation of evidence-based practices offer nurse methods to use critically appraised and scientifically proven evidence for delivering quality healthcare to a specific population [28]. Proficient nurse training programme offers experienced nurse opportunities to broaden their job roles and to increase their expertise, particularly in developing evidence-based nursing practices. The first proficient nurse training programme started in 2009. Since then, several clinical specialty programmes have been offered to nurses: intensive care, perioperative care, medical-surgical, neonatology and oncology nursing. Currently this in-hospital training programme lasts 2 years and consists of theoretical training, an evidence-based nursing online course, practical training and evidence-based practice development project. The trainees are all very

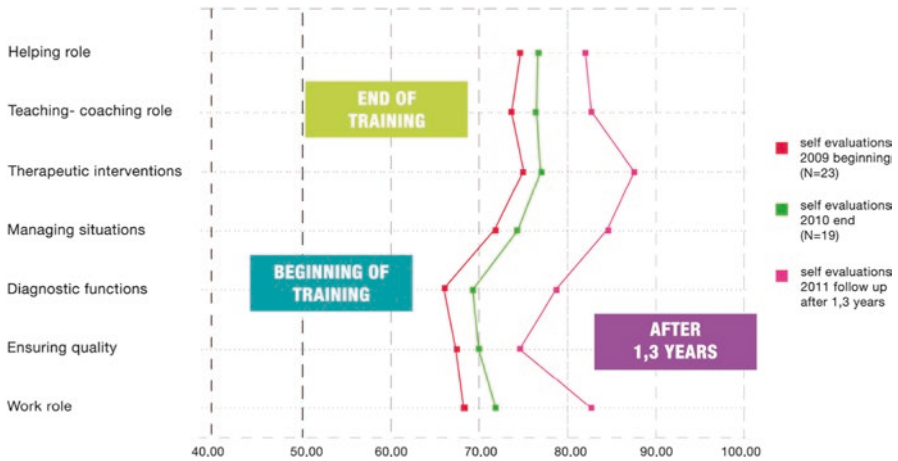


Fig. 9.3 Competence outcomes from the surgical proficient nurse training programme utilizing the NCS instrument (VAS 0–100)

experienced clinical nurses, and they are required to have interest in self-development and self-management. After the completion of the training programme, nurse leaders and clinical nurse specialist tailor a new role for proficient nurses to increase evidence-based nursing practices in the hospital. Proficient nurse training programmes are designed and carried out by clinical nurse specialists. Currently we have 400 proficient nurses in Helsinki University Hospital, and a strategic goal is that, by 2025, 20% of nurses will reach the proficient level of nursing. An example of the outcomes of the surgical proficient nurse training to nurses’ competence level is described in Fig. 9.3. The proficient training courses are spreading nationwide; the first national proficient neonatal nurse training started at university hospitals in 2014.

9.5 Advanced Practice Nursing and Academic Partnership

Advanced practice nursing roles have recently been implemented in many countries worldwide, and each country has its own idiosyncrasies to best fit individual contexts [29]. Advanced practice nursing roles such as clinical nurse specialist and clinical nurse consultant have evolved globally in a variety of specialty clinical areas. ICN [26] defines an NP/APN ‘...a registered nurse who has acquired the expert knowledge base, complex decision-making skills and clinical competencies for expanded practice, the characteristics of which are shaped by the context and/or country in which s/he is credentialed to practice. A Master’s degree is recommended for entry level’. In Finland, clinical nurse specialists are registered nurses with a Master’s degree in nursing. The first five clinical nurse specialists began to practice in Helsinki University Hospital in 2000 [30], and now, in 2018, we have a total of

25 CNS (Fig. 9.2). In 2006, CNS colleagues started to practice at Turku University Hospital. At the moment 86 clinical nurse specialists are working in Finnish hospital districts (30.5.2018), and the number of these positions is increasing every year. Although the titles are not yet regulated, work is currently ongoing in realizing regulation in Finland [31]. A national CNS network, set up in 2007, organizes annual symposia to share best practices and to support the professional development of clinical nurse specialists in Finland [32]. The global ICN/APNN network is also vitally important for Finnish clinical nurse specialists to exchange and share information in Finland and in ICN/APNN network.

In 2009, the Finnish Ministry of Social Affairs and Health published the first national model entitled to define the different expert roles of nurses in implementing evidence-based practices: nurses in clinical care, specialized nurses in clinical care, clinical nurse specialists and specialists in clinical nursing science [33]. In 2016, the Finnish Nurses Association set up a task force to support the development of advanced practice nursing nationally. This model includes three competence levels: registered nurse, specialized nurse and advanced practice nurse. It is useful in assisting the mutual acknowledgement and implementation of these roles. The goal of this work is to ensure high-quality, evidence-based nursing. In the future, knowledge management will be facilitated by information management, intelligence and robotic utilization, which sets new demands for competencies [31]. In the future, the advanced practice nursing roles will become even more recognized as an important and growing trend among healthcare systems worldwide [34–36]. In order to support Finnish nurse leaders to create these new advanced nursing positions and to evaluate the outcomes of this investment, we formulated a practical competency framework for clinical nurse specialists in Helsinki University Hospital. This framework defines four strategic competency categories: clinical practice, leading change, staff competence and evidence-based practices. These competencies were further tested with Finnish clinical nurse specialists [37]. Clinical nurse specialists play an important role in competence management, and their impact to evidence-based nursing practices is evident.

9.6 Conclusions

Nurses' professional inspiration and career opportunities are related to the quality and efficacy of patient care. Innovative practices and rethinking are needed to improve competence management in healthcare. Nurses' full competency potential should be implemented in clinical patient care. A fundamental starting point for leaders in nursing is to define and put to practice the most relevant competencies to meet the organizational strategy targets. Systematic competence assessments create evidence on when to implement programmes for professional development and how to create organizational culture to increase the expertise in nursing. Special support and training during the first 2 years can make a difference in nurses' transition experiences. A communal commitment to the orientation process, strong professional orientation know-how and supportive leadership are the elements of a successful

orientation period. Investment in the charge nurse training brings benefits in terms of empowerment and the acquisition of associated leadership skills.

Development of nurses' professional competence builds on continuous evaluation of current practices. The changes in society create new challenges for proficiency and for advanced practice nursing. There is a pressing need for competency frameworks for nurse leaders to guide the development of professional nursing practice. Comprehensive strategies for building evidence-based practice implementation competencies through special post-graduate training are needed. Proficient nurses are experts in developing quality patient care. In implementation of academic evidence-based nursing practices, the role of the clinical nurse specialists, together with nurse leaders, is fundamental.

Appendix: Selected Publications Related to Nurses' Professional Practice Competency Framework 1995–2018

1. Sairaanhoidajien ammattiuuralla eteneminen ja sen tunnistaminen Hyksissä (1995) Publication of Helsinki University Hospital [*In Finnish*].
2. Seppälä A (1996) How nurses can participate in decision making: a model for career development adopted by the Helsinki University Central Hospital. *Int J Nurs Pract* 2:237-240.
3. Meretoja R (1999) Sairaanhoidajien urakehitysmalli. *Sairaanhoidaja* 6(72):6 [*In Finnish*].
4. Meretoja R, Puumalainen A (1999) Evaluation of nursing competence program. *Sairaanhoidaja* 6(72):6-7 [*In Finnish, Abstract in English*].
5. Meretoja R, Puumalainen A (1999) Nurses' views about the clinical advancement program. *Sairaanhoidaja* 8(72):9-10 [*In Finnish, Abstract in English*].
6. Meretoja R, Vuorinen R 2000 Advanced nursing roles in clinical nursing. *Sairaanhoidaja* 7(73):24-27 [*In Finnish, Abstract in English*].
7. Meretoja R, Kaira A-M, Puumalainen A, Santala I, Vuorinen R (2002) Clinical Nurse. Specialist – A change-maker in clinical nursing. *Sairaanhoidaja* 12(75):8-9 [*In Finnish, Abstract in English*].
8. Meretoja R (2002) Kunnande är styrka. Karriärutvecklingsprogrammet ger ny energi till sjukskötarens vardag. *Sjuksköterskan* 1(75):26-27.
9. Meretoja R (2002) Nurses career motivation and influencing factors. *Sairaanhoidaja* 12(75):5-7 [*In Finnish, Abstract in English*].
10. Meretoja R (2003) Urakehitys on vuoropuhelua esimiehen kanssa. *Tehy* 12:8-9 [*In Finnish*].
11. Meretoja R, Eriksson E, Leino-Kilpi H (2002) Indicators for competent nursing practice. *J Nurs Manag* 10:95-102.
12. Meretoja R, Santala I (2003) Promoting nurses empowerment. *Sairaanhoidaja* 1(76):17-19 [*In Finnish, Abstract in English*].
13. Meretoja R & Leino-Kilpi H (2003) Comparison of competence assessments made by nurse managers and practising nurses. *J Nurs Manag* 11:404-409.

14. Meretoja R, Isoaho H, Leino-Kilpi H (2004) Nurse Competence Scale: Development and psychometric testing. *J Adv Nurs* 47(2):124-133.
15. Meretoja R, Leino-Kilpi H, Kaira A-M (2004b) Comparison of nurse competence in different hospital work environments. *J Nurs Manag* 12:329-336.
16. Ritmala-Castren M, Meretoja R (2004) Nursing expertise (CNS) in critical care. *Tehohoito* 1(22):28-32 [*In Finnish, Abstract in English*].
17. Meretoja R (2005) Tarvitaanko osaamisen johtamisessa tieteellisesti kehitettyjä mittareita. *Pro Terveys* 2:4-5 [*in Finnish*].
18. Meretoja R (2005) Ajankohtainen työhyvinvointi. *Sairaanhoitaja* 1(78):4 [*In Finnish*].
19. Meretoja R (2007) Characteristics and prerequisites of magnetic Work environments. *Sairaanhoitaja* 2(80):6-8 [*In Finnish, Abstract in English*].
20. Meretoja R, Aschan H, Määttä M, Kvist T (2008) Sairaalan vetovoimaa voidaan arvioida. *Premissi* 5:22-24 [*In Finnish*].
21. Kotila J, Salmenperä R, Meretoja R (2009) Sairaanhoitajien osaamiskartoitukset nerokirurgisessa hoitotyössä. *Sairaanhoitaja* 11(82):32-25 [*In Finnish*].
22. Raitio K, Kotila J, Saastamoinen T (2010) Mentorointi vie hiljaisen tiedon lähteelle. *Sairaanhoitaja* 8(83):10-14 [*In Finnish*].
23. Meretoja R (2012) Skills for the future. *Column. Nursing Standard* 9(27), 69.
24. Meretoja R, Koponen L (2012) A systematic model to compare actual and optimal competencies in clinical settings. *J Adv Nurs* 68(2): 414-422.
25. Meretoja R (2013) Sairaanhoitajien osaaminen valmistumisvaiheessa. *Pro Terveys* 3:36-37 [*In Finnish*].
26. Kotila Jaana, Meretoja R, Turunen H (2014) Vertaisarviointia hyödynnetään liian vähän. *Premissi* 2:30-33 [*In Finnish*].
27. Kivelä H, Virta-Helenius M, Renholm M, Meretoja R (2014) Suunnitelmallinen perehdytys lisää vetovoimaa. *Premissi* 36-39 [*In Finnish*].
28. Numminen O, Meretoja R, Leino-Kilpi H (2014) Vastavalmistuneiden tilanne tutkitaan. *Sairaanhoitaja* 2:26-31 [*In Finnish*].
29. Jokiniemi K, Pietilä A-M, Kangasniemi M, Haatainen K, Meretoja R (2014) Hoitotyön asiantuntijuus, saavutetaanko työhyvinvointia asiantuntijuutta vahvistamalla? Teoksessa Ranta I & Tilander E (toim.) *Työhyvinvoinnin keinot. Hoitotyön vuosikirja*, s. 37-44. [*In Finnish*].
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35. Lemetti T, Meretoja R, Renholm M, Kivelä H, Hupli M (2016) Hoitotyön kliniset asiantuntijat tärkeitä, mutta miten tärkeitä. *Pro Terveys* 2:16-17, [*In Finnish*].
36. Kotila J, Ylikukkonen P, Meretoja R (2016) Uramallilla osaamista. *Pro Terveys* 2:4-6 [*In Finnish*].
37. Kuokkanen L, Meretoja R, Leino-Kilpi H (2016) Valtaistumisen ja pätevyuden vahva yhteys *Pro Terveys* 5:16-17 [*In Finnish*].
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Part III

Nursing Leadership in Iceland

Helga Jónsdóttir



State of Leadership in Nursing Science in Iceland

10

Helga Jónsdóttir

10.1 Introduction

Leadership in nursing science in Iceland has been and continues to be led by the urge to advance nursing practice. A strong nursing profession remains the ultimate goal, a profession that has a clear vision of quality health care for individuals and families of all ages and with a wide range of health needs. To reach that goal, four interrelated elements need to be in place: adequate nursing education, autonomy of nurses, and a vision for a unique knowledge base on which to ground the nursing practice [1], all of which generates sufficient and skilled work force to meet increasingly more complex demands for nursing care [2]. During the middle and late part of the twentieth century, the weight of these elements grew in a particularly significant way for the advancement of the nursing profession.

At this time, new needs for nursing care were identified with more people living with chronic diseases and increased acuity of hospitalized patients due to advances in medical science and technology. A wave of increased emphasis on university education and research arose along with a growing number of students seeking university education, particularly young women [3]. A couple of decades later or in the 1980s, the foundation for nursing research was set. Strengthening the knowledge base of the nursing profession was important but even more importantly was the need to demarcate nursing as an independent, practice discipline. In the 1990s nurses started to receive doctoral degrees. Concurrently, a new budget model for universities in Iceland was instigated. With it came incentives for research activities, particularly for peer-reviewed faculty publications and the achievement of competitive grants [4]. At the same time, the University of Iceland put forth a policy that

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131

among other things facilitated an escalation in research activities together with an increased weight on graduate education. Faculty performance in research gained an increased significance and became more strongly infiltrated in the work in the academia [5]. In the year 2000, an institutional contract between the University of Iceland and Landspítali – National University Hospital commenced [6], which provided nursing faculty with joint positions and promoted nursing education, research, and practice.

10.2 Reforms in Nursing Education as the Ground for Nursing Science

Quality nursing education was an important topic for Icelandic nurses for most of the twentieth century. In the beginning, women went abroad for their nursing education, mainly to Denmark but also to the other Nordic countries, often with a support of individual nurses who at the time were mainly from abroad. The Icelandic Nurses' Association (*ice. Félag íslenskra hjúkrunarkvenna*), when established in 1919, became paramount in promoting nursing education. The association worked diligently toward having sufficient and well-educated nurses when the first national hospital in the country, Landspítali the National Hospital, would open in the year 1930 [7]. Formal nursing education, provided in a 3-year hospital-based diploma school, the School of Nursing, was first offered at Landspítali the National Hospital in Reykjavik in 1931 shortly after its opening. That school was transferred to become the Icelandic School of Nursing (ISN) in the year 1948. The ISN was the only hospital-based nursing school in the country from its establishment until its closure in 1986. After the establishment of formal nursing education, Icelandic nurses continued to seek education abroad, mainly for specialty education. The majority of nurses went to the Nordic countries. Concurrently Icelandic nurses enjoyed advise and support on education from their colleagues in the Nordic countries through an indispensable collaboration within the Northern Nurses' Federation [2, 7, 8].

In the 1960s nurses had identified needs for changes in their education in order to be able to sufficiently run the ISN where there was a shortage of nurse educators. To become hired as teachers at the ISN, nurses had to go abroad to specialize in teaching. Even more importantly, there was an ever greater need to enlarge the nursing work force concurrent with advances in health sciences and more complicated health care with consequently new tasks for nurses. New healthcare institutions were built, and primary health care was gaining momentum. Many issues came together: There was a great demand for enlarging the nursing work force, and there was shortage of nurses who had specialty education, particularly in nursing education, administration, and management [8].

As a part of an international trend, there was a big influx of students generally, and women particularly, to the University of Iceland (UI), the only university in the country at the time. New disciplines needed to be established, and nursing became one of them [3]. Postwar economic growth and a general increase in emphasis on science and education put forward by the government also paved the way for

university education in nursing [3]. There were fresh winds blowing in the Icelandic society. Higher education was gaining significance among the general public. Influences from the “hippi” uprising in 1968 were dominant, with strong claims for gender equality between men and women particularly regarding education and work opportunities [3]. The position of women in the Icelandic society was strong, e.g., with the first woman became president of the nation in 1981 when Madame Vigdís Finnbogadóttir was elected to the Icelandic parliament. The Women’s Party had become a powerful voice in politics with several seats in the parliament, both of which contributed to the leeway that nursing education received in the early days. There were as well powerful nurse leaders of the time; nurses who had strong ties to key persons in public administration and politics, for whom it became easier to get across the notion of the significance of university education in nursing. In this context, the small size of the Icelandic society played a significant role as well; there were short lines of communication, one existing nursing school in the country and few health care organizations with which to consult.

The Icelandic governmental officials, particularly within the ministry of education, administrators at the University of Iceland, and leaders within the Faculty of Medicine, responded positively to a proposal for university education for nurses composed by the Icelandic Nurses’ Association in 1969 [3, 8]. Like the other Nordic nurses’ associations, Icelandic nurses envisioned advanced education at the university for nurses with diploma education. They also wanted more students with matriculation degree to enter into nursing. Different, however, from the initial idea, the University of Iceland launched an undergraduate university education in nursing. The Icelandic Nurses Association proofed the proposal but reiterated the need for advanced education at the university level for nurses with diploma education [8].

In 1973, a generic 4-year baccalaureate nursing program was launched in the Department of Nursing (DoN) which was located within the Faculty of Medicine at the University of Iceland. Advanced education in specialty areas started in the newly formed New School for Nurses (not a university education) in 1972, first in psychiatric nursing, and later in several other specialties. That continued until advanced education for nurses with diploma education was incorporated into the University of Iceland in 1990 [8]. Since, continuing education at the university level has been provided there in various specialty areas in nursing.

10.2.1 University Education in Nursing

University of Iceland took the lead in Europe to be one of the first universities to offer baccalaureate education in nursing when the nursing program started in 1973. Undergraduate education in nursing had already begun at the University of Edinburgh some years earlier [9]. This foresight caught quite an attention internationally [10]. University education was meant to raise the educational level of nurses so that they would be better equipped to meet more complex healthcare demands, equally to alleviating long-standing shortage of nurses. The importance of having

students with a stronger educational background, or a matriculation examination, on entry into the nursing education was valued [8].

The establishment of the Department of Nursing had a short preparation. At the time there was no nurse with graduate education available in the country to take on a faculty position. To a large extent, teaching was sought elsewhere in the UI, particularly the Faculty of Medicine, as well as outside the UI, among nurses especially at the Landspítali the National University Hospital (LSH). Temporary faculty was also sought internationally to strengthen the teaching and curriculum development. Guidance and financial support was provided from the World Health Organization (WHO), which, some years earlier, had proposed a universal university education for nurses. Over less than a decade, WHO supported six nurses for up to a semester to teach and council the faculty at the DoN. The WHO also granted funding for Icelandic nurses seeking graduate education in the UK and USA. The Fulbright Institute supported guest professors from the USA, and there were some faculties from Canadian universities who contributed substantially to the DoN [8]. The Icelandic Red Cross also provided financial support (Magnúsdóttir, 2018, Personal communication). The university education was, right from its beginning, highly influenced by nursing educational systems in the USA and Canada. Those influences have remained ever since, augmented by bilateral contracts of collaboration with some institutions, among them the University of Minnesota, Twin Cities, and the University of Wisconsin, Madison.

A strong focus on research skills has been in the curriculum right from the outset. One of the five main goals of the education was that upon graduation students could plan and conduct nursing research. This goal was considered particularly ambitious. Twenty years later the president of the university maintained that with perseverance and courage of the leaders of the department, the original goals had mainly materialized [11]. Students learned methodology and practiced research skills when working on their BS thesis. A primary care nurse who graduated from the Icelandic School of Nursing in the 1970s reflecting on her education said that at that time there was hardly any mention of nursing research. If so, students could only envision research that was to be conducted on the students/nurses themselves. Twenty years later, however, there was hardly any nurse who did not realize that nursing research was the foundation for progress in nursing and that research findings were the basis for good nursing care [12].

A quarter of century after the establishment of the undergraduate education at the UI, Icelandic nurses got the opportunity to study toward a master's degree in their own country. In the meantime, most nurses had gone to the USA and some to Sweden and the UK for master's education. With master's degrees in a variety of specialty areas, some nurses continued for their PhDs in these same countries. For an example of this trend, six out of eight graduates of the undergraduate program the year 1981 hold a master's degree; four of them took their degree in the USA and two in Iceland. Three of them continued and took a doctoral degree, two in the USA and one in Sweden. Later on, with the master's education in nursing established at UI in 1998 and the PhD program in 2004, nurses have more or less stopped seeking

graduate education abroad. Despite the availability of student loans, financial cost of graduate education has become of increasing hindrance, although family issues are barriers as well.

Going abroad to seek formal nursing education and to widen the horizon was highly important for Icelandic nurses for the whole of the twentieth century [7]. This has in fact been so for Icelanders, more generally, for centuries. The University of Iceland was founded in the year 1911. For several decades before the establishment of the University of Iceland, education in the professions of theology, medicine, and later the laws had been offered in separate schools. The first one was the School of Theology, which was established in the year 1847. Prior to the establishment of the UI, university education was primarily only for a selected group of the social elite who could afford living abroad. Around the middle of the twentieth century, the Icelandic Student Loan Fund was founded and became essential in providing the vast number of young people to seek university education at both undergraduate and graduate levels [3]. The fund has the main role to secure that, with some restrictions, Icelandic people “have the opportunity to pursue studies irrespective of their financial standing” [13].

In the beginning years of the Department of Nursing, all effort was dedicated to running the school and admitting a growing number of students. The first faculty member, Marga Thome, a master’s prepared nurse, was hired in the year 1977. In 1983 there were 3.5 full-time positions and just about 300 students. In 1988 the positions had grown to 8.5 and the number of students 335 [14]. Nurses who had finished their master’s education abroad were gradually hired as faculty members. However, the emphasis on faculty research endeavors lagged behind and was less than expected in comparison with other faculties. This was due to the heavy teaching load of the young and immature department [14]. Slowly the faculty and other master’s prepared nurses sought doctoral degrees from abroad. The first nurse completed her doctoral work in 1992. In the beginning of the year 2018, about 50 Icelandic nurses hold a doctoral degree. From around the middle of the 1990s, due to a generally more stringent recruitment policy [15], nurses with a doctoral degree were the only nurses to be hired in academic positions in nursing to the DoN.

For the first 13 years, the baccalaureate program at the University of Iceland ran parallel with the diploma education provided by the Icelandic School of Nursing. The baccalaureate education was met with some resistance in the beginning years from nurses with diploma education. Some felt deceived when they realized that only undergraduate education was to be offered at the UI. Of particular concern was that teachers of the ISN had lost their positions as nursing teachers. A special BS program was designed for them and run once [8]. More was however needed to make smother this big transformation in nursing education. In the year 1991, a formal diploma-baccalaureate program specially designed for nurses with diploma education primarily from the Icelandic Nursing School was initiated. Its goal was to provide courses that were an extension of the diploma nursing education, emphasizing nursing knowledge as well as research methods and training of scientific skills [16]. In the beginning the program was 120 ECTS [17], but was gradually reduced

and was 60 ECTS in the year 1998 when the last group of students was admitted. A considerable part of nurses with diploma education finished that program or about 200 nurses [18]. In retrospect this program contributed substantially to alleviate the tension between nurses with diploma and baccalaureate education. More importantly though in this context was the unification of the two nursing organizations, the Association of University Graduate Nurses (*ice. Félag háskólamenntaðra hjúkrunarfræðinga*) established in 1978, with the Icelandic Nurses' Association (*ice. Félag íslenskra hjúkrunarkvenna* established in 1919, which was renamed *Hjúkrunarfélag Íslands* in 1960). This event took place in 1994, and the new association was named the Icelandic Nurses' Association (*ice. Félag íslenskra hjúkrunarfræðinga*) [8].

One year after the diploma nursing school was closed, or in 1987, an undergraduate nursing education program started at University of Akureyri (UnAK). Located on the north site of Iceland, this school aimed to educate nurses for work in most areas within the healthcare system as staff nurses, managers, and educators [19]. At the outset the educational curriculum mirrored the one at the UI, later to develop toward its own. Blended learning with distant education is the main mode of the education. The faculty of nursing at the UnAk is positioned within the School of Health Sciences at UnAk. The School of Health Sciences runs a master's program in health sciences. In the year 2017, UnAk was licensed to offer doctoral education in five disciplines, one of which is nursing [20].

10.3 Autonomy Over Nursing Practice and of Nursing in the Academia

Autonomy of nurses is one of the major issues for their professional development. First, there is the issue of autonomy over the nursing care. Interwoven with that is autonomy over the discipline.

10.3.1 Autonomy of Nurses Over Their Care

The autonomy over nursing care was of a special significance around the middle of the last century. This is linked to influences from the women's movement and to changes in society that called for new forms of health care. These changes opened up new possibilities for nurses to provide health care; the scope of nursing responsibility became larger. In the newly founded ministry of health in 1971, a nurse, Ingibjörg R. Magnúsdóttir, was appointed to enhance the quality and delivery of nursing care in the country. One of the issues that she embarked on was to influence the Icelandic lawmaking in order to strengthen accountability of the nursing profession over the nursing care. Underlying this act was a vision to support women (majority of nurses were women) to become equals to men and more importantly

was the conviction that autonomy of nurses for nursing care would be to the benefit of patients and the society (Magnúsdóttir, 2018, Personal communication). These actions materialized in a revision of the Health laws in 1978. In the laws it was instigated that head nurses in hospitals were accountable for the administration and delivery of the nursing care [21]. Nurses consider this law a major contribution to the advancement of the nursing profession in Iceland. Not only did it strengthen the professional status of nursing, it also boosted the nurses' self-confidence (Stefánsdóttir, 2018, Personal communication).

10.3.2 Autonomy of Nursing in the Academia

The belief that a profession needs a unique knowledge base to support independent actions in an area of expertise has internationally been one of the main premises for the rise of nursing research [1]. In Iceland nurses have not been vocal about the need for a unique knowledge base as such. Rather, the emphasis has been on fostering independency and strength in knowledge generation in nursing. This strive is apparent in nurses' attempts to articulate nursing as an independent discipline, particularly to demarcate it from the discipline of medicine. This was particularly apparent during the latter part of the twentieth century while as a department within the School of Medicine, with independence in own affairs, there was limited interest within the nursing faculty to establish collaboration with medical researchers. The argument was that nurses needed to establish the discipline on nursing premises before starting collaborating with others. Gradually, the faculty has established fruitful collaboration with several other disciplines, which is particularly apparent in the work with doctoral students. Faculty members from other healthcare professions, particularly medicine, participate in several doctoral committees, sometimes as co-advisors. Influences from international scholars are also sought to contribute to the generation of outstanding research projects.

All along, the DoN fought to become an independent faculty on equal footing with other health professions. That was formalized in the year 2000 [4]. Later, with new laws of universities in 2006 (no 63/2006) and of the University of Iceland in the year 2008 (no. 85/2008), a new organizational structure was instigated, dividing UI into five schools, each run with a dean, with the School of Health Science (SoHS) as one of them. Within the SoHS, the Faculty of Nursing is one of six faculties [15].

The university structure in Iceland has and continues to allow individual universities relatively much autonomy in their own affairs [4, 22]. This played out particularly favorably when the Department of Nursing was established. University education for nurses was quite an innovative idea in the Icelandic society. Regardless of this, the process of launching the program went relatively smoothly. The autonomy of the university and a general enthusiasm in the society to increase the number of people with higher education, not the least of women, may also have played in favor of this novelty in higher education.

10.4 Expansion of Nursing Science

In the middle of the last century, there were strong international forces that worked on promoting science and education, mainly under the auspices of enhancing economic growth. These influences received high attraction in Iceland and were reflected in a “new science policy” which the Icelandic government instigated in the 1960s, and which reached to all educational levels. Education, science, and economic growth were intertwined terms, which were meant to lead the nation into a very different society in the future. As regards the UI, it was not only to receive the vast growing number of students but also new faculties. With new faculties being established, more faculty members were needed. Simultaneously faculty research gained an increased credence [3].

Graduate education in nursing started to become a possibility at the UI with a growing number of doctorate faculty in nursing in the 1990s. The first master’s student was enrolled to the FoN in the fall of 1998. The growing number of master’s and doctoral prepared nurses and the rise in graduate education at the UI became pivotal in facilitating the growth in nursing research, which took place in the 1990s. The launching of doctoral education in the year 2004 was further to booster that trend. As of the beginning of 2018, eleven nurses have defended their doctoral thesis at the FoN, in addition to three midwives. Along with this there has become an outburst in faculty research and publications. This is reflected in national publications in the Icelandic Nurses’ Association Journal, *The Nurses’ Journal*, as well as internationally in peer-reviewed journals. For trends in international peer-reviewed publications by the faculty at the FoN, who in the year 2018, were 24 persons in 20.2 full-time positions (of those there are four midwives in 2.5 full-time positions), see Fig. 10.1. Comparison of international peer-reviewed publications with other

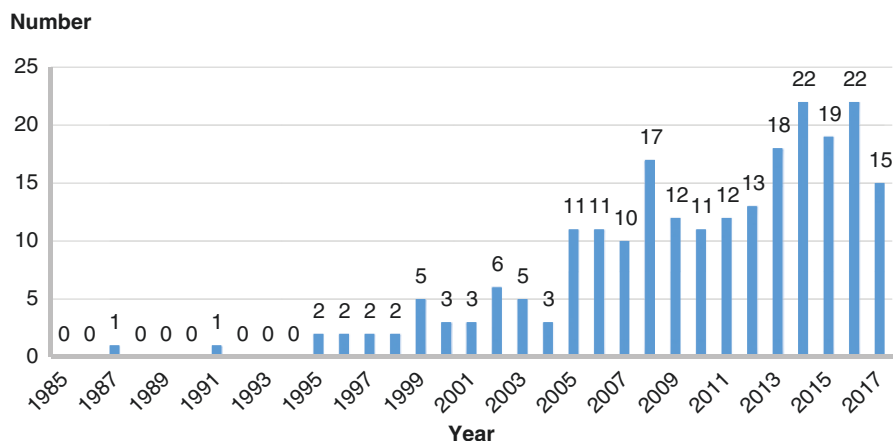


Fig. 10.1 Development in publications of the Faculty of Nursing University of Iceland from 1985 to 2017 in peer-reviewed journals—Science Citation Index Expanded, Social Sciences Citation Index, and Arts and Humanities Citation Index

faculties within the UI shows that research activity at the Faculty of Nursing is on a par with them [4].

10.4.1 Collaboration Between the University of Iceland and Landspítali the National University Hospital

Collaboration in nursing between the academia and health care institutions has various forms internationally [23, 24]. Communications about materializing formal collaboration between FoN and nursing at Landspítali, the main teaching hospital in Iceland, to enhance nursing education, research, and research utilization for the betterment of quality nursing care, date back at least to the year 1991 [25]. Ten years later, in 2000, following the merging of hospitals in Reykjavik into one national university hospital, a formal contract between University of Iceland (UI) and the newly formed Landspítali the National University Hospital (LSH) was instigated. The contract was renewed in the years 2006 and 2012 [6].

Following that first contract, joint positions, *academic chairs*, in nursing, were established. They were modelled by a long tradition of such positions within medicine. Nurses designated to joint positions were given the title, academic chair, of the relevant field of specialty: cancer, chronically ill, family nursing, geriatric, pediatric, psychiatric, surgical, sexual and reproductive health, nursing informatics, and nursing administration. Two new positions have been added more recently: emergency nursing and neurological and rehabilitation nursing. In addition to research, the role of the academic chair was to support advancement in education and practice. Academic chairs were to lead policy making in research in the field, to facilitate establishment of research groups, and to support other nurses in conducting research and spearheading research projects themselves.

As regards education, the academic chairs were responsible for supporting the structure of the education of undergraduate and graduate students, to promote new courses to support the specialization within the fields of focus and to guide the students in selecting research projects and finding thesis' supervisors. Concerning nursing practice development, the academic chairs should contribute to advancement of the practice, to participate in policy making within the practice specialty section and to initiate and participate in implementation of evidence-based practice. The academic chairs were also to contribute to regular meetings of the Nursing Strategy and Policy Group, headed by the Chief Nursing Officer (CNO) of the LSH with head nurses and clinical nurse specialists also participating. This group is a platform for presenting and discussing implementation of innovations in nursing care on a hospital-wide basis. The significance of this platform for collaboration grew in the year 2009 due to changes in the organizational structure of the hospital, including termination of positions of Division chairs for nursing who led the specialty sections (one manager instead of two previously). Earlier these nurse managers were pivotal in lines of communications with academic chairs. Concurrent with these changes, the accountability of nursing unit managers over practice development has enlarged [26].

The joint positions have become catalysts for strengthening clinical nursing research. They have given the faculty opportunities to collaborate closely with clinical nurse specialists, staff nurses, and head nurses on research and practice development. Another side is the growing number of clinical nurse specialists that the FoN has hired to *adjunct positions* and as sessional teachers. As of the beginning of the year 2018, there were 13 nurses hired in adjunct positions. Participation in research and even more importantly, teaching of undergraduate students, is the primary role of the adjuncts by the way of lectures, simulation, and clinical teaching. Their part in the curriculum development is expanding as well, as is their role in high-quality clinical teaching. The joint positions at the LSH have provided the faculty with an uncomplicated access to research activities and some research funding, i.e., to the Science Fund of LSH and the Science Fund of the Icelandic Nurses' Association. By the means of the collaboration, clinical nurses have become more familiar with the academia, and interest in graduate education has risen. With more graduate students, research activities have multiplied. Frequently, nurses with a master's degree continue working on study projects after graduation, particularly in their specialty areas. To further enhance nursing research and practice, professional councils in specialty areas, led by the academic chairs and with nurses with master's education in the area of specialty and the head nurses, started to emerge in the 1990s and were formalized in the year 2009 [26]. The role of the professional councils, a total of 13 at the outset, was to further strengthen and execute some of the academic-practice responsibilities of the academic chairs.

10.4.2 Resources to Promote Nursing Research

As a research university, research activities at the UI are regarded 40% of the workload of faculty members with teaching 48% and administration 12%. Every faculty member is also entitled to a one-semester sabbatical leave every sixth semester, depending upon the fulfillment of certain requirements [5]. This system has been in place at the UI for decades and sets the stage for the emphasis that is placed on research within the school. In the beginning days of the FoN when teaching responsibilities were overriding, the faculty did not always have an opportunity to take a sabbatical. Those times are over with, and the faculty eagerly uses their sabbatical to the maximum of their research endeavors. The fundamental facilitator of research in nursing as in other disciplines is the budget model that was instigated for universities in Iceland in the 1990s. With this new budget model, Icelandic government dedicated a more stable financial system to run universities in Iceland [4]. By the way of the budget system, there came incentives for research performance of faculty, especially international publications of high academic standard and the attainment of competitive research grants. This means that individual faculty members get an extra payment for research performance [4].

With a more stable financial system, there became possibilities to put forward regular strategic planning—policy—for education and research. The first strategic planning was ratified in the year 2001. It was followed by another plan in the year

2006, which was based on a stronger financial governmental support, in which the UI managed to actualize its aim of becoming an international standard research university. The 2006–2011 UI strategy became of particular significance for increasing research endeavors [5]. The strategy set forth by the FoN at the time mirrored that plan. In it a special emphasis was placed on increasing research activities with high-quality research, particularly intervention research, more attainments in grant applications on national and international levels, and more interdisciplinary and international collaboration, concurrent with strengthening graduate education, especially the doctoral education. This was to be followed by improvement of the infrastructure in research [27]. Despite serious budget cuts due to the financial crash in 2008, the increased emphasis on high-quality performance, not the least on research endeavors, resulted in the university becoming among the world's 300 best universities in the Times Higher Education World University Rankings in 2011 and moving up to become the top 201–250th universities in 2018. In Nordic comparison, UI was number 13th of the best universities in Scandinavia in the year 2016 [5, 28, 29].

Appropriate funding for research activities has to go hand in hand with increased capacity to conduct research. The University of Iceland runs a Science Fund to support faculty research, especially allowing for hiring research assistants. Some faculty members receive yearly financial support from this fund. There are some other funds, among them the Science Fund of the Icelandic Nurses' Association, which yearly award research grants to promote research endeavors among nurses, especially clinical research. The fund is a part of a union contract of INA with employers. It supports research projects on three levels: Those which are a part of a master's degree in nursing (and health sciences in which the focus is nursing topics), research conducted by nurses in doctoral studies, and more generally research by nurses working in institutions that pay into the research fund. Between the years 2007 and 2017, there have been 27 applications annually. The great majority of graduate nursing students receive funding for their study projects, and all of the doctoral nursing students so far have received a one million IKR (approximately € 8,000) grant from the fund [30]. An upsurge of the European Nursing Research Foundation, founded in 2016, and housed within the European Federation of Nurses Association (EFNA) in which the Icelandic Nurses' Association actively participates, is on the horizon.

A newly developed fund, the RIM Research Fund (Rannsóknasjóður Ingibjargar R. Magnúsdóttur), is dedicated to nurses in doctoral education in Iceland. The founder is Ingibjörg R. Magnúsdóttir, the first head of the Department of Nursing. This fund yearly supports one or two doctoral nursing students. Bigger, more competitive funding on national (e.g., RANNIS the Icelandic Centre for Research) and international level (e.g., NordForsk, a research organization run by the Nordic Council of Ministers and some European Union funds) is of increasing interest to Icelandic nurses. In the past, application calls from funding organizations have, however, seldom been considered relevant to nursing research (see, e.g., [31]). The UI runs two highly competitive funds to support doctoral students with salaries for 3 years (*ice. Eimskipasjóður Íslands and Háskólasjóður*) [32]. Indirectly, these

grants contribute to faculty research. As yet, a few doctoral students in FoN have received grants from these funds.

Sufficient resources for nursing research have, through the years, been of concern of the nursing faculty. In collaboration with the LSH, a research institute, *Institute of Nursing Research at the University of Iceland and Landspítali National University Hospital*, was established in the year 1997. The main goal of the institute was to support clinical research, to strengthen research infrastructure, and not the least to facilitate doctoral education [33]. The LSH provided funding for one full-time research position, of which some doctoral students held, later to be reduced to a 50% position and then to be discontinued in the year 2011 due to budget constraints [34]. After that the FoN, with support from the President of UI's Fund, funded a 50% position. That support was discontinued in 2017, also due to financial shortage, which subsequently led to a temporary discontinuation of the function of the institute. The institute was successful in supporting research and serving as a venue for research activities of various kind. For instance, faculty and guests regularly presented their research to the nursing community, and seminars were organized aiming to introduce and promote various methodological issues. Of particular importance was support in scientific writing and statistical analysis. The function of the institute became, in part, transferred to individual academic chairs at the LSH as well as to the School of Health Sciences, which at similar times set out to strengthen research infrastructure. The SoHS now provides assistance such as with grant applications, maintenance of research grants, and statistical counselling and support.

Priority setting for knowledge development has been highly recommended to promote nursing research. It maximizes scarce resources, increases collaboration among nurses and other scientists, and increases depth and continuity in knowledge generation leading to the building of strong knowledge bases [35]. In the USA, priority setting in nursing research is seen successful to “ensure excellence in nursing science” ([35], p. 16) and is the source for funding allocation at the National Institute of Nursing Research [36]. In the Nordic countries, such an idea was introduced in a seminar held by the Northern Nurses' Federation on nursing research in Denmark back in the year 1966 and was reactivated in 1995 by different agencies [37]. Setting priorities for nursing research has not gained momentum in Iceland. At current times large national research funds dedicated to nursing research do not exist. On a national level, the bigger competitive funds run by the government are interdisciplinary for which a strategic vision for allocation has been delineated.

The notion of academic freedom continues to be a strong ethos at the UI. Priority setting in research is not antithetical to academic freedom, although in a sense it may turn out as restrains in relation to funding possibilities of which priority settings are in place. The Promotion System for Academic Positions [38] and the Annual Performance Report [39] indirectly give directions as to how to climb the academic ladder as well as the kind and how much value different research outputs make in terms of monetary values. Individual researchers are themselves responsible for their work, which needs to fall within the general policy framework defined by the University Council. Still academic freedom remains a premise for creative and critical research activities indicating that each faculty member

is entitled to study that which is of interest to him/her. Consequently, UI's code of ethics says: Faculty members and students "work in the spirit of the general truth that knowledge is valuable in itself in addition to its value for individuals and society" [40].

10.5 The Rise of Knowledge Generation

Recognition of the importance of nursing research for quality care and the development of the profession has been apparent to Icelandic nurses at least from the middle of the twentieth century. The strengthening of the scientific knowledge base of the profession was central [41]. At the same time, nurses became increasingly dissatisfied that "their work tended to be defined very narrowly as assistants to physicians, where obedience and deference were emphasized" ([42], p. 20). For the purpose of providing theoretical guidance for nurses in clinical and administrative work—to relate theory to practice—Virginia Henderson's theory of nursing was translated into Icelandic and published in a book [43]. Afterwards, the theory was taught to nursing students for some decades and has been of particular significance in attempts to explain nursing practice [41].

In 1966 three Icelandic nurses participated in a 2-week course run by Northern Nurses' Federation on nursing research [44]. The title of the course was "a new look on nursing." As a part of the course, the Icelandic delegates put forth a proposal to introduce research among Icelandic nurses. Among their suggestions was the establishment of a task force on research within the Icelandic Nurses Association having the purpose of implementing research findings into clinical practice. Participants also wrote a research proposal for a clinical problem—errors in documenting fluid intake of patients on a hospital ward. From this time onward, Icelandic nurses continued seeking advice and support on research matters from the NNF through, e.g., research seminars. Of particular notice is the publication of the Code of Ethics for researchers in the Nordic countries which was published by the NNF in 1983 and revised in 1987 and 1994 [2].

The contribution of the national association of Icelandic nurses—the Icelandic Nurses Association—to the advancement of nursing science over the years is remarkable. As previously described the association runs a research fund, which strongly supports research activities. Moreover, the association leads a biannual research conference in collaboration with the nursing faculties at the UI and UnAk, the LSH, and the Primary Health Care of the Capital Area. This conference is a major event in the nursing society. Likewise, the *Nursing Journal*, published by the Icelandic Nurses' Association since its early days, has contributed significantly to the advancement of nursing science in various ways. Early on nurses realized that the act of writing articles helped them to construct their thoughts, and they appreciated the significance of the journal was for the advancement of practice [8]. Later on the journal has become an important platform on which to publish findings of Icelandic nursing research and other scholarly endeavors, along with the international nursing literature.

The first Icelandic clinical nursing research is traced back to an undergraduate research project conducted by the nurse María Finnsdóttir, “Psychological influences of hospitalization on young children.” It was disseminated in 1978 to the Department of Psychology and published a year later by the author. Finnsdóttir, as well, presented the study at a conference of the Western European Nurse Researchers [45]. This is most likely the first Icelandic nursing research project to be presented on an international level. In the years to follow, appreciation of and knowledge about nursing research grew. At the time most nurses did research projects in their master’s education. That enhanced interest and self-confidence in continuing research activities, not the least at the LSH. The master’s educated nurses sowed seeds of interest and understanding of research and its significance for quality nursing care (Stefánsdóttir, 2018, Personal communication). Marga Thome, a former Dean of the Faculty of Nursing, summarized this trend as follows: “The nursing profession in Iceland is on its way to recognize the contribution nursing research can make to practice. Single studies are conducted and efforts are made to apply relevant results in nursing practice. Nurses become increasing better educated to read, to conduct and to apply research” (Thome, 1990, Monograph: position of international nursing research, Unpublished).

Nursing research in Iceland has from its outset been defined on clinical premises, to increase understanding of health and well-being of patients and families, an essential part which is to develop and sustain advanced nursing practice that meets special needs of people with exceedingly complex health problems and their families. With these notions strongly ingrained in the culture, the conductance and utility of research findings are highly valued. This is different from what Donaldson and Crowley purported in 1978 when they maintained that separation of knowledge creation from the provision of nursing care was important for the purpose of strengthening the position of nursing within the academia [46]. Not following this route, the FoN is on a similar level as other faculties within the UI, e.g., in terms of research output activity [4]. It continues to strengthen collaboration between academia and practice (see Chap. 11) as well as to advance the nursing education on the premises of clinical utility (see Chap. 12).

10.6 Conclusions

Icelandic nurses have come a long way from mainly focusing on education and work force issues to actively participating in running the health care system to becoming a respected discipline. Autonomy, quality education, and a strong discipline, that by nature is based on knowledge generated from research, is a reality. The growing emphasis that is being placed on research activities in nursing in Iceland is parallel with international trends. Research is the foundation for quality care, and patients’ safety has become the focal point of departure. The education focus has shifted from solely concentrating on basic education to covering the graduate level as well, with research an essential part of the graduate education. Research activities

are a strong and an interdependent part of daily activities in the academia. There are two points in time considered as milestones:

- Establishment of university education at the University of Iceland in 1973
- Aggregating forces that took place in the 1990s:
 - Rise of internationally educated nurses with doctoral degrees in nursing
 - Improved infrastructure for research at the University of Iceland
 - Instigation of graduate education at the University of Iceland

Historically, the small size of the Icelandic society has repeatedly been to the advantage of progression of nursing in Iceland. Disadvantages for the advancement of nursing science are, however, apparent. Multi-site research projects are difficult to design, and a statistically acceptable number of available subjects is of concern. Stronger national, interdisciplinary, and, not the least, international collaboration are called for. The development of research projects with a long-term vision and a steady cumulation of knowledge culminating into theoretical frameworks that describe, explain, and prescribe nursing care for patients and families is on the horizon.

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Complexity Leadership in the Collaboration Between Academia and Clinical Nursing: Searching for Harmony

11

Marianne E. Klinke and Helga Jónsdóttir

11.1 Leadership: A Call for a Broader Perspective

There has been extensive writing on the topic of leadership, both within nursing and other disciplines. The majority of published material on leadership has taken a prescriptive stance, both with regard to ideology and practice application [1]. A more nuanced and reality-reflecting perspective is apparent when looking at leadership through the lens of “complexity leadership” [2].

Complexity leadership values meaningfulness and dynamic involvement in a bidirectional relation between a leader and collaborators on the one hand and clinical situations, contexts, and challenges on the other hand. Predominant values in complexity leadership are that it is “transformational, self-reflective, collaborative and relationship-based” [2, p. 4]. Leadership is nonlinear to enable identification of affordances for making meaningful changes that benefits all implied parties—people as well as involved organizations [2]. The relational-based approach inherent in this model helps to unite different perspectives and to create common values and beliefs. This provides a viable foundation for discovering new opportunities and innovative solutions as well as creating frameworks and reframing them as required [2, 3].

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149

For nurses, the hospital environment has been recognized as being extremely volatile due to unpredictability and relentless disruptions [4]. Some of the facets that causes disruption is changed possibility for treatment of patients, such as occurring with innovative technology, changed flow of finances, variations in patient relations, adapting to research results and implementing those, shifting of interprofessional relations, and collaboration, just to mention a few, all of which makes it difficult to predict and prepare for changes of existing circumstances [4].

The constant requirement for changes—transitional states—that nurses are exposed to are known to cause insecurity, uncertainty, feeling of loss of agency, sense of incompetence and detachment with their workplace for the individual [5]. However, if leaders proactively enact toward positive aspects of change, the transition may afford improvement of these exact same conditions and open hitherto unexplored adaptive spaces where creativity and innovation occur [6]. Complexity nurse leaders play a significant role of showing adaptability during changes and by facilitating positive reconstructions of conditions. This requires triangulation of new ideas where the leader joins forces with key persons to build up webs of connections [4]. Vibrant exchanges enable identification of new values, useful social dynamics, and resources and how they can be coordinated. The way that complexity leaders bring people together and succeed in establishing meaningful connections is therefore essential to enable prospects and promises of transitional possibilities [7, 8].

11.2 Complexity Leadership of Nursing Faculty in Joint Positions

Joint positions between clinical practice and the academia are intended to reinforce the likelihood of positive transitions and build mutual grounds for development and collaboration. Still, such positions have played out in various ways internationally [9, 10]. In Iceland, the signing and ratification of a formal mutual contract between the Faculty of Nursing (FoN) at the University of Iceland (UI) and Landspítali, the National University Hospital of Iceland (LSH) in 2001, which was renewed in 2006 and 2012 was a turning point for that matter [11]. In the contract there were provisions for joint positions for nurses. It mirrored the joint positions of physicians that had already been in place for the previous decades (see Chap. 10).

Faculty members holding joint positions as *academic chairs* have multiple responsibilities, like facilitating establishment of research groups, supporting other nurses in conducting research, and spearheading research projects. Furthermore, they have a delineated role of supporting advancement in education and practice. Academic chairs are important pillars for supporting the structure of the education of undergraduate and graduate students, e.g., to promote new courses or programs, to support the specialization within the fields of focus, and to guide the students in selecting research projects and finding thesis' supervisors. Participating in the advancement of nursing practice, academic chairs also participate in policy-making within the specialty section. To further enhance nursing research and practice,

professional councils in the specialty areas (*ice. fagráð*), led by the academic chair and master's educated nurses in the area of specialty, were established in 2009 [12]. This facilitated yet a new forum for formulating larger research agendas also inviting staff nurses and other team members as appropriate.

Advancement of nursing practice through research endeavors is crucial in the academia-clinic collaboration. Research questions arise from conversations between clinicians and academicians. This is regarded the most effective way of discovering research questions of importance to nursing practice which subsequently is meant to lead to programs of excellence [13]. Although functioning within the same framework, the role of academic chairs within the university hospital, the LSH, has played out differently within the respective specialty areas. Reasons for this diversity may be multiple. The specialty areas are of different nature regarding their scope of practice and committed resources and they are of significantly different sizes; there is also variability in how managers embrace research and knowledge development, and there is difference in the workload and the number of nurses able to take part in these activities. Regardless of this diversity, the benefits of the collaboration for both institutions are numerous.

11.3 Strategic Institutional Support

For a long time, nurses have embraced the idea that the profession meets its obligation to society best when knowledge development takes place in a coalition between academia and practice [13, 14]. Such integrated partnerships should merge interests of practice, education, and research [15]. Policy-making is essential to synchronize effective partnership with shared objectives [16]. When shared objectives are made explicit and operational structures are in place, a context for active presence of academic professionals as the scientific essence of the nursing profession is provided [8]. To accomplish this requires support where development of nursing science is a strategic priority and research activities are connected to executive responsibility through operational structures [17]. Hence, formal collaboration must be included in the infrastructure of the institutions at both sides and the administrators “at the tactical level [should] feel responsible for it” [8, 10].

Several benefits are obtained when collaboration between academia and clinic is in place. Beyond educating students at all levels, a major aim is designing and conducting research that benefits the recipients of nursing care and which findings are likely to be used in clinical practice. Among other worthy gains of collaboration are strengthening the nurse educator's connection to the clinical practice, optimizing possibilities to conduct clinical research studies, and widen possibilities of applying for research funding [10, 18]. Effective relationships and acquaintances with clinical environment provide, therefore, possibilities for academia to better support clinical practice and ascertaining that relevant “up-to-date” research topics are supported and pursued [17].

Making research visible in clinical practice, by involving academic leadership, strengthens the infrastructure and allows for involvement of clinical staff in research

projects and support for the subsequent utilization of research evidence in practice [19–21]. At another level explicitly communicating “what the point” of nursing research is helps to improve the image of nursing from a much wider perspective [8]. Thus, the joint effort of the *academic chairs* has the promise of providing unique frontline perspectives to yield inventive, and pragmatic, evidence-based solutions to health-care challenges. This wide array of tasks necessitates academic freedom for letting creativity blossom in the nursing as a profession.

11.4 Academic Freedom

Academic freedom allows faculty holding a joint position to contest the status quo with the ultimate purpose of stimulating the development of knowledge and in its turn advances the state of science [22]. This freedom serves many benefits; for instance, it helps motivation and engagement because it is possible to engage, or react promptly, to clinical needs. In contrast, to an outside formative perspective where leaders jump in to solve isolated problems or work to maintain a strict organized structure, the academic leader working from a complexity perspective is immersed into the culture and work visioning transformation and novelty in a creative manner [2, 4]. Fulfillment of academic freedom, however, is not detached from the content—freedom follows responsibility and a way that the person holding a joint position interprets and makes use of the possibilities rising throughout this mutual relationship. Autonomy does not imply randomly moving from one project into another without having a clear course of intent. In contrast, it implies establishing identity and maintaining integrity, for instance, when pursuing clinically relevant research projects [23]. As may be comprehended, such freedom is always bound to meanings and values that are recognized in the social context.

The reciprocal relationship between academic freedom and research is an inductive process where discoveries are made which lead to new questions and then in its turn new research projects and so forth. In this process the moral and ethical requirements of research and changes for “the good” should be kept strongly in mind [24]. For people in academic chairs, this has several implications because they should be capable of expressing a long-time vision and discern how this can be adapted to the more short-termed requirements—and reality—of clinical practice. The endpoint should be possible to formulate and explain to others at any time, although it may transform and mature during the way.

Adaptation to goals may imply a certain risk, for instance, when responding to interests in the moment, or immediate needs that arise, for instance, within a particular unit. The gains may be more short-lived such as isolated quality assurance projects—that often are time-consuming and may lead to superficial knowledge which must be seen in contrast to fostering a program of excellence [17]. Also, with flexibility and freedom in the work, the difference between what academic chairs actually *do* and exactly *how* they contribute to fulfill common goals of both

institutions may be highly diverse and strongly rely on the unique contexts, their personal expertise, interests and preferences, and their relationship to the clinical area. The reality has multiple components which makes it difficult to set up standard goals and requirements. A position that *is* inherently so complex and entails diverse multiple components is less likely to be well understood and gain comprehension and support from managers, which in turn can make the goals hard to realize if support is limited. Acquiring adequate resources remains a fundamental concern in the collaboration between academia and clinic and impact academic freedom.

11.5 Embracing Reciprocal Relationships

An inevitable part of being an academic chair is building up and maintaining a strong connection to clinical practice. However, what the clinical connection of academic chairs exactly implies has been unclear, and the academia and clinical nursing are often viewed as two different entities, particularly with reference to the frequently cited term “theory-practice gap” [25]. This disjunction has also been interpreted more pragmatically from the standpoint that the academic leader should be able to *jump into* clinical practice and to be an all-round expert of both arenas [26]. With fast changes in both arenas and having the predominant workload within academia, it is unlikely that the academic chair fulfills such requirements. In coming to understand the exact nature of leadership for academic chairs, it is essential to let go of the “us” and “them” discourse. This divides only constraints embracing the basic values, goals, and interests which both cherish. A constitutive feature for success is that both parts appreciate each other’s core and the insight and comprehension that can be gained from co-regulated dynamic relationship. In virtue of such reciprocal relation, it is more likely that optimal results are reached, and progress is ensured.

Elaborating on “togetherness” while still retaining different virtues of clinical settings and academia the phenomenological conception of the “we” perspective is helpful [27]. The “we” perspective allows for joint attention and comprehension toward important endeavors where the interplay between similarity, diversity, and connectedness is embraced and acted upon in a meaningful way. To exemplify, complexity leaders take a leading role in a social context. When the academic chair opens up conversations about how progress can be achieved for research, patient care, or education, this conversation is not build solely on his/her ideas or ambitions. In contrast, the academic chair deliberately talks with others; observes and seeks diverse opinions, experiences, and knowledge of other people; and empathizes with those to actively involve their viewpoint and perceptions in decision-making. The task is to find out how perspectives overlap and are interdependent and to sharpen ideas so that common affordances surface. Inputs from collaborators, in this way, become a part of a shared collaborative world, which influence strategies and priorities.

11.6 Cases for Reflection

In the following section, we will present three cases that illustrate important aspects in the work of academic chairs.

Case of the academy-clinic collaboration Outpatient nursing practice for patients with advanced lung diseases and their families—a long-term project	
Identification of need for action	Unmet needs of people with advanced lung diseases and their families for comprehensive nursing care had become prominent in the national and international literature. The most important issue was to address the chronic nature of lung diseases and to work in a targeted way to prevent exacerbations
Bringing different perspectives together	At the time the main form of nursing at the LSH was acute care of hospitalized patients. The most viable structure of a new service was that of an outpatient care. The academic chair for chronically ill adults approached two head nurses and worked with them on a proposal for the service. The document was presented to administrators, followed by the hiring of one nurse in the year 2005. Since the beginnings of the outpatient clinic/care, a close collaboration between the academic chair and the nurse, a clinical nurse specialist was realized, with the purpose of advancing nursing practice through research. They constructed a framework for the practice— <i>partnership with patients with chronic obstructive pulmonary disease and their families</i> —based on research of the patient group, research made by the academic chair and not the least the clinical nurse specialist's extensive clinical experience of taking care of lung patients at the LSH. The structure of the outpatient care was set for patient visits to the hospital clinic, telephone communication, and home visits. Soon extensive home visits were added as well as consultations on hospital wards
Keeping things running	<p>With the large patient load, the clinical nurse specialist has been joined by an increasing number of nurses. At present time they are five. Meetings by the nurses and the academic chair have become a part of the routine of the practice. Stories from the practice that the nurses elicit between themselves to consult each other on best practices have served as triggers to solve individual and family problems and to improve the practice. Simultaneously the stories were essential for creating meaningful research questions. There have mainly been two lines of research that, respectively, aimed to (1) increase knowledge of experiences and characteristics of patients with advanced lung diseases, who have particularly complex and taxing health-care needs and (2) create and test useful and innovative components to enhance nursing practice. Demonstrating the effectiveness of the nursing practice as demonstrated through research has been essential for the practice itself but equally important to convince administrators of the value of the nursing practice.</p> <p>Disseminating research on national and international conferences has become some of the highlights of the collaboration.</p> <p>Educating nursing students—undergraduate and graduate—is interwoven into the practice.</p> <p>Intra- and interprofessional partnership within the hospital and between health and welfare institutions has become essential in the practice.</p> <p><i>Key findings:</i></p> <ul style="list-style-type: none"> ↑ Health-related quality of life ↓ Hospital admissions and length of hospital stay ↑ Body mass index Feelings of being safe and secure Security, stability, self-direction Unified family efforts—transformation Finding coherence in life with symptoms and treatment regimens Living life fully and taking things as they come [28–30]

Case of the academy-clinic collaboration

Outpatient nursing practice for patients with advanced lung diseases and their families—a long-term project

Future	The nursing practice has been running since the year 2005 with growing intensity and scope. Staff development, particularly graduate education of nurses in respiratory care, including creating research projects of interest to young nurses, stronger collaboration with nurses taking care of lung patients in other sectors of the health system in Iceland and internationally, as well as collaboration with other health professionals, is ongoing. An extensive research proposal was approved by the ethical committee of LSH early in the year 2018 followed by initiating data collection in the spring of that year
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Case of the academy-clinic collaboration

When technological possibilities exceed service capacity—engaging the health and welfare systems in collaboration on the advancement of service for people dependent on home mechanical ventilation

Identification of need for action	Insufficient service for people who need around-the-clock ventilation-assisted service, particularly those with motor neuron diseases, has gained an increased weight in Iceland. At present time the service is fragmented, and people are not entitled 24/7 service in the home, a necessity for those totally relying on mechanical ventilation. The people themselves have fought for years for “a life that is worth living” but until now with limited success. The main dispute regards who should finance the service—the government vs. municipalities—who should do what, and where, how, and by whom should the service be delivered. For years, patients needing home mechanical ventilation have been cared for in the outpatient nursing practice for patients with advanced lung problems at the LSH in collaboration with the motor neuron disease team and the sleep unit at LSH. With the void between technological treatment possibilities and workforce resources growing bigger [31], an ethical dilemma has risen in the practice
Bringing different perspectives together	In 2016 the clinical nurse specialist in care for patients needing home mechanical ventilation, along with other practice nurses and the academic chair, put together a strategic plan to move the issue forward. The group wrote an evidence-based position paper where needs and the situation of people dependent on home mechanical ventilation and their families are outlined, also containing suggestions for a strategic plan [32]. Building up capacity for 24-h home service for people receiving mechanical ventilation is not only a hospital issue but reaches much further into the society. Therefore, the group established collaboration with the Centre for Ethics at the University of Iceland and the Institute of Nursing Research at the University of Iceland. The group also contacted members of the parliament who had put forth a parliamentary resolution on launching a governmental task force that would make a strategic plan for an acceptable service for these people. That collaboration, led by the clinical nurse specialist, culminated in a public seminar on the issue. It attracted significant public attention and news reports in the media
Keeping things running	Based on the parliamentary resolution and the position paper officials of the ministries of health and welfare recruited relevant stakeholders to a task force group. The result was a strategic plan between the ministries of health and welfare and the municipalities—the Icelandic Association of Local Authorities—containing nine actions, several of which were outlined in the position paper. LSH is responsible for 5 of the actions, for which it composed a highly specialized, interdisciplinary team with 16 members and a project manager. Team members involve other relevant specialists as needed. Of particular significance is collaboration between specialized nurses in neurology and respiratory care. This has helped to build up professional capacities, nurture togetherness, and mobilize important resources in patient care

 Case of the academy-clinic collaboration

When technological possibilities exceed service capacity—engaging the health and welfare systems in collaboration on the advancement of service for people dependent on home mechanical ventilation

Future	<p>Stakeholders are currently working together and will continue to do so. There are good prospects of a financial resolution in the near future. Collaboration between specialized nurses in neurology and respiratory care is materializing. The clinical nurse specialist is in the frontline of the project. She regularly informs and discusses issues with the academic chair and the nurses in the practice. Plans are being made of how to support the project with research activities. Recruiting nurses into this specialty area followed by providing opportunities for graduate education is in process.</p> <p>It is acknowledged that promoting this project is particularly strenuous, in part, because of how vulnerable the patient population is. The complexity reaches its heights in the manifold levels at which it needs to be worked on: hospital, home, respite homes—economical, ethical, political, societal—health-care managers and administrators, politicians, patient organizations, governmental officials, and more. Still the vision is clear: comprehensive health care that supports “a life that is worth living”</p>
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Case of the academy-clinic collaboration

Grasping ideas from clinical practice to identify patients with cognitive disorders following stroke and to acquire viable interventions

Identification of need for action	<p>Needs of patients who are cognitively impaired subsequently to stroke are a challenge in nursing care. The patients’ needs are complex, and they themselves may be unable to sufficiently express their needs and concerns. Tools to guide nursing care of patients with hemispatial neglect following stroke are lacking and the current assessment strategy does not sufficiently capture patients’ deficits, experiences, and needs. An abundance of screening tests has been developed in the previous 50 years and tested mostly in laboratory settings. Their sensitivity in daily nursing situations has received very little attention. An overarching aim of a recent doctoral thesis was to advance comprehension of unmet needs of people with hemispatial neglect with the aim of advancing nursing care and ultimately to improve rehabilitation outcomes. Comprehensive clinical experience had revealed limitations of identifying and acting on problems related to hemispatial neglect. In particular, because many problems associated with these disorders are latent to staff, patients, and the family alike and become eclipsed by more obvious problems, such as paralysis, swallowing difficulties, and more, unless specialized screening occurs</p> <p>In a part of the doctoral thesis, the usefulness of conventional screening tests for hemispatial neglect (quantitative) was compared to challenges in daily life as illustrated in interviews and clinical observations (qualitative). The encounters with the patients were long-lasting, reaching from the acute admission until after discharge from rehabilitation to home. Findings revealed that several components in the qualitative data were insufficiently captured by the quantitative measurements. The need to develop more wide-ranging assessment strategies was apparent alongside a need to develop ward-based rehabilitation interventions for patients and their relatives, as well as educational programs for clinical nurses</p>
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Case of the academy-clinic collaboration

Grasping ideas from clinical practice to identify patients with cognitive disorders following stroke and to acquire viable interventions

Bringing different perspectives together	<p>A research collaboration team was originally formed in 2011 consisting of the academic chair of the chronic ill adults at LSH, a PhD student in nursing, a neurologist specialized in spatial neglect, two phenomenologists, and a specialist in stroke rehabilitation. Several pertinent interventions for clinical nursing care were identified [33] alongside with valuable information to improve nursing assessment [34–36]. Since, the team has expanded to also include a neuropsychologist, a physiotherapist, and a group of clinical nurses. Close collaboration is also in place with the national patient organization. The research team has composed a long-term vision for research as illustrated in a research proposal that is partly funded and running and for which an extended grant application to competitive national and international funding programs is in progress.</p> <p>In 2017 a position was established for the former PhD student for an academic chair with focus on nursing in the area of neurology and neuro-rehabilitation</p>
Keeping things running	<p>Currently, the academic chair as a researcher spends long hours in on the neurological ward in data collection. Her presence and visibility of her research endeavors has created interest among the staff nurses, which is highly significant to nursing research and its usefulness for clinical practice. Three newly graduated nurses have started master's education, all with distinct research focuses within the field of neurology: amyotrophic lateral sclerosis, deep brain stimulation and nursing management in Parkinson's disease, and nursing management of patients with acute stroke. These topics fall within a larger target plan to educate clinical nurse specialists within main areas of neurology and neuro-rehabilitation</p>
Future	<p>At the moment, we particularly emphasize strengthening, even further, the collaboration between the academia and the special areas of neurology and neuro rehabilitation. There is yet a long way to go to achieve systematic nursing care that is sensitive to the unique needs of patients and their families. Especially for those with highly complex diseases that demand highly specialized health-care</p>

11.6.1 Bringing the Three Icelandic Cases Together

The cases exemplify how enabling mind-sets and approaches have been used to strengthen the bond between academia and clinical practice at LSH and the FoN at the University of Iceland. Across the cases we have illustrated examples how academic chairs engage with nursing practice on many levels. An inherent part of leadership involves the relationship between individuals, communication between the hospital and educational institutions, motivation, agreement, establishing need for changes, and considering the social impact—all in a meaningful interpersonally friendly and socially responsible way.

To facilitate perceptions of togetherness, the academic chair should be visible in clinical practice and be receptive to the wealth of indications that arise from nurses' experiences. Their responses must nurture freedom in thinking and facilitate transformative ideas that make sense. They should continually seek out opportunities,

find resources, and search for information. Academic chairs should help nurses to flourish and embrace diverse ways of feeling, thinking, and “doing” nursing and provide links between past experiences and future research projects in and for clinical practice.

The academic chairs often need to establish creative solutions on *how to climb the hurdles* and react to ongoing changes: technological, staffing, and integration of new knowledge and financial boundaries. Academic leaders continuously scrutinize their experiences, not merely accepting good or bad outcomes but more profoundly making assessment to attach meanings and *really* learn from their experiences.

The invisibility of complexity leadership may reveal itself in many ways as was alluded to in the cases because the main strength of such leadership lays in the fact that it is enabling. Hence, academic chairs are not always in the forefront of projects but help to push things forward across different systems. Such work is often context specific and may differ between leaders and contexts. Building up a body of knowledge and competence in a sustainable way takes time.

11.7 Conclusions

Almost two decades have passed since the Faculty of Nursing at the University of Iceland and Landspítali, the National University Hospital of Iceland formalized their collaboration in nursing by signing the first institutional contract. Our experience has shown that with an easy access for nursing faculty to conduct clinical research at the hospital, nursing research have blossomed. Meanwhile, major changes have taken place within both institutions. In the year 2009, the financial crash resulted in serious budget cuts. Simultaneously organizational changes took place.

In the clinical setting, more patients are currently referred to outpatient services and hospitalized patients are sicker; they need more complex care and their hospital stay is short. There are increasing demands of proving evidence for the effectiveness of interventions and how time is spent. Within the academia, academic chairs are faced with heavier workload. For instance, there are increasing expectations of research productivity culminating in activities, e.g., time-consuming grant proposal submissions and writing of international peer reviewed manuscripts. For academic chairs, complexity leadership is important. It resonates with unique clinical contexts and fits “fast speed practice.” It is important that nurses both in clinical practice and academia continue to partner up and strengthen their bond and keep common vision for the betterment of patient care and their health in the forefront.

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Towards the Future: The Education of Nurses in Iceland Reconsidered

12

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12.1 Introduction

Nursing education in Iceland is regulated by the government. Since 1987, a 4-year (240 ECTS) Bachelor of Science in Nursing (BSc) has been required for Icelandic licensure to practice nursing [1]. Educational programmes leading to this degree are offered at two universities in the country, the University of Iceland and the University of Akureyri. These programmes have been approved by the councils of each university, while the directorate of health issues licence to practice nursing and ensures that their education meets national requirements and qualifications laid down in the directive for European countries [2].

A BS programme in nursing was first offered at the University of Iceland in 1973. Prior to that, two schools had organised nursing education in the country, the Icelandic School of Nursing and the new nursing school. The Icelandic School of Nursing was the main educational institution for nurses most of the twentieth century. It was established in 1931, a year after the opening of Landspítali, the national hospital [3]. The school offered a 3-year educational programme and remained in operation parallel with the BS programme at the University of Iceland for 13 years. When it closed in 1986, a total of 2010 nurses had graduated. The new nursing school mainly organised further education in different specialist areas to graduates from the Icelandic School of Nursing and for a short time period a 2-year nursing programme for midwives. In 1987 the University of Akureyri was established and offered a BS degree in nursing from the beginning [4]. As of the year 2018, all levels of nursing education, bachelor, master's and doctoral, are offered at the faculty of nursing at the University of Iceland as well as speciality education. The University of Akureyri was licenced to offer a doctoral programme in nursing in 2017. A total

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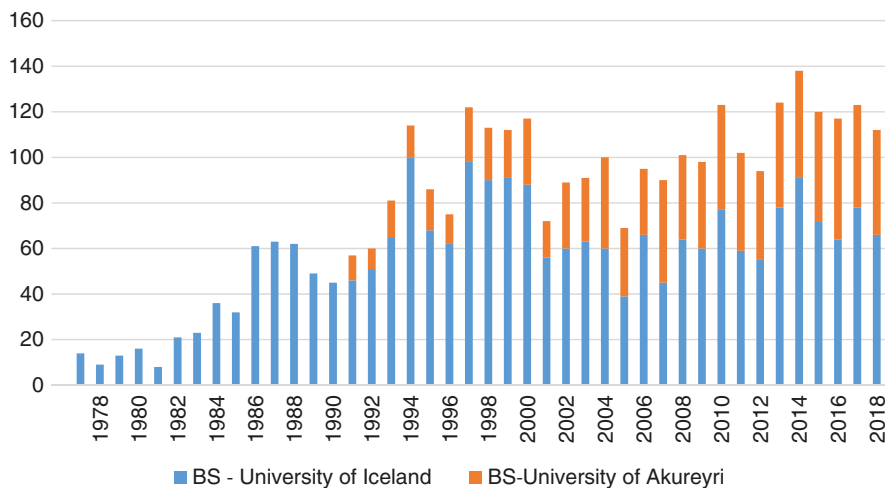


Fig. 12.1 Number of BS students from University of Iceland ($N = 2364$) and University of Akureyri ($N = 883$) from 1977 to 2018

of 3247 students have graduated with a BS degree, 2364 from the University of Iceland and 883 from the University of Akureyri (see Fig. 12.1).

The purpose of this chapter is to describe the development of nursing education at all levels at the faculty of nursing, University of Iceland, with emphasis on curricular reforms of the BS programme made in 2015. In developing the chapter, we have mainly drawn on historical research related to the development of the nursing profession and educational opportunities at the University of Iceland, as well as reports, descriptive articles written by faculty members, presentations given, opinions presented and oral communication.

12.2 Educational Development

The first Icelandic women to receive formal education in nursing were educated in different countries around the turn of the nineteenth century, mainly in Denmark or other Nordic countries, but also in England, Scotland and in North America [5]. Although some of them did only short courses in nursing, the overriding majority completed a 3-year programme called for by the International Council of Nurses (ICN) and supported by nurses' associations in the Nordic countries. The first Icelandic nurse to complete a BS degree in nursing was Þorbjörg Árnadóttir who graduated from the University of Washington in 1941. In 1946 she also became the first Icelandic nurse to complete a MS degree in nursing from the same school [6]. As in other countries, nursing in Iceland was solely a woman's occupation until the first men graduated from the Icelandic School of Nursing in 1959. Sixty years later, nursing is still a female-dominated occupation with only 2% of the nursing workforce being male [7].

The initial curriculum for the Icelandic School of Nursing was developed in the years prior to the opening of the national hospital [5] in close consultation with leaders from the other Nordic countries. For decades nursing education in Iceland was closely aligned with developments in those countries [6]. On the other hand, the nursing programme adopted at the University of Iceland in 1973 was modelled after programmes in Canada and the USA. Already in 1960s the World Health Organization (WHO) had proposed a university education for nurses [6] and provided guidance and financial support in the development of the curriculum. From the beginning the BS programme was 4 years as was customary in North America. This was also the model for other BS programmes at the University of Iceland at the time. The objectives of the nursing programme were highly ambitious. Graduates were to be able to (1) provide general nursing care within and outside of health-care institutions; (2) assess the nursing needs of individuals and their families; (3) make nursing care plans and execute them, assess effect and success of nursing and use findings to enhance care; (4) work in public health and engage actively in team work; (5) plan and conduct research in nursing; and (6) teach nursing in schools (elementary, high school, etc.) and health-care institutions [8].

As objective five demonstrates, generating new nursing knowledge had high priority, and students were ambitious in their research projects. Examples are a final project from 1979 that was an action research addressing the adaptation of patients and their families to chronic disease. Another one from 1981 was a content analysis of written nursing documentation in the patient's journals, the research question being if it was possible to nurse patients based on information written in the reports. In 1982 job satisfaction of nurses was the focus of the research project [9].

The BS programme started in 1973 without the curriculum being fully developed, and 3 years passed from the first students entering the programme until it was finished. At that time the University of Iceland had sufficient resources regarding academic teachers in the basic sciences, psychology, sociology and medicine with Icelandic professors in the respective fields teaching their subject, but there were less resources in nursing. Given this situation the first curricula were highly basic science oriented, with the first year courses being chemistry, sociology, philosophy, anatomy, embryology, psychology and microbiology and the second year more chemistry and anatomy, physiology, pharmacology, pathophysiology, immunology, microbiology, growth and development of children and adolescents and fundamentals of nursing. During the third and fourth year, educational science, research methods and statistics, nursing and medicine were taught, and clinical training took place [10]. In total only one third of the programme was nursing. This has changed completely with one third of the present programme being on the basic sciences and two thirds on nursing.

A review of nursing education in Europe [11] found that educational reforms have varied greatly across the European countries. However, a predominant characteristic has been the short time allowed for implementations to take place. According to the authors, this had a negative impact on the adjustment of nursing faculty members into the higher education settings and towards their new roles. This adversely affected academic nursing development. When the nursing BS programme was

established at the University of Iceland in 1973, no nursing faculty member had been hired. WHO, however, supported six nurses to come to Iceland and teach and granted funding for Icelandic nurses to seek graduate education in the United Kingdom (UK) and United States of America (USA). The Fulbright Institute also supported guest professors from the USA and Canadian universities that contributed substantially to teaching [6, 8] and the Icelandic Red Cross provided financial support (Ingibjorg R. Magnúsdóttir, 2018/September 19, Personal communication).

The first academic position in nursing at the University of Iceland was founded in 1977, and in 1983 or 10 years after the commencement of the programme, there were only 2.37 academic nursing positions occupied by 3 nurses who all held a MS degree [8]. In 1986 the Icelandic School of Nursing, founded in the year 1931, graduated its last student, and following that the Icelandic law changed such that the requirement to practice as a nurse was a 4-year BS degree. Implementing nursing as a university education without a sufficient nursing infrastructure has not been studied. By the statement: ‘Without sufficient nursing infrastructure’, we refer to lack of nursing faculty and a lack of nursing research culture. A strong research culture acknowledges the importance of research, that it takes time, that researchers need to travel and that they need financial support and critical peer review. In a strong research, culture research shapes funding priorities at the macro level and government policy that influences nursing practice [12, 13]. The chief administrator of the nursing programme at that time (1977) acknowledged that at the beginning lack of nurses with sufficient education to qualify for academic positions was its biggest problem [6].

The growing faculty of nursing understood it as their charge to educate those who were already nurses as well as new nursing students, develop the research and academic culture needed and improve the BS nursing programme. During the late 1980s and 1990s, the number of qualified nursing faculty members increased steadily. In 1993 there were 18 faculty members (not all full time) with 1 holding a doctorate and 17 a MS degree in nursing, and in 2003 they were 23 (not all full time) with 9 holding a PhD and 14 a MS degree [14, 15]. All these nurses, except one, were graduates from the undergraduate nursing programme at the University of Iceland, and they had received their MS and PhD from various universities in the USA, Canada, UK, Scandinavia and the Netherlands, with the majority from the USA. For the small faculty, it was extremely important that the nurses completed their masters and doctoral work from different academic institutions, thereby providing diversity to the education and influence into the nursing community.

Three major curriculum reforms have been made since 1976, in 1993, 2004 and 2015. The main aims of these changes were to meet societal changes, introduce new nursing knowledge and new subjects such as home care nursing and information technology and to increase the emphasis on nursing and nursing science within the curriculum [16, 17]. The 2015 revisions were motivated by societal changes such as demographic ageing, rise in chronic disease, increased access to health information, better health literacy, profound changes in the health-care services such as new technologically complex treatments, care delivered outside hospitals, increased

collaboration between the health and social services, emphasis on team work and collaboration in view of patient safety issues and a new generation of students calling for different teaching methods [16]. The motivation for these revisions will be addressed in more detail below in particular what we regarded as threat to clinical practice, the tension between basic science and lived realities – both important for nursing science and education – and the partnership between academia and practice and the students.

12.3 Threats to Quality of Nursing Practice

In recent years the nursing profession has experienced setbacks that have in many ways led to a fundamental re-evaluation both in practice and education. These issues relate to unsafe practices and threats to quality. In 1999 the Institute of Medicine [18] published the report *To Err is Human: Building a Safer Health System* describing serious threats to patient safety and quality of health-care services in the USA. In the UK the Francis report [19] which was based on a public inquiry of the Mid-Staffordshire NHS Foundation Trust described deplorable care provided to patients. These findings were a serious blow to nursing that called for widespread reform both of service and education not only in the UK but internationally. It has been acknowledged that nursing, as other disciplines, has phased profound changes in the organisation of work. One explanation given for poor quality of nursing services has been the contemporary emphasis on efficiencies inherent in technical rationality. Nursing care in particular and health care in general have been diminished and reduced to hurried and even thoughtless execution of tasks without attending to patients' individual needs and preferences [20]. To manage their work, nurses need to cut corners captured in the phrase 'missed nursing care' [21, 22]. The view is widespread that pressure to cut cost in health care has prompted nurses to work faster and prioritise what care is provided [23]. Similarly, the uptake of standardised and structured work methods impacts their work in different ways, often diverting their attention from the subjectivities of patients and their relatives [24]. A number of authors have pointed out [25, 26] that to be able to develop nursing education, we need a better understanding of the nature of caring work, the knowledge and skills necessary and how this work might best be organised. As research has shown, much of the work involved in everyday nursing care is invisible and does not lend itself well to rationalisation without serious consequences [27].

This is a dangerous situation, both for patients and the nursing profession, that needs to be addressed. Supported by the Carnegie Institution, a comprehensive study was conducted on nursing education in the USA led by Patricia Benner [26]. Although the authors found examples of excellent education, many instances of didactic teaching were noted, and based on their findings, the authors called for a major transformation of the educational system in nursing in the USA. Many of these suggestions have been taken up in the curriculum revision that was initiated at the University of Iceland in 2015 [16].

12.4 The Tension Between Natural Science and Lived Realities in Nursing Education

Since the second part of the twentieth century, nurses have debated the relevance of natural science to nursing practice as well as positivism in nursing research. The debates focused on which research methods (qualitative vs quantitative) were appropriate for developing new knowledge in nursing and the importance placed on a nursing ideology. Qualitative methods were said to reflect a holistic view of nursing, while quantitative methods reflected the reductionist view. This debate was highly criticised during the 1990s mostly since there was not a clear distinction between ideology and methods and nurses conducting quantitative research did not recognise that they had abandoned the holistic view of nursing [28, 29]. The evidence-based practice movement that gained momentum at the turn of the century also had its role in silencing debates on a single right approach in nursing. Its major focus is to deliver health care based on best available knowledge and prevent delivery based on opinions, personal preferences and tradition and is rooted in reports of serious problems with the quality of health care and patient safety [30, 31].

As already mentioned, the initial curriculum for nursing studies at the University of Iceland was strongly influenced by the basic sciences and medicine. However, over the years the above mentioned discourse on methods, ideology and best practice in nursing took place in Iceland as in other countries. This resulted in the programme being broadened and taking more notice of the phenomenological tradition both in teaching and research [32]. An example is that all students are, and have been for a number of years, required during their clinical practice to conduct an interview with a patient and analyse it based on the hermeneutical-phenomenological method in order to gain an insight into the lived experience of the patient. Today there is a strong support for integration of different traditions, qualitative and quantitative, as well as the different fields such as social sciences, the humanities and biomedical knowledge in addition to nursing [26].

12.5 Partnership Between Academia and Practice

The vision of nursing education developed by Benner and her associates calls for a strong collaboration between academia and clinical practice [26]. Similar to other countries, nursing in Iceland has experienced divisions between the two, but since the beginning of the twenty-first century, efforts have been undertaken to facilitate better integration. Close relations between the members of the faculty of nursing at the University of Iceland, nursing leaders and nurse clinicians have been of central importance in enhancing the development of nursing practice and education of future nurses in Iceland [33]. Led by Marga Thome, the dean of the faculty of nursing, and Anna Stefánsdóttir, the director of nursing at Landspítali, the National University Hospital (LSH), the relations between the two institutions were both strengthened and formalised in the first years of this century. A number of teachers were hired at LSH to lead the development of different clinical fields, and

specialists in nursing were encouraged to apply for an academic status at the university. This has led to a fruitful collaboration around teaching at all educational levels and to collective research programmes that supported the work on the revision of our curriculum initiated in 2015.

12.6 Educational Reforms of the Undergraduate Nursing Education

12.6.1 Educational Qualifications for Entry Into Practice

Iceland was one of the 29 countries that signed the Bologna Declaration in 1999 which emphasised free movements of students between countries. A common structure of 3-year BS programmes (180 ECTS), 2-year MS programmes (120 ECTS) and 3-year doctoral programmes (180 ECTS) was agreed upon. This has called for educational reforms in many countries to enhance comparability as nursing education in the European countries varies. The 4-year BS programme in Iceland has been among the longest. The revised programme in Iceland is still 4 years (240 ECTS) and together with occupational therapy the only 240 ECTS BS programmes in the country, while other programmes have adjusted to the Bologna structure. For other professions needing a licensure to practice such as teachers, physiotherapists and lawyers, an MS degree is required for the licensure. The nursing society in Iceland including faculty of nursing from the University of Iceland, the University of Akureyri, representatives from the Icelandic Nurses' Association and from the National University Hospital and the primary health care in Reykjavik evaluated carefully what would be best for nursing education and practice in Iceland, with three reports being written on the subject [29, 34, 35]. What was mainly addressed was the qualification required for entry into practice, an MS degree or a BS degree. All three reports concluded that a BS degree should qualify as entry into practice. The experience from the School of Education was that after the MS degree was made a requirement for license, applications to the school dropped from 263 students in 2011 to 119 in the year 2017. That coupled with a long standing lack of nurses [36] and low reimbursement in comparison to similar professions [37] contributed to the conclusion that it was and is not considered feasible for nursing to make the MS degree entry into practice. In order to meet the mismatch between the lengths of BS programmes in Iceland, nurses with a minimum of first grade from their BS studies will be granted 30 ECTSs into their master's studies, thereby acknowledging that a part of the BS programme is at a master's level.

12.6.2 The Revised Programme

The generation of students who currently are enrolled in nursing were born in the years 1985 to 2005, referred to as the millennials. This generation has been described

as highly protected and overscheduled [38], raised to be winners and to be special [39]. They prefer to work in groups with hands-on experience and place less value on reading and listening to lectures [40]. The millennials differ substantially from previous students which have called for new ways of working with and educating students. To address this situation, the revised educational programme was developed in close collaboration with students, discussing pros and cons of the older programme and what the students considered in need for change.

The above analysis of nursing education and practice and societal changes has guided us and we have drawn on many of the suggestions put forward by Benner and her associates in reforming the curricula [16, 41]. One of the main ideas that we have found helpful is the stress placed on seamless integration of theoretical and clinical education emphasising the development of clinical reasoning among students. Such reasoning is situational and contextual, taking both the patient's often complex health and social condition into consideration as well as families, friends and the community at large. Working within this tradition demands attention to multiple ways of knowing [5, 42] and ample mentoring in the clinical area to develop nuanced skills in attending to issues confronting nurses in their daily work.

Two thirds of the revised undergraduate programme are designated to nursing science and one third to the basic sciences. Emphasis is placed on assuring continuity in the curriculum and preventing repetition. Furthermore, specialists in certain areas such as wound management and pain have been appointed to manage their topic and make sure it is well covered throughout the curriculum. Although there is a long tradition in the undergraduate programme of using a variety of teaching methods such as the skills lab, clinical practicum, written assignments, conferences, case studies, problem-based learning and group projects, the new generation of students has called for even more participatory teaching approaches and less emphasis on formal lectures. Our skills lab was developed into a simulation centre which has allowed for more space and significance of interactive learning in the curriculum and helped the students to become more proficient in clinical skills before they enter clinical placements. A number of our lectures have also been transformed in line with flipped teaching and web-based learning. Students are introduced to clinical nursing during the first semester of the undergraduate programme. Increased emphasis is on evidence-based practice; information technology in nursing practice; welfare technology, particularly in the care of older people; and clinical competence. Integration of theoretical content and development of clinical competencies has been of central importance along with research as students are given opportunity to work with faculty on their research projects. One of the goals in the strategy of the university is that faculties and study programmes should systematically integrate teaching and research. That should be achieved by having active researchers being involved in teaching first-year undergraduates. This is accomplished at all years at the nursing faculty since faculty teachers are involved in research and teach at all stages of the programme.

12.6.3 The Clinical Learning Model: A Community of Learning

Creating a successful collaboration between academia and practice is fundamental for effective clinical learning of students [43]. A major assumption behind the curriculum is that nursing is a practice-based profession and that clinical learning is instrumental in all nursing education. Strengthening the clinical education is a major objective in the revised curricula with the aim of assisting the students in developing and gaining practical skills and preparing them for complicated, multifocal and constantly changing working environment. Studies have found that it is highly important to foster a student-centred environment by listening to students; offering additional support; providing constructive feedback and clear, well-planned assignments; facilitating the meeting of individual learning needs and innovation; and promoting student voice [44]. In the clinical setting, we have attempted to meet this by training clinical teachers. The final responsibility and organisation of the clinical teaching (competencies, length of study period, clinical assignments and the overall quality of the education) is held by the faculty of nursing, with the supervision of clinical teaching being dependent on nurses at the clinical sites. We have two levels of 'formal' teachers at the clinical site. Firstly, there are clinical instructors (CIs) who work in the clinic but are also reimbursed by the university and work closely with the faculty in developing clinical learning/teaching/assignments. Most are clinical nurse specialists with MS degrees. The CI is responsible for the clinical experience to be coordinated according to clinical competencies of each clinical course. The CI meets students weekly, gives feedback on clinical work, engages in clinical reasoning, encourages independence and fosters critical thinking based on evidence. The CI is also responsible for clinical seminars where clinical reasoning and decision-making is further encouraged by clinical cases with the aim of increasing their ability to know the nature of patients' needs that change over time. Finally, the CI supervises the students with assignments related to their clinical learning and evaluates them. The second level of clinical teachers is clinical preceptors (CPs). They work in the clinical area, hold a BS degree, have a minimum of 2 years of clinical experience and are often selected on the basis of their willingness to have a student. CPs supervise and plan daily the basic clinical skills trained according to the clinical competencies of each course and make full use of the learning opportunities of the clinical situation with the student. At the end of the clinical study period, CPs are responsible for assessing the students' performance and providing feedback. The CIs support the CPs in their work with the students [41]. In order to increase and sustain the collaboration between the faculty, CIs and CPs seminars are held yearly or every semester, where theories on and practice of clinical teaching is discussed and the teachers reflect on their teaching experience. Students are a part of this seminar. This has been effective in enhancing the clinical learning environment and is constantly being reviewed and reorganised based on comments from participants.

12.7 Graduate Education

In 1972 the New Nursing School was opened mainly to offer specialist educational programmes in different clinical fields within nursing. These programmes were similar to continuing educational programmes in the Nordic countries and were targeted at graduates from the 3-year programme at the Icelandic School of Nursing. The New Nursing School operated until 1991 when it merged with the nursing programme at the University of Iceland [15]. At the same time, the regulation for specialists in nursing was changed, making a master's degree and additional 2-year work experience after graduation mandatory to be licenced as a specialist in nursing [1].

Graduate education for nurses with a BS degree has followed the general trend at the University of Iceland. Until late in the twentieth century, educational programmes within the university aimed at different professional fields focused on undergraduate education, preparing students for work in different professional capacities. For graduate education students were encouraged to go abroad [45]. Therefore, in the 1980s and 1990s, Icelandic nurses who had completed a BS degree went to the USA, Canada or other countries for their master's education in different clinical areas. Upon return to Iceland, they either became leaders in their clinical specialty or became teachers at the faculty of nursing, and many of them later pursued doctoral studies.

12.7.1 Master's Education

Towards the end of the twentieth century, emphasis on research and graduate education increased at the University of Iceland [45]. Similar to universities in the neighbour countries, the goal of the University of Iceland was to enhance research through graduate education. This shift was taken up by members at the faculty of nursing who designed a 2-year (120 ECTS) research-based master's programme in nursing which was initiated in 1998. The main aim of this programme was to enhance the students' theoretical base and research skills [46]. It was composed of core courses in theory and methodology, electives in the students' field of interest, often from other faculties. Half of the programme was a research project. Many of the nursing leaders in the country were hesitant and expressed the opinion that nursing in Iceland needed to develop further before education at the graduate level could be offered. That view was also widespread among the faculty members and in the initial plan students were expected to take part of their education abroad. That plan did not materialise, mainly due to financial and family reasons and students have primarily done their course work at the University of Iceland. In 2002 a clinical track master's programme was developed, alongside the research track, where the scope of the final project was reduced and more emphasis was placed on developing advanced, evidence-based clinical skills and knowledge. Two core clinical courses were developed, the first focused on advanced assessment methods and use of clinical data in decision-making and the second focused on advanced nursing practice, interventions and leadership in designing nursing services.

The development of continuing and specialist education will always be difficult among small nations. There are simply not enough students in each specialty. Therefore, development of advanced knowledge and clinical skills was mostly tailored to individual student's needs. As students enter the master's programme, they are encouraged to develop clear objectives for the skills and specialisation that they hope to gain. Each student has an advisor who provides guidance and consultation. Assignments in courses are designed to allow students to develop proficiency in their preferred area and they are regularly reminded that they will become leaders and role models after graduation. In the 20 years since the inception of the master's programme, students have placed increased emphasis on advanced clinical skills and therefore the majority opts for the clinical master. Simultaneously courses have been developed that address clinical issues. This development called for courses in different clinical areas, a real challenge in light of the size of the Icelandic population. By offering the clinical courses as short programmes, referred to as diploma programmes at the master's level, we have managed to run each specialty course every 3 years. These short programmes have varied in length, but in 2018 most of them were 30 ECTS. In addition to the clinical and research tracks, a master programme in nursing administration and midwifery is offered at the faculty.

Graduates have gone into different directions, some have progressed to doctoral studies, others have chosen administration, but many have become clinical nurse specialists after having entered the 2-year specialist training programme at LSH. Graduates have developed outpatient services at Landspítali and at different home care and community care centres, often in fruitful interdisciplinary collaboration. In these positions they have become leaders in nursing in various specialty areas and been pivotal in enhancing nursing care in Iceland.

12.7.2 Doctoral Education

Over the last 30 years, Icelandic nurses completed their doctoral work from different academic institutions in North America such as Columbia University, University of Minnesota and University of California in San Francisco and in Europe where they have studied in several universities, among them Umeå, Goteborg and Lund in Sweden and Manchester in the UK. The great majority of these nurses are employed at the University of Iceland and some at the University of Akureyri. The faculty of nursing at the University of Iceland was granted permission to grant a doctoral degree in nursing in 2004, and the first PhD candidate defended her thesis in 2009. Since then 14 candidates have graduated and 14 are enrolled in the programme.

The doctoral programme in nursing was designed in line with other disciplines at the health sciences. The programme has been certified by Orpheus: 'a network of higher education institutions that is committed to developing and disseminating best practice within PhD training programmes' [47]. The programme is composed of 180 ECTS, 30 ECTS in coursework and 150 designated to the doctoral thesis that reflects a coherent programme of research. The student is expected to have completed three articles for publication in peer-reviewed international journals in

addition to an introduction of the background, method and main findings of the project. Two of the articles must be accepted for publication and the third submitted before the oral defence is organised.

As of the beginning of 2018, 11 nurses have defended their doctoral thesis at the faculty of nursing, in addition to 3 midwives. For the topics and authors of these dissertations, see Table 12.1.

The doctoral programme has been of great importance to the advancement of nursing research in Iceland. Graduates have become leaders in their clinical areas, developing their research projects and encouraging innovations. Most of them have joined the nursing faculties at the University of Iceland or Akureyri in strengthening teaching.

Table 12.1 Doctoral dissertations from the faculty of nursing, names of doctorates and year of defence

Titles of doctoral dissertations	Names of doctorates	Year of defence
Prospective parents and decisions concerning nuchal translucency screening	Helga Gottfreðsdóttir	2009
From institutional nursing care towards family nursing in psychiatry	Eydís Kr Sveinbjarnardóttir	2012
Professional and contextual factors supportive of evidence-based practice	Hrund Scheving Thorsteinsson	2013
Development and evaluation of a brief cognitive-behavioural group therapy programme for reducing psychological distress in Icelandic female university students	Jóhanna Bernharðsdóttir	2014
Quality pain management in the hospital setting	Sigríður Zoéga	2014
Chronic pain, health-related quality of life, chronic pain-related health-care utilisation and patient-provider communication in the Icelandic population	Þorbjörg Jónsdóttir	2014
Hemispatial neglect following right hemisphere stroke. Clinical course and patients' experiences	Marianne Elisabeth Klinke	2015
Family systems nursing interventions in paediatric settings	Anna Ólafía Sigurðardóttir	2015
Planned home births in Iceland: premise, outcome and influential factors	Berglind Hálfhánsdóttir	2016
Pain in childbirth: women's expectations and experience	Sigfríður Inga Karlsdóttir	2016
The benefit of psychoeducational and support intervention for caregivers of individuals with eating disorder or attention deficit hyperactivity disorder	Margrét Gísladóttir	2017
Childhood sexual abuse: consequences and holistic intervention	Sigrún Sigurðardóttir	2017
Retinal oximetry and systemic arterial oxygen levels	Þórunn Scheving Elíasdóttir	2017
Development of a structured nurse-led follow-up for patients after discharge from the intensive care unit and testing of its effectiveness	Rannveig Jóna Jónasdóttir	2017

12.8 Conclusions

As we have outlined in this chapter, the development of the nursing programme in Iceland has been challenging. During the first 30 years, the main focus was on teaching future nurses, meeting nurse's requirements for clinical specialisation at a diploma and master's level and developing a highly educated nursing workforce. It is considered fortunate for the small faculty and small society of Icelandic nurses that all members of the faculty have received their masters or doctoral education in different universities in Europe and North America. This has brought diversity and varied educational approaches into the educational programme. This has also resulted in regular re-evaluation of the curriculum for BS programme with three formal revisions. In all of these revisions, the faculty has integrated new developments and trends in nursing education from in line with other countries and adapted to the small Icelandic community. At the master's level, emphasis has been placed on enhancing advanced clinical knowledge and skills as well as conducting research and application of research findings into clinical practice in collaboration with the National University Hospital. This has led to important developments of specialist nursing services. Development of new research is mainly at the doctoral level, and the doctoral programme is gradually maturing.

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A Nurse-Managed Follow-Up Practice for Patients After Discharge from the Intensive Care Unit: Development, Testing and Implementation

13

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Reflections on the Development of the Nurse-Managed Follow-Up Practice for Patients after Discharge from the Intensive Care Unit

The unacceptably slow recovery of critically ill patients who have excelled life-threatening conditions and treatments in intensive care units (ICU) has lately become of growing concern among the staff at the ICU at Fossvogur, in Landspítali—The National University Hospital in Reykjavík, Iceland. The issue caught interest of one of the staff nurses who then focused on the topic in her master's thesis—*Health and well-being of patients after discharge from the intensive care unit* [1]. Findings of the study supported the staff's concerns and were substantiated in the literature. Actions were clearly needed; the patients needed a more comprehensive and longer-lasting follow-up, not only in order to speed up their recovery but to enhance their health condition in the long run as well. The idea of an ICU nurse-led follow-up practice got momentum.

With a sound support of administrators of the ICU and working with advisors from Landspítali and the University of Iceland, a doctoral study was composed. The doctoral committee was interdisciplinary with both a chronic illness nurse professor and an intensive care medicine professor as advisors

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177

and an internationally known nurse in the field as well as a psychologist participating. The purpose of the thesis was to develop a structured nurse-led follow-up for patients after intensive care and test its effectiveness on patients' long-term physical and psychological health status.

The findings of the doctoral thesis were informing for the ICU nursing care. Although the findings did not show that the intervention was significantly better than usual care, their importance was considerable when interpreted in the context of the study. The findings, therefore, were highly relevant for advancing the post-ICU care. They brought to the forefront how serious the patients' conditions were all through. The findings indicated as well that in order to thoroughly be able to alleviate the patients' health problems, improve their health and activate relevant resources, advanced nursing care in a person-centred framework was needed.

The nurse, adjunctive to engaging in the doctoral programme, embarked upon a programme to become an intensive care clinical nurse specialist. During that training, she revised the nurse-led follow-up practice, which is now provided to patients who stay ≥ 72 h in the ICU. The revisions include a few changes of an assessment scheme and components of the surveillance on the hospital wards and improved care at 3 months. The clinical nurse specialist now provides the care, which previously a group of some 30 ICU staff nurses did. The interdisciplinary collaboration has become stronger, often on the clinical nurse specialist's initiative.

There remains a positive attitude among administrators and staff towards the post-ICU nursing practice. The clinical nurse specialist continues to lead the care that is in constant amendment as more resources become available. The vision is clear: much is to be gained to be able to support still a better health condition of people post critical illness and intensive care stay.

13.1 Introduction

The recovery of patients who have been discharged from an intensive care unit (ICU) is impacted by consequences of the ICU stay and of the critical illness that originally led to ICU admission [2]. The consequences can be profound, affecting physical and psychological health status and recovery, which is frequently slow and incomplete despite the cure of the disease causing ICU admission [3–5].

Patients' health status before the ICU admission is also a significant factor affecting the health status post-hospital stay [6]. Impairment in patients' health status can be persistent, compared to their health status before the ICU admission and compared to the health status of the general population, from a few months up to several years after the ICU discharge [7, 8]. When discharged from the ICU to a general ward, patients may still be critically ill; the convalescence after critical illness is starting [9]. Additionally, the change from the secure and continuous monitoring of

the ICU to the more intermittent transactions with healthcare staff at the general ward is vast [10].

Being admitted to the ICU can be a stressful experience for patients [11]. The stressfulness is caused by several factors. Among those are the ICU environment and the ICU treatment received, as well as emotions and memories during the ICU stay [11, 12]. Patients have described the stressfulness of noises, bright lights, staff conversations and hearing other patients in the ICU [12–14] and being connected to lines and tubes [15]. Among the worst experiences during the ICU stay are difficulties when patients become voiceless/cannot make a sound when intubated and on a ventilator, combined with breathlessness, helplessness and powerlessness [16]. Patients can remember feelings of security and comfort during their ICU stay [11, 15], but at the same time they may experience cold, thirst, pain, fear, distress [12, 17], being dependent on staff and confrontations with death [18].

Patients frequently have amnesia about the ICU stay, concurrent with positive and disturbing memories [17, 19]. Amnesia and disturbing memories can occur despite being considered awake [13]. The memories of the ICU stay can be vivid and strong and can remain unchanged from up to 5 years after the ICU discharge [17, 20]. The memories can be factual, such as remembering the family; emotional, such as fear; or delusional, such as dreams, nightmares, hallucinations and feelings that people were trying to hurt them [13, 21]. Putting the ICU experience into perspective can be difficult for patients [17]. That is, delusional memory can be misinterpreted in the context or circumstances in which it occurred. Patients who have frightening memories of their ICU stay (delusions, hallucinations, nightmares) can have symptoms of post-traumatic stress disorder (PTSD) for at least 6 months after the ICU discharge [21–23].

The reasons for patients' slow recovery after ICU discharge are manifold [4]. Muscle weakness—also referred to as physical weakness—is one of the main reasons and can be profound [24]. As a consequence, patients need help at home after discharge from hospital, and the returning to the previous employment or workplace can be delayed [25, 26]. During the first 2 years after the ICU discharge, physical function is heavily impacted by muscle weakness [26, 27]. In the first year, there is, nevertheless, a significant improvement in patients' physical health [27, 28]. The treatment in the ICU can be difficult and stressful experiences for patients, and this may contribute to PTSD, anxiety and depression after ICU discharge [29, 30]. The psychological distress post-ICU adds to the slow course of recovery, comparable to the consequences of critical illness on physical health post-ICU [23, 31]. The primary risk factors for developing symptoms of PTSD post-ICU are receiving benzodiazepam medication during ICU treatment [32], psychopathology before the ICU admission [30], anxiety and depression before the ICU admission [29, 33] and disturbing or frightening memories during the ICU stay [23]. Being female and of younger age have been shown to predict PTSD [32]. Severity of illness [34] and length of ICU stay [35] are, however, generally not associated with symptoms of PTSD post-ICU.

Anxiety and depression have a negative impact on psychological health and recovery of patients after their ICU discharge [36]. Depression and anxiety can

reduce patients' quality of life for a period ranging from 3 up to 24 months after the ICU discharge [37, 38]. Additionally, anxiety and depression post-ICU may delay physical recovery [39, 40]. Patients' experience of the ICU stay also plays a significant role in relation to anxiety and depression post-ICU. Those who have a stressful or frightening ICU stay have significantly more anxiety and depression compared to patients who do not have such experiences during their ICU stay [23]. Furthermore, stress or frightening experiences during the ICU stay also predicts the risk of anxiety and depression over the 12 months post-ICU [30, 41, 42].

13.1.1 Nurse-Led Follow-Up of Patients After Discharge from Intensive Care

Nurse-led follow-up services for patients discharged from the ICU were mainly developed in the United Kingdom (UK) and Australia. In the UK the service dates back at least to the early 1990s [43], preceding the Comprehensive Critical Care recommendations of critical care services, introduced in the late 1990s by the National Health Service [44]. In those recommendations, the "Intensive Care without walls" was introduced, with guidelines for Critical Care Outreach (CCO) services with the aim of preventing readmissions to the ICU, supporting earlier discharges from the ICU and sharing critical care skills with staff in the general wards, along with a long-term support and follow-up of ICU patients after discharge from hospital [44].

In Australia, an ICU nurse-led follow-up started at a similar time having a somewhat parallel form as the one in the UK [45, 46]. The follow-up encompassed support and education for ward staff and care of patients on general wards that included ICU therapies and support for patients after discharge from the ICU to general wards, later called the ICU liaison nursing [46]. A study of the ICU follow-up nurses at the Royal Melbourne Hospital in Australia showed a lower readmission rate and indications of a timely readmission to the ICU [47].

13.1.2 Development of the Nurse-Led Follow-Up Intervention

An integrative literature review, based on 17 studies of various research designs, was conducted to analyse and synthesise current knowledge of the structure, content and types of outcome variables, along with documented benefits of ICU nurse-led follow-up for adult patients post-ICU discharge [48]. These findings were then utilised to develop a programme of nurse-led follow-up to be tested in a quasi-experiment [49]. The original programme was called *Structured nurse-led follow-up intervention*. After the development of the structured nurse-led follow-up intervention and testing of its effectiveness, the name was altered to *Nurse-managed ICU follow-up practice* in order to underscore the scope and sustainability of the care.

The content and structure of the structured ICU nurse-led follow-up intervention was comprised of four components of care for patients from ICU discharge to

3 months thereafter. The components are as follows: (i) booklet delivered at ICU discharge, (ii) ward visits, (iii) contact during the first week after discharge from the ward to home and (iv) an appointment 3 months after discharge from the ICU:

I. *Booklet*. The booklet was delivered at ICU discharge with the purpose of facilitating transition from the ICU to the ward for the patient/closest relative and provided a sense of continuing ICU surveillance [50, 51]. Designed and delivered by the researcher (doctoral student), the booklet contained handwritten information about each individual patients' ICU stay and printed standardised material about ICU discharge, ward visits, stay in the ward and the appointment at 3 months. Additionally, phone numbers of the ICU ward visit service and the researcher were included, with an invitation to make contact when needed during and after the ward stay.

II. *Ward visits*. The purpose of ward visits was to promote recovery and prevent ICU readmission. ICU nurses, with a minimum of 2 years of ICU work experience, visited patients staying ≥ 72 h in the ICU after discharge, using an observation scheme at each ward visit [52–54]. All the nurses had a BSc degree in nursing, in addition to a minimum of 2 years of ICU experience. The visits began on the ICU discharge day or the day after, with a minimum of two visits per patient on two consecutive days and availability 24/7 h. Ward nurses could call the ICU for advice and talk directly to ICU nurses if needed. The number of patients' visits each time was determined by the ICU nurse and ward nurses and requests of the patients or the patients' closest relatives.

The surveillance provided in the ward visits consisted of clinical and proactive assessment of the patients' physical and psychological condition, conducted in collaboration with ward staff. The surveillance also included support to the ward staff, which consisted of formal and informal conversations, guidance and recommendations. General, compassionate support to patients' relatives was provided if the relatives were present. Consultations with other health professionals regarding the patients' condition were arranged as needed. At ward discharge, the researcher gave information to each patient about what to expect regarding recovery after critical illness, and she made the 3-month appointment. The researcher informed the patients that they would be contacted 2 weeks before the appointment and were told that their closest relative was welcome to accompany the patient to the appointment.

III. *Contact during the first week after discharge from the ward to home*. The purpose of the contact was to facilitate patients' recovery. The researcher phoned the patients the first week after discharge from the general ward to home and conducted a semi-structured interview focusing on patients' concerns regarding their health, especially in relation to mobilisation, nutrition and sleep. In addition, relevant information regarding each patient's recovery was provided.

IV. *Appointment 3 months after discharge from the ICU*. The purpose of the appointment was to assess current physical and psychological health status of patients and to support their recovery. The appointment was semi-structured, lasting a maximum of 1 h, and was conducted by the researcher. Before the appointment, the patient answered a questionnaire on current health status (SF-36v2), anxiety and

depression (HADS) and PTSD (IES-R). The patient also wrote about disturbing memories and answered questions about psychological reactions related to that memory. It was not obligatory for the patient to answer these questions. Discussion and information on recovery after critical illness were offered during the appointment, for example, the information that recovery can take a long time. Typical symptoms after critical illness such as tiredness, lack of endurance and muscle strength and the normality of not being prepared to work full time were explained as well. If the patients had problems with tiredness or endurance, they were encouraged to contact their physician and get a prescription for physical therapy. If they had symptoms of PTSD, they were encouraged to contact a psychologist of their own choice, which was only possible at their own expense. At the end of the appointment, the patient and the closest relative were invited to visit the ICU. An open invitation was given to further contacts with the researcher after the appointment.

13.1.3 Implementation of the Nurse-Led Follow-Up Intervention

The implementation of the intervention included two interconnected factors. The first was to provide information on the research to the ward nursing unit managers and chief ward physicians in the hospital and the ICU at the intervention site. Second, there was a 1-h interactive session directed by the doctoral student, with an introduction, instructions and discussion with ICU nurses, who were to provide the intervention, about the structure, content and delivery of the ward visits and the consequences of critical illness on patients' recovery. An observation scheme was presented to the ICU nurses for documentation of the ward visits. There were a total of 40 ICU nurses who attended the sessions, which were held six times during the research period. Patients received ward visits with the mean of three visits per patient and an average two ICU nurses visiting each patient. Thirty nurses provided a total of 224 ward visits with the mean time of 17 min per visit. Respiratory status was the most frequently documented assessment component.

The control group received care at another ICU within the hospital. In that ICU, patients who were considered in need of continuing surveillance received ward visits from ICU clinical nurse specialists, regardless of their length of ICU stay. Some of the patients and/or relatives received a booklet with printed, standardised information about the discharge from the ICU and the ward stay. After discharge from the general ward, the patients received no further ICU follow-up.

13.2 Effectiveness of the Nurse-Led Follow-Up Intervention: The Quasi-Experiment

The measurement of the effectiveness of the nurse-led follow-up intervention was divided into two outcome studies, including the same patients' groups, using the quasi-experimental design: Study I, Recovery of health status [49], followed by Study II, Psychological recovery [55]. Eligible patients were ≥ 18 years of age with

ICU stay of ≥ 72 h. Excluded patients were those who were non-native speakers, unlikely to survive the general ward stay, unlikely to be alert or mentally able to communicate after the ICU discharge, had dementia or were active drug or alcohol users. The reason for excluding active drug or alcohol users was the risk of attrition. A total of 168 patients were recruited: 83 in the experimental group and 85 in the control group. Twenty patients were lost to follow-up. Therefore, in study I, 73 patients were included in the experimental group and 75 patients in the control group. In Study II, 68 patients were included in the experimental group and 75 patients in the control group.

At baseline, there was a difference between the groups in clinical background variables and demographics. The patients in the experimental group were younger, had less severity of illness and were more frequently employed and fewer were retired compared with the control group. The reasons for the ICU admission were medical for two thirds of the experimental group and surgical for one third and vice versa for the control group. The experimental group had a shorter general ward stay, better physical function and more bodily pain before the ICU admission than the control group.

13.2.1 Recovery of Health Status

The difference in health status (SF-36v2) between the experimental group and the control group from ward discharge until 12 months post-ICU was not significant. The experimental group had significantly more bodily pain compared with the control group over the 12 months, but there was no difference between the groups over time in other items of health status. When comparison within each group was conducted, significant decrease in majority of the health status items was found from before the ICU admission to ward discharge and at 3, 6 and 12 months. A gender difference was found in the experimental group, where females had significantly worse health status than males in all of the SF-36v2 domains at several time points from before the ICU until 12 months post-ICU. The difference of gender in the control group was on physical function, where females had worse health status compared with males at all time points, and in physical role and general health at 12 months.

13.2.2 Psychological Recovery

The experimental group had significantly more symptoms of PTSD and anxiety compared with the control group over the 12 months. There was no difference between the groups over time in depression. Symptoms of PTSD increased from 3 months to 6 and 12 months in both groups. Between 9 and 15% of patients, in both groups, had severe symptoms of PTSD at 3, 6 and 12 months. Five patients, three from the experimental group and two from the control group, had severe PTSD symptoms at all three time points.

Patients with symptoms of PTSD at 3 months in both groups had more disturbing memories and psychological reactions related to the experience of the memories during their ICU stay compared to patients without symptoms of PTSD at 3 months. A prediction model showed that patients who were younger, were on disability benefits, experienced helplessness and had disturbing memories and intense fear during the intensive care stay would have symptoms of PTSD 3 months after ICU discharge.

13.3 Exploration of the Findings

The findings bring forth several important issues from which to learn. The first one regards methodology. Then, there are issues regarding findings that stand out and deserve particular attention. Finally, there are topics regarding the structure, content and the delivery of the intervention.

The strengths of the research were that the intervention was built on an extensive analysis and synthesis of the literature and reported according to the CReDECI 2 [56]. Severely ill patients with a heterogeneity of diseases were incorporated especially those who stayed longer than 3 days in ICU. Mixed effect model was used to analyse data of the long duration of follow-up, i.e. from ICU discharge until 3 months post-ICU. *The limitations of the research* were that the patients' groups were different at baseline. The experimental group was younger and had less severe health condition at ICU admission. On the ICU admission, the experimental group had significantly better physical functioning but more bodily pain than the control group. There were different medical reasons between the groups for the ICU admission. Finally, the control group stayed significant longer at the general wards.

The highlights of the findings were that there were no treatment effects of the *intervention*; the intervention did not significantly improve the health status of patients over time, compared with standard care. The health status of the patients within both groups became worse over the 1 year after the ICU discharge compared to before the ICU admission. Nor did the intervention significantly improve the psychological health of patients, i.e. symptoms of post-traumatic stress disorder, anxiety and depression. Females in the experimental group reported more bodily pain over time than females in the control group and men in both groups. These women were admitted to the ICU because of respiratory failure compared with women in the control group who were admitted for cardiothoracic surgery, cardiovascular reasons and respiratory failure.

The health status of the participating patients was similar to a cohort of ICU patients reported by Cuthbertson et al. [57], indicating the profound and long-term impact of critical illness and ICU stay on patients' health status in the first year after discharge from the ICU. The physical functioning of the experimental group was significantly worse at 12 months compared to before the ICU stay which was different in the control group where there was no difference. Seeking explanations for this, it is possible that the severity of the critical illness and the consequences of a shorter ward stay of the experimental group will have had such profound influences

that despite receiving the structured nurse-led follow-up, it was not possible for the patients to reach the pre-ICU status. Patients in the experimental group were younger and had less comorbidities, making them more likely to have expected a full recovery, compared with patients in the control group who were older and may have had more modest expectations [58, 59]. The mental health of patients in both groups was stable over time. In both groups, anxiety and depression were within normal limits at all time points [60]. Conversely, more than half of the patients in both groups had indications of partial or full PTSD at 3 months post-ICU. PTSD increased from 3 months to 6 and 12 months. Similar results have been shown in some cohort studies [61, 62]. The PTSD symptoms can be complex over the first year after ICU, reflected in persistent symptoms, delayed onset, recovering or even no symptoms of PTSD [31, 62].

The heterogeneity of the ICU patient population calls for a more individual approach to the nurse-led follow-up. Having data on patients' health status before the ICU admission is important for supporting patients' recovery after the ICU and setting reasonable aims in the recovery post-ICU. Patients' disturbing memories of the ICU stay and its effect on psychological health suggest the ICU nurse-led follow-up intervention should commence during patients' ICU stay. The aim is to avert the potential development of symptoms of PTSD and consequently promote long-term psychological recovery. ICU nurses could more systematically work on ameliorating the challenges of the negative experience of the ICU stay as a part of the regular ICU nursing care, which is in any case comprehensive, and to an extent, quite individualised.

13.4 The Nurse-Managed ICU Follow-Up Practice: The Next Steps

The results of this nurse-managed ICU follow-up care required a re-evaluation of the ICU intervention in its entirety. The re-evaluation included reflections of the structure and the content of the intervention. Working within the clinical reality and resources of Landspítali, the National University Hospital, was challenging, particularly determining which patients should receive the service. The criterion decided on was that patients staying ≥ 72 h in the ICU would receive ward visits. When the patients were discharged from the general ward to home, they would be offered an ICU follow-up appointment within 3 months from the ICU discharge.

The provision of a booklet with written and verbal information to patients and/or their closest relatives at ICU discharge was the first component of the structured nurse-led follow-up intervention. Instead of the booklet, we decided to hand over the *Intensive Care guide for patients and relatives* in Icelandic translation from the British support group ICU steps [63]. All patients and/or their closest relative receive the guide at the ICU discharge along with the information of the ICU follow-up service and its sustained availability. Patients and/or relatives who do not fulfil the inclusion criteria have therefore an opportunity to reach out to the ICU follow-up service if needed.

The significance of ward visits remains central—consisting of ICU nurses' proactive, clinical approach of surveillance because of the imminent risk of deterioration of the patients' condition due to consequences of critical illness at this particular point in time [52]. The work of the 30 ICU nurses who provided the ward visits, which were an addition to their daily workload, called for a different form of care delivery, a way that might be likely to lead to greater effectiveness of the ward visits. The decision was made to designate the ICU nurse-led follow-up to an ICU clinical specialist, with expert knowledge of ICU patients' recovery. She now has time dedicated to the care, which she provides during weekdays from 08:00 to 16:00 h. She supervises the service and there is an ICU physician readily available for referral. The ICU clinical nurse specialist also consults on patients' clinical condition with the ICU nurses who nursed the patient in ICU, when needed. Patients needing visits during evenings, nights and weekends receive them from the head of the shift ICU nurse. The content of the ward visits continues to be proactive, clinical surveillance of patients. Crucial to the ICU nurse-led follow-up is to embrace the complexity of the patients' medical condition and their general health status; equally important are the consequences of ICU stay and the pre-ICU health status. The complexity is augmented by the constituents of the ICU stay, e.g. the reason of the ICU admission, the severity of the ICU illness, the ICU treatment received and the ICU length of stay.

The complexity of patients' health condition calls for an interdisciplinary collaboration. In the study, the patients' physical health at ward discharge was low compared to before the ICU stay. In a response, an intervention from an ICU physiotherapist specialist is now presented to those patients who have stayed ≥ 72 h in the ICU, at ICU discharge and repeated at general ward discharge to home. On both occasions, the patients' functional mobility and independence in activity of daily living (ADL) is assessed. At patients' ward discharge to home, individually adjusted instructions for physical exercises are offered for the homestay, along with the information of if/when to attend physiotherapy after the discharge. For the psychological health, an ICU clinical nurse specialist screens the patients for symptoms of post-traumatic stress disorder at the end of the general ward stay as a reference for the 2–3 months appointment. The ICU clinical nurse specialist gives information of the ICU follow-up service to patients and relatives and encourages them to make a contact during the first week at home if any questions arise or the condition of the patient is in question.

The last component of the ICU follow-up service is the appointment 2–3 months after the ICU discharge preferably attended by both patient and family members. Screening patients for symptoms of post-traumatic stress disorder and providing psychological treatment is important before symptoms may become chronic. Therefore, a psychologist was an essential addition to the interdisciplinary ICU follow-up team. At the 3 months appointment, the ICU physiotherapist specialist re-evaluates patients' function and ADL independence and the individually adjusted instructions for the physical exercise. Patients are given the option of receiving information about the ICU stay from the ICU clinical nurse specialist with the aim of putting events in a context. Then they discuss the recovery with the patients and

the relatives, and information is offered. If the patients have additional medical problems, they are advised to seek service at their primary healthcare centre. With problems specifically related to the time in the ICU, for example a hoarse voice after the endotracheal tube, the patients are assisted to reaching out to an ear-nose-throat specialist at the hospital. The appointment ends with an invitation to visit the ICU. When formulating the aims of patients' recovery, an engaging approach is to ask the patients what is important for them in their recovery. Thus, the emphasis is placed on approaching each patient with the realisation of the complexity of the numerous consequences that critical illness has on physical and psychological health. Simultaneously, ensuring a reference point of the health status before the ICU admission is vital for setting realistic and individualised goals after critical illness and ICU discharge [6].

13.5 Conclusion

Considering the multifaceted, comprehensive and long-lasting influences of becoming critically ill and receiving ICU treatment, there remains a need to maximise the quality of hospital care of ICU patients and to make allowance for evidence-based post-hospital care. The development of nurse-managed ICU follow-up started in the UK and Australia some decades ago. We joined the voyage about 10 years ago and have come far away in realising what our heterogeneous group of patients, having a seriously compromised health status, might need post discharge from our ICU. What we can contribute to helping patients gain the best possible health has become more distinct. The significance of recognising the multifariousness of the healthcare organisations within which we work and how that influences patient care has become more apparent to us and has called for a closer interdisciplinary collaboration. To maximise interdisciplinary collaboration, complexity leadership is appealing. We aspire to the nature of such leadership as non-authoritarian, transformational, self-reflective and action oriented [64]. This all brings us to consider the next steps in researching the nurse-managed ICU follow-up practice.

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Part IV

Nursing Leadership in Norway

Marit Kirkevold



Historical Development and the State of Nursing Science in Norway

14

Marit Kirkevold

14.1 Introduction

This chapter will start with a brief overview of the early development of nursing as a profession and will locate this development within the Norwegian health and societal contexts. This overview will be followed by a description of the development of higher education for nurses both outside and within academic institutions. A review of the development of nursing research will follow, and the chapter will end with a discussion of future prospects.

14.2 The Early Beginnings of the Nursing Profession

The development of nursing as a profession came to the fore in parallel with many other essential changes occurring in the newly independent country of Norway, which gained its independence from Denmark in 1814 but then entered into a union with Sweden, which lasted until 1905. The building and growth of the new country spurred urgent political and social initiatives seen as essential to ensure the success of the new country. Also, in 1814, the first medical faculty was established at the University of Oslo in order to provide the independent country with its own physicians [1]. This was followed in 1826 with the establishment of the National Hospital [1, 2], which has been the leading teaching and research hospital in medicine—and, later, in clinical nursing—since its inauguration (see Chap. 15). (For an overview of the developments, see Fig. 14.1)

The provision of health-care services gained prominence during these early formative years as both hospitals and home care services for the sick and poor were

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195

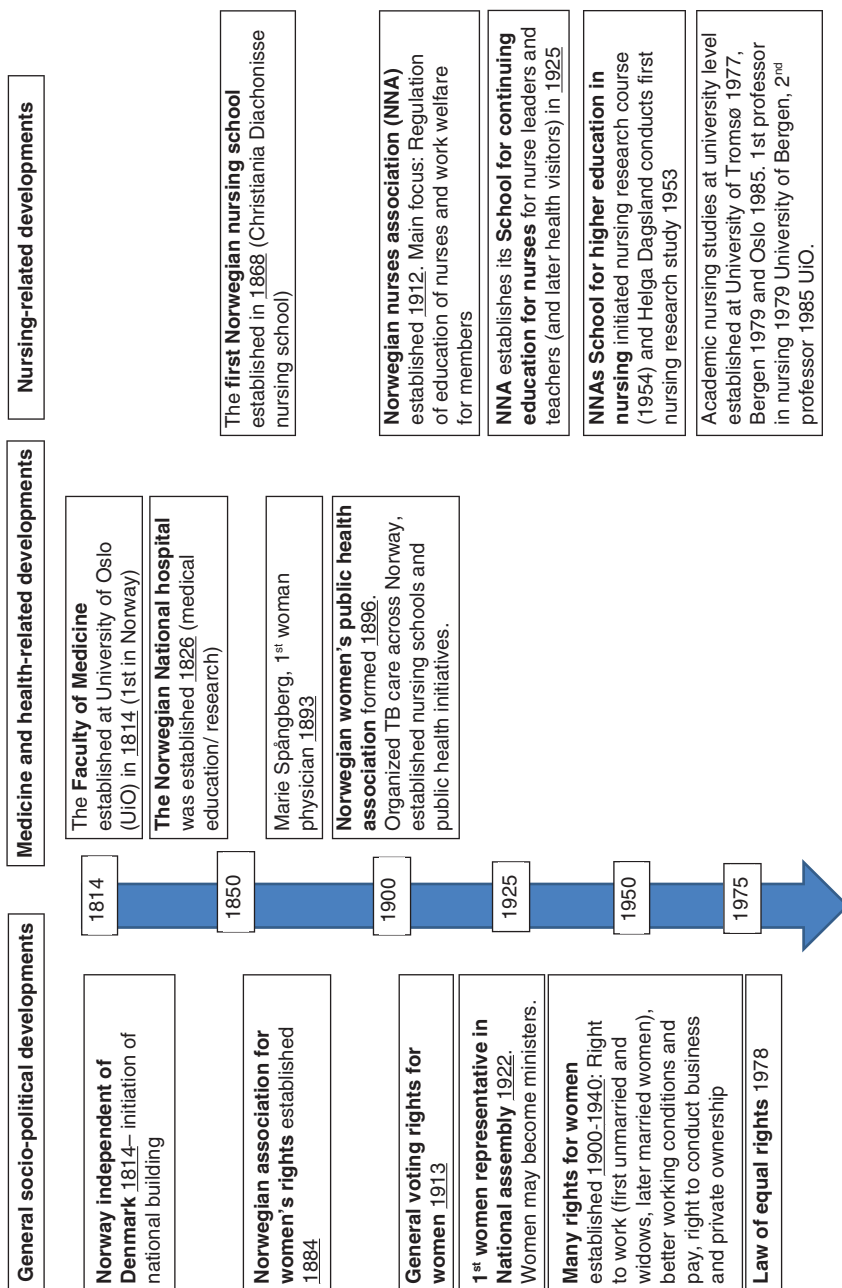


Fig. 14.1 Overview of historical development 1814–1975

developing. Tuberculosis was a pervasive and feared disease affecting almost every family across the country, and the health-care system was almost non-existent [1]. The pressing need for trained nurses grew, and in 1868, the first nursing school was established in Christiania (later renamed Oslo), inspired by the principles and organization of the German Kaiserswerth training for nurses [3]. This school was soon followed by a great number of other nursing schools established by voluntary organizations and hospitals [4, 5].

Not long after the first nursing school was established, a significant event in the development of nursing occurred. The Women's Association for Public Health (N.K.S.) was established in 1896 [1, 6]. This association grew quickly and became an important force for development of women's public health initiatives across the country. It gave women an opportunity to organize and take part in the social construction of the independent country. Its founders were women close to the political establishment in Norway, and it also had close ties to the newly established Norwegian Association for Women's Rights, founded in 1884 [7, 8]. These ties provided N.K.S. with political clout, and it became an important vehicle for women's political influence [1, 6]. One of its first goals was to initiate a systematic battle against tuberculosis (TB). Through the work of hundreds of women in local chapters across Norway, the women secured finances to build and run sanatoriums for people with TB [1, 6]. Another closely related social issue at the time, which the association set out to address, was the need for qualified nurses; consequently, N.K.S. established at least two nursing schools—one in 1898 and one in 1919 [4, 6].

The N.K.S. was not the only association to be engaged in nursing education and care. The Norwegian Red Cross and the Association Against Tuberculosis (later renamed the National Association for Public Health) also launched similar initiatives [5]. In contrast to the Women's Association for Public Health, both Red Cross and the Association Against Tuberculosis were run by men. Red Cross supported education of nurses locally and abroad from the early 1890s and started its own school in 1919 [5]. From a feminist perspective, it is interesting to note that the Association Against Tuberculosis was launched about 25 years after the N.K.S. by a male physician even though N.K.S. had decided, as its main aim, to fight tuberculosis. This overlap might reflect the harsh disagreements at the time regarding whether nurses needed a 3-year education aligned with Florence Nightingale's ideals or not [4]. The N.K.S. provided early support of this ideal, for which the Norwegian Nurses' Association (NNA) fought from its inception [4], but the NAA experienced fierce opposition from the medical profession [4, 5]. In these early years, there were strong links between the women's liberation movement, the fight for education and professional vocations for women and the education and development of the nursing profession in Norway [4, 5]. The NNA was established in 1912, the year before women got full voting rights in Norway [4, 5]. This was a time of increasing opportunities for Norwegian women and led to cries for the rights of women to have paid work, complete higher education, have an independent financial status (whether unmarried or married) and establish and conduct business. These were not self-evident rights for women at the time, and they were gained gradually through political, social and cultural battles [7, 8]. The NNA was founded

within this context, and its founders—including the first president, Bergljot Larsson—were clearly influenced by the women’s liberation movement [4, 5]. The NNA’s main goal was to ensure the quality of the nurses providing care for the sick and poor, and it saw education as an essential tool to ensure this. From the start, they fought to ensure that Norwegian nurses would be educated based on the principles laid down by Florence Nightingale, who had established the first formal education for nurses in London in 1860. A 3-year integrated education programme required for authorization as a registered nurse was the NNA’s first and foremost goal for which they fought until the requirement finally was enacted by the government in 1948 [4]. By that time, most nursing schools already offered 3-year programmes as membership in NNA required such programmes based on the Florence Nightingale-inspired programme developed by NNA in 1919 [4, 5]. Nevertheless, the formal acceptance, by law, of the Norwegian government was an important achievement for the NNA and the nursing profession.

14.3 Higher Education for Nurses

Higher education for nurses was initiated in 1925, when the NNA established its own school for further education in nursing, initially called ‘The Continuing School for Nurses’. At the start, the school provided brief courses in nursing leadership, pedagogy for nurse supervisors and teachers and social care for nurses working in the community [4]. Over time, however, the school developed longer programmes in nursing leadership and nursing education. In 1965, the school was renamed the Norwegian School of Advanced Education in Nursing. The school qualified the nursing leaders within nursing services and education until the school was transferred to the University of Oslo in 1985 as the Institute for Nursing Science.

Many of the school’s educators sought higher education in nursing abroad, particularly in the United States and in Great Britain [4, 5, 9]; therefore, the educational programmes were influenced by the development of nursing internationally and gradually developed into academic education and leadership within nursing science [9]. The unique position of the NNA school is reflected by the central position it had in ensuring university education in nursing in Norway. One of its prominent educators and head of school between 1979 and 1985, Kjellaug Lerheim, was instrumental in developing the underlying documents for the political processes that eventually led to decisions to establish higher education for nurses at the University of Tromsø in 1977, at the University of Bergen in 1979 and finally at the University of Oslo in 1985. This political work, carried out by NNA, lasted for many years. Actually, the first rudimentary idea about an advanced university education in nursing was launched in the early 1920s and Nordic collaboration was discussed among the leaders of the Northern Nurses Federation for some years. However, the idea was relinquished in favour of national plans for higher education for nurses [5]. It was not until the 1960s and 1970s that this work emerged on the national political scene in Norway [4, 5]. The idea gained no immediate support from the authorities or the leadership at the universities or the medical faculties. Three different panels or work

groups representing NNA and the School of Advanced Education for Nurses, in which Kjellaug Lerheim was a key member, presented arguments in support of university education for nurses before the idea took hold [4, 9].

14.4 Academic Nursing Institutions at the Traditional Universities

The second major phase in the development of nursing science in Norway was initiated by the establishment of a nursing education programme at the University of Tromsø in 1977. This was followed by the establishment of the Institute of Nursing Science at the University of Bergen in 1979. For the first time, higher nursing education was acknowledged as the responsibility of academic institutions in Norway [4, 9]. Six years later, in 1985, the Institute of Nursing Science was established at the University of Oslo. The three university departments for nursing education and research had the same overarching goal: to provide academic education for nurses and contribute to scientific knowledge development for nursing practice. The departments' profiles, however, developed differently—distinctions which will be highlighted in the following section.

14.4.1 Nursing Education and Research at the University of Tromsø

The first programme of higher education for nurses was established at the University of Tromsø in 1977. This was a 2-year nurse educator programme developed in response to an increasing need for qualified nurse educators in the basic programmes of nursing in Northern Norway [10]. The basic nursing programmes in the Northern part of Norway had very few qualified nurse educators, so the nurse education programme at the University of Tromsø addressed a significant societal need; it continued for 9 years, educating a total of 103 nurse educators. The programme had the same content as the NNA school (e.g. nursing, pedagogy, physiology, philosophy) but was longer (2 years). This was an important contribution to improve the qualifications of educators both in the Northern parts of Norway and beyond, but the programme did not lead to an academic degree [10].

During the same period, the schools of nursing were converted into schools of higher education, and were subsequently integrated into the university college system in Norway together with other professional education programmes (e.g. physiotherapy, occupational therapy, engineering) [11]. This integration raised the qualification requirements for the nurse educators; higher academic degrees were now required [11, 12]. In 1989, following several years of discussions and planning, the University of Tromsø responded to this challenge by offering a 3.5-year higher degree programme for nurses (somewhat equivalent to a master's degree but more extensive). This programme was available until 1992, when a new interdisciplinary programme was developed to offer similar academic training to teachers and

educators in the other health professions (e.g. physiotherapy, occupational therapy). Still, nurses could study their own discipline in-depth, as the programme offered some common introductory courses and two lines of in-depth study: one in nursing and one in allied health [10].

In 2001, a new educational reform was initiated in Norway, referred to as ‘the quality reform’ [13], in which all academic programmes in Norway, across all disciplines (except the traditional professionals of medicine, theology and law), would have the same basic structure: an entry 3-year bachelor’s degree, a 2-year higher master’s degree (not necessarily monodisciplinary) and a 3-year doctoral degree [13]. As a consequence, the programme at the University of Tromsø was reorganized into a 2-year interdisciplinary programme in health science in 2003. At this point, nursing science as a separate line of study was discontinued; however, the programme still offered both multidisciplinary and monodisciplinary courses, and the different health professions generally studied questions and issues generated within their own disciplines and professions, both during coursework and in their master’s theses [10]. At the same time, common challenges for the different health professions were highlighted. This programme is still operating today.

In terms of the academic and research profile of the programme, emphasis was put on issues related to different forms of knowledge and the relationship between practical and scientific forms of knowledge in practice professions like nursing and physiotherapy. The social mandate, context, and health policy regulations of the professions were also studied. Emphasis was placed on phenomena such as body, illness and functioning as lived experience phenomena. Because of the programme’s social science inspirations, qualitative studies have been prominent in its research [10].

The general research profile of the Department of Health Science reflects the profile of the master’s programme. The researchers and educators generally conduct studies from a social science perspective. They have contributed significantly in areas such as sociology and philosophy of knowledge and the history of the nursing profession—particularly from women’s and Northern perspectives [14–16]. Furthermore, they have contributed to phenomenological studies in nursing and health, particularly those related to living with dementia but also more generally (e.g. impact of different diseases and other disabilities or ailments) [17, 18]. Since 2008, when the University of Tromsø was granted responsibility for one of five Centres for Care Research across Norway, research has increasingly focused on different aspects of care services, particularly in the community.

14.4.2 Nursing Education and Research at the University of Bergen

The Department of Nursing Science was established at the University of Bergen in 1979. The establishment of the Department of Nursing Science and the initiation of postgraduate education and research were the result of a lengthy period of political debate and reluctance on the part of the University of Bergen to accept nursing into

its institution [9, 12, 19]. Although the primary reason for establishing the programme was academic education for nurses to meet the societal need, especially within nursing education, it also furthered an explicit goal to establish a research unit with the responsibility for promoting nursing research [9, 12, 19]. The need for new knowledge to develop the health-care and nursing services was a consequence of the increased focus on patient rights to receive effective care to promote health outcomes [20, 21]. The University of Bergen nursing department was an early proponent for research on patient reported outcomes such as quality of life.

The programme at the University of Bergen differed from the one at the University of Tromsø and, later, the University of Oslo. Whereas the other two universities conceptualized their programmes as advanced professional education at the academic level (similar to medical education) and, thus, considered the basic nursing education as entry level to their advanced programmes, the programme at the University of Bergen was built on a more classical, theoretical discipline model [19]. Consequently, the University of Bergen programme was longer, requiring the students to start their study at the bachelor level with theoretical and research courses within nursing science before moving on to higher academic levels. This study also required the students to take courses in other disciplines to broaden their academic training. The profile of this programme was, from the outset, less aligned with nursing as a practical profession. This was also reflected in the content, which focused more on issues related to the patient and less on professional issues within the field of nursing [19].

Very early on, quality of life became a central topic both in the educational programme at the University of Bergen and in the research carried out there. The latter was supported by a grant from the Norwegian Research Council in 1992, aimed at building a cadre of nurse researchers with expertise in quality of life research which could lead the knowledge development in this area. This research programme is an early example of patient outcomes research, starting with descriptive studies and instrument development but later progressing into patient outcome studies related to different treatments. This 5-year grant was highly important for the young research department at the University of Bergen. Through this funding, a number of young, well-qualified nurses received their research training and were provided a research environment which supported their doctoral training. Some of them stayed on to build this area of research, which grew over time to become a strong research group. Over the years, many nurses graduated and took their research qualifications and interest with them to other academic institutions and the hospital sector [22–24].

The quality of life research at the University of Bergen was quantitative in nature and built on traditional scientific values and ideas. During the 1980s, there was increasing criticism of this tradition in the social sciences in general and within nursing specifically. One of the prominent critics of the traditional scientific ideals was Kari Martinsen, a nurse historian and a philosopher [25]. Together with sociology professor Kari Wærness and nurse colleague Herdis Alvsvåg [26], Martinsen launched a heavy critique of the ‘academization’ of nursing and the American-inspired development of nursing science, particularly as promoted by the School of Advanced Studies for Nurses. They also criticized the application of traditional

scientific ideals and quantitative research methods in nursing, which—they argued—did not fit with the nature of nursing. Martinsen proposed a different idea, arguing that nursing is fundamentally a practical discipline with caring at its essence [27]. She introduced phenomenology as the philosophical foundation for generating relevant knowledge for nursing and argued that clinical skills and practical wisdom lay at the heart of nursing [28]. This critique led to substantial unrest within the nursing community, and two traditions emerged within nursing education and research: a quantitative, traditional approach and a qualitative, phenomenologically inspired approach. At the University of Bergen, part of the collegium supported Kari Martinsen's critique, and this led to a line of research—separate from the quality of life research group—that focused on clinically oriented phenomenological research. The two groups gradually moved closer as a new generation of researchers was appointed; yet, even today, these two lines of research coexist side by side.

14.4.3 Nursing Education and Research at the University of Oslo

The first academic programme in nursing at the University of Oslo was, as described earlier, established in 1985 [4, 9]. It had the same structure as the programme at the University of Tromsø (i.e. two parts of 1.5 years each, building on the basic training in nursing). The basic idea was that academic education should further the professional identities and functioning of the graduates and prepare them to contribute to the development of nursing as a profession and discipline [9]. In contrast to the University of Bergen programme, it was a professionally oriented, rather than a classic academic, programme [4]. After completing the University of Oslo programme, the students were granted the degree 'Candidate in Nursing Science' (parallel to 'Candidate in Medicine' for medical students). A total of 40 nurses entered the programme each year. The students could major in either nursing education or in nursing leadership. Developed to meet the academic standards of the university, this programme continued the tradition established at the Norwegian School of Advanced Education in Nursing, previously owned by the NNA. The school, with all its faculty members, was transferred into the university and converted into the Institute for Nursing Science, but not without reluctance from the university. The conversion was supported by its rector, Inge Lønning, who had been the leader of the board of the Norwegian School of Advanced Education in Nursing for a number of years [4].

During the next 30 years, the Institute of Nursing Science went through a number of changes to meet changing societal needs and reflect new research agendas and knowledge generated through research. There were also organizational changes within the university and a general restructuring of the education system in Norway as a consequence of the Bologna process. In 1993, the Institute for Nursing Science, which had been an independent institute directly under the university leadership, was transferred into the Faculty of Medicine following several years of discussions about whether the institute should be located at the Faculty of Social Sciences or the Faculty of Medicine [4]. The faculty members at the institute had different opinions

on the matter, but in the end, location at the Faculty of Medicine was chosen, partly because the Faculty of Social Sciences did not favour including the institute. Over time, this localization led to changes in the profile of the institute with regard to the master's programme, doctoral training of nurses (initiated in 1993) and the research conducted. In the master's programme, a new line of studies was introduced in addition to nursing education and leadership, focusing on patient experiences and needs and on clinical nursing practice [28]. Gradually, the emphasis on clinical research knowledge increased, whereas emphasis on nursing education and leadership decreased [29]. In particular, research on patient experiences and problems and on ways to improve the nursing services and health outcomes, both in hospitals and in community care, became a major focus [29]. The same change in emphasis took place in the research conducted by doctoral students and the faculty members. The Institute of Nursing Science traditionally had great emphasis on professional nursing practice, particularly leadership and education, but these areas were quietly being neglected as the more clinically oriented research and master's education grew in importance [29]. The critique by the faculty leadership—that the nursing institute was primarily studying nurses instead of focusing on patients' needs and outcomes—had a clear impact on the priorities set for the institute. The faculty placement, therefore, had a major impact on the institute over time. The change also reflected an increasing emphasis among the Norwegian public and politicians on the importance of providing services that reflected the patients' needs and preferences. Patient rights gained prominence over time, and the cry for person-centred care and effective health-care services encouraged patient-centred nursing research and focus on evidence-based and effective nursing services [20, 21]. In hindsight, however, lack of attention to nursing education and nursing leadership in the master's and doctoral programmes and in research may have weakened the nursing profession and its ability to ensure high-quality nursing care, as these areas have failed to be supported by relevant research over many years (see also the chapter by Ida Torunn Bjørk). Nevertheless, a stronger clinical focus in nursing research was an important and much-needed development to meet the increasing requirements of effective and high-quality health-care services. The nursing profession needed to take responsibility for conducting clinically oriented research to develop effective nursing services that promote patient functioning and well-being and improve health outcomes.

The research profile at the Institute of Nursing Science at the University of Oslo has been quite broad, reflecting its historical traditions as well as the reorientation towards more clinically focused research [29]. Over time, the following focus areas have emerged: (a) clinically oriented research focusing on patient experiences and needs and nursing interventions to address these and improve both objective and subjective health outcomes, (b) system-oriented research focusing on collaboration and interaction between service levels and among and between nurses and health professionals and tools to facilitate the collaboration (e.g. e-health) and (c) competence development of nursing staff and new practice models to facilitate high-quality nursing care [29–35]. This development has been supported by close collaboration with nursing services both in hospitals and in the community. The institute has over

time formalized its relationship with the clinical sector through a number of combined positions, where faculty work part of the time within the institute and a major part of the time in clinical settings, and through extensive research collaboration.

14.5 Academic Nursing in the University College System

In 1981, the schools of nursing were converted into schools of higher education; previously, they had been diploma schools, mostly run by hospitals or voluntary organizations such as Red Cross and the Women's Association for Public Health [4, 5]. That year, the responsibility for nursing education was transferred from the Ministry of Social Services, responsible for the hospital care services, to the Ministry of Education [4, 12]. Only a few years later, in 1986, all the schools of nursing were integrated into regional university colleges [4, 12]. Norway originally had almost 30 schools of nursing across the country, many located in rural areas to supply those regions with much-needed nursing staff [4, 12]. When merged with the regional university colleges, the number of basic education programmes decreased somewhat; however, the university college system, which had existed since the late 1960s, had a decentralized educational structure aimed at meeting the local needs for higher education within various fields (e.g. health, welfare, education, engineering and technology, production, economy) [4, 12].

This new status as institutions of higher education required that the nurse educators had to meet formal academic qualifications for the master's degree, which was rare at the time [4, 12]. This change initiated a strong wave of academic education among nurse teachers to meet the new requirements and, consequently, many students entering the programmes of academic nursing at the universities of Oslo, Bergen and Tromsø. Within a rather short period of time, most nurse teachers met the requirements. In 1995, a new law for higher education was passed, and, for the first time, both the universities and the university colleges were regulated by the same law. In principle, they had the same requirements with regard to teaching and research as well as qualifications of their staff, although there was still recognition of the differences in profiles and social mandates between the classical universities and the university colleges [4]. Whereas the former had the major responsibility for basic research and education within the theoretical disciplines and classic professions, the university colleges had applied research and professional education as their main responsibilities [4, 12].

The new law followed another consolidation process in the university college system, put into effect in 1994, in which a number of university colleges, some small and specialized, were merged into larger, assumingly more robust, educational institutions. For the schools of nursing, the new organizational context led to substantial changes. As a consequence of becoming part of the now national university college system, new requirements regarding qualifications as teachers as well as expectations with regard to conducting research were imposed on the nursing faculty [4, 9, 12]. The first major task was a new wave of education for their faculty, this time to meet the requirement of doctoral education. Doctoral programmes for nurses were

established at the University of Bergen in 1987, at the University of Oslo in 1993 and at the University of Tromsø in 2004. From the mid-1990s, these programmes saw an increasing number of doctoral students from the university colleges as nurse teachers sought to meet the new requirements. During the next decade, they represented most doctoral students in nursing, in part because the national government supported this development by granting a large number of doctoral fellowships to the university colleges across professions and disciplines. Although not an absolute requirement for all faculty members, accreditation of the institutions and their programmes required that the institutions had sufficient numbers of staff with doctoral degrees. Furthermore, professor-level qualifications were required by faculty who were responsible for the quality of the educational programmes at the master's level, which the new institutions were now allowed to offer upon approval from the Norwegian Agency for Quality Assurance in Education (NOKUT) [4, 12].

Beginning in the 1980s and 1990s, the university colleges gradually developed from being primarily educational institutions to becoming education and research institutions [4, 12]. Some of the university colleges were also granted the right to award doctoral degrees within selected areas where they had developed strong expertise. Subsequently, a few of the university colleges became strong research institutions in selected fields and were granted university status.

After their integration into this system, the schools of nursing, which in many cases were large both in terms of students and faculty, contributed significantly to the development of the new university colleges. Some of these schools were very ambitious and had started educating some of their staff at the doctoral level even before being integrated into the university colleges (e.g. Ullevål School of Nursing and Aker School of Nursing in Oslo, who had visionary leaders in the 1980s and 1990s driving these developments). At first, the research conducted within these departments was part of the master's and doctoral education of the staff. Gradually, however, lines of research developed, first within the larger schools and departments with well-qualified staff and later in the smaller departments.

In 2011, the Norwegian Research Council initiated an external evaluation of all public health and health services research conducted in Norway [36]. An external panel of international experts from different disciplines reviewed the research conducted across Norway and found a wide range in terms of quality from excellent to weak; the panel concluded that the organization of the research was not optimal. The experts found too many small and fragmented research groups without a critical mass of researchers, too much overlap in terms of research topics across institutions and not enough national and international research collaboration. They also found that nursing research, which was evaluated as part of this general evaluation, varied in quality from very good to weak. Small, fragmented research groups, lack of work division between institutions and insufficient international and interdisciplinary collaboration were pointed out as threats. The external panel, on the other hand, highlighted nursing research as a very important area of research addressing central health-care issues. The evaluation inspired both the universities and university colleges to look for ways to develop larger and stronger research groups, both generally and within nursing science.

In 2015, the Norwegian government launched yet another institutional merger—the so-called structure reform [37]—aiming to develop larger and more robust institutions for higher education and research. In 2016, the reform was put into effect, leading to a reduction in the number of universities and university colleges from 33 to 21 as many universities and university colleges were merged. Since 2016, two of the university colleges have been granted university status. As a consequence, in 2018, Norway has ten universities, most of which provide nursing education at the bachelor's level, the master's level and the doctoral level and also conduct nursing research. It is expected that this last reform will lead to larger, stronger and more multidisciplinary research groups and nursing science faculties with stronger research capacity and focus (Fig. 14.2).

14.6 Academic Development in the Specialized Health-Care Services

In the 1980s, there was a growing acknowledgement that for nursing research to be relevant and contribute to improvement in the quality of nursing care, it needed to have closer ties with the clinical practice of nursing. In the late 1980s and early 1990s, a few clinical nurses at the National Hospital in Oslo followed academic education while still keeping their clinical positions at the hospital. These nurses were committed to conducting clinical research related to their clinical fields of specialty. With the support of their leaders and supervisors, they were able to conduct research of relevance to their units [38, 39]. The Chief Nurse at the time, Vivi Myhre, established a position as nurse researcher in the latter part of the 1980s. This position was a staff position in the office of the chief nurse, whose role was to support nursing research initiatives in the different clinics at the hospital. This early initiative for developing clinical nursing research was supported by a few progressive nurse leaders and supervisors who sought to establish nursing research in their areas. These early initiatives were challenged by the lack of support—and even opposition—from the medical doctors and professors at the hospital but were also hampered by the lack of academic training of the nurses. Despite the opposition, these early developments did lead to some research projects and publications [40, 41]. More important, these early initiatives inspired other nurses to seek academic education. Many of the leaders and nurses involved in these early projects later graduated from master's programmes in nursing, and some moved on to complete their doctoral degrees.

The leaders initiating this development of clinical nursing research were inspired by at least two major factors. First, they had received their leadership training at the Norwegian School of Advanced Education in Nursing, where they had gained familiarity with nursing research [4, 5, 9]. Second, they were working in a strong academic hospital where medical research was integrated into the daily clinical work of medical physicians; therefore, research was an essential aspect of the operation of this hospital [1]. It was the initiative and vision of the nursing leadership, including both the chief nurse and the nurse supervisors, however, that facilitated

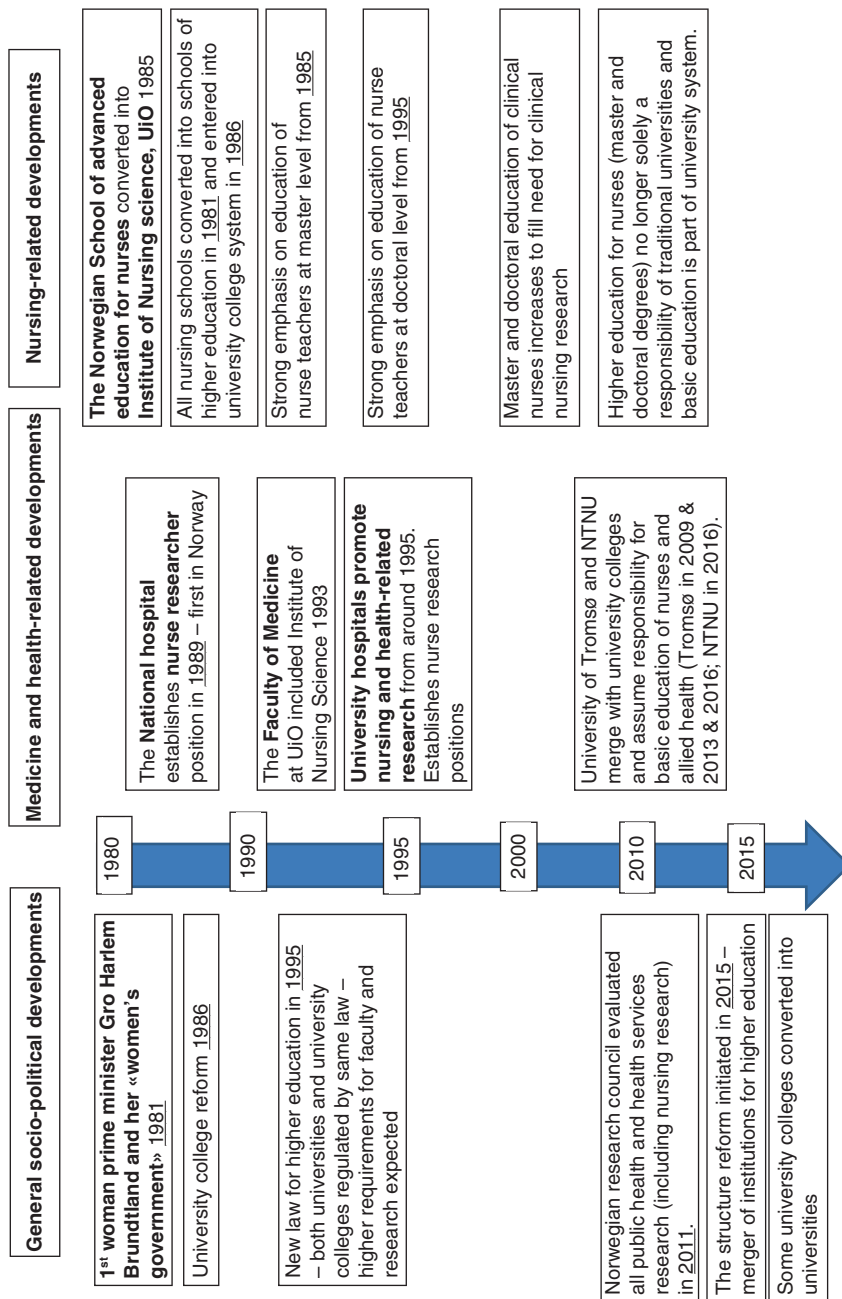


Fig. 14.2 Overview of historical development 1980–2015

these early developments in clinical nursing research. An important determining factor was that the nursing service was a separate hierarchical line with budgetary power and that financial autonomy made these developments possible [4, 12]. The close connection between the Norwegian School of Advanced Education in Nursing and the hospital leadership was also essential to the success; the faculty members provided encouragement and support in the face of the lack of support from the medical profession at large, although some physicians encouraged the idea. This early initiative subsequently led to long-term, systematic and goal-directed development of nursing research, some of which is highlighted in the chapter by Wøien and Rannem.

These early initiatives inspired nurses in other hospitals to move on and push forward nursing research as well. For example, another early initiative took place at Aker Hospital, a local general hospital in Oslo. A visionary chief nurse there supported nurses in pursuing academic training and conducting clinically relevant nursing research. Together with some of her key nurse supervisors, she created nursing research positions, which were connected to interested, supportive hospital clinics. Over the years, research focusing on patient education and mastery support was developed. Senior nurse researcher May Solveig Fagermoen, who also held a position of associate professor at the Institute of Nursing Science at the University of Oslo, led this work. Again, this line of research was closely related to local clinical issues while, at the same time, contributed to the general knowledge development within nursing. [42–44]

At Oslo University Hospital and Health Region South-East, an ambitious development of clinical nursing research has taken place during the last 10–15 years, focusing on acute and intensive care, including symptoms and symptom alleviation. This research programme, headed by Tone Rustøen, has grown into a large research group of more than 15 doctoral nursing students and postdoctoral nurses and two professors. This research group has a strong track record in terms of publications, external funding and international collaboration, and it serves as an example for other hospitals aiming to launch similar initiatives.

At the University Hospital in Bergen (Haukeland Hospital), strategic efforts to support nursing and health-related research were initiated in the mid-2000s. The goal was to build research competence and facilitate the development of clinical nursing and health-related research. Support was provided for master's and doctoral studies for clinically relevant research with good designs (as evaluated by external reviewers). Over time, this strategy has contributed to a substantial increase in master's and doctorally prepared nurses, some of whom have major positions in the hospital combined with part-time academic positions in the Western Norway University of Applied Sciences and University of Bergen. This effort has led to at least one strong research group; the Patient-Reported Outcomes in Cardiology (PROCARD) research group [45] focuses on patient-reported outcomes in cardiology patients. This research group is led by Tone M. Norekvål, who was recognized in 2016 for her long-term commitment to this area by becoming the first clinical nurse to be awarded the title of professor of cardiology nursing at the Faculty of Medicine, University of Bergen. This research group is an integral part of the

Cardiology Clinic at Haukeland University Hospital, and its members combine clinical research into cardiology nursing and health with quality development by translating evidence into new practices [45]. The PROCARD group has several active researchers and has established national and international research in the area of patient-reported outcomes within cardiology.

The Hospital Trust of Northern Norway launched a strategic plan in 2007 to strengthen health-related research including nursing studies [46]. Between 2007 and 2015, the number of nurses and allied health professionals with a doctoral degree (i.e. PhD) increased tremendously. Even in 2008, the Hospital Trust had some nurses and allied health professionals with doctoral degrees and some doctoral nursing students (i.e. seven postdoctoral nurses and four doctoral nursing students); however, by 2015, the number had risen to 19 nurses and allied health professionals with doctoral degrees (11 of which were nurses) and 23 doctoral students (12 of which were nurses), most of whom were connected to the University Hospital in Tromsø. Even a few of the smaller hospitals in the regional trust had both doctoral nurses and doctoral nursing students [43]. An evaluation report from 2015 [46] indicated that most of the postdoctoral nurses continued working at the hospitals in a variety of positions and conducted part-time research. In terms of clinical areas, the postdoctoral nurses and doctoral nursing students represented most clinical areas in the hospital, and they have addressed clinically relevant topics for their clinics, including nursing interventions to improve health outcomes. Furthermore, they have published internationally in esteemed journals [46].

The main reasons given for this programme's success included a decision on the part of the trust to finance doctoral stipends through the funds allocated to research [46]. This was a very effective strategy at the hospitals that had a number of well-qualified, master-prepared nurses interested in and capable of assuming doctoral studies. This did not, however, help hospitals that lacked master-prepared nurses. Another important strategy included creating a position of research leader for the nursing and health-related research at the Hospital Trust. This position was responsible for supporting the doctoral nursing students, facilitating networking between the doctoral students and the postdoctoral nurses, providing advice and support in terms of applications for funding and representing the nurses and allied health professions in relevant advisory groups and boards.

14.7 Academic Development in the Primary Health-Care Services

The academic development of the primary health-care services has been slower and started later than the development within the specialized health-care services. Nevertheless, there have been early initiatives within the primary health-care sector, as described herein. This area of development is gaining increasing prominence in line with demographic changes, shorter hospital stays, increased emphasis on providing care outside hospitals and promotion of self-care. Changes in health policies

and laws over the last 10 years, which extend patient rights and emphasize person-centred care, health outcomes and consumer involvement in treatment and care, underscore the importance of research and development within the primary care sector [20, 21].

14.7.1 Teaching Nursing Homes

In the mid-1990s, there was a growing concern regarding the quality of care provided to older people in the community—particularly the care provided in the long-term care institutions and the nursing homes. In 1997, the Norwegian government launched an initiative to improve the geriatric competence within the medical, nursing and allied health professions and to improve the treatment and care provided to old people. Recognizing that both academic education of nurses and nursing research into geriatric care were essential, Professor Kirkevold at the Institute of Nursing Science, University of Oslo, proposed for the National Geriatric Programme, a project aimed at introducing teaching nursing homes in Norway [47]. The goal was to improve care of older people by establishing a partnership between the nursing homes sector, the university sector and the university college sector. This was to be achieved by bringing together teachers, researchers and students in nursing, medicine and allied health as well as leaders and clinicians at selected nursing homes to collaborate on improving geriatric education and knowledge development in the care of older people and by supporting quality improvement through competence development, improved recruitment and knowledge translation.

This early partnership led to a series of activities to improve the care of older people in nursing homes, including improved education, a range of quality development projects and research. By 2003, the five teaching nursing homes established across Norway had received permanent funding from the national government [47]. Over time, this programme has developed and changed, but these institutions—and several new ones—continue to support quality development within long-term care, both in institutions and in homes [47].

14.7.2 Centres for Care Research

In 2008, the national government decided to strengthen research into the care services and established five regional centres responsible for developing what they called ‘practice-near’ research. The government wanted to encourage research that would improve care services, particularly the community-based services. During the last decade, the centres, which had been placed within universities and university colleges, have developed their research capacity; although the research productivity and quality vary, if the number of international publications in peer-reviewed journals is the criterion, the centres are clearly successful in conducting research in close collaboration with key stakeholders locally and regionally (<http://>

omsorgsforskning.no/english, 12.07.2018). The research has focused on contributing to evidence-based practice, improving care services, increasing competence among staff and improving patient safety and outcomes of care (<http://omsorgsforskning.no/english>, 12.07.2018).

14.8 Conclusions

In this chapter, we have followed the development of nursing science by tracing it back to the early beginnings of nursing as a vocation and profession in the late 1880s. We have seen how visionary women saw nursing as an opportunity to contribute to building the Norwegian society as a young, independent country. At the same time, nursing provided young women with an opportunity to work and earn money while also putting their talents and energy to work in the service of others. Close ties to the political establishment and the women's liberation movement early on promoted the opportunities of the early pioneers to gain support for the major causes. Major goals included a 3-year integrated nursing programme inspired by the Florence Nightingale programme and control of the quality of the nursing workforce. Advanced and academic education for nurses emerged early and was spurred by the close connection between the nursing elite and their international colleagues, particularly those in the United States and the UK. The Norwegian Nurses' Association was a driving force and ensured the establishment of university institutes for nursing in the late 1970s to mid-1980s. Despite reluctance and scepticism, nursing science has developed and grown both in extent and in quality. It is now institutionalized in the traditional universities, in the new universities, in the university colleges and in hospitals and community services.

A major challenge facing nursing science in Norway now is the recurring criticism of monodisciplinary research. Nursing science and research are by many considered to be monodisciplinary, although the topics studied, and the knowledge generated, are relevant for other disciplines and professions and despite the fact that many researchers are, in fact, conducting interdisciplinary research together with researchers from many disciplines. A structural threat is related to the leadership structures in the hospital sector, where nursing no longer has a place in the hierarchical line (i.e. progressing from a bedside nurse to a chief nurse). The earlier budgetary control of the nursing services, providing nursing leaders with autonomy in how to use funds and resources for nursing development and research, is now more difficult to secure. It is not impossible, however, as several large hospitals are currently supporting nursing and health-related research because their leadership is convinced it will improve the care provided. This is consistent with the new requirements in recent health-care laws, which emphasize the patients' rights to receive the best care available and have equal access to care [20, 21]. Furthermore, these developments recognize that all health-care professionals—nurses included—must conduct research to ensure that their services are evidence-based and lead to the appropriate health and care outcomes. This obligation

underscores the nurses' responsibility for conducting research that critically evaluates the care provided and develops new and effective nursing interventions to address patient needs, improve functioning and quality of life and support self-care in the patients and their families and networks. Securing external funding for research is still a challenge but one that nursing shares with similar fields. All in all, there are grounds for optimism, although a huge amount of work lies ahead before excellence is the norm.

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Research Development in the Clinical Field

15

Hilde Wøien and Sigrid Rannem

15.1 Introduction

Medical and nursing diagnoses and treatment depend on a high level of expertise among the staff—not only on a basically qualified or professional level, but also with a certain proportion of higher academic education. Consequently, medical and nursing sciences undergo continuous development, for instance, by contributing to evidence-based treatment. In addition, the goal of research is the implementation of knowledge-based practice. Norwegian health authorities have issued requirements regarding the need for guidelines in medical treatment and nursing to be knowledge-based. This necessitates competencies in the nursing staff in terms not only of developing evidence-based guidelines, but also of conducting research and providing the evidence itself. Building skills and competencies in the clinical field also minimises staff turnover and improves job satisfaction. This is partly because curiosity in the research field results in loyalty among employees. When the staff gets to participate in decision-making and in creating the foundation of knowledge on which to base decisions, their interest in research may also increase [1, 2]. The combination of participating directly in building high-quality treatment and care and observing positive results in the form of patient survival and satisfaction is motivating and important for professional development and culture.

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215

15.2 The Department of Intensive Care Medicine

The Department of Postoperative and Intensive Care is part of the Division of Emergencies and Critical Care at Oslo University Hospital (OUS), and it encompasses 10 units (three postoperative care units [POs] and seven intensive care units [ICUs]), all of which are in charge of extensive regional assignments and the provision of high-quality services for the citizens of Oslo. The hospital also has a nationwide responsibility for a number of national and multiregional assignments and has several national centres of competence. Since 1995, numerous organisational changes have taken place; the main being a merger of four single hospitals into one entity (i.e. OUS) in 2009. The department is characterised by special competencies and the use of advanced technology in treating seriously ill ICU patients. The ICU offers advanced treatments to ICU patients 0 years of age and up, such as transplants, multitrauma treatment, neuro-intensive care, and treatment of acute severe pulmonary failure. Each of the seven ICUs, treating patients for more than 24 h, has both single-bed rooms and rooms with two or more beds separated by curtains. In the three POs, up to 60 patients are treated daily in more open-room spaces, with a maximum stay of 24 h. Approximately 400 specialised nurses, 200 registered nurses, and 34 anaesthesiologists/intensivists, covering 44 ICU beds, work in the department. Almost all the nurses (83%) in the seven ICUs are certified critical care nurses. The nurse-patient ratio in the ICUs is 1:1 on all shifts, with the availability of an extra nurse if required, depending on the patients' condition or special needs.

The complexity of the critically ill patients—that is, the seriousness of their illnesses and their rapidly changing health status—is linked to nurses' clinical decision-making in the ICU [3]. An ICU nurse is expected to obtain a comprehensive overview of a patient's needs at any time and to apply the prescribed treatment in a prioritised order for the subsequent 24 h based on the patients' health status fluctuations. The relevant technology may dominate the focus and priority of nursing interventions in the ICU, and one of the main challenges is to maintain the quality of basic nursing care together with the management of the devices needed. Debates about identifying these vulnerable patients' needs and at the same time managing the necessary equipment are prevalent in nurses' educational sessions and daily discussions. These represent some of the themes that exemplify how research ideas are created and how clinical studies are initiated.

The ICU's Action Plan is a strategic leadership tool that undergoes revision every 3 years. The Action Plan has changed slowly from a strategy for implementing a clinical ladder programme (CLP) for nurses into a research strategy for the entire department. In 2000, the Action Plan stated that two to three nurses in the department should complete a master's degree as a specific goal for the ICU nursing service at the National Hospital, one of the now-merged ICUs at OUS. In the subsequent 3-year plan, this goal was expanded to state that all nurse educators in the department should have a master's degree. A goal introduced in 2007 stated that one nurse should have a PhD, and the following plan raised this number to four. At present, four nurses in the department hold a doctorate, three are involved in postdoctoral work, and 14 are students in a PhD programme. All of these nurses are working part-time in the clinical field, and all are conducting research on topics closely connected to the ICU clinical field. Examples of research topics are pain management,

sedation and delirium, nutrition, family care, communication, follow-up after ICU treatment, symptom management, and the relationships between patient-classification systems and nurse-staffing costs in ICUs.

15.3 Historical Background

For many years, the overall goal of the Division of Emergencies and Critical Care has been to develop an interdisciplinary research culture. This chapter, however, will focus on the nurses. It will describe their experiences regarding how the Action Plan has worked to reach the department's goals and continues to work towards short-term and long-term goals aimed at advancing nursing practice. Part of this story consists of the strategic leadership of the nurse leaders (the head of the intensive care department and the heads of each of the seven ICUs) in launching the long-term project aimed at enhancing the quality of nursing care through nursing research in the field of critically ill patients. The story also involves how the staff was mobilised and how the education of the ICU nurses in the research process was conducted, enabling them to plan, perform, and participate in quality improvement and clinical research studies. This included the introduction of a mandatory 5-year CLP [4] for all the ICU nurses, which gradually developed into the education of nurse researchers and into more ambitious clinical-nursing research. In addition, the project aimed at developing a strategy embedded in the ICU department's Action Plan that would ensure a continuous supply of nurses taking an interest in higher academic degrees and that would enable them to conduct their studies in the clinical field.

15.4 Building Research Capacity in the Clinical Field: A Long Journey

In 1995, a new chief nurse entered the organisation, which at that time comprised only one hospital: Rikshospitalet (the National Hospital). The National Hospital had several national treatment responsibilities and a strong culture of research in the medical field. Many of the medical disciplines had gained global recognition for their research, technology development, and competence. The nursing profession at the hospital, on the other hand, was rather invisible. Very few nurses had any education above a bachelor's degree, although some had completed a 2-year in-house specialisation programme to become intensive care, paediatric, or surgical nurses, or nurse anaesthetists. One of the first strategic moves of the chief nurse was to encourage the employment of well-educated research nurses in the hospital's departments (phase 1, Fig. 15.1). Our ICU employed one research nurse on a half-time basis. This long journey towards the development of a strong culture of research in the clinical field is visualised in Fig. 15.1.

In addition to the one half-time research nurse working on her PhD (who had been employed in the ICU since 1995), we were aware of the need to establish a group of ICU nurses with advanced research degrees. From 1999 to 2001, the department employed two ICU nurses with a master's degree and facilitated a combination of positions making an academic career (PhD) possible together with supervising the

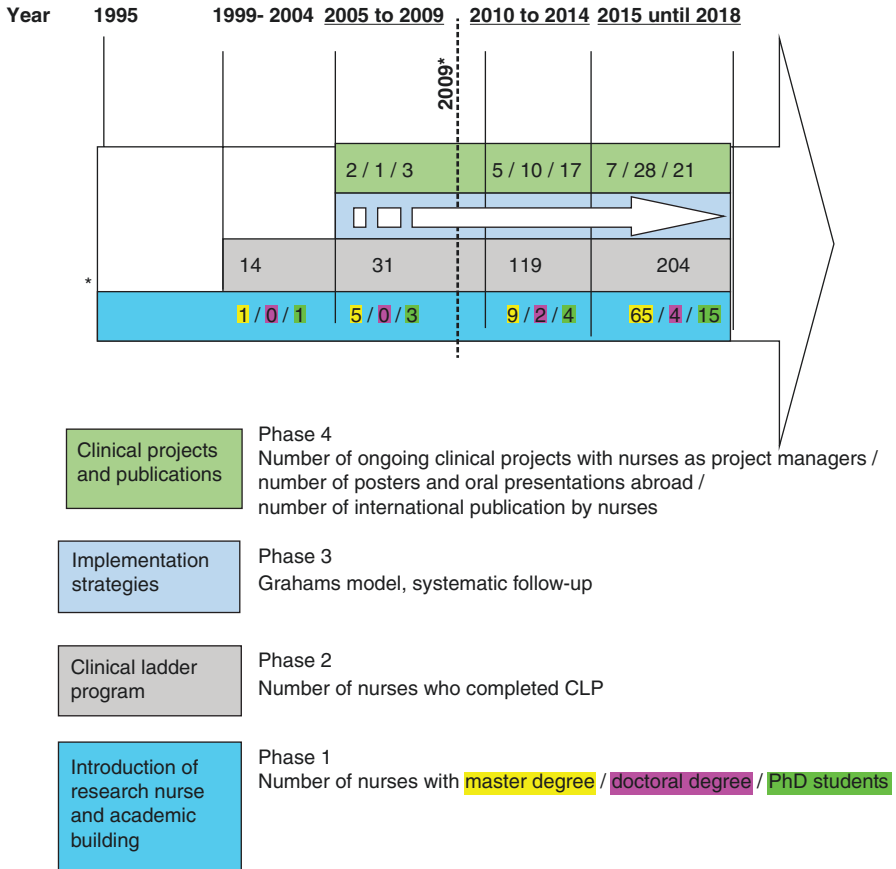


Fig. 15.1 Building research competence (1999–2018). *2009: The main organisational change—a merger of four single hospitals into one entity (OUS)

CLP and those ICU nurses ready for a master’s degree. Short-term solutions were established, such as offering nurses 10–50% paid leave for one or more semesters, which would encourage nurses to participate in the CLP, write research proposals, complete their master’s degrees, and move on with their PhD research plans. Belonging to the Division of Emergencies and Intensive Care, the department enjoyed close collaboration with the Division of Emergencies and Intensive Care’s hospital-wide Research and Development Department (R&D), established in 2009. The R&D has supported the ICU’s strategy and contributed many grants covering the costs of the doctoral students’ half-time positions. The R&D organised a system of research groups for doctorally prepared nurses and physicians and for doctoral students working on their PhD projects. Four of the groups were thematically organised, and nurses and physicians decided for themselves which group they wished to belong to and work with. In addition, the researchers could also participate as co-members in other relevant groups. One group, referred to as the ‘nursing research group’, decided not to be thematically based, because the majority of the members feared

that because nursing research is such a young discipline, they would be dominated by mature medical researchers. The nursing research group focused on symptom management in the ICU and recruited most of the nurses who had started on their PhDs in the Department of Postoperative and Intensive Care. As a result of regular meetings in the nursing group, the doctoral students have participated in a research milieu and have had the opportunity to discuss their projects with others. As some physicians have argued, however, organising the majority of nurses in one group has resulted in a lack of interdisciplinary discussions. Today, we are slowly moving towards a comprehensive interdisciplinary model aimed at studying clinically relevant questions using resources from the disciplines of both nursing and medicine. Research group number 12 is now close to being established.

In the past 5 years, the department has established formal collaboration with two of the universities in Oslo, the aim of which has been to share knowledge and teaching resources by allowing nurses to step into so-called combination positions between the hospital and the university. At present, seven ICU nurses have part-time teaching positions (as associate professors or lecturers) at the universities combined with bedside clinical work. This formal collaboration has the following benefits for the university: fresh updates on new treatments, new procedures, and updated teaching resources. The benefits for the hospital are speedy lines of communication with the university, which can influence decision-making in new student programmes, the size of the classes, or the content and composition of the curriculum based on changes in patient populations, treatment strategies, etc. The university helps with the financing of a few of these nurses' PhD programmes, based on the premise of conducting research relevant to the curriculum and the clinical field.

Before the year 2000, Norwegian nurses had an organisational structure developed over decades that gave them a fairly independent role, especially in leadership positions. Staff decisions, as well as decisions about issues of recruitment, salaries, and policies concerning nurses, were made by members of the nursing management, such as the chief nursing officer at the top of the organisation, nurse supervisors at the clinic level, and head nurses at the department level. The chief medical officer had a similar role concerning the medical staff. There is no doubt that this structure, with a clear nursing leadership structure and substantial professional autonomy, benefitted the onset of our research strategy plan. Gradually, this structure has changed to a single, integrated, hierarchical leadership structure for all professionals that is characterised by increasing requirements of efficiency, creating greater challenges for continued nursing development.

15.4.1 The Clinical Ladder Program (1995–2018)

Initially (since 1995), the research nurse was instructed to adapt and pilot test the CLP, which was inspired by the Norwegian Nurses Association (NNA), over a 2-year period at two of the hospital's departments. This research nurse held a master's degree and was, by delegation from the chief nurse, employed half-time in our ICU. The goal of the programme was to support the skill development of the ICU nurses in clinical work. The outcome of the CLP was a written report describing

areas in need of improvement in our respective ICUs. This programme aimed at keeping nurses bedside while simultaneously stimulating their curiosity about research. In particular, the nurses were encouraged to participate in ongoing clinical projects *after* completing the CLP—partly to stimulate research activity and preserve the competencies achieved, but also to enable nurses' participation in the development of larger research projects.

The next step was to develop a 5-year CLP intended for the entire hospital and to individualise parts of the programme according to the subspecialties of the various units. In the ICUs, the programme consisted of three modules over 5 years. By 2010, more than 50 nurses in the ICU had completed the programme. After doing so, many of them produced papers of high quality containing interventions and tools aimed at improving clinical practice [5–10]. At the same time, the first clinical master's project conducted in the ICU convincingly showed how a systematic approach quite easily improved the ICU patients' nutritional requirements [11]. Our strategy of research development then necessitated a focus on both how to develop and how to retain freshly obtained knowledge in the clinical field.

15.4.2 Implementation Strategies

In addition to identifying and moving research ideas from the clinical field into an academic sphere as part of master's and subsequently doctoral projects, the intention was to focus on recommended strategies of implementation aimed at reintegrating the new knowledge into clinical practice. This generated a lot of work. Graham et al. [12] developed and tested a model for planning and evaluating knowledge-translation strategies. The 'knowledge-to-action process' outlined in that study describes the process of knowledge translation as 'an iterative, dynamic and complex process concerning the creation and application of knowledge'. The phases encompassing what is defined as 'the process of knowledge creation [12]' relate to the progression of our research strategy to become and achieve the status of a leading nurse research department. Initially, relevant questions were raised and identified in the clinical field. The next step was to develop clinical research studies. Finally, findings were aggregated into existing knowledge and reintegrated into the clinical field. Although this model was not strictly followed, it had an extensive impact on our research strategy. Like many others, we experienced how time-consuming it is to bring new knowledge, like international recommendations, into daily practice. Many attempts have failed to encourage nurses to adhere to new practices, and many lessons have been learned. According to our strategy and to Graham et al.'s model, the clinicians were encouraged to become familiar with the knowledge being implemented and to cultivate some enthusiasm about it. New protocols, clinical guidelines, etc. were (and still are) integrated into educational sessions in set groups twice per semester and in the form of 'five-minute updates' once or twice a week between the day and night shifts. Very often, we include discussions of actual problems and issues in each ICU's yearly professional education day, frequently by using various patient cases as examples. In the

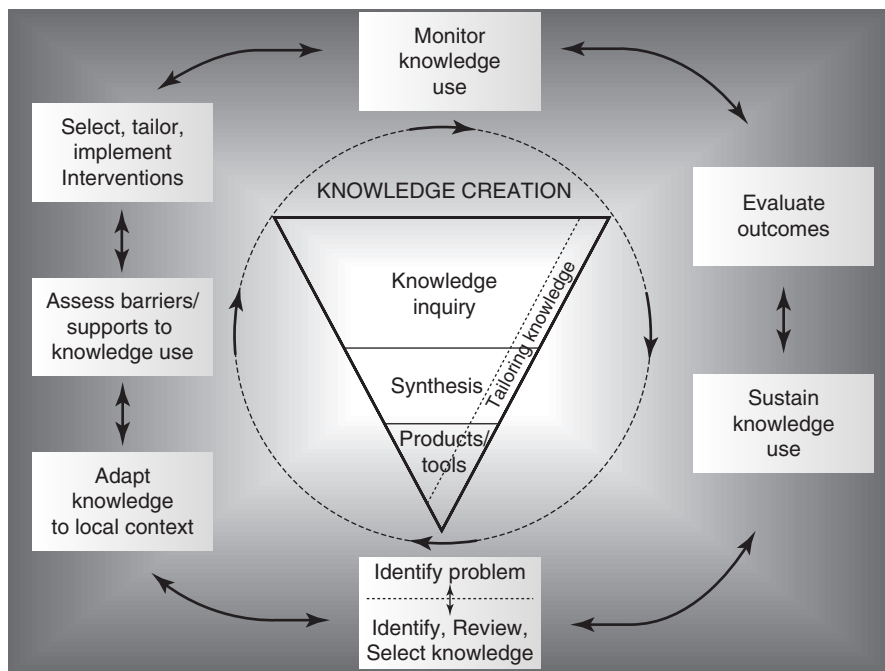


Fig. 15.2 The knowledge-to-action process developed by Graham et al. [12], used with permission. The Alliance for Continuing Medical Education, The Society for Academic Continuing Medical Education, and The Association for Hospital Medical Education

knowledge-to-action process model, this is termed the knowledge-creation phase. The advantage of tailoring knowledge to specific contexts has been emphasised [13], and this includes an active approach to what happens in the clinical field. The model served (and continues to serve) to remind us of the significance of taking the right steps in the right order, even though the processes are recursive in nature. In particular, we have seen the importance of the loop illustrated in Fig. 15.2, which encompasses the processes of building clinical knowledge on the basis of real clinical situations, conducting proper and realistic studies, and reintegrating the results into the clinical field.

The knowledge-to-action process describes the processes of knowledge creation that aim to tailor knowledge, and they are visualised as a triangle [12]. Researchers and leaders in the ICU agreed upon initiating the various studies by becoming actively involved in the process of knowledge creation, and then to tailor their activities in response to the problems identified by the bedside nurses. Beyond what constitutes knowledge creation, the processes of knowledge application are illustrated as a circle encompassing seven phases (Fig. 15.2). The knowledge-application phases are characterised by a recursive movement between these seven phases. The relationships between stakeholders are a necessary foundation of developing a common understanding of knowledge interpretation and uptake. Initially, the

stakeholders in our case were primarily nurse leaders, research nurses, and bedside nurses in the ICU. This has gradually changed, and today physicians, pharmacists, and physiotherapists are equally important stakeholders.

15.4.3 From Single Clinical Studies to a Research Program (2002–2018)

The described strategy of building general competence for the main group of nurses and focusing on a few nurses willing to complete an academic career achieved results after only a few years. Various papers have been published in peer-reviewed scientific journals, an increasing number of posters and oral presentations at national and international conferences has been produced, and the nurses have developed evidence-based procedures and guidelines; moreover, the rate of publications and dissertations has increased. In 2018, the Postoperative and Intensive Care Department received the hospital's award for excellence in education. Some of the major projects and research programmes we have initiated since 1995 are presented below.

15.4.4 Nutrition in Critically Ill Patients

Undernutrition of ICU patients has been a major challenge for decades. As in many other ICUs, the quality of both enteral and parenteral nutrition in our ICU lacked a systematic approach, and the incidence of undernutrition was high. A proactive therapeutic strategy to provide early nutrition support, mainly via the enteral route, has been proven to decrease disease severity, reduce complications, shorten length of stay in the ICU, and favourably impact patient outcomes [14]. Both the nurse and physician leaders therefore enthusiastically welcomed a study aimed at improving nutritional practice. In 2002, a nutrition algorithm was developed and tested by a master student in a pre- and post-test study. The results showing the ICU's nutritional practice before introducing the algorithm were quite miserable, but the algorithm had a significant effect on achieving the prescribed amount of calories and especially on the administration of enteral feeding [11]. Firstly, the results indicated that the prescribed and delivered nutrition amounts were significantly higher in the intervention group than in the control group. Secondly, the algorithm encouraged early initiation and rapid increment of nutritional support in general and in enteral nutrition (EN) specifically. Finally, the results showed that the nurses practised less arbitrarily concerning the completing of nutrition orders and aspiration routines for the intervention group. The time needed to implement the nutritional algorithm had great support from the managers based on the results' clear demonstration of how such a simple intervention was able to significantly improve nutritional practice in the ICU and to manage the negative effects of undernutrition. The focus on nutrition in the ICU included maintaining strict blood sugar control during the patients' most critical phases. In 2008, two of the nurses completing their CLPs and one of the

intensivists evaluated the ICU's existing degree of glycaemic control and safely implemented strict glycaemic control through a nurse-led implementation of an algorithm for intensive insulin therapy [7]. Both nurses continued their education and completed their master's degrees in 2012 and 2016, respectively, and one of them began a PhD programme in 2017. In 2012, another master's student successfully conducted a nutritional study in the Paediatric ICU (PICU) based on the same intervention as used for the adults, but adjusted to mechanically ventilated paediatric patients [15]. The study found that 61% of the children included were overfed ($n = 30$ mechanically ventilated children), emphasising the need to measure energy needs by using indirect calorimetry. All the studies have contributed to a nutritional practice that conforms to international recommendations [7, 11, 15].

15.4.5 Pain Treatment and Sedation in ICU Patients

In 2004, four of the participants in the CLP were invited to take part in a large project referred to as 'Patients' experiences of being sedated and receiving pain relief, and families' experiences of having a close relative under controlled sedation in an intensive care unit', which was initiated by two of the ICU's physicians [10]. The project group needed to conduct interviews with healthcare personnel, ICU patients, and their next of kin in order to answer their research questions. The physicians called for collaboration with nurses at the university, because they lacked the necessary experience with qualitative research methods. The project was brought into one of the ICUs and ultimately became a four-part study with participants from the CLP, master's students, and researchers appropriately distributed across the substudies. This project visualised the early onset of the development of research competencies in the ICU (Fig. 15.3).

This collaborative project initially resulted in several international publications [10, 16–18].

In addition, the project contributed to two final papers for the CLP, two master's dissertations in nursing science, and several posters and seminars for both nurses and physicians.

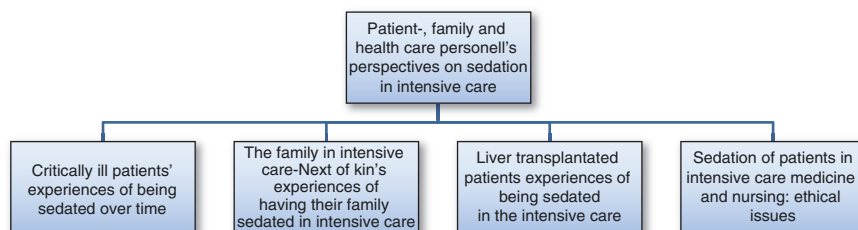


Fig. 15.3 Patients' experiences of being sedated and receiving pain relief and families' experiences of having a close relative under controlled sedation in an intensive care unit

In a broader perspective, this single project has developed a cascade of scientific education in the ICU, and two PhDs have been based on the findings of the studies regarding family care and pain and sedation in the ICU [19–24].

15.4.6 Clinical Assessment Tools

The use of validated assessment tools is often the subject of discussions in the clinical field. Because of deep sedation, many ICU patients are unable to self-report pain. Consequently, both the assessment and documentation of pain are challenging, as regards choosing the appropriate assessment tool and recording the results in the patient charts. One ICU nurse finalised her CLP in 2005 by conducting a literature review regarding behaviour pain tools used for PICU patients. With her, we chose to translate and implement a pain assessment tool, the Comfort Scale [25], in the PICU, a tool that subsequently proved to be the most valid and reliable pain assessment tool internationally. The reliability of the Norwegian version of the Comfort Scale was tested routinely among the ICU nurses for more than 2 years in order to ensure their understanding of the instrument and to establish daily assessments and documentation of pain. Both the PICU nurse leader and the research nurse were very strict about nurses performing the pain assessment and documentation on every shift and about reminding the physicians to request the child's pain scores. Resources were added to follow-up based on the understanding that the implementation of a new practice takes time and is crucial to ensuring that critically ill children receive high-quality pain treatment [26].

Based on our work in the PICU, we further introduced the theme of pain assessment into the adult ICU in 2009 and added assessment tools for sedation/agitation and delirium. At that time, the incidence of oversedation was highlighted in international studies [27, 28], and a light-sedation strategy had resulted in a significant decrease in days on ventilator and ICU length of stay [29]. The nurse and physician managers again welcomed a clinical study with a design similar to the study measuring the effect of a nutritional algorithm. In a doctoral dissertation, a systematic approach to ICU pain treatment and sedation, including the implementation of three instruments that assess and measure pain, sedation/agitation, and delirium, was investigated [24].

15.4.7 Pain, Sedation, and Delirium

The pain, sedation, and delirium study showed a significant increase in pain, sedation, and delirium assessments and documentation, but many of our patients were still oversedated [23]. According to Graham et al.'s model, the implementation strategy was extended with a monthly systematic follow-up 5 years after the study was completed. Without a shared understanding between the nurse researcher and the nurse manager, no resources would have been realised for this important final step. Neither would we have received necessary support for a further development of the

strategy of appropriate pain management and light sedation. At that time, as now, we lacked data on how the patients tolerated being treated on light sedation—that is, in a near-waking state—during critical illness. We therefore introduced and tested an analgesedation approach in a before-after design. This postdoctoral study was supplemented by a doctoral study with a qualitative design. We achieved significant results that showed a decrease in the incidence of deep sedation, and pain scores were documented as low, both at rest and during mobilisation. Interestingly, findings from individual patients' interviews after their ICU stay indicated the need to assess pain as a broader concept to help patients experience a less traumatic and frightening ICU stay [30]. This was confirmed in an associated observational study of a number of critical care nurses [31], including interviews in different clinical situations, in which researchers revealed that although nurses seem to attend adequately to patients' pain problems, their approach to forms of discomfort other than pain appears unsystematic [30]. In 2018, seven ongoing PhD projects and postdoctoral projects in the ICU are investigating pain and other forms of discomfort in ICU patients from the patient, family, and nurse perspectives [19–22].

15.4.8 Other Research

Other topics being studied in the ICU are nurse workload and objective discharge criteria and the associations between patient-classification systems and nurse-staffing costs in ICUs [32, 33]. One nurse plans to complete a PhD dissertation on this theme by the end of 2018. After the initiation of the CLP, more than 40 papers from our ICU have been published in international peer-reviewed journals.

15.5 Phase 4: Implementing Research Findings into Nursing Practice

15.5.1 Knowledge Application

A major aim of nursing research is to identify, obtain, and/or develop needed knowledge and to apply developed knowledge to nursing practice [34]. However, the process of identifying relevant research questions and then implementing findings into evidence-based nursing in the clinical field is quite slow [35, 36]. The rate of publications in nursing research is increasing, but translating the knowledge into daily practice is a complex process and takes a long time. The time needed to implement new knowledge in the clinical field—back to the patients and nurses in the arena of clinical practice—is known to be dramatically underestimated [37]. International recommendations and new knowledge were implemented according to the knowledge-to-action process using several strategies. Firstly, all of our nurses who have completed the CLP have become strong advocates for adherence to the knowledge implemented. For these nurses as well as for others with similar interests, we have established groups aimed at discussing ICU patients' symptoms and the quality of

nursing, how our ICU practice adheres to international guidelines on a regular basis, and what kind of interventions are needed to increase this adherence. Colleagues are invited to share their experiences and results from ongoing research in the groups. Relevant papers and guidelines, algorithms, and so forth are studied and discussed in the groups.

Secondly, we have aimed to distribute monthly statistics regarding nurses' and physicians' adherence to certain areas of intensive care. For example, we register how often pain, sedation, and delirium scores are documented in each ICU patient's stay, how often the patient's sedation level is prescribed by the physician, and to what degree nutritional requirements are met. In 2014, the first part-time nurse dedicated to monitoring clinical practice and supporting follow-up of research studies in the ICU was employed in our department. Our adherence to international recommendations has increased as a result of this intervention.

15.5.1.1 Administrative Challenges and Advantages

From a managerial point of view, the goal of our collaboration has been twofold. Recruiting nurses to the ICU has been one challenge, and keeping them on has been the next. Norwegian hospitals have the same salary policy, the same policy on working hours, and the same shift arrangements. The difference between the hospitals, departments, and units lies in the workplace environment and other unique qualities, like opportunities for building careers and self-development or building knowledge by participating in organised programmes in the ICUs [38].

The bedside nurses need assurance from both their leaders and the nurses running the research programme that their investment in education is making a positive difference. Conversely, the leaders need to demonstrate the efficacy of giving the nurses time to study during their working hours while still providing high-quality care to patients and at all times. These assurances from nurse leaders to their staff must be built into an environment that feels natural to both parties and has been focused on at the annual employee-development talks.

Employee-development talks in our hospitals were usually conducted in confidence, between the nurse manager and the employee. Some years ago, we decided that every nurse receiving a defined percentage of work hours for studying must start by engaging in an employee-development talk with the ICU research nurse as well as the nurse manager. In these talks, individual goals with specific aims were established, regarding both career planning and educational plans. The research nurse (holding at least a master's degree) gathered requests for topics of instruction and devised a menu of topics that through the years has been increasingly directed towards ongoing clinical master's or doctoral projects in the ICU.

The ICUs in Norway receive government financing that requires internal reporting on how funding is spent. Channelling substantial parts of the budget towards nursing education and research was difficult to justify without evidence on outcomes or results. With respect to budgets, one challenge involved the relatively hidden cost of allowing nurses to step outside traditional bedside work. Initially, our ICU did not offer time for professional development. After a period of trying—and failing—the professional-development sessions were organised as a part of the

nurses' shift plan. Together, nurse leaders and researchers devised a flexible work schedule. As a trial, all nurses performing studies relevant to the ICU clinical field, either participating in the CLP or doing clinical projects such as a master's thesis, were allowed to spend between 5% and 20% of their work hours on their projects for a limited period of time. The outcomes have proven to be more than sufficient to maintain the 5–20% work-hour schedule that allows staff nurses to pursue research and education.

15.5.2 Today's Achievement

As it turned out, our focus on professional development and research activity had an unexpected side effect: staff turnover decreased and rumours of our strategy started attracting new applicants. Within a 3-year period, turnover dropped from more than 50% to zero, and we had a waiting list of applicant nurses.

There is no doubt that the managerial and professional work related to the CLP has made significant contributions to the education of doctoral nursing students and postdoctoral nurses. We have benefited from the flourishing research engagement and professional motivation, and we have managed to keep our research profile with ICU projects embedded in the clinical field. All of our doctoral nursing students and postdoctoral nurses have completed their CLP before they started their doctoral research, and all of them work a minimum of 50% as ICU nurses in the clinical field. The funding of doctoral nursing students and postdoctoral nurses has been established mainly from the R&D encompassing all the ICUs in the hospital, and for the last 8 years, they have offered a total of 12 nurses half-time positions over a period of 4–6 years. In addition, the Department of Postoperative and Intensive Care has funded eight nurses' doctoral research for a period of 1–6 years.

Throughout this process, we have believed in the importance of managing and developing research based on needs originating from clinical practice, and along the way, we have been reminded of the necessity of a systematic approach. As leaders, researchers, and clinicians, to achieve our common goal of becoming a leading institution in medical and nursing research, there has to be a common understanding within our department. We have realised the importance of bringing the ideas we take from the clinical field into the research environment and then reintegrating them into clinical practice, where they belong. After questioning certain treatments, practices, and/or approaches to critically ill patients, we are obliged to implement the knowledge from new findings. In that way, we can maintain the motivation of nurses and physicians in order to keep them engaged and positive when new recommendations arrive.

Current and future steps are creating multidisciplinary research groups in the ICU department aimed at ensuring high-quality treatment, building on each other's research findings and ideas, sharing research data, participating in multicentre studies, contributing to data analysis, and co-authoring papers with one other. In addition, our research department is working on establishing and partially financing a nursing professorate in cooperation with the university.

15.5.3 Implications for Nursing Leadership and Outstanding Challenges

Nurse and physician leaders and researchers have faced great challenges in collaborating on the achievement of similar goals in recent years. The 14-year transition, beginning in 1995, from a single ICU in 1995 at Rikshospitalet into a department of seven ICUs and three postoperative units distributed between four different hospitals in four different locations continues to require a great deal of work devoted to unifying cultures. Since 2009, we have undergone several organisational changes. This collaboration has the potential to enhance the quality of both medical and nursing competencies, the ability to stay on budget, and the ability to cooperate in appropriate resource allocations. Professional conflicts and/or differences of opinion are inevitable. To maintain the established collaborative environment, we need both qualified leaders and researchers. Knowledge and competencies are necessary to achieving acceptable quality in clinical practice and to ensuring high-quality patient treatment.

15.6 Conclusions

Our work has led to several positive outcomes for both paediatric and adult patients in our ICUs. Most of the studies began as small, local projects, such as those conducted as part of our mandatory CLP. These projects have subsequently been included in nurses' master theses, and some of the studies have been expanded into doctoral dissertations. Many of the studies have been published in international journals. The nutrition of critically ill patients and the achievement of nutritional goals have been managed through guidelines and algorithms developed by our nurses. Pain, sedation, and delirium assessment tools have been translated, validated, implemented, and tested through both qualitative and quantitative studies. Pain both under and after ICU treatment has been studied, and family care has been investigated. As a means of monitoring the quality of patient care, workloads and resource allocations have been measured by scoring systems. All nurses are encouraged to study at an appropriate level but simultaneously keep one foot in the clinical field, with at least half-time bedside positions. The key issue encompassing all of these outcomes is dialogue and collaboration between leaders (nurses and physicians), researchers, and clinicians, providing opportunities for nurses and others to perform research and improve their competencies as an integrated part of daily work. Building common goals and visions facilitated a reorganisation process following a four-hospital merger in 2009 that was unwanted by many and made the reorganising easier to accomplish once we based our strategy on our systematic and strategic action plan for the educational programme.

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Research in Nursing Education in Norway

16

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16.1 Introduction

Nursing education research has a relatively short history in Norway, although no shorter than research into clinical issues in Norwegian nursing. In general, nursing research efforts have increased greatly during the last decade, mainly due to the increased number of nurses with a doctorate in nursing and improved funding for nursing research. This general increase, however, has neither resulted in large growth in the number of nurses with a doctorate focused on nursing education issues nor the amount of research in nursing education science. This development is outlined and discussed in this chapter. The chapter is divided into two parts; the first part is a historical overview of the development of nursing education research in Norway, and the second part is a discussion of factors that have supported or hindered this development.

16.2 Historical Overview of the Development of Nursing Education Research

Referring to American research efforts, Chinn highlighted that a high level of education was a prerequisite for any research [1]. Lerheim supported this notion and wrote in a chapter on the development of nursing research in Norway: 'It is obvious that the level and quality of an education has significance for its social acceptance and is decisive for research' [2, p. 15]. The development of higher nursing education is, therefore, the organizing principle to describe the development of nursing education research in Norway in the first part of this chapter. Sections 16.2

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231

and 16.3 in this part also each include a more detailed focus on the work of *one* educational researcher, respectively, who has researched educational issues over a long time period.

16.2.1 Pioneers in Nursing Education Research

The first work of nursing research in Norway was published in the NNO's journal for nurses in 1934 and concerned the state of nursing education in Norway [2]. The article was not considered research, but the data presented in this paper was based on a questionnaire sent to hospitals and humanitarian institutions that managed nursing education; the data was then analysed by the Norwegian Bureau of Statistics. Lerheim described this as a serious attempt by the NNO to show that—based on their systematic information—nursing education needed reform and quality improvement [2]. We can view this effort to reveal the state of affairs in nursing education in light of the NNO's determination to gain acceptance for a governmental decision to establish a uniform nursing education of 3 years [3]. The NNO showed their engagement in nursing education right from their inception by establishing The Continuing School for Nurses in 1925, only 13 years after they had established the association. During its first years, the school offered short courses in teaching, administration, and social work. These courses were lengthened over time, and in the 1950s the school offered a 1-and-a-half-year education in teaching and a 1-year education in nursing administration [4]. Many nurses educated at this school were inspired to seek further education at universities in the United States in the 1950s through the 1970s. The importance and know-how of research were central assets these pioneers brought home to use in their own research activities in Norway. They also set out to introduce nursing research as a subject for students at The Continuing School for Nurses [2, 5].

Until the mid-1950s, the NNO's journal reported on data from other surveys concerned with nurses' health, work conditions, satisfaction with choice of the profession, and aspects of nursing education. These surveys were still not considered research and were clearly performed and published as an avenue for NNO to express concern about the appropriateness and quality of nursing education and nurses' working conditions in the clinical setting [2]. It was in the mid-1950s that the term *research* was used for the first time, describing a study conducted by Helga Dagsland, a nurse who investigated how nurses met the patients' needs in hospital within a holistic framework for nursing [2].

During this time, two large studies in nursing education were conducted by Daeffler [6] and Lerheim [7] that were published as a book and a master thesis in pedagogy, respectively. Daeffler [6] carried out a large survey and interview study that involved pupils, nurse teachers, and nursing leaders in eight nursing schools as well as nursing leaders at the ward and hospital level in the clinical settings used by these schools. Her study aimed to reveal if the regulation of nursing schools at that time supported a professional education programme and if nurses educated in and from this programme had a more professional view of their occupation than nurses

educated under the former regulations. The study can be interpreted as an important contribution in the fight for professionalization of nursing through better nursing education. She showed that nurses who graduated from the new curriculum had higher professional role conceptions than nurses graduated from the former curriculum and that graduating pupils showed higher professional role conceptions than beginning pupils [6]. Still, the existing programme was lacking in many aspects [6]. Daeffler criticized that nursing pupils at this time had full weeks of work, admission rules did not mirror a professional level, and the curriculum lacked a basis in social and nursing sciences. Clinical practice was a problem area since the pupils worked more than they studied, and routine work was the norm more than exploration and discovery.

Lerheim [7] continued to explore nursing pupils' experiences with the educational goals, theory, practice, and the relationship between theory and practice. First- and second-year nursing pupils at two schools with different curricula (i.e. regular and trial curricula) participated in a survey aiming to measure change in attitudes about the educational processes as they moved on in their education. In general, attitudes became more negative the longer the pupils had attended nursing education. The pupils were generally positive about the teaching of theoretical subjects, but, as in Daeffler's study, clinical placements were criticized due to lack of teaching and supervision [6]. Pupils felt that clinical practice did not concur with theory and ideals in nursing. They also felt that they were viewed as cheap labour working on the wards and not as pupils who needed education, training, and mentoring.

The studies by Daeffler [6] and Lerheim [7] were published at a time when the Norwegian government was working on yet another revision of the existing nursing education regulations.¹ The conflict of interest between the hospitals' need for workers and the students' need for education had persisted since the 3-year nursing education was mandated by law in 1948. The findings by Daeffler [6] and Lerheim [7] can, therefore, be viewed as arguments in the debate of improving nursing education.

16.2.2 Master Education in Nursing

Since nursing education moved into university colleges in 1975, we have referred to pupils as students. At that time, the length of study was reduced from 48 to 40 weeks a year, and the free lodging, food, and pocket money pupils had received during the study were discontinued. From that time, nursing students could apply for student loans like other students at universities and colleges. Six years later, in 1981, nursing education formally moved from hospital ownership and social department

¹The Education and Authorization of Nurses' Act from 1948 was already changed in 1960 (effective from 1962), increasing the schools' autonomy. Readjustments occurred again in 1967 and in 1975, increasing theoretical content and slowly changing the status of the nursing pupils to students.

regulations to the regional university college system. The social department still had a say in the content and length of clinical practicums, but regulations by the educational department were imposed on the educational programme similar to those in the other medium-length professional educations; this meant that nurse educators were obliged to follow the same eligibility requirements as other educational professionals at university colleges [5]. The need for educational programmes where nurse educators could qualify was acute, and university education was established in Tromsø, Bergen, and Oslo in the period from 1977 to 1985. These educational programmes aimed to secure the qualification of nurses at the level required for teaching at the university colleges. Due to the lack of nursing science programmes at the universities, several nurses also studied pedagogy and sociology to qualify for teaching positions in nursing education in the early 1980s. A spin-off related to the establishment of higher nursing education at the universities was the employment of doctorally prepared faculty,² thus ensuring that some nursing faculty had competence in research methods.

University education for nurses who wanted to teach at the university colleges involved courses in philosophy of science, the research process, and research methods; the students were also obliged to work on a research-based thesis equivalent to 1 year of study. This resulted in many small studies, of which, however, only a few were focused on nursing education. Although there was some tradition of publishing articles from master's studies, this was not widespread. At that time, there were two journals where nurses could publish their research: *Vård i Norden* and *Tidsskrift for Norsk Sykepleieforskning*. *Vård i Norden* (*Nordic Journal of Nursing Research*) was established in 1981 as a collaboration between the five Nordic countries. It published both scientific and nonscientific articles in the Scandinavian languages and in English. A perusal of the journal reveals that between 1981 and 1996, the journal published a total of 195 articles, and only 11 (5.6%) concerned nursing education. Norwegian nurses authored seven of these articles, including the exploration of supervision and students' socialization into the nursing profession [8, 9], structuring of clinical practice and contractual systems between schools of nursing and their associated clinical fields [10], and issues regarding practical examination during clinical placements [11]. Another avenue for reporting nursing education research was the journal, *Norsk Tidsskrift for Sykepleieforskning* (*Norwegian Journal for Nursing Research*), established in 1985. During the first years, this journal mostly published short descriptions of planned, ongoing, or finished projects, abstracts of master theses, reprints of keynotes at conferences, or short reports on attendance at conferences. Looking into the nature of the topics published in the journal, they mirrored the state of nursing research in Norway. During the decade from 1985 to 1996, only 14 (6.6%) of approximately 210 reports concerned any form of nursing education research. Most of these reports or short communications concerned information about planned or ongoing or completed projects or master

²This was before the establishment of doctoral education for nurses in Norway. These nurses studied for their PhDs in the United States or in Sweden or in other scientific fields (e.g. pedagogy, sociology, history).

theses. These reports showed that seven studies concerned issues in students' clinical practices, two explored nursing students' attitudes, two studied teaching methods, and one studied curricula. Of the reports, only one was a scientific article reporting on a large nursing education study [12]. The following example illustrates how a researcher focused on educational research at that time.

May Solveig Fagermoen was a central figure in nursing education research in the years from 1980 through 1995. She graduated with a master's degree in the United States and was instrumental as a teacher in the education of nurse teachers at the University of Tromsø from its beginning in 1977. A major goal of this education was to serve the nursing education sites in northern Norway with qualified personnel [13]. Fagermoen and her colleagues conducted a 5-year funded research study on nursing education in Norway starting in 1980, which aimed to investigate innovation dynamics in higher education in relation to the changes occurring in nursing education as it moved into the university college system [14]. As such, it continued the line of research started by Daeffler [6] and Lerheim [7] pertaining to strengthening the professionalization of the education. Survey and interview data was collected at two schools of nursing to explore students' and teachers' views about the current education [14]. The findings from this study served as a starting point for educational innovation at the schools involved as they moved into the university college system. Nationwide survey data was also collected from nurses and nurse educators who were responsible for the students' clinical studies [15]. This line of inquiry was based on an increasing realization that the existing regulations of nursing education had not diminished the problems in delivering good clinical practice situations for students [15]. This study was large, as it included informants from all nursing schools and their clinical sites. The findings showed the status of nursing students' clinical practices and reached several conclusions: (a) Nurses had a lack of knowledge about nursing students' preparedness and goals for learning, (b) there were too many students at each site and too few teachers and nurses, and (c) the students' practice periods were too short. Baseline survey data was also collected from newly graduated nurses about their views on education and work [16]. These data were further compared with data from newly graduated nurses in 1985 and 1990 [12] and revealed that, over time, students experienced increased responsibility for their own learning and self-reliant learning methods; there was reduced focus on the development of practical skills, and learning opportunities in clinical practice were diminished.

Fagermoen's studies were not published in scientific journals but, rather, as detailed reports in Norwegian with comprehensive discussion of the findings. Central issues from these studies were reported in nonscientific articles in the NNO's journal, most probably to catch a large segment of the Norwegian nursing population. The titles of these articles again illustrated the concern about nursing students' education in clinical practice: 'The Reality Shock' [17], 'Practice Studies – What It Can and Should Be' [18], and 'Practice - A Place to Learn or a Place to Stay' [19]. Fagermoen's engagement in nursing education was at its highest point at this time, and she published a textbook for nurse teachers [20], which was the only comprehensive textbook in pedagogy written in Norwegian for nursing educators. The book clearly described how nursing educators could plan and perform their

pedagogical work in both the school and in the clinic, and it included references to Fagermoen's own studies in nursing education. This book was extensively used by nurse educators for more than a decade.

16.2.3 Doctoral Education in Nursing

Doctoral education in nursing was established at the University of Bergen in 1987, at the University of Oslo in 1993, and at the University of Tromsø in 2004. Slowly, over time, doctoral education for nurses was established in health-care faculties at various university colleges. As of today, six study sites have doctoral programmes relevant for nurses, and many nurses receive their doctoral education in pedagogical institutions. It is quite interesting, however, to see that the establishment of doctoral nursing education has not resulted in major increased research into nursing education. Some numbers illuminate this assertion (Box 16.1).

Box 16.1 Nursing Education Research: The Number of Studies, Dissertations, and Articles

Of the 50 doctoral dissertations published at the Department of Nursing Science, University of Oslo, between 1996 and 2017, two (2%) studied educational issues.

The NNO's journal, *Sykepleien*, published an overview of all 33 doctoral dissertations published by nurses in 2016. Of these, three (9%) target nursing education.

Between 2012 and 2016, the NNO's research journal, *Sykepleien Forskning*, published 125 scientific articles; however, only seven articles (5.6%) concerned nursing education research.

Publishing points by researchers in Norway are registered for articles published in international, Nordic, and Norwegian scientific journals at levels 1 and 2 in the Norwegian publishing system. Of the approximately 435 points aggregated in 2016, only 27 points (6%) were gained through publishing in educational journals.

Research groups dedicated to nursing education research are not established at all universities and university colleges in Norway, while *several* research groups at every site are dedicated to clinical issues in nursing.

There is no central registry in Norway where one can find an overview of nurses with doctoral degrees and the themes of their dissertations. A search of databases, publications on university pages on the Internet, and contact with other educational researchers has uncovered 17 doctoral dissertations focusing on nursing education in the period 1993–2018. These dissertations were developed in traditional nursing science departments in universities, in interdisciplinary health faculties, and in pedagogical faculties in Norway and other Scandinavian countries. They can be classified into three central themes (Table 16.1).

Table 16.1 Research in nursing education: overview of doctoral theses

Name/year/university	Title of thesis
<i>Nursing students' learning during clinical studies</i>	
Kristin Heggen 1993 University of Oslo/Institute of Pedagogy [21]	The hospital as 'classroom'—on conditions for and effect of nursing students' education in hospitals
Bjørg Christiansen 2003 University of Oslo/Institute of Pedagogy [22]	The nursing profession—a field of tension between role and person: Analysis of the learning trajectory of four nursing students
Kari Toverud Jensen 2006 University of Oslo/Faculty of Education [23]	To be a student in a practice-based education – analysis of students' fellowship as a context for learning and development of identity
Betty Ann Solvoll 2007 University of Oslo/Faculty of Medicine [24]	Caring skills as a pedagogical project: A field study in nursing education
Lillian Lillemoen 2008 University of Oslo/Faculty of Medicine [25]	This is just how I am: An investigation into the development of moral behaviour of nursing students
Mari Wolff Skaalvik 2010 University of Tromsø/Faculty of Health Science [26]	Nursing homes as learning environments: A study of experiences and perceptions of nursing students and supervising nurses
<i>Practical skill learning/simulation</i>	
Sissel I.E. Husebø 2012 University of Stavanger/Faculty of Social Sciences [27]	Conditions for learning in simulation practice: Training for team-based resuscitation in nursing education
Randi Tosterud 2015 University of Karlstad (Sweden)/Faculty of Health, Science and Technology [28]	Simulation used as a learning approach in nursing education: Students experiences and validation of evaluation questionnaires
Ingunn Aase 2016 University of Stavanger/Faculty of Social Sciences [29]	Interprofessional teamwork training for nursing and medical students in Norway
Cecilie Haraldseid 2017 University of Stavanger/Faculty of Social Sciences [30]	Unsupervised clinical skills training in nursing education: Active student involvement in the development of a technology-based learning tool
Monika Ravik 2018 University of Oslo/Faculty of Medicine [31]	Practical skill learning in nursing education. An exploratory/descriptive study of nursing students' learning and transfer of practical skills in nursing education
<i>Overarching theoretical, historical, or value-based issues in nursing education</i>	
Vigdis Granum 2001 University of Gothenburg (Sweden) [32]	Students' conceptions of nursing as profession and function
Marit Kvangarsnes 2005 Norwegian University of Science and Technology [33]	The changing nursing education. National curriculum work 1992–2004 with a focus on direction, professions, discourses and text
Bodil Tveit 2008 Oslo University College/Centre for study of the professions [34]	New youth in an old profession: A study of nursing students' motivation and professional identity in the face of a long-established education

(continued)

Table 16.1 (continued)

Name/year/university	Title of thesis
Johanne Alteren 2010 Bodø University College [35]	Emotions are common sense: Nursing education between deeds and text
Unni Knutstad 2015 Aarhus University (Denmark)/ Institute of Pedagogy and Education [36]	Nursing students' constructs of nursing: Analysis of the knowledge basis in Norwegian nursing education
Kristin Jordal 2017 University of Oslo/ Faculty of Medicine [37]	'I'll make a damn good nurse': A qualitative study of coherence and learning in nursing education

Table 16.1 shows some interesting facts about doctoral work in nursing education research. Most doctoral theses have been completed at the University of Oslo and the University of Stavanger, with the remaining seven theses completed at other universities. The detailed study of nursing students' learning processes during clinical studies was a central theme until 2010, and nearly all those dissertations were completed at the University of Oslo—albeit at different faculties and institutions—meaning there was no established research programme that guided the work. In general, the research aims in these dissertations pointed to a continuation of the research tradition in the two prior time periods, where Daeffler [6], Lerheim [7], and Fagermoen [13–20] uncovered lack of quality of clinical studies in large surveys among stakeholders in nursing education. The six dissertations investigating students' clinical practices (Table 16.1) were all field studies involving observation and interviews. The researchers followed nursing students in one or several clinical practicums to collect detailed data on aspects of the students' learning processes. The designs were exploratory and descriptive, uncovering positive and problematic issues concerning students' learning.

After 2010, the venue for the study of students' learning processes moved from clinical practice to clinical skills centres. This matched the innovation of clinical skills centres following the development of patient simulators and other simulation technology. Field studies were, and still are, prevalent, but today mostly with the use of video-recorded observations. Of these, three of five dissertations were completed at the University of Stavanger within a period of 5 years, indicating a possible programmatic trend of research into simulation-based learning.

The overarching issues concerning theoretical, historical, and value-based issues in nursing education comprise the third theme. These dissertations are spread across the whole time period and cover a variety of issues, including (a) the development of professional identity, (b) analysis of documents regulating the development of nursing curricula, (c) students' development of conceptions and constructs in nursing, and (d) students' learning processes when integrating theory and practice. A variety of methods have been used (i.e. literature studies, analysis of text, interviews, and observation). These dissertations are published at different universities and do not belong to a common research programme.

A central figure in nursing education research during this time period is the author of this chapter, Ida Torunn Bjørk. A major focus in her research is practical skill

performance and development in nursing education and practice. This research was initiated in 1988 with her master's thesis in nursing science. Based on the marginalization of practical skill teaching and learning in the nursing schools in the 1980s, she explored nurses' and nursing teachers' views on the inclusion of practical skills for learning in the curricula in school and in clinical practicums [38]. Data from teachers at three nursing schools and from clinical nurses at their practice sites showed major differences in views—both between schools and between the professional groups. Educators in nursing opined more skills should be learned during nursing education than did nurses; however, both groups deemed a rather small amount of skills as necessary to learn during nursing education, implying that skills were easily learned in the clinical setting after graduation. This was further explored in Bjørk's research work in the 1990s, where four nurses were video-recorded during practical skill performances to explore practical skill development over their first year of nursing practice [39]. Practice performance of two different skills was video-recorded three times each over the year, and both nurses and patients were interviewed afterwards. First, the findings showed that the nurses became quickly routinized in their skill development but with incorporated faults. The faults and errors varied across the group of nurses, but they were typical as to each nurse and were apparent during the first video recordings. Second, to analyse the development of practical skills, a conceptual and normative model—the model of practical skill performance—was developed [40]. The model aimed to show that practical skill performance was complex. A well-performed practical skill involved the following six elements: the (a) substance including the choice of correct steps of actions and communication, the (b) sequence of these steps, the (c) accuracy, the (d) fluency, the (e) integration, and the (f) caring comportment in the performance of these steps. The model was illustrated as a circle, which indicated wholeness and the equal importance of the elements. While the focus of this work was the lack of skill development of newly graduated nurses, the results indicated the need for research that could improve the teaching and learning of practical skills in nursing education. A substantial part of Bjørk's research programme, therefore, focused on practical skill learning. The research programme, which aimed to translate the theoretical model of practical skill performance into practical use in nursing education, will be illuminated in the following section.

As befitting any newly created research doctor, Bjørk's research was disseminated in what Thompson et al. [41] classify as *passive and active dissemination*; three empirical articles were published in international journals [40, 42, 43], and the model was presented actively through attending conferences and by presenting the model at seminars in nearly all the nursing educational programmes across the country. It was when Research in Nursing Skill (RiNS) was founded in 2006, however, that the dissemination of this work really took off. RiNS is a Scandinavian group of nurses in research, education, and clinical practice which aims to promote a comprehensive understanding of practical skills in nursing and how these skills are learned (www.rins.dk). All the members of the group had used the model in their research in nursing schools or clinical settings, had seen its benefits, and were eager to develop it further [44]. Over the next 3 years, the model was further developed into a learning tool for reflection, supervision, and formative assessment in practical skill learning (Fig. 16.1).

The tool consists of the original circular model and an instrumental supplement that defines the six elements of the model and includes quality criteria for the performance of each element (Fig. 16.1). The supplement was developed through trials of the model in Denmark and Norway, and validation and translation to other languages were secured by RiNS [44]. This work ensured that the model and its supplement were generic (i.e. applicable to many practical skills), holistic (i.e. enabling humanistic as well as procedural and technical competencies), multimodal (i.e. suitable for use in assessment settings from skills laboratories to the workplace), and multilevel (i.e. applicable to both novice and more experienced practitioners) [45]. In the years after the model was developed as a learning tool, it has been implemented in nursing education in several bachelor programmes in Norway, Denmark, and Sweden. The model is used in the clinical skills centre and in the clinical setting, by the individual students, in peer learning between students at the same and different educational levels, and in supervision with teachers and clinical supervisors.

Model of Practical Skill Performance © RiNS 2009

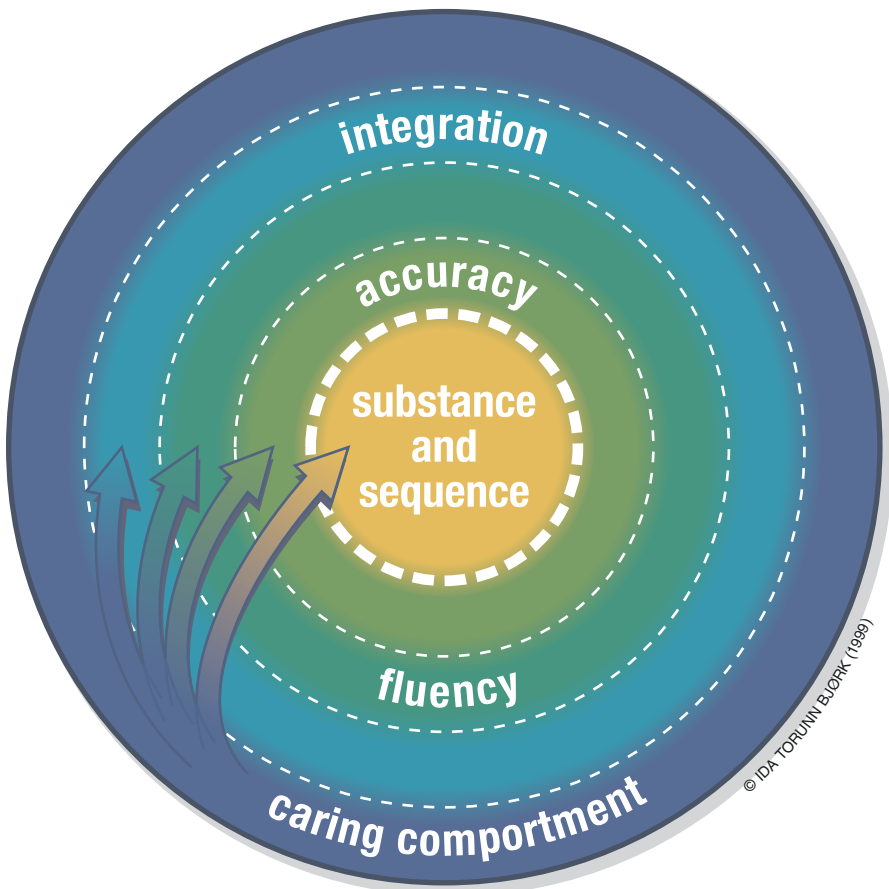


Fig. 16.1 Model of Practical Skill Performance and its Instrumental Supplement

Instrumental supplement to Model of Practical Skill Performance

© RiNS 2009

Definition of categories in the model

SUBSTANCE AND SEQUENCE are the core aspects of a practical skill. It implies that necessary steps in the skill are included and performed in a logical order.

ACCURACY refers to exactness of each movement step, instruction and information. Accuracy is important in order to ensure security of patient, nurse and environment

FLUENCY signifies that tempo and rhythm is adjusted to both the patient and the type of practical skill being performed, and that the practical skill is performed with smoothness

INTEGRATION signifies that all parallel aspects within the practical skill are harmonized
Integration also means that the practical skill, as a whole, is adjusted to the patient's current condition and situation

CARING COMPORIMENT signifies to create an atmosphere where the patient's dignity is upheld, self-determination is ensured according to the patient's current condition and situation, and well-being is warranted

Characteristics of quality performance

Substance and sequence are determined on the basis of content in clinical guidelines, professional standards and principles.

Substance and sequence are adapted to the patient and the situation where the skill is being performed

Accuracy implies to act:

- correctly
- precisely

Accuracy implies to inform and instruct:

- what is necessary and sufficient
- distinctly
- understandably

Fluency implies to act, inform and instruct:

- without hesitancy
- without unnecessary breaks
- with ease

Integration implies to:

- time and coordinate the elements of action

Integration related to adjustment implies to:

- be attentive
- have an overview
- be flexible

Caring comporiment implies to:

- acknowledge
- show respect
- ensure patient participation
- be empathic
- use appropriate touch
- be engaged
- use appropriate communication
- work aesthetically

Fig. 16.1 (continued)

Experiences with the model of practical skill performance and its instrumental supplement have been studied in different settings, and the findings have shown that the combined model and supplement includes a set of concepts that are relevant in nursing practice. When the understanding of the concepts is shared among students and supervisors, the tool enhances discussion and reflection and may influence

reasoning and learning. When the supervisor or peer uses the model and its quality criteria during supervision and assessment, the foundation of the supervisors' evaluation is clear, and this instils security in the students. The tool is detailed and systematic and gives both students and supervisors support to give feedback, which is a central aspect of supervision practice. The model's concepts and criteria give the supervisors 'pegs to hang their observations on'. Observations become richer and more structured. The model stimulates integration of theory and practice. This is the responsibility of the supervisors since they have the relevant knowledge to support students in this integration. As shown herein, the use of the tool produces mostly positive experiences [46–50]. Difficulties in its use are related to creating familiarity with the model so that the users know what elements to use at what time [50]. Also, the element of integration has been considered difficult for students to grasp, possibly related to a lack of knowledge about the patients they care for, which hinders students in integrating the skills they are performing into the patients' total situation [48]. The longitudinal work with the model of practical skill performance continues. The model has been developed into a summative assessment instrument and tested. Students have each been video-recorded while performing three practical skills in the clinical setting, and clinical nurses have used the assessment instrument to rate the performances. Psychometric properties of the tool will be assessed with generalizability theory.

16.3 Nursing Education Research: Factors Influencing the Development

Based on the preceding historical review, several factors seem to have influenced the development of nursing education research over time. Four factors will be discussed: (a) critical mass of researchers, (b) professionalization and academization in nursing, (c) funding of research, and (d) research leadership.

16.3.1 Critical Mass of Researchers

It is not the size of an institution or the number of faculty per se that is decisive for successful research activity, but a critical minimal number of researchers engaged in a field of research to make that research function on a larger scale [51, 52]. In their review of the literature on what characterizes robust professional research environments in educational institutions, Vabø and Kårstein [52] point to challenges for research in Norway (i.e. size, geographic dispersion, and fragmentation). This general critique of research is corroborated by a national evaluation of research activity in biology, medicine, and health in Norway. The conclusion as to nursing research is:

Some of the large units attached to universities perform well, while others—in particular, small units at university colleges—are weaker due to fragmentation, lack of clear focus, methodological problems and a superficiality in the choice of research topics. Also, there is an extensive overlap in topic areas across many units [53, p. 8].

This statement about nursing research in general underscores the problems facing nursing education research and is aggravated by the lack of researchers and research groups in this field of research.

In the beginning of the doctoral programmes and until a decade ago, the choice of a theme or topic for the doctoral study was more or less a private matter for the doctoral nursing student. Opportunities for students to choose a career in nursing education research were mainly hampered by a lack of supervisors with the interest and ability to supervise education research; thus, a perpetual problem came into being. Today, when most doctoral nursing students are affiliated with a research group, this problem is still actual, as there are few research groups with seasoned researchers that focus on nursing education studies. The few nurses who do have a doctorate in nursing education research are spread thinly across the Norwegian educational landscape. Being the only person conducting nursing education research in a faculty where everyone else is conducting research on clinical nursing issues takes a lot of work and responsibility, and it is a lonely path to pursue. Because of a general problem with a critical minimum number of faculty engaged in both education and research [52], however, the government has both regulated and supported the fusion of institutions in higher education since the beginning of 2000. University colleges have merged in many parts of the country, and some have become universities. The 30 nursing educational sites that existed before this time are still functioning, but now the majority are part of larger university campuses. This may be a golden opportunity for nursing education researchers to collaborate in larger research groups. Such groups may have enough momentum to increase financing for research and educate doctoral nursing students and postdoctoral nurses interested in research in nursing education.

16.3.2 Professionalization and Academization of Nursing

Nursing has developed and become a profession that has come quite far in building a distinct knowledge base [54, 55] and that educates its members at the universities and university colleges. In this process, the focus on research to enlighten and improve the education itself has tapered off, as the preceding historical review has shown. The academization in nursing has been propelled by many factors; among them, we find research results from the early studies in nursing education that promoted a drive towards professionalization of nursing and the influence of prominent nursing leaders and educators educated in the United States who brought with them ideas of nursing science as a foundation for the profession. This effort to build a strong nursing profession and the drive towards building nursing science has, in Norway, historically been coupled with governmental education policies promoting the transformation of nursing education from vocational schools into higher education institutions [55].

In the effort to become an autonomous profession, the theoretical basis of nursing expanded at the expense of the practical character of the curriculum [56]. It was important to emphasize and underscore the autonomous role of the nurse and nursing apart from medicine; therefore, through patient related research, educators strengthened the importance of nursing in the field of health services. By

conducting research in nursing, nurses provide evidence for their own practices. Becoming a part of the higher education system resulted in demands for research as well as for research-based teaching. Criticism of the effort to become a profession through academization of nursing invited questions about the mandate and the contributions of nursing research. If nursing research was to matter to the patients, their next of kin, and the society as a whole, it should contribute to solving the patients' and the health-care systems' problems [57]. In this landscape, research on nursing education issues receded into the background. Generally, in nursing research (and science in health care), there is a drive to produce significant results that improve patient outcomes and issues and to compete for large funding in this area. This is, of course, important from a health perspective, and it promotes nursing as an autonomous and responsible health profession; however, coupled with the lack of researchers and research groups in nursing education research, this drive does not favour inquiry that matters in the development of nursing education. Nursing education research is important to secure an evidence-based education that results in competent nurses who can solve complex patient problems.

16.3.3 Research Funding

The lack of funding for research has been a large obstacle in the development of nursing education science. Most doctoral students in nursing education research have been financed locally by the university colleges where they work. The research agenda for nursing has, in general, not been driven by nurses but by funding organizations and funding that targets patients' issues and outcomes—not educational issues. Interestingly, it is a contradiction that research uncovering patient problems and nursing needs in a variety of patient populations and settings is not matched with a focus on research in education on how to develop and teach competencies needed by students to learn to care for these same patient groups or to secure the implementation of the research results [58]. The competition for large-scale funding for research mainly takes place in the fields of biomedicine and clinical research. Nursing education research, being small in scale and generally not highly acknowledged, has been bestowed with the lack of research funding, which has been a huge threshold in the development of nursing educational science and may have halted the development of nursing education. Public funding that matched the research interests in nursing education was nearly non-existent until the last decade, when the Norwegian Research Council offered funding that also invited research proposals focusing on educational research and development topics relevant to nurse educators.

16.3.4 Research Leadership

As research is an important part of work in academe in higher education [58], one would assume that leaders in educational institutions were active in this part of

their leadership function [58]. According to several sources, however, this is not the case [59, 60–62]. There is also little literature published on research leadership in general [58]. Managerial and administrative leadership in educational institutions have been studied to the detriment of studies on research leadership [58]. Research has uncovered few programmes for the development and orientation of nursing faculty into their roles in academia [59]. The illustration of research efforts in nursing education in Norway shows a few examples of research leadership: individual research leadership by Fagermoen and Bjørk and organizational research leadership by the NNO and the Continuing School for Nurses in the early phase of nursing education research in Norway. Over time, the organizational leadership in nursing education research in Norway has dwindled, and only a few individual researchers have persistently pursued research in nursing education over time.

In Norway, leaders of nursing education at the university colleges where bachelor education and most master education is situated did not traditionally have a doctorate. As research leadership is only one aspect of academic leadership, the lack of competence in research may very well have influenced both in interest and ability to manage and develop research relevant to enhancing the quality of nursing education. It is only in the last decade, since university colleges have merged into larger organizations, that the doctorate has been a criterion for employment as an academic leader in nursing education institutions. Appointing leaders with a doctorate in nursing or nursing education has, however, not increased the level of nursing education research as we have shown. The overwhelming focus on clinical issues in nursing research and the funding practices promoting this type of research may be plausible reasons for the lack of focus on educational research. Lack of interest among leaders in focusing on pedagogical practices in research, as well as its development, is another. These reasons, combined with scant knowledge about what generally constitutes research leadership, perpetuate the problem of building strong educational research groups.

Research leadership involves the development of researchers. In Evans' terms, research leadership is to enhance 'people's capacity and willingness to carry out the research components of their work or studies [...] with a degree of permanence that exceeds transitoriness' [61, p. 425]. This definition addresses the leadership of people: the researchers. Another seemingly more important issue in the case of educational research in nursing in Norway is leadership of the subject of research [61]. There is a move towards increasing research into the quality of Norwegian nursing education. A recent report on the quality of clinical studies in professional education in health and social work strongly advocates for research focusing on practice models and learning outcome in clinical studies [63]. This call for research and the need for research on other issues in nursing education imply that it is of utmost importance that research leadership involves to take a lead in promoting subject areas that ought to be investigated within our educational institutions. In a review that focused on leadership and mentoring of post-doctoral nurses, Hafsteinsdóttir et al. stated that it is essential for the development of nursing research in general that there are individuals who are interested,

engaged, and motivated for research [64]. The results of the review also underscore the important contribution of mentoring of postdoctoral nurses and nurse researchers in leadership and researcher development, which contributes to improved research productivity. This certainly should apply to the development of nursing education research as well.

16.4 Conclusions

In this chapter, the development of nursing education research in Norway has been described and discussed in the light of four influencing factors: (a) critical mass of researchers, (b) professionalization and academization in nursing, (c) funding of research, and (d) research leadership. Few nurses have finished their doctorate focusing their research on nursing education, and the critical mass of researchers needed to develop education research is lacking. Funding opportunities have been restricted, and finances have mainly been available for research into clinical issues in nursing. A relatively strong individual and organizational leadership in nursing education research was apparent in the early time period of nursing research. This leadership has dwindled, and nursing education research is seriously lagging behind other research efforts in Norwegian nursing research. The merging of nursing education sites into larger organizations and a pressure to increase the quality of nursing education through research efforts challenge academic leaders in nursing education. Now is the time to execute research leadership that incorporates the development of nursing education researchers through mentoring and support. It is an opportune time to seek collaboration between institutions to increase funding for larger projects that can impact students' learning processes and outcomes in line with the competencies needed in future nursing practice.

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Developing a Clinical Nursing Research Programme: The Case of Promoting Psychosocial Well-Being in Stroke Survivors

17

Marit Kirkevold

17.1 Introduction

The purpose of this chapter is to explain how research develops over time in response to pertinent issues in clinical practice, existing international knowledge, and knowledge generated within a particular line of research. Furthermore, the chapter illuminates the fruitfulness of working in larger research groups, across disciplines, and with national and international users and colleagues with similar interests. Clinical nursing research promotes health, functioning, coping, and quality of life by integrating evidence-based interventions based on patient experiences and preferences. Using the example of nursing care aimed at promoting psychosocial health and well-being following a stroke, this chapter discusses more general issues and relevant strategies related to the promotion of clinical nursing research.

17.2 Exploring Current Practice: Using Clinical Ethnography to Uncover Essential Foundations of Acute Stroke Nursing Care

In 1986, when the first study was initiated, modern stroke treatment and rehabilitation were in their initial phases [1, 2]. In both the nursing and stroke literature, the role of nursing was unclear [3–6]. Researchers debated whether nursing had anything to do with rehabilitation following a stroke [7–9], because nursing care was associated with a passive, maintenance approach rather than an active, rehabilitative approach. At this time, Norway's first stroke unit was established. This provided a unique opportunity to explore the role of nursing in stroke treatment and rehabilitation.

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The first study was designed as a clinical ethnographic study [10], the purpose of which was to identify the roles and functions of nurses in acute stroke care and rehabilitation, with particular focus on the nurses' values, norms, and knowledge. The focus on nursing in particular was prompted by the lack of specific knowledge about the contribution of nursing to this new field, in contrast to the roles of the other health professions, which have been clearly described in the literature. The clinical ethnographic approach was chosen because it provides an opportunity to study practices as they unfold in their natural contexts [10, 11]. This is a powerful means of understanding a culture (in this case, that of a clinical unit) and of investigating how general understandings impact the daily practices of the people involved. The study's basic assumption was that by studying the enactment of the new stroke unit policy in the unit's everyday activities, it would be possible to generate knowledge about how the nurses interpreted and acted out their roles and about the values, the norms, and the knowledge and reasoning that underpinned their actions.

Theoretically and methodologically, the study was inspired by the work of Susan Kaufman [12, 13] and Patricia Benner [14]. The latter used clinical ethnography to study intensive care nurses and their practical knowledge. Data was collected through participant observations of actual patient–nurse encounters, team meetings, nurse reports, other informal meetings, and informal interviews over a 3-month period. Furthermore, formal individual interviews as well as focus group interviews were carried out in the latter part of the data collection period in order to achieve a more in-depth understanding of the values, norms, and reasoning guiding the nurses' actions and decisions.

Whereas the existing literature had described the role of nurses in stroke rehabilitation as therapeutically nonspecific and/or as a support for the rehabilitation treatments provided by the other health professions [3, 6–9], the major findings of this study suggested that nurses had both a central coordinating role and a specific therapeutic role during the acute phase of stroke treatment and rehabilitation. The coordinating role ensured that the different treatments and activities of daily living were coordinated into a manageable daily programme for each patient as well as a manageable workload for the professionals involved in providing treatment and care to all the patients treated in the unit. The therapeutic role consisted of four therapeutic functions, which were integrated into their daily work [10, 15]. The meaning and significance of these functions were closely tied to the nurses' understanding of the problems, needs, and characteristics of stroke patients as well as the overall values and norms directing the care. The essential guiding values and norms identified by the study were as follows: helping stroke patients regain a meaningful life; receive high-quality care; have their particular needs, concerns, and problems addressed; and whenever possible, make decisions about their own life and care [10, 16]. In light of the fact that stroke nursing care is still described as unclear and nonspecific [17–19], these early findings remain relevant [20, 21]. A brief synopsis of the findings is therefore provided below.

17.2.1 The Interpretive Function of Stroke Nurses

The interpretive function of nurses refers to their role in helping patients and their relatives understand the ramifications of the stroke [10, 15]. Being ‘hit’ by a stroke is described by patients and their close relatives as a terrifying experience, and it frequently leads to changes that require patients and their close relatives to reinterpret their life situation. This need to reinterpret and reconstruct one’s world occurs at a time when the patient’s body feels unfamiliar and uncooperative. The nurses, who are present for long stretches at a time and around the clock, must confront patients’ and relatives’ questions and agonising thoughts. Providing realistic information about the stroke, about treatment and rehabilitation, and about the expected trajectory of the disease, as well as pointing to possibilities for improvement and recovery, is essential to helping and supporting patients and relatives as they begin to ‘rebuild’ an understanding of their worlds and lives.

17.2.2 The Consoling Function of Stroke Nurses

The nurse’s consoling function consist of providing emotional support [10, 15]. Fundamental to this function is the establishment of a trusting relationship with the patients and their close relatives. The study uncovered that the nurses saw this as fundamental to all other activities carried out for the purpose of helping the patients and their families deal with the stroke and its consequences. Facilitating a normal grieving process and promoting hope as the patients gradually realise the extent of the stroke and its implications for their lives are major tasks associated with this function. The importance of this function is underscored by the rates of poststroke depression during both the acute and chronic phases following a stroke [22].

17.2.3 The Conserving Function of Stroke Nurses

The conserving role of stroke nurses entails maintaining normal functions, preventing complications, and meeting the patient’s basic needs [10, 15]. This function is closely related to what is often referred to as ‘maintenance care’ [3, 7], because it deals with protecting the patient’s functioning and preventing potential problems. The pervasiveness of this function, the everyday character of the related nursing activities, and the inconspicuousness of the results (i.e. absence of complications) frequently make this an overlooked or unappreciated function in rehabilitation, among both nurses and other health professionals. However, maintaining normal functioning and preventing complications are essential actions from a rehabilitation perspective, because rehabilitation is demanding and requires that the patient is in the best possible condition to follow through with the rehabilitation activities.

17.2.4 The Integrative Function of Stroke Nurses

The integrative function of stroke nurses consists of helping patients integrate newly learned skills and techniques into their daily activities [10, 15]. Hence, it is closely linked to goals typically associated with rehabilitation. This function both entails caring for the patients using the techniques taught by the different therapists and includes a ‘translation function’, by which the nurses help patients ‘move’ the new skills and techniques from the exercise rooms and training situation to situations in which training is not the major focus. By helping patients put the new skills to use in order to achieve practical ends (e.g. getting out of bed, getting dressed, eating, using the toilet, participating in social interactions), the nurses help them integrate the skills into everyday situations. These situations are complex, because focus is divided between safe performance and the accomplishment of specific daily tasks and meaningful activities. If patients are unable to see the relevance of the newly learned techniques for performing activities that are important to them, the specific rehabilitation goals identified by the health professionals lose their meaning.

The results of the study described above are interesting in light of the fact that the role of nurses in rehabilitation is still debated [17–21]. The study uncovered a nursing practice that was quite systematic and conscious in terms of developing a clear nursing role in stroke rehabilitation, which is in line with the recommendations put forth in the stroke unit trials [23, 24]. Current literature [17–21] has suggested that paying more attention to the role of nurses in stroke care is important and that more research is needed in this area—particularly in the form of intervention studies—to ensure that nurses contribute to the rehabilitation following a stroke. However, the clinical ethnography did not include the perspectives of the patients, an issue we turn to in the following section.

17.3 Exploring Personal Experiences Using Longitudinal Qualitative Approaches: The Case of Stroke Survivors

Whereas the first study had a professional perspective, focusing on nurses and the nature of nursing care of acute stroke patients, the research programme subsequently shifted the focus to the experiences of stroke survivors. In the mid-1990s, when these studies were initiated, there were already a number of qualitative studies of the experience of living with the consequences of a stroke [25]. A review of these studies documented the difficulties encountered by stroke survivors. However, only a limited number of studies have used longitudinal qualitative designs to explore changes in patients’ experiences over time. At this point in the history of the research programme, two doctoral students had received funding to conduct related studies, and the work was conducted in close collaboration with them. Over the next several years, a series of longitudinal studies, primarily qualitative, were carried out to explore the experiences of stroke survivors and their families. This series of studies was informed by phenomenological and hermeneutic approaches.

The first of these studies [26] described the characteristics of the illness trajectory of stroke during the first year. This qualitative, prospective case study included repeated, in-depth qualitative interviews with nine mild to moderately affected stroke patients during the course of the first year. A total of 63 interviews were conducted and analysed from a hermeneutic perspective. The results indicated that the stroke patient does not necessarily experience a stroke as an abrupt psychosocial crisis. Rather, the adjustment process seems to evolve gradually over the greater part of the first year. The results suggested that the illness trajectory could be described as proceeding through four phases, each with characteristic tasks and focal points. The adjustment process involved rigorous physical and psychosocial work on the part of patients. A necessary prerequisite for adjustment seemed to be a realistic conception of the illness and its implications, which according to this study takes time and experience to achieve. The study indicated a need to move away from a predominantly functional rehabilitation approach towards a more comprehensive approach that takes into account the complexities of the patients' adjustment process.

Building on these findings, Eilertsen et al. [27] described the characteristics of the stroke recovery process from the perspective of older women. In line with the first study, this was a prospective, longitudinal case study. Six women, aged 68–83, were interviewed in-depth 12–14 times during the first 2 years post stroke. The interviews addressed how the women experienced their bodies, their self-understanding, and their daily life and how these factors changed over time. Data was analysed from a hermeneutic perspective. Again, the results indicated that post-stroke recovery is slow and complex and evolves through four distinct phases. In the first phase (0–2 months post stroke), the participants' main concerns were their bodily changes. During the second phase (2–6 months), their concerns shifted to the activities of daily life. In the third phase (6–12 months), self-understanding was emphasised, and in the fourth phase (12–24 months), the women were most concerned about going on with life. The transitions between the phases were gradual.

Using a phenomenological and feminist perspective, Kvigne and Kirkevold [28] and Kvigne et al. [29, 30] also explored the experiences of women stroke survivors. Through individual in-depth interviews, repeated three times within the first 1 and a half to 2 years following a first-time stroke, the study uncovered profound bodily changes that had both existential and practical consequences [28]. The bodily changes were disturbing and often unintelligible, both at stroke onset and during the process of recovery. The women described their bodies as fundamentally different from before the stroke and highlighted that they could no longer trust their bodies, which they experienced as unpredictable and vulnerable. Furthermore, the post-stroke body demanded special attention due to weakness, troublesome symptoms, and the unwanted visibility associated with the changes occasioned by the stroke. Over time, the women also described what could be termed an extended body: they experienced the equipment used to compensate for their bodily changes and to improve their everyday life, more or less as a part of the body itself.

In a parallel study, Kvigne et al. [29] explored how the women experienced their life following the stroke and how they managed their altered situation.

The findings suggested that there was a lengthy struggle to continue life and preserve the self. The struggle was closely related to their deeply rooted identities as mothers, wives, grandmothers, and housewives, and their rehabilitation needs could easily conflict with their female caring roles. According to the women's experience, health professionals did not address these concerns or support them in transforming these roles to promote their sense of self and the continuation of a meaningful life. Nor did the nurses caring for the women consider this as an important part of their work [30].

During this period, we also conducted an in-depth exploration of the experience of fatigue among stroke survivors [31–36], because fatigue has a profound impact on rehabilitation. These studies confirmed the need for more systematic efforts to alleviate this distressing symptom. This work initiated a Scandinavian collaboration with researchers in Denmark and Sweden [31, 34, 35]. Simultaneously, another doctoral student explored the phenomenon of poststroke depression, investigating the prevalence, dominant symptoms, and associated factors in a systematic review [34] and examining the lived experiences of poststroke depression over time [37, 38].

17.4 Moving from Qualitative Results to Nursing Intervention Research: Developing and Testing the Feasibility of a Psychosocial Intervention

After several years of studying different aspects of living with the consequences of a stroke, we applied for funding to develop and test a nursing intervention aimed at supporting the adjustment process during the first 6 months following a stroke. This new development in the research programme resulted from the profound challenges and struggles uncovered in the longitudinal studies presented above, combined with a recognition of the importance of the nursing role in stroke rehabilitation identified by the first study of stroke nursing.

Moreover, in parallel with our studies, international researchers had also turned their attention to the psychosocial aspects of stroke and the importance of addressing these needs [39–41]. Together, these studies documented the ways in which psychosocial difficulties significantly affect long-term functioning and quality of life. Although many studies had also explored psychosocial interventions, most had modest effects [40, 41]. Consequently, our study developed an empirically and theoretically founded psychosocial nursing intervention aimed at promoting psychosocial adjustment and well-being following stroke. This initiative was also inspired by, and aimed to extend, the four nursing functions described in the first study.

17.4.1 Development of the Intervention

To begin, we reviewed the existing literature, which had grown extensively during the 1990s and 2000s. We also made a synopsis of our qualitative studies in order to integrate the insights gained by the distinct but related studies [42]. Based on the

growing evidence and the discussion in the literature regarding the need for more theoretically guided studies, we turned to the then recently developed Medical Research Council (MRC) framework for the development and testing of complex interventions [43, 44]. This framework highlights the importance of integrating theoretical and empirical evidence as a foundation for new interventions and of a gradual development process based on thorough feasibility studies conducted along the way.

Over the next few years, we developed a health-promoting psychosocial intervention aimed at supporting stroke survivors' own coping resources, to be conducted in the community [45]. In developing the intervention, we drew on the expertise and experiences of clinical experts as well as those of stroke survivors and their families. On the basis of a thorough and rather lengthy process, we devised an intervention that combined key ideas from narrative psychology [46, 47] with the guided self-determination approach, which was originally developed for coping with diabetes [48]. The key elements of the intervention are summarised in Fig. 17.1.

17.4.2 Evaluation of the Intervention

Next, we launched a feasibility study to evaluate whether the intervention was methodologically appropriate and would achieve the goal of promoting psychosocial well-being following a stroke. The feasibility study was conducted as a qualitative study that focused on evaluating the intervention process and the instruments used to evaluate the intervention. The feasibility study provided very important knowledge about the intervention itself, brought to light methodological and pragmatic issues to consider in the planning of a more comprehensive testing of the intervention, and highlighted the fruitfulness of using the MRC framework to develop and test complex interventions like the one we had developed [49].

The feasibility study evaluated the content, structure, and process as well as the usefulness of the intervention from the perspective of the participants. Data were collected immediately before, during, and 14 days after the completion of the intervention. Data included standardised instruments and qualitative interviews of the participants, worksheets filled in by participants, and log notes taken by the health professionals who conducted the intervention. Data analysis was case oriented. The structured instruments were analysed regarding completeness of data and indication of changes in outcome variables. The qualitative interviews, log notes, and worksheets were analysed using thematic content analysis.

A total of 25 stroke survivors (17 men, 8 women), with a median age of 64 (range 33–89), participated [48]. They found the content and process of the intervention relevant and underscored the benefits of being supported during a difficult time, having a chance to tell and (re)create their story and being supported in their attempts to cope with the situation. We concluded that the feasibility study provided initial support for the usefulness of the psychosocial intervention. It also highlighted areas requiring further consideration and development.

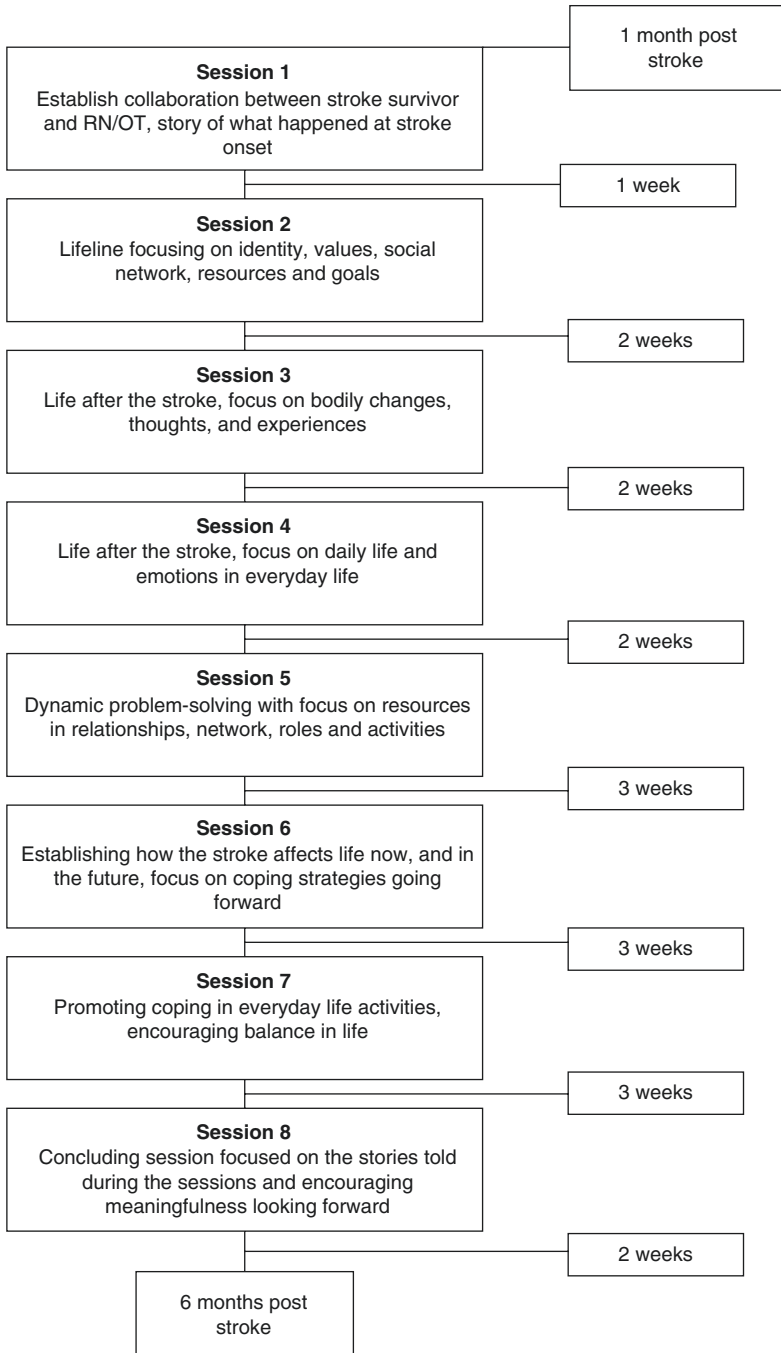


Fig. 17.1 Content and structure of psychosocial intervention. Reprinted with permission from Biomed Central from Kirkevold, M. et al.: Promoting psychosocial well-being following stroke: study protocol for a randomised, controlled trial. *BMC Psychol.* 2018; 6: 12. Published online 2018 Apr 3. doi: [10.1186/s40359-018-0223-6]

A particularly important feature of our intervention was to include stroke survivors with aphasia, because these patients are frequently excluded from psychosocial intervention studies. Part of the feasibility study therefore focused on exploring how the participants with aphasia experienced the intervention [50]. Data were generated by participant observation during the intervention; qualitative interviews at 2 weeks, 6 months, and 12 months after the intervention; and standardised instruments prior to the intervention and at 2 weeks and 12 months after the intervention. The participants emphasised the value of being assisted in talking about their experiences and that the psychological support motivated them to move on during the difficult adjustment process [50]. In a related case study, we also found that the experience of co-constructing stories with a knowledgeable healthcare professional made an important contribution to improved psychological well-being [51].

17.4.3 The Needs of Younger Stroke Survivors

During this phase, we extended our study to explore the needs and experiences of young stroke survivors, because the preliminary findings of the feasibility study suggested that they voiced age-specific needs that were not met by the traditional rehabilitation programmes. In a doctoral study, Martinsen et al. [52–54] conducted three related qualitative studies focusing on younger stroke survivors. The first study [52] explored how living with the consequences of stroke affected family life in the late recovery phase. Martinsen interviewed 22 stroke survivors, aged 20–61 years, 6 months to 9 years after stroke onset. The interviews were analysed applying a hermeneutic phenomenological approach based on narratives. The findings revealed that the participants initially described a struggle to be good enough and to balance the needs and demands within the family. Later, they conveyed a more resigned attitude. Two main themes characterised the struggles: ‘struggling to re-enter the family’ and ‘screaming for acceptance’. Patients who had not established their own families and stroke survivors in parental roles seemed particularly vulnerable. The second study [53] explored the psychosocial challenges faced by work-aged participants (i.e. those aged 18–67 years) during and after participating in a dialogue-based psychosocial intervention during the first year following a stroke. This study, which was part of the feasibility study described above, conducted a hermeneutic phenomenological analysis of in-depth interviews with 14 stroke-survivors aged 33–66 years and of the researcher’s field notes and log notes taken during the intervention. The findings highlighted that the consequences of the stroke had a substantial impact on family and work life. The participants described a threat of becoming marginalised in both family and work life.

The final study [54] explored young and mid-life stroke survivors’ experiences of the health services and their long-term follow-up needs. A total of 16 participants from two cohorts were interviewed in depth. The findings showed that participants struggled to gain access to follow-up health services and that if they did receive follow-up, it appeared more coincidental than planned and untailored to their specific needs. It thus appeared that young and mid-life stroke survivors

were vulnerable to falling outside the follow-up system. Together, this series of studies helped us prepare the randomised controlled trial (RCT) presented in the next section.

17.5 Studying the Effectiveness of a Clinical Intervention: Promoting Psychosocial Well-Being Following Stroke: A Randomised Controlled Trial

Our present research consists of an RCT conducted to test the effectiveness of the intervention [55]. This is in line with the complex interventions framework [43, 44]. The current version of the intervention was adjusted based on the findings of the feasibility study, and the design, including the instruments used to collect data, was informed by the findings of the feasibility study. The research group has been extended to include researchers with complementary expertise. In addition to nurses, several occupational therapists have been included as a result of our recognition of the similar interests of nurses and occupational therapists with respect to promoting psychosocial well-being following a stroke. The research group has also established collaboration with experts from speech therapy, psychology, medicine, and statistics. The study, which is currently in the analysis phase, was conducted as a multicentre, randomised, single-blind controlled trial with one intervention and one control arm. A total of 322 stroke survivors were randomly allocated into an intervention group (a dialogue-based intervention to promote psychosocial well-being) or a control group (usual care). Participants in the intervention group received eight individual sessions of supported dialogues in their homes during the first 6 months following an acute stroke. Process evaluation was also included, and it was designed as a longitudinal mixed-methods study. Data included individual qualitative interviews with 15–20 participants each in the intervention and control groups and focus group interviews with the intervention professionals and data collectors. The thorough process evaluation will make it possible to interpret the findings of the RCT, and taken together, the results will potentially generate knowledge that informs both the development of future trials aimed at promoting psychosocial well-being and the psychosocial follow-up of stroke patients living at home.

17.6 Lessons Learnt and Future Research Needs

To address its research questions, the research programme has applied various designs and methods and drawn on several theoretical perspectives. Over the years, a number of researchers have contributed to the programme, both nationally and from Denmark and Sweden and recently from the UK. The research has been conducted in close collaboration with clinical colleagues and has also benefited from collaboration with various user organisations. The collaboration has introduced a variety of clinical experience and expertise to the programme, thereby enriching the studies in significant ways. The collaboration undertaken during the planning phases

of the intervention studies contributed particularly important perspectives. The users suggested important improvements that made the intervention more easily accessible (e.g. the visual design and wording of the worksheets). The clinicians helped to design the intervention in a way that would make it easier to implement should it be found effective (e.g. number of meetings, type of training). In addition, several of the studies, both qualitative and quantitative, were quite extensive and would not have been possible without the efforts of the various researchers and clinical colleagues. Joining forces has therefore been essential to the results produced.

17.7 Methodological Challenges

Our research programme started out with qualitative studies conducted to generate new knowledge about clinical practice as well as lived experiences of the consequences of a stroke. Traditionally, qualitative and quantitative studies have been considered to reflect two different paradigms, but over the years, new methodological developments have conceptualised qualitative and quantitative methodologies as supplemental rather than incompatible [55, 56]. We have taken this approach and found the MRC framework for developing and testing complex interventions relevant and useful for integrating quantitative and qualitative empirical results from our own studies and other published studies as well as the chosen theoretical perspectives. The MRC complex interventions framework highlights the gradual process of developing and testing interventions in order to generate interpretable results. In both the feasibility study and our most recent study (the RCT), the inclusion of a thorough process evaluation has proved very helpful. Although the analysis of the RCT data is not finished, we have already observed that the information derived from the process evaluation is an invaluable means of uncovering the methodological challenges we have encountered. Conducting an RCT of the magnitude we have done required the involvement of a number of institutions across a large geographical area, as well as many recruiters, data collectors, and intervention personnel. Despite thorough training and careful preparation, ensuring consistency in carrying out the recruitment, data collection, and interventions was demanding. We have carefully analysed the fidelity of the study, and although it is generally high, we have identified issues that must be taken into consideration when interpreting the results [57]. Furthermore, although the RCT design is considered the gold standard, applying it has important limitations when it comes to psychosocial interventions [55, 56]. This problem is not unique to this study but applies to other nursing interventions as well, because most nursing interventions can be considered complex interventions. Inspired by Elliott [56] and Carey and Stiles [57], we have introduced additional qualitative studies in order to determine whether and in what way the participants found the intervention useful as well as how the intervention might be improved.

Thus far, our research has focused primarily on stroke survivors and professional caregivers. However, we do know that a stroke may have a dramatic impact on the

entire family [58]. There is a need to explore how to support the entire family when one member has suffered a stroke. Furthermore, our intervention studies, which were carried out in the stroke survivors' homes, have shown that in order to make it more accessible, developing a Web-based version might be a good idea. Our studies of fatigue following stroke suggest that stroke survivors experiencing fatigue need support to handle this bothersome symptom. An initial feasibility study by a previous doctoral student in Denmark has shown promising results [59]. Methodological research is needed as well. A valid instrument measuring psychosocial well-being following stroke is lacking, because most instruments measure depression and anxiety rather than well-being—and the absence of depression and anxiety does not equal psychosocial well-being. Furthermore, methodological development is needed to develop effective designs that are more appropriate for testing psychosocial interventions.

17.8 Conclusions

This chapter has described and discussed a research programme that started as a study by a single researcher and grew to include a multidisciplinary research group addressing the psychosocial needs of stroke survivors. The programme illustrates how the various qualitative research approaches and methods used to understand the challenges and complexities of nursing practice and the experiences of stroke survivors may be translated into interventions aimed at improving the services and outcomes of nursing and health care. Although focusing on a specific population and clinical topic, the chapter highlights more general issues, challenges, and resources that should be considered when launching a programme of clinical research designed to improve nursing (and health) services for specific patient groups.

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Part V

Nursing Leadership in Sweden

Ingalill Rahm Hallberg



Nursing Science in Sweden: Internal and External Forces Contributing to Its Development

18

Ingalill Rahm Hallberg

18.1 Introduction

The development of nursing science and the nursing profession (registered nurses) from a leadership and management perspective needs to be analyzed not only due to what nurses did but also in relation to what else took place in the society. Leadership in this text refers to people despite their position involves themselves in development whilst management refers to a formal position with power over the development. It is not possible to contribute the changes that have taken place to any particular leadership model or theory. The changes have taken place at macro level, national as well as local. It is an intertwined process of external as well as internal factors leading up to the situation today. External factors in this context are those stemming from political decisions, locally or nationally, family policies, changes driven by other forces like women's liberation, equality or like changes in the attitude towards women's work life. These factors had an impact on the nursing profession although the motive was not to have an impact on the nurse profession per se. The internal factors are those driven by nurses, the nurses' union and the nurses association and by individual nurses involving themselves in politics. It is also dependent on nurses' preparedness to use the opportunities that were available in the bigger societal picture. They are a result of nurses' leadership or nurses in management roles working towards a change but also by the fact that the public recognized the benefits and importance of the work of nurses as such. This was especially the case around the First World War and immediately after that, when most people, working-class people were very poor, had many children, children died during their first year of life, their home were of low standard leading to diseases and so was the knowledge about disease and hygiene. At that time district nurses and district doctors worked in pairs to improve the life situation of vulnerable people in

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communities and to enlighten families about how to preserve their health and prevent themselves from diseases or unwanted pregnancies. Because district nurses paid regular home visits to poor families and due to their work with the most vulnerable, they were highly respected in the society. Thus, the situation of today is best understood by recognizing not only what nurses did but also what took place in the society as a whole. It is fair to say that not all the societal processes or forces in place served the interest of the nursing profession. Opposition and resistance towards the development of a nursing profession with a sound scientific base could be seen at that time and can be seen today as well. For instance, from time to time opposition towards nursing science as an integrated part of the training to become RNs has been aired, in particular in times when there is a shortage of nurses. At such times the health-care employers claim that they do not need nurses with scientific training. Their hidden agenda is to fill the gaps of nurses and ensure that the training is as cheap and short as possible. At the same time, they claim that health care should be evidence based. Negative forces historical as well contemporary should be identified and debated against.

18.2 The Early Development

Like in many other countries at least in Europe, Florence Nightingale played an important role in inspiring the development of the nursing profession, and perhaps she also laid the foundation for nursing science by the way she took on the tasks [1]. In fairness the roots of the nursing profession were much earlier than the time of Florence Nightingale. Some state that the nursing profession has its roots in the Roman time in which the presiders of deacons worked under the church to help and treat people with various health problems [2]. Their training had its roots in Christianity. Also, it has been noted that women worked at the earliest known hospital in Sweden, Serafimerlasarettet (founded in 1752); however, they were not trained. The modern version of a nurse in Sweden came in place due to that some very influential Swedish people saw what went on in the UK and decided to set a similar process in place in Sweden. The earliest known initiative was taken by the Swedish Red Cross, who sent Emmy Rappe (1866) to be trained at St Thomas Hospital in London. She returned back to Sweden 1 year later and started a nursing school at the Akademiska sjukhuset in Uppsala, nowadays the Röda Korsets Högskola [www.rkh.se/om-oss/om-roda-Korsets-hogskola/historia Vår historia. Our history] (www.rkh.se). The other initiative was taken by the Swedish queen Sophia, married to King Oscar the second. She visited Florence Nightingale in London to tap her for her ideas and learn about her work. Once back in Sweden, she took the initiative to start a nursing school, Sophiahemmets Högskola [www.shh.se/visa_2013.asp?sida=77 Sophiahemmets högskola – historik. Sophiahemmets university college – history] which is still in operation (<http://sophiahemmethogskola.se>). This school, which started on a small scale in 1884, recruited students from “good families” to be educated.

In those days, it was a fairly common view within many schools that nurse students should be recruited from “good and well-educated families” which lasted well into the 1950s. Whether that has been good or bad for the profession could be discussed, for sure it was a way for women to be professionally trained and enter the workforce. It may have been beneficial for the professional development. In a sense both of these examples, just like Florence Nightingale, demonstrate that it was the upper class that started the process. Queen Sophia did not only start a nursing school, she also initiated and secured the foundation of a new hospital, Sophiahemmet's hospital [<http://sjukhus.sophiahemmet.se/en-modern-vardgalleria> Sophiahemmet's hospital - a modern galleria of care], which opened in 1884 (www.Sophiahemmet.se). According to the tales, this was because the physicians at other hospitals did not want educated nurses and by starting a new hospital the newly educated nurses could work along with what had been taught. The hospital is still in operation.

The nursing program at Sophiahemmet became a 3-year program in 1905, whilst other programs of similar type were 1 to 2 years. In 1910 the Swedish Society of Nursing (SSN) was founded, and it is fair to say that this organization has played a crucial role in the development throughout the years. It was an organization of strong women who drove the development of the organization as a platform but also by engaging themselves in politics. At that time about seven nursing schools were operating in Sweden with programs varying in length from 1 to 3 years [3]. Originally, the SSN was founded by approximately 90 members which 10 years later had more than 550 members. Today the membership has grown up to more than 60,000 members. Resembling the idea of Queen Sophia, the organization was meant for the elite of nurses. They should have a minimum of 1 and a half years of theoretical and practical training at a recognized school and a minimum of one and a half year of work experience at a hospital or as a privately practicing nurse to become members [3]. They should be unmarried or widow. The second president of the SSN, Bertha Wellin, was a politically active member of the parliament and in that role she worked hard to ensure that the educational program throughout the country should be of a higher standard than it was at the time. She was successful in the sense that in 1920 it was decided that all nursing schools should be reviewed and affirmed by the state; that the nursing education should be at least 2 years and there should be nurse officer at what today is the National Board of Health and Welfare, who had the responsibility to ensure that the schools provided education of high standard [3]. Several of the SSN presidents after Wellin were also very active in politics, and some of them were members of the parliament. The SSN generally did not play a role as a union, but rather it took on the responsibility related to the development and standard of the profession. However, in the years between 1933 and 1977, the SSN as an organization also took on the role as union for nurses and became successful in fighting for nurses' professional development in the society. The development points at the importance for nurses to be politically active as individuals as well as an organization.

The Swedish Society of Nursing is the nursing profession's own association. The Swedish Society of Nursing represents the profession's areas of expertise in order to promote research and development, education and quality in nursing and healthcare. The Swedish Society of Nursing works for

Nurses' professional development

The development of research within nursing and healthcare

The development of nursing and healthcare and its professional leadership

The development of nurses' education

The development of nurses' skills

Nurses' practice of ICN's Code of Ethics

Fundamental approach

Our work is based on a humanistic approach that shows respect for life, the equality of all human beings and their rights, and we do not discriminate.

The Swedish Society of Nursing is politically independent

CONSTITUTION FOR THE SWEDISH SOCIETY of NURSING

adopted by the General Meeting 2015-06-09

It was the pressure from the members that led to that the organization decided 1933 to take on the role as union for nurses in addition to work for the development of nursing as a profession and as a science. During that time, 1958, it was decided by the government that nurses could apply at the Medical Council, nowadays the National Board of Health and Welfare, to become a RN and that the title should be protected and connected to an educational program that followed a standardized curriculum. That also meant that if a RN conducted in an unacceptable way, the licence could be withdrawn. The other important struggle was about increasing nurses' salary and depending on who you ask they were successful. In 1951 the Swedish government decided that men could also be trained to become nurses. Although the registration and supervision of nurses by the National Board of Health and Welfare is nowadays taken for granted, at the time members were critical about that registration seemingly became more important than fighting for higher salary. Today several other health professions, for instance, occupational therapists have got a protected professional title and are registered and under the supervision of the National Board of Health and Welfare. As of 1977 the Swedish Society of Nursing again became an organization with the standard and development of the profession as their primary goal and a separate organization act as the union of health-care staff and they worked hard during these years to secure PhD training for nurses [3]. This was an already ongoing process and started early by the organization of financed nurses that wanted to study nursing in the USA [4]. The processes and the results of these developments described above can be seen both as internal and external processes. Some of these processes were instigated by people not at all involved in professional issues related to nursing but because of their commitment to the health and education of Swedish citizens irrespective of their social status and thus externally driven. The processes driven by the Swedish Society of Nursing is an example of internally driven but would not have been successful if nurses had not involved themselves in politics, in the parliament and the government and in national debates and campaigns to improve the health-care system and the quality of care as well as the position of nurses and the standard of the education. Perhaps it is fair to claim that success also was possible due to that people respected and appreciated the contribution from nurses to the health and welfare of the Swedish population.

Of the externally driven changes in the Swedish society that most likely have had an important impact on the position of nursing/nurses in the society and also later on the development of nursing science, in my view two changes have been important. These are on the one side the national family policy and on the other side the change of the taxation system. The earlier taxation system (before 1971) was based on that it was the family's income that should form the unit for taxation, which meant that in the case of married couples, if the woman worked, her salary was put on top of the family income (men had commonly the highest salary and were regarded as the breadwinner) and resulted in that most of the woman's earning became tax [5]. In 1971 the taxation system was changed into that each individual, irrespective of if they lived in the same household, if they were married, had children, etc., paid tax on their income separate from the others in the household. This system is rather rare in Europe at that time. The system signalled independency of

each individual, and that each individual should make their own living, not be dependent on other family members. This change in the taxation system became an important driving force for women to enter the labour market, as it became economically worthwhile. It signalled that people should be able to earn one's living independently. The value system behind this taxation system also fits well with the family policy that slowly developed during the 1960s and onward and served women's situation and thus also RNs in the Swedish society.

It is a common view that how the political system views and addresses the family will have an impact on how people organize their life. This may in particular have an impact on women's position in the society and thus nurses since they are predominantly women. The national policy and political decisions from about 1930 to 1970 underwent a change in the view of the family and in particular men and women's position in the family [6]. In the beginning the predominant view was the ideal of the heterosexual nuclear family with the man as the breadwinner. That slowly changed into what has been labelled as the ambivalent family ideal which implied women to be torn between being a mother and responsible for the household and choosing a professional career. The ideal that marks the stage emerging around 1960 and onward was that families/family policy should strive towards gender-neutral regulations and strategies. Probably this is what Sweden still struggles with, creating equal conditions for men and women, and the individual taxation system is part of this strategy to fulfil the ideal of equal condition for men and women. As a consequence the parental insurance and child care developed and became a support for the family to participate in the workforce [7]. The current family politics in Sweden has as its aim to level out the economic conditions, work-life involvement, equality and the perspective of children [7]. The view has been that women and men on equal conditions should be part of the workforce with equal salaries, on equal conditions be parents and benefit from the social insurances supporting parenthood. This in turn is probably the most important explanation behind the fact that Swedish women are highly involved in work life, more so than in most other countries. It has implications also for professional development in occupations with mainly women such as nursing. The grade of employment among women in Sweden in 2017 is 79%, and it is four percentages below the grade of employment among men in the age of 20–64. In the EU the grade of employment among women is 65.3%, and it is 11.5% lower than men in the age of 20–64 years old [8]. Thus, the development of nursing as a profession cannot be isolated from what took place in the society as a whole. Nurses and nurses' managers were part of the development at national level, and the lesson learned is that nurses need to engage themselves not only within the profession but also on a national level and in particular in politics and recognizing factors that may hinder or facilitate in supporting the professionalization of nursing as a discipline and as a science. Having said this, it should be recognized that although about 18% of those admitted to a nursing program are men looking at management level in health care, research and in education, the percentage of men is often higher. This indicates that women in nursing are not as successful as men in their career with regard to be on leadership position in practice, administration, science and in academic

work. During their career development, there seem to be not so equal opportunities for women and men in nursing. As it seems men move faster into leadership positions in all arenas of nursing and health care than women do. This problem of inequality between men and women in the labour market probably reflects societal mechanisms and not women's contribution to the nursing profession.

18.3 The Development of Nursing as a Scientific Discipline

The development of nursing science was driven through internal forces, by individual nurses and by the Swedish Society of Nursing and also by external forces. During the period when the Swedish family policy and regulations changed in the direction of gender-neutral conditions, the Swedish Society of Nursing worked hard to professionalize nursing care and the nursing education. Some physicians were helpful in supporting this process whilst others were not as keen. In particular the Medical Research Council became supportive. Initially studying further, a Master's degree or a doctoral degree (PhD) was not possible to do if the subject should be nursing. Thus, nurses turned to other academic subjects: psychology, pedagogic, sociology, etc. Several of the RNs earning a PhD did not study nursing. That meant that they could not include their previous nursing studies but had to start all over again at bachelor level and continue to be eligible for a doctoral program. To my knowledge this situation still exists in some European countries making it hard for nurses to directly continue to a PhD. That also meant that their subject for PhD thesis often was not related to nursing care as a practice and thus had little or no impact on practice. The education to become a nurse was not provided by the universities or university colleges but by colleges run by the county councils and some private organizations like Sophiahemmet, Röda Korset, SSSH (a nursing school in southern Sweden, Lund, nowadays Lund University). Two important reforms changed this scenario, and the most important one was the reform called Högskolereformen 1977 [9]. The reform was more extensive than only related to education for health-care professions. In short it meant that all post-gymnasium education should be provided within the university or university colleges, i.e. on academic level. Thus, teacher education programs, health-care educational programs, educational programs in art, social work and sport became educations within the university/university college system. The reason for the change was not a result of nurses' efforts to move the nursing education from a vocational training to an academic education, but a national political strive to improve the educational level of Swedish citizens and that was also because the financial situation of the country was good and Sweden could financially manage such a reform. The aim of the proposition was to increase availability of education, in particular recruiting students from families with no or low tradition to study at universities. The aim was also to broaden and differentiate educations and make sure that the education offered was related to the labour market and to developing the work life. It also aimed at democratic development of education, its organization and again to broaden the recruitment of students from other families

than those traditionally already experienced in higher education. This also meant that the education should be based on science and research and teachers should have scientific knowledge:

The consequences of this reform were that all education should be based on that science and research should be an integrated part of being a university teacher. (Prop 1975:9) [9]

This reform was followed by intense work to integrate nursing education among other health-care educational programs into the system of universities and university colleges. In 1982 the nursing education became an education within the university and university college system. It was however not a move into the current educational system provided by universities. The county councils still provided the nurses' education, and their schools became university colleges (county councils were also responsible for health care) [10]. From 1977, however, the same law regulated the county councils university colleges and the state universities and university colleges. Thus, at least in terms of regulations, they were at the same level. In order to fulfil the goal of education based on research, an intense development went on. A national review of the quality of nursing education from a scientific perspective was carried out. Some of the schools had to improve their programs to be up to the expected standard. This was perhaps the most important reform leading to a rapid development of nursing science in Sweden. Since most nursing programs in Sweden were still provided by the county councils, the internal change was perhaps not as strong, and the scientific base for evidence teaching was not there. The universities were told by the government to provide PhD education in order to speed up the number of nurses with a doctoral degree. The pressure on the universities to provide a doctoral education in nursing became extensive, and the first professor was in Umeå University (1985) followed by Linköping University (1987) and later on Uppsala University and even later on came Lund University (1997), the Karolinska Institutet and Gothenburg University about the same time. In fact Umeå University had already in 1980 recruited the acting professor [4]. Lund University on the other hand recruited guest professors annually from the UK 1984 and onward. To increase the pace of this development, the government decided to start a funding body, Vårdalstiftelsen 1994, with the aim to financially support the development of health-care science and that included nursing science [11]. In the beginning this funding body decided to support the universities in increasing the number of nurses with a PhD. They provided financial support for teachers to enter and complete a PhD. Later on the foundation decided to reserve a large funding (150 million SEK, approx. 135 million Euros) for building a national institute for health-care science. The institute (Vårdalinstitutet) was placed in Lund and in collaboration with Gothenburg University. It was in operation in 10 years and focused on research programs related to ageing, care and service to the elderly, mental health care and living with chronic diseases. To increase the budget, the two county councils Skåne and Västra Götaland and the two universities also had to contribute, so that in all the budget, over the 10 years was more than twice as big as the contribution from the Vårdal foundation. The research funding was used for a school for doctoral students and recruiting and

providing opportunities for postdoctoral nurses to work on these three themes and become eligible for promotion to professor and also to get the experience of setting up complex interventions in these areas. An evaluation of how the foundation used their funding/finances complemented the board and management of Vårdalstiftelsen for being able to think outside the traditional box and thereby contributing to a rapid development [11]. At the same time, as the universities started to build doctoral programs, an intense work started to move the nursing programs as well as some other health-care programs into the universities or university colleges (the State) and close down the university colleges run by the county councils. This was finally solved in 2002 although several years before that the universities already provided the programs and the county councils financed them. This is an important step in the changes of the nursing education and to start up nursing research and doctoral programs in nursing. It goes without saying that many nurses at management level were involved in this process, but it is also clear that it was a process in collaboration with external factors. For instance the Medical Research Council became supportive of the process towards a sound scientific knowledge base for nursing care and started to fund research assistants in this area.

18.4 A Straight Way for Nurses to Enter a Doctoral Program

Due to the reforms described above, a straight line from the nursing program to a doctoral program was formed, and thus the nurses who were inspired to continue to a master's degree or a PhD did not have to take an additional bachelor's degree in any other subject. The 3-year program [12] was set in place and lead to a bachelor's degree and that in turn lead to that the students could apply for a doctoral program. It is fair to recognize that this change has not been appreciated at times in particular from the health-care system when from time to time their representatives claim that "they do not need nurses with basic scientific knowledge, they need nurses that are practically skilled". This attitude is interesting in the sense that it denies the need for evidence-based health care. This attitude is prevalent in times when there is a shortage of nurses. Another side of the coin is that once the education is within the academy, i.e. universities or university colleges are obliged to provide knowledge based on science, and they are also obliged to develop new knowledge based on research [12, 13]. Another benefit with providing the education within the family of academic programs is that once the university is responsible for a program like that for nurses, physiotherapists or occupational therapists, they also seriously have to take on the responsibility of ensuring enough professors and senior lectures in order to be able to provide high-quality education based on science. As I understand it in some countries, the universities do not provide basic nursing education, and thus the distance between graduate and post graduate level becomes bigger. It may be a problem if the universities only provide the masters and PhD programs for RNs since the incitement for providing the programs at a large scale becomes lower. Also the recruitment of the best students for higher education may suffer since this recruitment benefits from the contact between teachers and students at graduate level.

18.5 Why Should the Health-Care System Care About Nursing Science?

Like the educational system, the health-care system is financed through tax, and it is run by the county councils, whilst the social service and long-term care is financed by the municipalities, again through tax money [14]. The law [15] on patient safety also regulates the obligations of the staff, their licence and their required competence/education, limitations in what they are entitled to do, disciplinary consequences and withdrawal of licence, the role of the national board of health and welfare, etc. Here I will only address the obligations for health-care personnel. The sixth paragraph in this law states that:

Those who belong to the group of health care staff shall conduct their work in accordance with science and well tested experience. A patient shall be given competent and accurate health care that fulfill these requirements (ref to the first sentence). The health care shall as long as possible be worked out and performed in collaboration with the patient. The patient shall be showed care and respect. (Lag 2010:531 Patientsäkerhetslagen)

Thus, the law is very clear in stating that health care should be provided according to science or well-tested practice and it is also clear that this is not restricted to the medical treatment but should apply to health care overall. The law also states that the supervision of health-care professionals is under the Health and Social Care Inspectorate (IVO). If they identify any deficiencies in professional practice that represents a threat to the patient, they can propose various actions such as further advanced training or guidance by another professional. If the deficiencies are extensive, serious or recurring IVO can propose that the person be delinked and lose the right to practice their profession. It is the Medical Responsibility Board that takes the decision in all authorization matters concerning licenced health-care professionals. The law embraces all health-care staff educated at university level, RNs, physicians, psychologist, occupational therapists, physiotherapists, etc. In the Health-Care Law [16] and the Patient Safety Law [17], similar wordings are used. Thus, bringing together there are two forces working in the same direction. The one force is the regulations for higher education to be science-based, and the other is for health-care staff to work in accordance with science and best practice including the law about patient's safety. Thus, the direction is that scientific knowledge should mark the education as well as clinical practice.

The professionalizing of nursing care has from time to time and in particular early in the process created conflicts between professions, mainly between physicians and nurses. Some representatives of the medical profession questioned the kind of research that RNs took on as part of their PhD studies. It is however fair to say that this is rarely the case nowadays, rather more and more nurses and physicians work together in research projects, especially in clinical research projects, whilst it is more seldom that RNs work together with experimental researchers. Another more prevalent obstacle is that the need for a basic scientific education as part of the nursing education is questioned. This makes no sense bearing in mind that health care should be evidence based as stated in the law. A basic education in

science is needed to understand and evaluate science as well as understand when science is robust that it should be implemented in practice. The explanation for bringing up this issue is mainly shortage of RNs, especially specialized nurses and also the health-care systems financial system can explain this attitude. The cost for RNs is a large share of the budget for health care, and with higher education, it is expected to get higher salary. Since RNs salary is a large share of the budget, increasing salaries means a big hole in the budget. Thus, there is an interest in keeping the salaries low. Also in times of RNs shortage, the health-care system wants the students quickly out in practice, and commonly they expect them to be full-fledged from day one. In short there are conflicting views on the academic education of RNs from the health-care system. This is so despite the research done by Aiken and Van den Heede [18] and others [19] showing that the health-care system is actually doing better if they use well-educated staff in health care. In fairness nursing professors and postdoctoral nurses are not good at arguing why nursing research is so important. Health care in all its parts should be evidence based and is an argument more difficult to reject than the professionalization of nurses. People may think that it is professional motives rather than motivated by the requirements of the health-care practice that drives nursing research.

18.6 The Current Landscape of Nursing: An Academic Discipline

Another force towards increasing the scientific base and the number of RNs with a PhD took place within the landscape of Swedish universities and university colleges. Nursing education was provided at all universities except the technological universities, and in addition it was provided at most of the university colleges except those specialized in a specific area like art etc. Thus, the opportunities to provide science-based education were dependent on the differences in regulations for these two types of higher education system. The regulations and situation of the Swedish academic institutions, however, have changed rapidly over the time [12, 13]. Before the reform in 1977, Sweden had six universities and many university colleges, and the differences were seen both in the title and requirements of teachers and in the right to provide bachelor, masters' and PhD degrees. Generally the university colleges provided vocational training and universities academic training. Nursing education was provided at 28 places in Sweden. After the reform this changed rapidly, and in particular two changes have in my view served nursing science. The one is that employment regulations became the same and the other was that university colleges could apply for providing PhD exams. Thus, university colleges could employ professors and senior lectures, research assistants, postdoctoral researchers, etc., the same as at universities. In the current system, the only employments regulated on a national level are professors and senior lectures, and the regulations are the same irrespective if it is a university or a university college. This also means that the higher education institutions have the right to decide about promotion of teachers to become senior lectures, after their PhD, or become professors when they

demonstrate the skills in research and teaching required. In most of the institutions, there are now two ways to become professors: the one is an open invitation to apply for an advertised position as professor. The other way is to apply for being promoted from a position as senior lecturer to professor, and in many institutions, it is also possible to be promoted to become associate professor. The requirement for becoming associate professor is in most cases two or three times as much research as required for a PhD. To be promoted to be a professor requires even more research and teaching experience. The consequences of this change, the right to employ professors and the promotions strategy have levelled out the differences between universities and university colleges in terms of staff. This development like most changes has its pros and cons. The pros are mainly that the status and the quality in terms of science-based education are levelled out when comparing universities and university colleges. Also the university colleges generally are attractive in that the salaries may be slightly better and sometimes they are more generous in the requirements. It may also be beneficial since their possibility to develop collaboration with the local hospitals and health-care providers is sometimes easier. Their incitement for collaboration in terms of recruitment and research could be higher locally, whilst the competition is very high at the university hospitals. The cons lay merely in the risk of setting the bar for recruitment and promotion too low as compared to the universities.

Perhaps even more important for the university colleges is that they nowadays can apply for providing a doctoral program in a more narrow area and as of today most of the university colleges have one or more subjects in which they can provide a PhD. The process for being eligible is thorough and built on experts' evaluation of the plan and the conditions under which the PhD program is provided. Universities normally have the right without applying to provide a PhD in any of the subjects represented at the university. The PhD programs are evaluated by a national and international board, and after an evaluation they may lose the right to provide a certain PhD program or to keep it but have to show improvements in accordance with the critique. University colleges have the opposite situation meaning that they first have to show that they are capable of providing a PhD program and after demonstrated their qualities they become eligible to provide the program. There is another difference and that is the breadth of the program. The university-based PhD programs have a broad subject area, which means that within nursing, it is possible to choose any subject for a thesis. The PhD programs within university colleges have a narrow research area in which a PhD can be provided. Thus, it is not as clearly a subject like nursing, history, sociology at universities, etc., but it is an area and the intake of students may well be independent of their background; thus, it may be nurses but also students from other background of relevance for the program. A nurse may well be accepted in a PhD program under the label "Innovation in health". The pros of this situation for the university colleges is that depending on the scientific resources, staff with ongoing research within a certain area can accept doctoral students in the area permitted, and thus the competence for supervision is secured. The cons may be that the subject nursing science may not be addressed at depth in their PhD program. There is a tension in Sweden between subject orientations and

research areas and that has gone on for quite a while. As early as 1995, a thorough analysis was conducted on the theses defended between the years 1974 and 1991, and the conclusion was that it was not possible to identify a clear view of the object of nursing research, and unlike in other countries, there was no sign of emancipation from the medical research [20] rather many PhD students work in collaboration with physicians. At large universities, all health-care education including that of nurses takes place within the medical faculties meaning a close collaboration with medical research and education. This can be debated but has in my opinion been a benefit for nursing science in Sweden, primarily because research as well as education has been integrated and the medical faculty has taken on board the challenges inherent in building up a new subject area of research. The consequences of the changes of the landscape of higher education have resulted in that so far more than 1700 registered nurses have received a PhD. It is not possible to differentiate in which sense this is a work of nurses or nurses' organizations or societal forces working in this direction. It may also be the university colleges trying to erase the differences between them and the universities. The leadership taken on by nurses is shown in building up the research and the PhD program but also in that nurses for sure are represented among those at the highest management levels in many universities and university colleges. Thus, one way of influencing is by taking on leadership positions and management roles at higher level in the educational and the health-care system. In Sweden nurses has been in top positions like assistant vice chancellors at some of the largest universities.

18.7 Current Nursing Education and Access to Nurses

In sum here there will be an overview of the number of RNs, number of specialists in different nursing areas and the number of RNs with a PhD, the number of professors in total versus active professors and the number of doctoral programs in relation to the number of institutions providing nursing education. Currently, in 2018, the number of universities and university colleges providing nursing education is 25, and of these 25 institutions for higher education, 12 are universities. The latest one moving from being a university college to become a university is Malmö University. Thus, it is slightly more than half (13) of those providing nursing education that are university colleges. Most of the university colleges are run by the state but four of them are private (including Sophiahemmet, Röda Korsets högskola). In total 4210 students passed and were examined from the nursing program in Sweden in 2015/2016, and in total 2220 passed any of the nurse specialists program the same year. The number of places available for the intake to the nursing program in 2015 was 5546. Of those admitted to the program, 66% passed the program, and the figure for specialist program was 77%. The figures may seem low; however, only the program for physicians was higher, 85% [21]. The number of eligible applicants that had nursing program as their first choice was around three per place available altogether in the country. The same figure for the medical program was six and that is perhaps one of the most popular program of all provided by the universities.

Thus, the nursing program is a comparatively popular program of those provided by institutions for higher education. The intake of students to the nursing programs is regulated by the government and that is to ensure that there are enough nurses to secure the needs of the health-care system. It should however be noted that the number of nurses that received licence to practice is higher than the number passing the program. For instance, in 2015 the number of nurses licenced was 4566, and of those 595 came from EU/EES and 71 from countries outside EU; thus, 3900 came from Sweden. In all it was estimated that in 2015 there was about 140,158 registered nurses. The National Board of Health and Welfare [22] is responsible to keep track of the number of registered health-care staff available and the estimated request for various health-care professions. In general the need for nurses with a general training and even more the need for specialist trained nurses are high in Sweden, and the nursing professions are among those recommended to young people when they decide about their future occupation. The availability of nurses has increased with one percent between 2009 and 2014, but in relation to the increase of the Swedish population, it has decreased with half a percent. The availability of specialized nurses has decreased with 7% during the same time. The number of practicing nurses in relation to 100,000 inhabitants was in 2014 1109 and Sweden is at the eight place as compared to the 26 countries included in EU/EES. The lowest figure was for Greece, 323, and the highest was for Switzerland, 1756 [22]. The National Board of Health and Welfare [22] also conclude that the stability in terms of staying within the profession is high among nurses, as nine of ten are still in the profession after 5 and 10 years. Their conclusion as for the supply and demand of general nurses as well as specialized nurses taking into account the increase of places for education is that there still is and will be lack of nurses available in the future.

18.8 Professors in Nursing Science and PhD in Nursing

The changes in the academic system that university colleges were allowed to employ professors in nursing and that they could apply for providing doctoral programs in nursing meant a tremendous change in increasing the number of nurses with a doctoral degree as well as the number of professors. Depending on the qualifications of the staff at the university colleges, these two opportunities have been important for the development of nursing, and perhaps this may be seen as both internal as well as external forces. In all there are more than 130 professors in nursing and of those about 30 is professor emerita (oral communication with SSN). That does not mean that retired professors do not contribute but that they do not have an employment any more but are affiliated to the institution. The figures of some more than 100 professors and 25 institutions with a nursing program mean that there should be professor at all the doctoral programs and departments providing a PhD and quite often more than one professor. The number of nurses with a doctoral degree according to the Swedish Society of Nursing (oral communication) is estimated to be more than 1700. The figure could be regarded as high, but it is slowly close to but roughly still less than 1.3 percentage of the number of nurses that has a doctoral degree

(the calculation is based on 140,000 nurses of which 1700 nurses have a PhD). The number of physicians with a PhD is estimated to be 15%. That has implications especially for nursing education but also for clinical practice. Unfortunately there is no statistics telling us how many of the nurses with a doctoral degree are practicing nurses meaning working in clinical practice. That is a challenge and should be taken on by some of the national organizations. Making a difference in clinical practice also means that the nurses with a doctoral degree should also work in clinical practice to ensure implementing evidence-based practice. It is not only about developing knowledge and nursing curriculum but also about ensuring that the evidence-based practice addressed in education is relevant to clinical practice and that is best judged when the teachers have a close connection to clinical practice [23]. The number of nurses with a doctoral degree most likely will increase over the years mainly because almost all of the university colleges have the right to provide doctoral examination in any area related to nursing science, on topics like “health and welfare in evidence-based practice”, “health promoting work life”, “health and life style”, “health, care and welfare”, human being in sickness, care, health, etc. Other areas for doctoral research may as well be of interest for nurses. Overall these research areas probably serve a more interdisciplinary approach to nursing science and may fail in being subject focused. Thus, it can be questioned if it is PhD programs in the core of nursing.

18.9 Conclusions

Nursing in Sweden faces some challenges, some challenges that have not been resolved and new challenges will pop up over time. At the moment the most important challenge is the fact that many postdoctoral nurses are not active in clinical nursing practice and that will extend the timeline from knowledge to implementation in clinical practice. Perhaps that can be explained by that there is still a need for more nursing educators with a doctoral degree; thus, those having a PhD end up in the educational system. It may also be due to the lack for joint appointments. County councils show interest in creating joint appointments mirroring the physicians’ joint appointment academy and health care. This is a slow process but in order for it to really make a difference in health care, these skilled nurses need to be there. Their close presence to clinical practice ensures that they bring back knowledge to practice and sped up the implementation of evidence-based practice but also that they pick up essential problems to be researched. The diversity of doctoral programs open for nurses throughout the country may be a problem in that the focus is not as much on nursing per se as one could have wished for [20]; on the other hand, the current trend in all research is moving towards interdisciplinary research rather than focusing on a specific subject. The fact that research and doctoral training is ongoing at so many places in Sweden also opens up opportunities for focusing on larger research programs [24] rather than projects with more diversity. It has been a tremendous development of nursing research but it is still a distance to go to ensure evidence based nursing for clinical practice and within clinical practice. From a

leadership perspective, the development is rather a consequence of societal changes that cannot be attributed to any specific leadership orientation. One may however say that the Swedish Nurses Association has systematically driven the development of the profession and the most prominent nurses involved in clinical practice, education or research worked hard and contributed to this development through the organization.

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Clinical Practice Project Implementing Evidence-Based Practice

19

Ami Hommel

19.1 Introduction

Nursing leaders at various levels within healthcare organisations play a crucial role in facilitating evidence-based clinical practice projects that ensure patients receive optimal benefit from nursing interventions. All nursing leaders need to have strategies in place for implementing evidence-based practice throughout the organisation. To be successful, the nursing leader needs to include all healthcare professionals in the organisation, to make sure that they have the required knowledge and are aware of the organisational goals. Strong, clear leadership alone does not bring about change. Implementation takes time, sometimes several years, from the introduction of a new method to the point at which it becomes part of the everyday routine. Factors that have been found to have a positive effect on the implementation of research evidence are local opinion leaders, training sessions, electronic reminder systems as well as follow-up and feedback [1, 2]. We should ask ourselves not “What do I do?” or “How do I do it?” but rather, “What difference have I made?”

19.2 Swedish National Quality Registries

Florence Nightingale was the first nursing leader; she is well-known both as the lady with the lamp and the lady with the data. During the Crimean War, she made a case for eliminating care practices that led to the unsafe and unhealthy care environment during the Crimean War by applying statistical methods in her research [3]. As her statistical approach saved lives, she was able to show that “to measure is to know.” Ernest Amory Codman, a surgeon from Boston, was the first doctor to follow the progress of patients through their recoveries in a systematic

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manner [4]. Codman created his own “End Result Hospital” in Boston, Massachusetts, between 1911 and 1917, where errors in diagnosis and treatment were registered for every patient. All patients were followed for years after discharge to evaluate the results of care, and all the information was publicly reported in the hospital’s annual report [5]. The Joint Commission named Codman the “father of outcome measurement” [6].

The Swedish healthcare system has a unique resource in the National Quality Registries (NQR) of which today there are more than 100. A personal identification number was introduced for all citizens in Sweden in 1947 and revised in 1967. This personal identification number makes it possible to follow all patients over time in the NQRs. Data are collected in a systematic way and entered into an online system. All variables are validated and tested by relevant professional bodies. The registration of personal identification numbers in the database allows all patients to be followed up securely. Data is presented in reports and articles on an aggregated level (national and regional) so no individual patients can be identified. The first registry was started in 1975. Initially, NQRs were all developed by physicians. However, today many are managed by registered nurses. The NQRs are used, together with the professional involved, in an integrated and active way for continuing learning, improvement, research and management in order to create the best possible health and care. The content areas of the different registries vary. Some focus on patients with a specific illness, others on a particular treatment or a risk group. The Registries contain individualised data on patient problems, medical and nursing interventions, patient outcomes, patient-reported outcome measures and patient-experience measures for all healthcare settings. It is forbidden to register sensitive personal data, meaning personal data comprising information about racial or ethnic origin, political opinions, religious beliefs or other beliefs of a similar nature, sexual orientation or membership of a trade union. Data from the NQRs can be linked to Health Data Registries.

When the National Quality Registries were started, the variables were all medical. However, to strengthen both quality improvements and research, nursing-sensitive quality variables, such as care plan, pressure ulcer, fall, pain, malnutrition and sleep, also need to be included in the registries. In 2012 the SSN published a report [7] showing that nursing-sensitive quality variables were included in only 27 out of 92 registries. As a result, the society invited registered nurses working with NQRs to attend workshops to encourage them to request the inclusion of nursing-sensitive quality variables. By 2016, most of the registries had both implemented nursing-sensitive quality variables and recruited nurses to their boards.

19.3 The Quality Register Project

The Federation of Swedish County Councils (today the Swedish Association of Local Authorities and Regions (SALAR)) started quality projects in 1998. The first project involved hospital departments which wanted to improve their capacity for systematic improvements in their clinical practice with the help of registry data.

The purpose of the project was to make it possible for the departments to assess their results and to raise awareness of their actual performance. The NQR for patients with a hip fracture is called *Rikshöft* and participated 1999 in the project; surgeons and nurses from five hospitals in Sweden were involved. The registered nurses took the lead and pinpointed the three following aspects they wanted to improve with regard to hip fracture patients: optimisation of preoperative pain relief, decreasing the time from admission to operation and reduction in the occurrence of pressure ulcers. A retrospective study of all medical records of hip fracture patients from the last 4 months in 1998 was compared with prospective registrations during the same period in 1999, after the introduction of quality improvements. In Lund this project was extended, and the retrospective data from 1998 was compared with registrations from both 1999 and 2000. The number of patients who waited for more than 1 h to get pain relief was reduced almost by half after the quality improvements. More patients were operated on within 24 h, and the occurrence of pressure ulcers was considerably reduced from 19% to 4.5%. The outcome for hip fracture patients was improved by turning attention to quality improvements, involving all staff and focusing on these patients [8]. Carrying out this project was made possible by the strong nursing leadership of the chief nurse at the orthopaedic department. Her belief in the project led to its accomplishment.

19.4 Advanced Nursing Students Working with Quality Registries

As the NQR's vision declares, the registries need to be actively used in measurement-based, patient-focused, continuous quality improvement work. Working with data from different registries should form a natural part of education programmes if quality improvements and scientific work are to be stimulated. The Swedish Society of Nursing, recognising that the development potential was excellent and that quality registers needed to be used in nursing education, started a project in 2013 called "Stimulating Advanced nursing students" to use data from NQR. Educators from all the nursing schools in Sweden were invited to a meeting to discuss their interest in the project and the possibility of carrying it out. The students who participated in the project had a teacher as a supervisor and a plan for a Master's thesis and knew which registry they wanted to use data from. To be included in the project, the student and the teacher had to agree that:

- The results of the project should be reported to the clinic concerned.
- The student should use the data to focus on improvements and their implementation.
- Students and teachers would attend two regional learning seminars.
- Teachers and students would attend a final national learning seminar.

Teachers and students from nine different universities participated in the first start-up meeting. Representatives of the NQRs involved were invited to present

their registry and indicate the information they needed which the students could help them to obtain. The project took over 6 months and included 4 full-day seminars. At the closing seminar, the evaluation of both students and teachers showed that the project was very good, and the teachers wanted it to continue. The Swedish Society of Nursing ran the project for 2 more years. A total of 80 nurses were included and wrote their Master's theses using data from the NQR. Many of the students were from the 1-year Master's Program—Specialist Nurse in Elderly Care—and focused on, e.g. palliative care, pressure ulcers and dementia. The students presented their studies at their work places and to the board of the registry they had used. Many also presented their work at the NQR conference. The project showed that students could both work with data from these registries and support improvement work in health [9].

This project was limited to specialist nursing students, but we have received feedback from the nursing schools that they have started to teach about NQR at Bachelor and advanced levels. This takes the form of the students addressing interesting questions regarding the care of patients, identifying problems from their clinical practice education and then writing a literature review at the Bachelor level and use data from NQRS at the advanced level.

19.5 Guidelines Implementation in Clinical Practice

The prevalence of pressure ulcers is an established quality indicator regarding both safety and quality of care in healthcare. As early as 1859, Florence Nightingale said “If he has pressure ulcer it's generally not the fault of the disease, but of the nursing” [3] (p. 8) and created patient turning protocols to deal with the situation. However, pressure ulcers remain a major health problem. In 2001, the European Pressure Ulcer Advisory Panel (EPUAP) introduced a valid and reliable methodology for performing pressure ulcer prevalence studies that allowed comparisons to be made between institutions and countries [10]. The EPUAP methodology was introduced in Sweden in 2002 [11]. This recommended and standardised approach has been used by many Swedish hospitals and shows pressure ulcer prevalence rates that vary between 9.5% and 27% [12, 13]. In 2007, the SALAR launched a national patient safety initiative with pressure ulcer prevention as one of the many priority issues. Experts were asked to develop evidence-based clinical guidelines that would be easy to understand and implement by interdisciplinary teams in both hospitals and nursing homes. Hospitals and nursing homes developed individualised site-specific clinical practice projects to introduce and implement the new guidelines. National goals were set, and prevalence rates for each prioritised area are published yearly [14]. After the first three prevalence studies, the prevalence of pressure ulcer remained high. For pressure ulcers categories I–IV in hospitals, it was 16.6%, 14.4% and 16.1%, respectively, and in nursing homes 14.5%, 14.2% and 11.8%, respectively. Furthermore, the use of prevention interventions did not reach an acceptable level [13]. An interview study was therefore conducted in six hospitals under different county councils during the fall of 2014

[15]. The hospitals were identified by a statistician at SALAR based on three criteria: the presence of changes in the prevalence of pressure ulcers categories II–IV, the number of patients participating in the prevalence study (university hospitals >300 patients, central hospitals >100 patients, local hospitals >50 patients), and no change in the percentage of patients at risk of developing pressure ulcers during the years 2011 to 2014. Both individual interviews and focus groups interviews were used to create opportunities for individual responses and group interactions. Qualitative content analysis and Promoting Action on Research Implementation in Health Services (PARISH) frameworks were used in the analysis of the data text. Three factors were identified as successful in reducing pressure ulcers in hospital settings: creating a good organisation, maintaining persistent awareness and realising the benefits for the patients. A good organisation has low personnel turnover as well as easy dissemination of information and shared governance. Nursing leaders at all levels express their visions, values and beliefs and guide what happens in the organisation. Goals are, therefore, realistic and well known to all personnel. The work is carried out in inter-professional teams, where every single member has a clear, explicit responsibility. The attitude and involvement of the nurse leader are crucial to enabling the personnel to take action. Asking for the result the same day as the prevalence survey takes place highlights the importance of the work. Maintaining persistent awareness occurs when the nurse leaders encourage personnel to become engaged. Members of staff, often called facilitators, have the mandate to support and give feedback regarding the preventive work. The nurse leaders must free the facilitators from ordinary work to allow them to time to maintain awareness among the personnel. The third successful factor identified in the study was realising the benefits for patients. The personnel must have access to evidence-based knowledge, which includes both scientific and practical knowledge arising from professional practice and experience. The study highlighted the crucial role of nursing leaders, as clinical leaders have in implementing the practice outlined in the national guidelines and in enabling their personnel to prevent pressure ulcers. This can only happen if the nursing leaders ensure that the personnel have access to appropriate pressure-relieving equipment for beds and chairs and know about the importance of nutrition. Inadequate dietary intake and poor nutritional status have been identified as critical risk factors for developing pressure ulcers [16].

19.6 From Evidence to Clinical Practice Guidelines

The Swedish Agency for Health Technology Assessment and Assessment of Social Services (abbreviation in Swedish = SBU) evaluates methods used by the medical and social services. The agency is an independent national authority, tasked by the government with assessing healthcare and social service interventions from a broad perspective, covering medical, economic, ethical and social aspects. However, SBU does not fund any research; their assessments are based on “systematic literature reviews” of already published research. The agency has a council which includes various

professionals on which the Swedish Society of Nursing has two of the seats. A professor and an associate professor are responsible for guiding evidence-based nursing. Several reports have highlighted the importance of the inter-professional team in ensuring patient safety. When the interdisciplinary team is also responsible for the continued rehabilitation in the home environment, fewer people die or need assistance with everyday needs [17]. Furthermore, positive outcomes as older patients with hip fracture receiving rehabilitation from interdisciplinary teams were found to reach higher activity level and better functional recovery than patients receiving rehabilitation with conventional rehabilitation programmes [18]. Reports such as these are discussed in clinical settings and must be implemented as guidelines.

Nurses have a responsibility to implement evidence-based nursing practice to ensure that patients are cared for in accordance with scientific evidence and best practice. Experience-based knowledge is an essential component of evidence-based care and is developed in everyday encounters with patients and significant others in a variety of situations. Evidence-based practice (EBP) requires decisions about healthcare to be based on best available, current, valid and relevant evidence. These decisions should be made by those receiving care, informed by the tacit and explicit knowledge of those providing care, within the context of available resources [19]. Leadership is one of the most critical factors for successful implementation. The ability of nursing leaders to create a culture that is open to evidence-based knowledge is crucial. For many years the SSN has published evidence-based mini-reports under the title *ReAction (ReAktion)*. These mini-reports are written by nurses; the latest is about the risk of malnutrition, especially among older persons [20].

19.7 Using Research to Change Clinical Practice

Significant challenges face today's healthcare system for which health professionals have to be prepared. The preparation of healthcare professionals to take on this task calls for a shared vision across the professions centred, first and foremost, on a commitment to meeting patients' needs. In 2003 the Institute of Medicine (IOM) published *Health Professions Education: A Bridge to Quality* which identified five core competencies required of all healthcare professionals. All health professionals should be educated to deliver patient-centred care as members of an interdisciplinary team, emphasising evidence-based practice, quality improvement approaches and informatics. In 2005, nurse leaders responded to the IOM's call to improve the quality of healthcare by forming the Quality and Safety Education for Nurses (QSEN) [21] and added safety to the core competencies. Today it is proposed that all health clinicians, regardless of their discipline, should possess the six core competencies required to meet the needs of the twenty-first-century healthcare system [22]. The person-centred care [23] concept involves a partnership between healthcare professionals, the patient and their significant others, starting from the patient's medical history. The overall perspective of the life situation of the patient is considered in order to create objectives and strategies for both short- and long-term monitoring.

19.8 Changing Clinical Practice: The Ambulance Care

After some years working as a specialised ambulance nurse, one Swedish nurse became concerned about the fact that, despite receiving adequate medical assessment and treatment, patients and their significant others were not satisfied with the service provided. He read complaints and discovered a pattern; most complaints were related to the newly implemented organisation, where patients were assessed, triaged and then referred for care elsewhere than the accident and emergency department. Both patients and their significant others maintained that they were not listened to or involved in the decision-making process when it was carried out at the scene. He started to do some research with the overall aim of exploring the experience of person-centredness and the person-centred climate among patients and their significant others when patients were assessed as nonurgent by the Swedish Ambulance Service. The primary concerns of patients were being taken seriously and having their needs and suffering confirmed. Being taken seriously evokes feelings of empowerment and being seen as a person. Not being taken seriously leads to a sense of worthlessness, exclusion and powerlessness. Furthermore, the psychosocial climate must be experienced as person-centred by both patients and significant others. Creating a person-centred psychosocial atmosphere within nonurgent ambulance care is possible. A person-centred psychosocial environment presupposes a reasonably good culture within the context in which the care is provided. This implies a culture characterised by good leadership, which welcomes the evaluation of the perceptions and experiences of patients and significant others of ambulance care. Person-centred leadership in combination with a person-centred climate enables and encourages ambulance clinicians to perform person-centred caring actions, e.g. taking the patient seriously and doing a little extra [24].

19.9 Evidence-Based Design of Healthcare Environments

The physical environment influences patient health and well-being and is often described as an important factor for person-centred care. The importance of the healthcare environment for nursing has a long history with its roots in Florence Nightingale's ideas that the environment can support a person's healing process. For the past few decades, there has been an increasing interest in the creation of supportive healthcare environments in which the physical and psychosocial environments are closely interrelated and affect/interact with each other [25]. However, the quality of the physical environment is rarely evaluated, and knowledge is sparse in terms of how well the environment meets the needs of both patients and staff. Understanding how the physical environment may affect people can support decisions about the design of the physical environment that support patients with frail health and enhance their well-being. However, only few rigorous studies have investigated the relationship between environmental aspects and how these are related to the person's daily life.

The concept of the physical environment can be understood as the architecture or the man-made environment, together with ambient and interior design aspects. Closely related to design quality is the concept of evidence-based design (EBD) which has been introduced to ensure high-quality physical environments [26]. It is the process of basing planning and decisions regarding buildings on the best available knowledge from research and practice. It has increasingly been used to inform design in healthcare facilities with the aim of achieving the best possible patient and staff outcomes, such as well-being [27, 28]. Inherent in EBD is an interdisciplinary approach, which requires the integration of evidence from various disciplines and the use of multiple perspectives, including the representation of architecture, building construction and healthcare. A central part of EBD is to begin by defining the needs of the user (client/patient) of a facility in relation to evidence from research and practice [29].

Leadership is highly important in acknowledging that the physical healthcare environment is a crucial part of nursing quality which requires conscious and continuous attention. Representatives from the healthcare team and patients should be involved in the planning process, together with architects and designers, at an early stage, safeguarding users' needs and care quality. In addition, health economics analysis should be taken into account in terms of an increase in costs due to high-quality interior design, the need for more space, advanced hi-tech solutions and aesthetic considerations, which could be highly effective in the long run with shorter hospital stays, and more rigorous rehabilitation. Nursing leaders should also be familiar with and use evidence-based instruments to measure the quality of the physical environment in their healthcare settings.

19.10 Urinary Retention and Bladder Distension

One example of how nursing research can change practice is the work of an intensive care nurse on urinary retention and bladder distension. During her clinical work as a critical care nurse in the early 2000s, she noticed that postoperative urinary retention leading to large bladder volumes was very common among patients in the recovery room. Some preventive measures existed, such as encouraging patients to void before transport to the operating theatre as well as bladder scanning every fourth hour after surgery. Nevertheless, many patients were found to have bladder volumes that were too large, putting them at risk of chronic bladder damage and persistent micturition difficulties. The preventive measures were clearly not sufficient. She started her doctoral studies with the aim of providing scientific evidence for new, safer clinical practice guidelines (CPG) for the prevention of bladder distension during hospital care [30, 31]. One of her major findings was that bladder distension can cause suffering and practical, emotional and psychosocial problems that greatly impact on the life of the person affected [32]. Her research attracted much attention throughout Sweden, and in 2014, she received the Swedish Society of Nursing's "Leader of the Year in Nursing" award. Based on her research, new guidelines for bladder monitoring were introduced, initially at local level. She started

to cooperate with a urologic nurse, and together they published Swedish national guidelines for bladder monitoring during hospital care in 2015 [33]. These guidelines have had a great impact on patient care, and the number of health-related injuries due to bladder distension has decreased in Sweden.

19.11 Improved Safety and Quality of Care for Patients with a Hip Fracture

The NQR for hip fracture patients was used to measure improvements in pain relief, time to operation and the development of pressure ulcers. However, as these variables were measured continuously, and improvements were not implemented in the daily routine, everything returned to the original situation after some years. A new evidence-based clinical pathway was therefore discussed with the personnel and introduced in a quasi-experimental study at a university hospital in the south of Sweden in 2003. The results of a 6-month intervention study, based on clinical evidence, were eventually presented as guidelines by the National Board of Health and Welfare (a government agency in Sweden under the Ministry of Health and Social Affairs). The actions *included in the intervention*, based on scientific evidence, began in the ambulance with the administration of oxygen to prevent confusion [34] and local tissue hypoxia, intravenous glucose to halt the catabolic process [35] and adequate pain relief [36] at the accident and emergency (A&E) department. Daily working routines were changed so that patients did not have to return to the A&E after being x-rayed but were instead transported directly to the orthopaedic ward, to reduce the time spent lying on hard surfaces and to minimise the number of personnel needing to introduce themselves to the patients [37]. In addition, all personnel were given training in pressure ulcer classification according to the EPUAP classification system [38] with emphasis on the need for pressure relief [39]. The patients were supposed to be given priority on the waiting list for surgery (within 24 h) [8], and finally a nutritional drink was introduced to be given twice a day postoperatively [40]. The main findings were that patients with a hip fracture are vulnerable and need to be prioritised and safeguarded from complications and prolonged length of stay. The quality improvements must be routinely implemented and not be dependent on individual personnel. It was found to be beneficial for the patients to follow the new clinical pathway. The development of hospital-acquired pressure ulcers was reduced even though many of the patients showed signs of malnutrition. Early surgery, within 24 h, significantly reduced the length of stay. Still other positive outcome was found as healthy patients who were operated within 24 h of admission were found to have lower mortality rate at 4-month follow-up than healthy patients who had administrative delay in carrying out the operation. However, the strict demands to save costs by limiting the number of beds resulted in negative economic consequences linked to prolonged stays, as well as more patients suffering from complications [41].

The interventions described above were directly implemented after the study period, in April 2007. All personnel from the A&E, X-ray, orthopaedic and

operating departments appreciated the new routine. However, the researcher was contacted by the director of the A&E, who had previously worked as a director for the ambulance service, with a suggestion that the new clinical pathway could be further improved by bypassing the A&E altogether. In Sweden, an ambulance crew always includes a specialised ambulance nurse. The improvements include the following: first patients with a suspected hip fracture are now prioritised by SOS Alarm; when the ambulance arrives at the patient's location, the specialised ambulance nurse completes a checklist, including patient and trauma history before continuing with immobilisation of the affected leg, administration of early pain relief, the taking of blood samples and an electrocardiogram (ECG) which is sent electronically to the hospital for assessment. The specialised ambulance nurse then calls and informs the orthopaedic surgeon on duty that the ambulance will be arriving with a suspected hip fracture patient; the orthopaedic surgeon sends a referral for X-ray and notifies the orthopaedic ward of the incoming patient. At the hospital, the patient is transferred to the ward via the X-ray unit, bypassing the A&E. Both pre-operatively and postoperatively, the intention is for the patient to remain in the same room on the same ward, to reduce the risk of confusion. Patients who have a higher priority medical problems or complex joint injury do not follow the new clinical pathway but follow the same trajectory as they before the new pathway was implemented [42]. The new clinical pathway described has been presented at national and international meetings by the nurse leader who was the project leader and has been implemented in all hospitals in Sweden as well as in many hospitals in Europe. However, although many elements of the pathway may be used by other hospitals, every hospital needs to devise their own clinical pathway according to the context in which they work. The clinical pathway has also inspired nurses in Ohio, USA, and in Australia to implement similar clinical pathways after listening to the nurse leader presenting the work at several international conferences. In Sweden, the target since 2007 has been that 80% of patients with a hip fracture should be operated on within 24 h of admission to hospital. This is a result of the clinical pathway introduced in 2003.

19.12 Leadership in Nursing and the Magnet Model

The ability of nursing leaders to create a culture that is open to evidence-based knowledge is crucial. However, in Sweden and many other countries, over the last 30 years, leadership in healthcare has been shaped by political and economic forces, known as new public management (NPM). NPM encapsulates the process, whereby ideas and techniques taken from the private sector were implemented in the public sector in the 1980s and 1990s. The objective was to make public services more business-like and, ultimately, more efficient. From another to the next, both medical and nursing leaders had to step back, and instead economic and human resources personnel became the new leaders. This approach does not acknowledge that public organisations have a unique culture, arguing instead that healthcare

should be managed in the same way as any private organisation. George [43] argues that NPM has harmed the National Health Service (NHS) in the United Kingdom and that the care failings at Mid-Staffordshire Foundation Trust showed that patients had died unnecessarily as a consequence of neglect. Francis concluded that the behaviour of the staff was a manifestation of a dysfunctional culture, which he attributed to systemic failures of leadership [44]. In Sweden, as in many other countries, there is a shortage of nurses, and many argue that this results directly from the introduction of NPM, which had led to a loss of compassionate leadership that is the necessary antecedent for desired organisational outcomes. The Swedish Society of Nursing has taken the initiative to implement leadership in nursing and the Magnet model, a model inspired by the American Academy of Nursing's (AAN) Magnet hospital. In the United States, there was a significant nursing shortage and high turnover at hospitals back in the 1980s. Nurse leaders observed that some hospitals had substantial problems with the shortage, while others were better able to retain and fill vacancies. Furthermore, these hospitals were also associated with higher nursing job satisfaction and retention [45] as well as better patient outcomes and lower hospital mortality [46]. Researchers studied this and found that these hospitals acted as "magnets" for registered nurses because of their supportive environments. In total 14 magnetic forces were identified. The AAN developed a voluntary recognition programme for formally accrediting Magnet hospitals (AANC) in the 1990s [47], and research shows that nurses working in these hospitals have higher job satisfaction and lower burnout rates than those working in hospitals without this accreditation [48].

The Swedish Society of Nursing started an initiative in 2015, with the publication of a brochure entitled "Leadership in nursing and the Magnet model". In 2016 and 2017, the president of the society travelled to all the nursing schools and the hospitals close to them to tell them about the Magnet model and discuss how the Swedish Society of Nursing, together with the registered nurses, could change the nursing shortage trend. We believe that well-thought-out changes must be made in order to create opportunities for excellent nursing care. This can only be achieved if leaders on all levels have nursing competence and play an active part in quality improvement in nursing care, including provision of the necessary prerequisites. Leadership is one of the most important factors for successful implementation of excellent nursing care. This includes the responsibility for ensuring that there are sufficient numbers of nurses with a baccalaureate degree and specialised nurses to provide continuing practice development for all personnel.

The Magnet model comprises five global issues in nursing and healthcare and includes 14 forces of magnetism [49] (Table 19.1):

- Transformational leadership
- Structural empowerment
- Exemplary professional practice
- New knowledge, innovation and improvement
- Empirical quality results

Table 19.1 The 14 forces of magnetism, adapted from the Magnet Application Manual. American Nurses Credentialing Center [49], can be summarised as follows

1. Quality of nursing leadership: knowledgeable, strong RN leaders follow a well-articulated, strategic and visionary philosophy in the day-to-day operations of nursing and demonstrate a strong sense of advocacy and support for the staff and for the patient. There is congruence between the mission, vision, values, philosophy and strategic plan of nursing and scholarly practice at the patient's side. RN leaders seek input from RNs at every level through decision-making bodies in the organisation as well as other mechanisms
2. Organisational structure: the organisational structure is dynamic and responsive to change. Strong nursing representation is evident in the organisational committee structure. The Chief Nursing Officer typically reports directly to the Chief Executive Officer and serves at the executive level of the organisation. The nursing organisation has a functioning and productive system of shared decision-making/governance
3. Management style: RN leaders use a participative management style, empowering RNs at all levels of the organisation. Feedback is encouraged and valued. RNs serving in leadership positions are visible, accessible and committed to communicating effectively with staff
4. Personnel policies and programmes: personnel policies and programmes, created with the involvement of RNs at every level, support professional nursing practice, work/life balance, career development and the delivery of quality care. Creative and flexible staffing models are used that support a safe and healthy work environment. Salaries and benefits are competitive
5. Professional models of care: a professional practice model describes how RNs practise, collaborate, communicate and develop professionally to provide the highest-quality care for those served by the organisations (patients, families and community). RNs create models for the provision of care that delineate the RNs' authority and accountability for clinical decision-making and outcomes
6. Quality of care: RNs serving in leadership positions are responsible for providing an environment that positively influences patient outcomes. There is a pervasive perception among RNs that they provide high-quality care to patients
7. Quality improvement: the organisation has structures and processes for measuring and improving the quality of care. There is involvement of RNs at every level of the organisation in quality improvement. There is ongoing monitoring, evaluation and improvement of nurse-sensitive outcomes appropriate to the clinical setting(s) and benchmarked with external entities. Research and evidence-based practice are conscientiously integrated into clinical and operational processes consistent with the institutional and community resources
8. Consultation and resources: the healthcare organisation provides adequate resources, support and opportunities for the utilisation of experts, particularly advanced practice RNs. In addition, the organisation promotes involvement of RNs in professional organisations and among peers in the community.
9. Autonomy: autonomy in nursing is the ability of the RN to assess and perform nursing actions for patient care based on competence, professional expertise and knowledge. The RN is expected to practice autonomously, exercising independent judgment within the context of interdisciplinary and multidisciplinary approaches to patient care
10. Community and the hospital: relationships are established within and among all types of healthcare organisations and other community organisations, to develop strong partnerships that support improved patient outcomes and the health of the communities they serve

Table 19.1 (continued)

11. RNs as teachers: professional RNs are involved in educational activities within the organisation and community. RNs include teaching in all aspects of their practice. There is a development and mentoring programme for staff preceptors for every level of students, including undergraduates, new graduates and experienced RNs. There is a patient and family education programme that meets the diverse needs of patients in all of the care settings of the organisation
12. Image of nursing: the services provided by nurses are characterised as essential by other members of the healthcare team. RNs effectively influence system-wide processes and are viewed as integral to the healthcare organisation's ability to provide care
13. Interdisciplinary relationships: collegial working relationships within and among the disciplines are valued by the organisation and its employees. Mutual respect is based on the premise that all members of the healthcare team make essential and meaningful contributions in the achievement of clinical outcomes
14. Professional development: the healthcare organisation values and supports the personal and professional growth and development of staff; a continuous learning environment is evident. Programmes that promote formal education, professional certification and career development are evident. Competency-based clinical and leadership/management development is promoted, and adequate human and fiscal resources for all professional development programmes are provided (ibid)

19.12.1 Transformational Leadership

Transformational leadership means that the organisation has leaders who have vision, influence, clinical knowledge and sound expertise related to professional nursing practice. Such transformational leaders exert clear nursing leadership and can steer personnel to where they need to be in order to meet the demands of the future. Transformational leaders focus on building relationships with people and creating change by emphasising values. They can bring about successful organisational change by persuading those under them to change their views and beliefs about what is important, thus shaping a shared vision among those within the organisation. Two forces of magnetism are represented in transformational leadership, Quality of Nursing Leadership (Force #1) and Management Style (Force #3) [49].

19.12.2 Structural Empowerment

Structural empowerment refers to solid structures and processes developed by influential leaders who provide an innovative environment. Strong, professional practice flourishes and the mission, vision and values come to life to achieve the outcomes believed to be essential for the organisation. Strong relationships and partnerships among all types of community organisations are established to improve patient outcomes. Personnel need to be developed, directed and empowered to find the best way to accomplish the organisational goals and achieve the desired outcomes.

The Magnet forces included are Organisational Structure (Force #2), Personnel Policies and Programs (Force #4), Community and the Healthcare Organisation (Force #10), Image of Nursing (Force #12) and Professional Development (Force #14) [49].

19.12.3 Exemplary Professional Practice

Exemplary professional practice within nursing entails a comprehensive understanding of the role of nursing; the application of that role in contact with patients, families, communities and the interdisciplinary team; and the application of new knowledge and evidence. The goal is to show what professional practice can achieve. The Magnet forces included are Professional Models of Care (Force #5), Consultation and Resources (Force #8), Autonomy (Force #9), RNs as Teachers (Force #11) and Interdisciplinary Relationships (Force #13) [49].

19.12.4 New Knowledge, Innovation and Improvements

Strong leadership, empowered professionals and exemplary practice are essential. However, Magnet organisations have an ethical and professional responsibility to contribute to patient care as regards new knowledge, innovations and improvements. This component includes new models of care, the application of existing and new evidence and observable contributions to the science of nursing. The Magnet force included is Quality Improvement (Force #7) [49].

19.12.5 Empirical Quality Results

Initially the Magnet recognition process focused primarily on structures and processes and on the assumption that good outcomes would follow. However, in future the focus will be on categorising outcomes with regard to clinical outcomes related to nursing, workforce outcomes, patient and consumer outcomes and organisational outcomes. When possible, outcome data that the organisation already collects should be utilised. Quantitative benchmarks should be established. These outcomes will represent the “report card” of a Magnet-accredited organisation and constitute a simple way of demonstrating excellence. The Magnet force included is Quality of Care (Force #6) [49]. The first hospital in Europe to receive ANCC Magnet® recognition was the Antwerp University Hospital (UZA) in Belgium, in October 2017. The hospital undertook an 8-year journey, transforming the organisational context of nursing practice embedded in the hospital’s governance and policy step by step, guided by the principles of Magnet Hospital research and the Magnet® Recognition Program.

The SSN believes that, helped by implementing the Magnet model, Swedish healthcare could be recognised for quality patient care, nursing excellence and

innovations in professional nursing practice. Several hospitals have started the process of working towards Magnet status. They have appointed Magnet coordinators and have agreed to be part of a Magnet study if the researchers receive money from the European Union.

19.13 Combining Teaching, Research and Clinical Work Supporting Optimal Patient Outcomes

For many years clinical academic careers have been a natural part of medicine internationally. In Sweden physicians combine clinical and academic work, at least in the university hospitals. This has resulted in advanced knowledge transfer of research results to medical practice and high-quality patient care. Over the past 15 years, the number of nursing researchers (postdoctoral nurses who have finished a doctoral grade) has been growing strongly. However, the employment conventions have not conducive or supported nurses working in academe. There have been limited career opportunities for nurses who registered nurses who want to combine clinical and academic work and thereby to support the implementation of evidence-based care to improve and optimise patient outcomes. This means that substantial numbers of nurses are still working in an environment where there are limited expectations of their involvement in research. This indeed also results in the limited research being conducted and translation of evidence into clinical practice. Thereby, expertise of postdoctoral nurses in research and evidence-based care is not being used.

The Swedish Society of Nursing has, therefore, argued that postdoctoral nurses (who have acquired a doctoral degree) should be provided with the conditions necessary to allow them to combine patient care delivery with nursing leadership and research. To safeguard high-quality healthcare, there is a call for more career opportunities, including combined clinician-scientist functions for postdoctoral nurses in academic settings as well as more combined positions, combining academic and clinical professorships and for lecturers [50]. Implementation of a clinical academic career pathway for registered nurses would increase the recruitment and retention of clinical nurse academics and would have a spin-off impact on speeding up the translation of evidence into clinical practice and education. Today there is a shift towards more universities and university colleges, and also municipalities, establishing combined nursing positions.

19.14 Measures Required for Quality Improvement

Quality improvement and research relating to nursing can only be achieved if nurses and other healthcare professionals are willing and prepared to make the required effort and if management provides the necessary prerequisites. The Swedish Society of Nursing [51] has summarised the measures required within the following three levels:

19.14.1 Measures Required at the Micro Level

- Improved nursing care competence must be assured in the team to prevent adverse events and ensure that patients are met in a satisfactory manner and receive their diagnosis more quickly and that waiting times are reduced.
- Together with all staff, nurses must work proactively to prevent adverse events that harm the patient and are caused by mistakes and errors that could have been avoided.

19.14.2 Measures Required at the Meso Level

- Nurses need easier and guaranteed access to databases containing scientific literature.
- Nurses need to increase their clinical use of research results and become more familiar with the principles of evidence-based practice.
- Nurses should prioritise nursing interventions with a strong evidence base and implement them in clinical practice.
- Nurses should use guidelines and care programmes so that their work is knowledge-based.
- Nurses should be given access to continuing professional development so as to be able to contribute to quality improvement and patient safety work.

19.14.3 Measures Required at the Macro Level

- Nurses should become more aware of the knowledge base that underpins nursing care, in order to improve nursing quality.
- Nurses need to be involved in developing quality indicators in nursing care.
- Current knowledge in the different areas of nursing needs to be charted and systematic literature reviews conducted within core nursing areas.
- More nursing areas need to be covered by national guidelines and care programmes, and the strength of the evidence and recommendations must be evident.
- National quality registers should include nursing care variables.
- Nurses need to develop quality indicators in nursing care for the National Quality Registries.
- Research into methods that support implementation and factors that influence change processes should be intensified.

19.15 Conclusions

The vision of NQRs is that they are used in an integrated and active way for continuous learning, improvement, research and management to create the best possible health and care together with the individual. The different projects with data

from the NQR described in this chapter follow that vision. All the projects and research described in this chapter have been led by registered nurses holding combined clinical and academic positions. It is evident that strong nursing leadership is an essential component of the successful clinical implementation of evidence-based care. Therefore, nursing leaders must take an active part in evidence-based quality improvement in nursing care, including a provision of the necessary prerequisites. That begins with organisational commitment to ensure adequate resources to provide care delivery that is both coordinated and continuous. Efforts that promote continuity of care include accurate and comprehensive documentation, adequate staffing, ongoing education, clear lines of communication, structured handoff process and staffing patterns that value consistent caregiver-patient relationships. Strong nursing leaders are needed to be recognised for quality patient care, nursing excellence and innovations in evidence-based professional nursing practice.

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Nursing Leadership in Transition: From Matriarch and Instructor to University Teacher and Researcher

20

Gerd Ahlström

20.1 Introduction

Leaders of nursing education in Sweden are required to meet a wide range of expectations from co-workers and colleagues, other healthcare professionals, the administration, the healthcare sector, the government (the Ministry of Education and Research) and stakeholders in society. Nursing education has undergone dramatic changes over the years, moving from a hospital to an academic setting. The establishment of nursing science can mainly be attributed to the reforms of university nursing education which took place during the 1970s in Sweden. This chapter reflects on this process. As described in the first chapter of this section, there was a great improvement in living conditions in Sweden in the early part of the twentieth century. At the same time, the number of isolation hospitals expanded, to combat diseases such as the plague, cholera, smallpox and polio [1]. Women's employment was facilitated by the government's family policies. This benefitted nursing and paved the way for a nursing education that would meet the need for competence in the profession. The key people presented in this chapter are strong leaders who have served as role models for teachers and students as they have clearly expressed personal and professional values and how these align with the mission and values of the education. However, both the values and the mission changed over time in response to societal changes. This chapter attempts to provide an explanation for this process.

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307

20.2 Nursing Education Reform from 1916 to the Present

Society first assumed overall responsibility for nursing education with the nursing reform of 1916, which was the result of a parliamentary inquiry begun 4 years earlier. The background to this was the expansion of medical care and the increased need for women to attend the associated workforce. The few private schools of nursing had proved to be insufficient, and so a large number of hospital-based schools had been established which provided courses of education lasting from 6 months up to 2 years. By 1916 there were 57 schools of nursing; and of these 48 schools were hospital-based of which 31 offered only practical training. The length of nurses' education and their qualifications varied widely. There were nurses working in hospitals who never had followed a course at all; some nurses were from working-class families who had attended folk high school (*folkhögskola*, a Nordic form of adult education) and had been on a 6-month practical course at a hospital-based school; and there were others who came from upper-class families who had a good educational background and had completed a 2 or 3 years of education at one of the private schools of nursing. The 1916 reform regulated that nursing education in Sweden should last for 2 years throughout the country. A good educational background was made a requirement for enrolment, in order to prevent "the entrance of uneducated individuals into the occupation of nursing" [1].

In 1919 parliament resolved that the schools of nursing would be subject to approval by the Board of Medicine and that this newly created public authority would carry out inspections of the quality of the nursing education. The theoretical education was limited in scope and chiefly concerned the following medical subjects: anatomy, physiology, bacteriology, pharmacology and pathology. With the advances in medicine, the theoretical side became increasingly important [1] affecting the matron's role. This slowly changed from teaching practicalities in accordance with tradition, to assuming responsibility for the quality of the education, which was in part theoretical. The matron tested the students' knowledge, checked on their occupational capability, exercised strict discipline and saw to that the nursing students all followed the rules with regard to hygiene and conscientiousness.

The next major reform in nursing education took place in 1948 [2] against a background of advances in medicine and the construction of new hospitals with more beds and thus an increasing need for more nurses. Since there was a shortage of doctors, the nurses needed to have more medical knowledge in order to carry out (*medical*) tasks for which they had had no formal training. The 3-year training which had been introduced by the previous reform was now reduced to 2 years in order to meet the need for more nurses. More time was given to the theoretical part in this downsized education, and there were independent study courses at the beginning, in the middle and at the end. Furthermore, the education was adapted to the increased specialization of care; 18 months were devoted to general nursing education and 6 months to specialist education. Nursing instructors were appointed, their role being to work with the head nurse in shaping and supervising the students' practice on the wards. The student was now seen as a *contributor* to the workforce rather than, as before, a fully-fledged member of it. Further changes took place in

1951 when another government report led to men being allowed to become nurses [3]. In 1955 the Board of Medicine issued a detailed syllabus and curriculum that co-ordinated all nursing education in Sweden which boosted the medical subjects, especially pathology. From this point the students' fear of being disciplined or expelled was replaced by a fear of not being able to acquire the knowledge which their future profession called for [1].

In 1958, the Government Institute for the Higher Education of Nurses (SIHUS) was founded when the higher education of nurses was brought under government control for the purpose of training nursing instructors [4]. Between 1958 and 1966, SIHUS was controlled by the Board of Medicine, but in 1966 control was transferred to the Board of Education where it remained until SIHUS was disbanded during the 1977 reforms. At the same time, in 1958, the Board of Medicine began to certify nurses who had completed formal government-regulated training, continuing the process of professionalization [5].

The need to reform nursing education in the 1960s originated from the development of healthcare and the shortage of nurses. Living conditions had improved significantly after the Second World War, with the continuing advance of medical science bringing a sharp rise in the number of hospital beds. Medicine became strongly focused on organic diseases, reflected in the organization of the hospitals in accordance with the principles of rationalization prevailing in industry. The so-called rounds system was introduced, whereby patients were, metaphorically, passed along an assembly line. The role and tasks of the nurse became predominantly medico-technical in nature, including responsibility for advanced monitoring apparatus. Some of the nurse's tasks were delegated to assistant auxiliary nurses, freeing the nurse to assume greater responsibility as a supervisor.

The shortage of nurses led to an increase in the number of places at the schools of nursing, and in 1967, nursing education in Sweden was restructured. At the time it took place mainly in nursing schools run by the county councils [6]. Restructuring converted the nursing schools into vocational schools under the Board of Education, replacing the 3-year nursing education with a 2½-year basic general education, the same for all, supplemented by specialization within eight areas. These were medical and surgical healthcare, intraoperative healthcare, psychiatric healthcare, radiology healthcare, child healthcare, midwifery and maternity care, as well as laboratory work [7]. A further measure directed towards increasing the number of trained nurses was the provision allowing assistant auxiliary nurses in somatic and psychiatric care to become general nurses by way of a shorter 18-month education. Training in supervision and administration increased and at the same time the need to put the patient in the centre was strongly emphasized. The student was to be made ready to perform three basic functions: nursing, medical care and rehabilitation. For the first time, the design of the education is given a clearly pedagogical slant, with the inclusion of practical demonstrations, instruction rounds and the use of audio-visual aids. Medical scientific subjects were assigned a prominent position in order to prepare the students for their future task of assisting in medical care. In addition, independent study courses in psychology and social medicine were introduced because of the increased attention of the psychosomatic disorders

in the population. A third of the education was now theoretical in nature, and the students were no longer seen as a resource for the workforce. Now, the idea was to make the practical training more efficient, with clinical instructors coordinating the theoretical and practical parts of the education, and the earlier system of apprenticeship was abandoned [1].

The next step, the Higher Education Reform Act 1977 and the associated Care 77, was unique in that it did not arise from a shortage of nurses but from the process of democratisation of society and the development of an ideology of healthcare. Nursing education, together with other forms of post-secondary education (including, for instance, physiotherapy and occupational therapy education), was incorporated into higher education [8]. The 1977 higher education reform moved nursing education from vocational training to higher education, making it research-based and giving it the aim of fostering critical thinking and personal development. Care 77 was based partly on the higher education reform and partly on the healthcare policy that had developed over the years. It represented not only an adaptation to the circumstances prevailing in healthcare but also a major step towards more humanistic healthcare [1, 9].

Humanistic values, such as seeing the human being as a whole person, were to permeate the education, implying a criticism of the prevailing biomedical model and the fragmentation of healthcare. Nursing became a principal subject based on the patient's physical, mental and social needs. The Care 77 reform came into force in 1982 with a new syllabus in the form of a framework plan, as opposed to the earlier centralized curricula with their detailed instructions. Thus the rule-governed education, with its emphasis on detailed knowledge, was replaced by an academic style of education [10]. It started as a 2-year education that was later expanded to 3 years in 1993. Furthermore, the higher education reform introduced a 3-year Bachelor's degree in nursing and a Master's degree after 4 years of study.

This transformation was problematic since many of the teachers at the nursing schools had little or no research experience, which made it difficult for them to contribute to the theoretical development of the subject as well as the development of clinical care practices. Most of the teachers were not connected to any clinics and could not properly supervise the students during their clinical education, a situation many tried to remedy by establishing connections with the clinics through working there during the summer breaks. However, this was not the only problem facing the teachers. In order to keep their jobs after the 1977 reform, they had to have at least a 1-year Master's degree [11].

The county councils remained responsible for nursing education (the theoretical and clinical education), similar to other post-secondary educations within the area of healthcare, until 2003 [12], while the government was responsible for the courses given at the institutes of higher education (with few exceptions). One consequence of this division of responsibilities was that the new academic nursing education could not easily establish itself as being properly academic. The 2003 transfer of the responsibility for nursing education to the higher education institutions left the clinical part of the education in the hands of the county councils as it had to be conducted within a healthcare setting run by them. This meant that all clinical

supervisors in the healthcare setting had to be educated in how to manage the demands that higher education made on the clinical training [13]. The fact that clinical education remained in the hands of the county councils initially led to it being regarded as secondary to the academic education.

In 2007 higher education was reformed in accordance with the Bologna Process [14]. The purpose was to bring Swedish Higher Education into line with common European standards, give it status, international currency and appeal and thus promote mobility and employability and at the same time make education in Europe more competitive. It was proposed that in order to reach its targets, higher education should be provided on three levels—basic, advanced and research—and that there should be a degree on each of these levels [15]. Student achievement should be indicated in the form of *learning outcomes* (a key term in higher education). This was a shift from a more teacher-centred perspective to a more student-centred and goal-oriented perspective [15].

Over the years, the role of clinical education developed and transformed and is now an integrated part of academic nursing education [16]. However, this development has not been without issues as the relationship, and the sharing of responsibilities between the higher education institutions and the clinical healthcare facilities has been, and remains, complicated. Clinical education is meant to bring students into direct contact with their selected profession and gain experience and understanding of the different types of care. Clinical practice can be conducted at either county council or at municipal facilities. At the time when nursing education finally was transferred to higher education institutions (2003), the clinical training took place in county council facilities, but over time, municipalities have become almost as much involved. However, the state only reimburses the county councils for costs incurred in handling the clinical education, not the municipalities. This is another source of major obstacles to the development of a completely academic clinical education for the students.

20.3 Nurses Access to Postgraduate Education

A student who had begun her nurse training a month earlier sent me an e-mail and asked for a meeting to discuss the possibility for her being able to join one of our research programmes. An appointment was made, and Johanna, who is in her 20s, came into my office and said:

I would like to ask you if I could assist in any way in one of your research projects. Having met so many good teachers working with research while doing my training, I feel inspired to learn more and find it interesting to be involved in what you do in the important field of care for older people.

This was just one of the positive meetings that doctoral-level teachers today often have with students under training. The trajectory, which began as research-associated teaching, has, after 40 years, become research-based nursing training. Some of the many factors that have contributed to this development are presented below.

Not only did Florence Nightingale prepare the ground for nursing education and the profession as a whole but also for nursing research, by working analytically and systematically using statistics and documentation. However, 100 years had to pass before we in Sweden began to discuss nursing education on an academic level and the possibility for nurses to carry out research [17]. The breakthrough came in 1977 with the Swedish Higher Education reform resulting in nursing education becoming an academic discipline. The reform had huge impact and stimulated an enormous amount of activities among nurses with research ambitions, around the country. They were inspired by influences from other countries, mainly the USA and the UK, where nursing research was already established.

In order to reduce centralized control of Sweden's university education, following the 1977 reform, the country was divided into six regions, each with its own regional management. Despite the fact that the managers of the post-secondary education programmes (nursing, midwifery, physiotherapy, occupational therapy and biomedical laboratory education) did not, at that time, receive fixed research resources from the government for their institutions, the regional boards were given the specific responsibility of dividing the available funds designated for research among these educational programmes. As the existing teachers were not educated to do research and were not officially approved to provide research education, priority was given to setting up educational programmes in research methodology, scientific theory and the preparation for writing scientific papers. These "overarching educational programmes" allowed teachers in nursing with nonacademic training to take Bachelor's degrees, which was the requirement for participating in postgraduate education at that time. Once a teacher had become a doctoral student, he/she was given a R&D (research and development) teaching position with part-time salary for their own postgraduate education. The purpose was twofold, partly it made it possible for nurses to reach associate professor level, which was important since there was a great shortage of tutors for doctoral students in nursing, and partly it was to strengthen the research relations in the education programmes through arranging seminars, conferences and inviting guest professors, preferably from the USA and the UK [17].

The group of nurses with doctoral qualification was initially small, but they were all acquainted. Each of them had a strong pioneering spirit and exerted their influence in official investigations, lobbied with politicians from their leading positions, organized conferences in nursing science and participated in providing scientific advice in the unions and the interest organizations for nurses. Without the involvement of these active enthusiasts in official contexts and as local scientific leaders making nursing an academic subject would have been long delayed. Their pioneering position meant that they were noticed at a political level within the healthcare sector and among research councils providing grants, which enabled them to establish networks for nursing sciences. However, they also encountered resistance and distrust from their own profession, nurses, physicians and other faculty members. Overcoming this resistance became an important and strategic issue for the leaders of higher education in the transformational process of nursing science at that time.

When there was an insufficient number of nursing teachers with doctoral degrees at the university colleges, the educational development was led by a senior professor from another discipline, usually social science. The process of academic recognition, therefore, differed widely between the various nursing schools depending on the availability of research competence and the ability to anchor nursing research locally and at a political level. Two important steps in the development during the 1980s were the establishment of the first professorships in nursing and the establishment of institutions specific to nursing. The first professors were appointed in Umeå 1987, Linköping 1988 and Uppsala 1989. As the first professor, Astrid Norberg played a central role in the early development of nursing research (Fig. 20.1). She began at Umeå University as early as 1980 and was enrolled in the Medical Faculty there with a temporary professorship before the establishment of permanent nursing professorships. Her early work at an established university meant that she was soon engaged in government inquiries of importance for the field on the national level and serving on professional boards tasked with planning for future nursing research. She was further engaged in assignments connected with the Swedish research council that had begun to make

Fig. 20.1 Professor Astrid Norberg. Courtesy of Umeå University. Photographer: Mattias Pettersson



funds available to support research among teachers in nursing and nurses [18]. The importance of her influence on developments and the influential stakeholders cannot be underestimated [17].

Initially, nursing science was connected to the medical faculty at some universities and to the social science faculty at others. An interesting example that was widely discussed in Sweden at the time was put forward by Uppsala University, which had both a medical and a social science faculty. They proposed that the subject of the thesis would determine whether the doctoral student was registered with the medical or the social science faculty. However, the medical faculty in Uppsala was reorganized into larger institutions, and 9 years later the option of choosing the social science faculty was closed. Another interesting variation was the establishment of a health sciences faculty at Gothenburg University in 2001, but after only a short period, it was absorbed into a larger faculty for medicine, odontology and caring sciences. The dean of the health sciences faculty was Professor Fannie Gaston-Johansson, who had qualified as a nurse in the USA. She had worked at the Sahlgrenska University Hospital in Gothenburg after she came to Sweden as an exchange student in 1966 and gained her PhD at the medical faculty there in the mid-1980s. She returned to the USA and the John Hopkins University at the time of the merger of the Gothenburg University faculties [17] where she became a tenured full professor [19].

The next important step for nursing research and research education was when the university colleges, offering medium length care education, were integrated with the state university system thereby becoming a fully integrated section of the national university education system. The integration was decreed in Government Bill 2000/1:71 and came into force in 2003 [12]. The secretary of State, Agneta Bladh, noted at the time of the merger:

The development within the university colleges of healthcare education has no equivalent within the development of the Swedish university and university college system [17].

Following the 2007 examination reform in Sweden, university college education was brought into line with the European standard of the “Bologna reform”. This meant that Sweden now followed the international, three-level standard for all college education: basic, advanced and research [20].

20.4 Research into Healthcare Pedagogy

Another important and unique Swedish development within, and parallel to, nursing research was the developing of research into healthcare pedagogy. The research-based knowledge produced concerning nursing education influenced the academic process in nursing schools in the two first decades after the higher education reform (Care 77). It started in 1973, when a nurse, Britt Johansson, laid the foundations for research in healthcare pedagogy in Sweden. In her work as

director of studies in the education of nursing instructors at SIHUS in Gothenburg, she had been faced with certain pedagogical problems which inspired her to start no fewer than six research projects. The Board of Education showed great interest in her research and granted funding for 15 years. She defended her doctoral thesis at the Institute of Education, University of Gothenburg, in 1979. Thereafter, she became the scientific leader of a research committee within healthcare pedagogy, with responsibility for developing the subject. In 1980 she became an associate professor. Thirteen years were to pass before she obtained a full professorship, although she had, in fact, occupied the post for a few years before being formally appointed. One consequence of this appointment was that there was, from 1995 onwards, a PhD programme in healthcare pedagogy with its own institute at the University of Gothenburg [21]. Ewa Pilhammar Andersson, who became the second professor of healthcare pedagogy in 2000, also conducted impressive research [22] before her retirement in 2008. Britt Johansson's research into nursing education and qualifications played a major part in the changes to the syllabus that occurred in the 1970s and 1980s. The initial focus of her research was clinical instruction, whereby students' learning in the final term was compared with their learning in the first term. In other studies the students were followed throughout their education and in their working life. Comparisons were also made between students at different schools. During the late 1980s and into the 1990s, the focus shifted to the construction of theories concerning competence, qualifications, organization and culture [23]. The research was pioneering and wide-ranging, but it was largely reported in Swedish, not only because the educational context was Swedish but also because it was the tradition that research into education should be published in Swedish [24].

Over the years there has been much discussion at institutions of higher education in Sweden concerning whether healthcare pedagogy should be regarded as a subject in its own right or as one focus area within nursing education. This applies not least to the University of Gothenburg, where it was an independent subject with a professorship and the right to have a PhD programme. The Institute of Health Care Pedagogy was merged with the Institute of Health Care Sciences in 2006, rather a long time after Britt Johansson's retirement in 1996. Thus at present the subject is entitled healthcare sciences (*vårdvetenskap*), and its goal is to "create knowledge concerning human health in relation to living conditions, environment, care, learning, and leadership, as well as the effects of care-promoting acts, from an ethical, local and global perspective" [25]. Research into healthcare pedagogy has continued to produce important knowledge, relevant to research-based nursing education and the nursing profession. Table 20.1 presents doctoral theses before and after the integration of healthcare pedagogy into health and nursing sciences research. In addition to these theses, there were also a great many reports and articles not shown in the table. As can be seen, the earlier platform was maintained after the integration. Since healthcare sciences is a part of the faculty of medicine and mainly focuses on questions concerning the care of patients, the particular contribution made by the theoretical development

Table 20.1 Examples of Swedish doctoral theses in healthcare pedagogy from Gothenburg University 1997–2017

Author	Title of the thesis	Year
<i>Theses at Department of Education and Special Education</i>		
Britt Johansson	Need of knowledge in nursing and demand for knowledge in nursing education	1979
Elvi Walldal	Students in nursing education at high school: expected occupational position, role influence and self-image	1986
Ella Danielsson	Nursing and its psychosocial elements: nursing students' perceptions of central terminology and reactions in relation to a nursing situation	1992
Ewa Pilhammar Andersson	Now we are them: registered nurse students' perceptions and perspectives during the nurse training programme	1992
Karin Dahlberg	The holistic perspective in nursing education	1993
<i>Theses at Institute of Health Care Pedagogics</i>		
Maria Nyström	The daily life of severely mentally ill people	1999
Joakim Öhlén	Being in a lived retreat: narratives of alleviated suffering within palliative care	2000
Febe Friberg	Pedagogical encounters between patients and nurses in a medical ward: toward a caring didactics from a life-world approach	2001
Carina Furåker	Control and visions: nursing education in transition	2001
Margareta Asp	The meaning and the learning of rest. A study with a life-world phenomenological approach	2002
Madeleine Bergh	Awareness of Meeting. A study of the nurse's pedagogical function and competence in teaching patients' relatives and significant others	2002
Henrik Eriksson	The diplomatic point: masculinity as embodied identity construction in Swedish nursing education	2002
Solveig Lundgren	In the traces of a change in staffing. A study of nurses' work in a surgical ward	2002
Ulla Hellström Muhli	Bridging perspectives: a study of need assessment dialogues in elderly oriented social work	2003
Elisabeth Dahlborg-Lyckhage	The construction and mummification of nurses—in television and in the images of students	2003
Marianne Lindblad Fridh	From general nurse to specialist nurse in intensive care. A study of experiences of specialist education and initial professional practice in intensive care	2003
Kerstin Nilsson	Mandate–Power–Management. A study of how first-line nurse managers' leadership is constructed	2003
<i>Theses in healthcare pedagogy at Institute of Health and Care Sciences</i>		
Ann-Charlott Lindström	Something that no longer exists—the district nurse's professional practice at the primary health centre from a gender perspective	2007
Birgitta Bisholt	The professional socialisation of newly graduated nurses—experiences of an introduction programme	2009
Maria Skyvell Nilsson	You are the doctor now, you are in charge studies on the development and manifestation of professional knowledge among students and doctors	2010

Table 20.1 (continued)

Author	Title of the thesis	Year
Håkan Nunstedt	A learning tool—how patients with major depression and health care staff experience and use the portfolio method in psychiatric outpatient care.	2011
Annica Lagström	The apprenticeship programme teacher. A study of how the role of the vocational teacher is formulated in conjunction with the introduction of upper secondary school apprenticeships	2012
Anne-Louise Bergh	Nurses' patient education work—an unclear field	2016
Malin Upper Bogren	Building a midwifery profession in South Asia	2016
Frida Smith	Patient education materials from a person-centred perspective—coping and co-design in colorectal cancer care	2016

within healthcare pedagogy research can be expected to diminish over time, in contrast to the earlier phase when healthcare pedagogy was a part of the Faculty of Social Sciences.

Research on healthcare pedagogy is now being conducted at all the major universities, though only the University of Gothenburg has had two professorships and established funding for research in this subject [23]. Several theses in the last 25 years have focused on learning and supervision in the clinical training of student nurses [26–31]. Anna Löfmark's (Registered Nurse, PhD, associate professor) 20 years of research has had a great influence on nursing education today. Her research focussed mainly on the assessment of students' learning and skills in clinical nursing education [32–36] but also covered the content of nursing education from a Scandinavian perspective [37]. Assessment of students' learning is a crucial question when great changes are in progress in higher education. It was for this reason that Anna Löfmark devised an assessment form for clinical nursing education in 1998 when she was studying for her PhD [29]. It is based on the Swedish Higher Education qualification descriptors [38, 39] and international guidelines for nursing education. After several evaluations a second version was produced—the AssCE (Assessment of Clinical Education) form [40]. The AssCE has been evaluated, and rated highly, by both students and clinical supervisors through the years of the nursing education programme, and elements of it have been combined with learning outcomes in the syllabus of Bachelor programs (Fig. 20.2). The assessment facilitates dialogue and offers an opportunity to monitor the students' development during clinical assignment periods. The research results have been widely disseminated, and AssCE has frequently been used in Bachelor nursing education in Sweden as well as in a number of nursing programmes in Norway and Finland [41]. This is this due in no small part to the fact that Anna Löfmark has the ability to collaborate with colleagues and to build networks, at the same time as being untiring in her effort to improve the clinical training of nurses.

Fig. 20.2 This is a photo of an assessment situation using the AssCE form. Courtesy of Anna Löfmark



20.5 The State of Nursing Science and Research Competence Today

Looking back, we can conclude that during the first 20 years following the 1977 higher education reform, 196 nurses and midwives have received a doctorate degree [17]. The development then accelerated rapidly, and now 41 years later, there are approximately 120 professors active in Sweden and around 30 professors emerita/emeritus [42]. There are more than 1500 nurses with a PhD degree [42]. The majority of the theses originate from the larger universities where research education is part of the medical faculty. The state-controlled university colleges that do not have university status have been able for some years to apply for permission to provide postgraduate education for doctoral degrees within certain fields. Several of the university colleges have already been granted this right, and more applications are under review by the Swedish Higher Education Authority (abbreviated in Swedish to UKÄ). As yet, it is not known whether the smaller colleges that have received permission to offer postgraduate education will become a greater driving force for the development of nursing research than the larger universities, where nursing has been integrated into big inter-professional departments, which in turn are part of larger faculties of medicine.

As nursing education moved into academe, clinical practice education became an add-on, rather than an integral part of the academic studies. One strategy for accommodating the clinical part of teaching into the academic is through *joint appointments of faculty* [nurses who work in teaching/research at universities/university colleges—and also have appointment as clinical teachers at the hospitals], which means that the teacher works both at a clinic and at a higher education institution, which have been needed ever since the introduction of Care 77. The intention has always been to strengthen the ties between clinics and education, but, despite its being on the agenda since 1977, the number of joint appointments

remained low for a long time. A survey carried out by the Swedish Society of Nursing in 2017 revealed that 62.5% of Swedish Higher Education institutions had one or more teachers holding a joint appointment position and 42.0% had one or more professors with a joint appointment position [43]. Leaders today in nursing science need to put more focus and energy into strengthening the integration of clinical practice into the faculty and vice versa.

20.6 Leadership in Changing Times Bridges Different Perspectives

Who the leaders are in a society is inextricably related to the culture of the society and its environmental conditions [44]. The same applies to nursing sciences as well as in other areas. In the late nineteenth century when the first nursing schools opened, nurses were recruited from among upper class, good Christian women of high moral standing, as advocated by the first international leader of nursing, Florence Nightingale. This was understandable at a time when those working in Swedish and UK hospitals were referred to as “sick skivvies” and were mostly women without education, often taken from the streets and described as drunken, dirty, careless and irresponsible [45]. The role and responsibilities of the leaders in nursing education at that time was to implement better hygiene in the nursing of patients and to create some status for the newly established nursing education, and the healthcare that resulted from it, in order to help patients from the poorer classes who could not receive care in their homes [46]. At that time, the means used in management practice to achieve the goals were harsh authority and strict disciplinary measures taken as soon as a teacher or student made the slightest mistake.

Throughout the twentieth century, the leaders had to cope with a number of reforms in nursing education. An extensive change came in the 1960s when much more theory was introduced into nursing education, and the students were no longer considered hospital workers. As time went by, the leadership’s authoritative approach was increasingly called into question by society. The school leaders appointed at that time were steered less by the rules and were more focused on respect and care for the teachers and pupils. The Swedish reform in higher education in 1977 brought about one of the most significant changes ever made regarding nursing education and is generally accepted to have been successful in implementing the visions and strategies needed to achieve the new goals for the profession. Nursing and nursing education entered a phase of intense development, and new resources were made available for research and postgraduate studies. However, at the time there was relatively little discussion or empirical research regarding the tensions implementing these changes generated. Many teachers were concerned that their competence would not be sufficient to be allowed to continue to teach and that they would be excluded from teaching. This debate polarized around two issues. The first was the balance between practice and theory, and the second was which theory of nursing the nursing education should be based on, which included the definition of nursing as a concept. The debate between nurses working at faculties

and within the universities took place within faculty meetings, while at the same time the clinical nurses carried on working in clinical practice and asked critically what value academic studies had for the patients and for the nursing clinical practice. These conflicting discussions placed nursing leaders in the position of having to balance the different views and of trying to resolve the situation through setting visionary goals and presenting the education as a “spearhead for the future”. The transformation of teachers from being practice-based professionals to academic professionals has not been without complications [47] and may be compared with the transition of nurses into members of an academic profession [48]. The changes made completely new demands on the leadership within nursing education. The leaders who were the most successful in bridging any clashes of values among teachers were those who could mediate the visions and targets that the reforms could achieve and could show they had confidence in the teachers’ ability to develop and take responsibility for the work that the changes implied. A teaching group who was fortunate enough to have a leader who, parallel with exercising their leadership role, started doctoral studies gained a clearer role model for their own competence development. The fact that, for the last decade, research and education have been an integrated part of a teacher’s job in nursing is the result of the extensive efforts by both teachers and leaders over the last four decades.

The policy and organizational structure at universities have influenced the role of leaders in nursing. The traditional leadership at Swedish universities is *collegial leadership*, where leaders are voted into office by the colleagues or selected by an election committee of colleagues for a certain period, usually 3 or 4 years depending on the leadership position. The idea behind this tradition is that responsibility lies with the colleagues as a group and not only with an individual leader. The choice is based on academic merits that are considered to be in accordance with common standards for scientific activities in the discipline [49]. Collegial leadership has several benefits as the leader has legitimacy as teacher and a researcher and can cope with the culture. This strategy also makes career moves to higher leadership positions possible, for example, from teacher to dean. The last two decades have been characterized by a centralization which has meant the merging of small departments into larger inter-professional departments that are a part of large university faculties. The department leaders manage therefore several professions and research groups in an interactive inter-professional context. Again, this demands strong leadership that focuses on balancing between different interests and setting up common quality goals for teachers within several healthcare areas. However, in the large multi-professional university departments, there is a risk that nurses will not have the same chances to train as leaders compared to when nursing was its own separate department.

Although the relevance and importance of leadership for higher education has been acknowledged, there is a lack of research studies in this field, especially concerning academic leadership in nursing education [50]. Today leadership represents a dynamic integration of values in order to achieve the goals of a good working environment for teachers and students, continuous academic professional development through research and the strengthening of academic—practice partnerships

[51]. Leaders have an important role to play in shaping the culture of a group, unit, profession, organization or any other social groups or units [47]. Recent publications suggest using transformational leadership (TFL) theory as a framework for developing leadership in nursing as it offers an opportunity for cultivating a team-focused culture in the faculty [52–54]. Transformational leadership is comprised of four factors: individual consideration, intellectual stimulation, inspirational motivation (charismatic leadership) and idealized influence. Increasing TFL competence among nursing faculty, educational administrators and nursing students may facilitate finding solutions to current and future challenges in nursing education [44, 53]. Future academic leaders can expect to work in an environment where a high level of research and educational output is valued and with fierce competition on several fronts: between universities as a result of ranking systems; increasingly, between institutions in attracting students; between researchers when applying for external grants; and between disciplines within universities at all levels. It is essential to encourage future leaders of nursing education to embrace transformational leadership to ensure that they will have the necessary competencies and skills to take on the mentioned challenges of the future and develop nursing science even further.

20.7 Conclusions

Nursing education in Sweden has developed in close association with concurrent societal developments in the country. The changing demands of the society has led to a series of reforms and directives over the last century which has transformed nursing education from a purely practical discipline into a modern academic discipline but with strong ties to clinical practice.

From a historical perspective, many strong leaders, formal and informal, moved the development of nursing science forward through a transformational leadership adapting to the needs and demands of the Swedish society. The earlier development, between 1851 and 1965, focused on clinical practice, but gradually more and more time was allocated to theoretical education. In due course, new regulations strengthened the responsibility of the county councils and a few private institutions for nursing education, while higher education in general was the responsibility of central government. In 1977, the reform of the higher education system in Sweden brought nursing and other post-secondary educations under the umbrella of higher education making nursing a graduate profession. The reform inspired many nursing teachers to enter higher education and research. Since nursing education remained the responsibility of the county councils, it was difficult for nursing education to establish itself as a fully-fledged academic discipline. It was not until 2003, when a new ruling transferred the responsibility for nursing education to the higher education institutions that the transition to an academic discipline could be completed.

Today, the academic leadership in nursing education revolves around a dynamic integration of values with the intention to achieve three main goals: a good working environment for teachers and students, continuous academic professional development through research and the strengthening of academic-clinical partnerships.

It is difficult to say what the future development of nursing science might hold, but we can be certain that it will include a multitude of challenges at all levels. It is, therefore, necessary to have strong leaders, prepared for transformational leadership and equipped with the necessary competencies and skills to take on future challenges and continue the development of nursing science.

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Nursing Research in Sweden: Academic Leadership

21

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21.1 Introduction

Most of the nursing research and all doctoral education in Sweden are carried out within academic institutions, universities or university colleges, and this has implications for nurse leadership strategies in academic work. In particular there are some principal concepts which determine leadership in these organisations, irrespective of whether they are state or privately run. These concepts are academic freedom, academic leadership, collegiality, meritocracy and elitism and also critical thinking; the latter is in a sense related to falsification. The application of these concepts may vary within a country as well as internationally, but it seems fair to say that they more or less characterise the work within academic institutions. These concepts will be briefly described below particularly with respect to their impact on nursing leadership roles. Awareness of these historic, and mainly acknowledged, principals is needed, from the perspective of academic nursing leadership, since it shapes how research groups are set up and run; how recruitment for management positions such as vice chancellors, deans or heads of departments is handled; how these roles are executed; and how resources are distributed. It is essential to understand the hidden or overt rules of the organisation surrounding the researchers' work at micro level. It may be problematic, in an academic environment, to apply leadership theories developed in other contexts such as private companies or publicly run healthcare organisations. Power and decision-making does not run in a straight top-down line. Thus, an academic nursing leader has to be aware of how power is distributed.

Academic freedom and academic leadership [1] are intertwined concepts and have a long tradition deeply rooted in academic environments. Academic freedom expresses the idea that academic organisations should stand free from societal

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influence of any kind, thereby contributing to society by presenting observations that would, perhaps, otherwise be neglected. Many regulations within academic organisations are determined by the idea of academic freedom which, in turn, has implications for academic leadership. In short, academic freedom means that any academic or student has the freedom to pursue knowledge, research and teaching and to present their findings without being subject to any undue or unreasonable interference. Thus, no one in a management position can criticise or punish the teacher or researcher for doing these things. Along with academic freedom go other academic values such as academic integrity and academic quality, meaning that there are certain rules set up by the research community that have to be complied with. This is very clear in the publication of research. It also means that the academics should not be subject to undue political, economic or ideological influence or that from other, irrelevant factors. Thus, academic nurse leaders, particularly those in management positions, have to conform to these more or less explicit rules in any academic organisation, meaning that their power is more limited compared to their counterparts in other organisations. Setting up and running research, and, in doing so, recruiting staff is governed by academic freedom, as long as the nurse leader can obtain funding for the work. The decisions made by funding bodies and government financing of the academic organisations restrict academic freedom.

Critical thinking, critical mass and critical discussion are important characteristics of the work in academic organisations and are supposed to be used to demonstrate differences in opinion and to ultimately produce the best possible knowledge. Academic leaders have to respect individual academic freedom and abstain from repressing differences in opinion, as open debate or academic communication is at the heart of academic work. Academic leadership is commonly built on collegiality [2] meaning that organisations are run by peers; earlier documents state that leaders should “be the best among equals”. Lund University was established in 1668 and in its first years the professors took it in turn to act as the vice chancellor of the university. Today, those in management positions are normally appointed after a voting procedure and for a predetermined period of time. This has both pros and cons. In its favour, it provides acceptability among peers, but there is perhaps a risk that the holder of the office will not feel totally free to take unpopular but necessary decisions. The system should not be confused with democracy because power is distributed mainly to the academically most competent teachers, usually professors. Thus, administrative and technical staff and teachers in lower academic positions have less opportunity to influence what is going on in the organisation. It should be noted that compliance with the ideas of academic freedom and leadership varies considerably. In Sweden old universities mainly adhere to the traditions whilst young universities are less compliant. It is, however, important to remember the reason for academic freedom, which is the need to work independently of societal, political and economic values. Sometimes nursing research tends to reflect the contemporary societal values [3] rather than question them.

Another characteristic of academic organisations is that they are inspired by meritocracy [2] when it comes to recruitment and resource allocation [4]. Thus, overall there is a value system based on elitism, shown in the concentration of power

in the organisation to certain people; those with a strong research track record. Previously, professors usually held the power and formed the collegium. This has more or less changed, and it is perhaps more customary today for those with a teaching position to form the collegium. Elitism is shown in the conviction and fundamental rule that academic organisations should operate towards concentrating attention and resources to the best of the best. Although funding bodies nowadays are very influential in the kind of research they are willing to support, they also mainly operate in accordance with the idea that resources should go to the best of the best. This has implications for leaders in that their power is reduced because they are not in a position to determine where external funding should be used. Meritocracy is the belief that money, positions, power, etc. should be granted based on competence, achievements, efforts or talent. In academic organisations this normally means achievements in terms of research, publications and education. Aspects such as gender, ethnicity or social class should not be taken into account in decisions. As decisions about academic positions and funding are based on meritocracy, academic nurse leaders are required to take decisions in accordance with the ideas of meritocracy.

Essentially, the concepts described above all have an influence on the way academic nurse leadership roles can be shaped, and it is important to be aware of how these concepts operate in any specific organisation. Their meaning, once translated into practice, may portray academic organisations as not being based on humanism or democracy. At the same time, the challenge for nurse leaders (or any academic leader) is to foster creativity and critical thinking and motivate people to go beyond what seems possible in terms of innovation and frontline knowledge whilst still being influenced by the ideas of elitism and meritocracy. It certainly is a challenge, but it is what academic nurse leaders have to achieve whether they are leading a research group, providing a doctoral education environment and supervision or occupying managerial positions such as vice chancellors, deans or heads of departments or are appointed to membership of these management groups. On the one hand, they have to convey their faith that their co-workers and students can achieve more and on the other hand, they are restricted by certain more or less explicit rules. These rules must also be communicated to those entering an academic organisation, such as doctoral students and post-doctoral researchers. It may create conflict, for instance, if a nurse is recruited from healthcare to fill an academic position. Handling this requires recognising the essence of academic organisations and leadership. From experience it seems fair to say that it is far more common for people to be unaware of how academic organisations work than the opposite.

21.2 The First Generation of Academic Nurse Leaders

The first generation of academic nurse leaders in Sweden paved the way for the second and third and fourth generations of leaders. It may be helpful to take a closer look at how they took on the role of professor, what they did and what contribution they made to knowledge development as well as how this may have shaped the way

forward. This will be done from a contemporary's insider perspective of Umeå University, from where the second author has a PhD. Two aspects in particular will be reflected on; the research built up and the way doctoral student recruitment and education were carried out. Organisational issues, collaboration and integration with the university may have been important for the development throughout Sweden.

The first nursing departments were integrated mainly into the medical faculties, one after another. This has been debated and criticised mainly by those not employed in medical faculties. The most common criticism was that it was "not true nursing" and that, as medical faculties shaped the future of the discipline, it was not independent [5]. Those in favour argued that it was beneficial to be in the medical faculties because they had status and were prestigious within universities and in society. State funding for the medical faculties was higher than for the social sciences. They were successful in their research, attracted large grants and had a strong collaborative relationship with the healthcare organisations. They welcomed nurses, and it was emphasised that doctors and nurses worked closely together in clinical work, so why not in research. It would be unfair not to add that there was also some opposition among doctors, but those managing medical faculties were mainly in favour. Perhaps those in the highest positions and those who were secure in their academic role felt less threatened by nurse researchers entering into their organisation. Once nurses were part of the medical faculty, the management had to accept responsibility and probably did not want to fail. Thus, nurse professors became integrated and involved in boards and committees, as heads, as pro-deans, etc., and could express their views, participate in decisions and subsequently became influential.

Collaboration between this first generation of academic nurse leaders took place early and focused mainly on the doctoral education environment. This was an essential first step since very few nurses had a PhD. International, top researchers were invited to give courses for the PhD students: for example, Knowledge Development (Professor A. Meleis), Ethics in Nursing (Professor Anne Davies), Adaptation Theory and Research, Qualitative Methods, Phenomenology, etc. Doctoral students who had influential positions within the healthcare system were helpful in securing funding for these top researchers, making it possible for them to run the courses. The encounter between very junior researchers (PhD students), and these world-famous scientists sparked ideas and provided an insight into internationalisation and being part of an international research community. It is also noteworthy that the first academic nurse leaders introduced more course work into the doctoral education at the medical faculties. This combination of theoretical work, course work and research is still in place and was introduced by academic nurses. Previously the course work for research methods was minimal. The type of national and international collaboration described is still ongoing and is perhaps even more important for a small country, providing input from others than the professor leading the department. Collaboration also took place early between professors in medical disciplines and academic nurses and is still ongoing.

Two ingredients of the leadership strategy of the Umeå department were particularly important; one was the mandatory seminars, and the other was the focus of the

research at the department. The seminars provided the learning environment, specifically training the participants in critical thinking but also in taking and giving criticism and formed a critical mass of researchers. They were provided on a regular basis and lasted about half a day. Two students shared each half day and had to submit a manuscript in advance. It could be their next publication or any other material, a proposal, a framework for the thesis, etc. After a short introduction, all the participants gave their critiques or questioned the way the problem was tackled. These discussions also became discussions between participants, arguing for or against a certain view. The student in focus had to respond briefly, not necessarily to defend the work but to listen and reflect. The professor or other senior researchers participating downplayed their role to give the students time to reflect and discuss. An atmosphere was created that allowed creativity, open reflection and criticism, showing respect for the presenter but at the same time encouraging stringent comment. A presenter may have felt very good about what was taken to the seminar and afterwards, with the manuscript in pieces, still felt that they had been helped and were enthusiastic about how to proceed in order to complete the manuscript. It is certainly a leadership trick to arrange and run a seminar in which robust criticism is given, but still the person and the participants feel inspired and enthusiastic. It is not really possible to say how this happened. The rules for the seminars were mandatory presence that no paper should leave the department before being discussed at a seminar and that the entire process from the first proposal for the papers to the framework and later the pre-dissertation were to be scrutinised in seminars. Those participating were expected to read the papers and to be active in the scientific discussion. It created a learning environment that in particular trained the students in what is the core of research, critical thinking, formulating criticism and taking on board criticism from others, sorting out what is useful and what is not and constantly trying to dig deeper in understanding the phenomenon under discussion.

The other important ingredient was the focus of the research. It cannot be determined whether it was a conscious decision by the early professors but from an outside perspective, and in hindsight it looks very much as though they deliberately established a research program [6] in Umeå about elder care and in particular dementia care, although each doctoral student had a topic of their own. The recruitment seemingly favoured people with an interest in dementia or the care of older people. It is not known whether future doctoral students interested in other subjects were rejected or simply did not approach the department. Researching dementia and the care of older people from so many angles and with so much variation in method and design meant that there was cross-fertilisation in the work of the students. Looking back it is possible to identify a “red thread” in the theses. One thesis presented or focused on a problem and this problem or aspect was then taken further in the next thesis. Thus, the doctoral students in a sense formed what would be described today as a research group, although most of them were at a very junior level in terms of research. Almost all the doctoral students spent most of the day at the department which allowed them to share problems, consult with each other and become a working group. From time to time, the professor also took the initiative in creating links between them by asking one doctoral student about a problem another

doctoral student had. It may have been done just as a test or to get new insights, but it created links between doctoral students.

To summarise, from a nurse leadership perspective, the way in which a learning and research environment was set up and steered for a large group of doctoral students was very much in line with the core of what research is about establishing a structure and climate for creativity, critical thinking, sensing falsification and going more deeply into a problem but also establishing a critical mass of researchers. The challenge for any academic nurse leader is to establish and run such creative research and a research education environment, friendly but not afraid to criticise. Shaping an environment in which people invest their minds in the work but remain able to see the difference between investing the mind and thinking and not investing the person as a person. A wise professor once said:

Do not ever fall in love with what you have produced (it can always be sharper, clearer or more distinct).

Another important academic leadership strategy to be learned from this example is that of structuring research by focusing a broader area and continuing preferably until it can be handled effectively in clinical practice. In addition the example shows how research in a certain area can be combined with creating an environment for doctoral students whilst not forgetting that the junior researchers and post-doctoral researchers also need a learning environment adapted to their level of knowledge. It should also be noted that establishing a new discipline in old, traditional organisations is a challenge. In Sweden this was done at large universities by integrating nursing research into strong and influential faculties which quickly led to academic nurses becoming involved in the management structure and thereby acquiring power. Creating international collaboration is also an important part of this leadership. An interesting question is what the doctoral students experiencing these very creative first academic nursing departments and leaders brought with them in their efforts to continue building strong nursing research.

Bexell [1] concluded that academic leadership is best if it is grounded in trust/confidence among those concerned. His work is mainly from the perspective of roles such as dean or vice chancellor, but it translates very well into academic leadership, such as in the running of a research group, being responsible for a learning environment, etc. In addition he suggests that the leadership is well served by four fundamental pillars:

- The leadership is based in an idea and founded in academic values and in clarity about what the organisation is meant for.
- The leadership should be based in a strategy and policy.
- It should be firmly established, meaning that the leader develops relationships, listens and anchors the strategy among colleague (but not avoiding unpleasant decisions).
- The leadership should be based in knowledge, meaning that it is built on current knowledge.

Although these pillars are presented as based in formal leadership roles in academic environments, they may easily translate into building and running nursing research within academic environments. The description above of the first generation of nurse researchers entering into the academic organisations resembles the four pillars described. The kind of academic nurse leadership described may also be consistent with transformational leadership, although the underpinning views of what academic organisations are about need to be taken into account.

21.3 Recruiting the Next Generation of Nurse Researchers

This first nurse professor, referred to above, supervised more than 50 students, as main or as co-supervisor. Supervising so many of the next generation of nurse researchers was probably very common among the first academic nurse leaders and the second generation, although perhaps not in such numbers. This is probably not what would happen today, but it was necessary at the time because of outside pressure and the impossibility then of recruiting post-doctoral researchers or researchers at more senior levels. Once a student had obtained a PhD, the professor introduced them to supervising as a co-supervisor and also placed them on examination boards giving them responsibility for boosting development at the post-doctoral level. As an academic leader, it is important to consider how to foster both junior and senior researchers in order to establish a large enough group of nurses able to set up and carry out research.

The first generation of academic nurse leaders recruited and supervised many doctoral students as it was the only way forward. However, in time it risked becoming the only model for setting up and carrying out nursing research, discouraging critical thinking about how to best put together a group of researchers. Reviews found that Swedish nursing research was fragmented and not carried out in research groups but rather under the leadership of one single researcher. The system also required applicants for the rank of professor to have been the main supervisor of at least two successful PhDs. Thus, the academic meritocratic system emphasised doctoral supervision. It also emphasised that the selection of PhD students should be based on merits alone. This entailed a risk that academic nurse leaders would become supervisors rather than leaders of a research group with a research agenda that they controlled. In order to be successful at doing research and obtaining funding, it is necessary to have a long-term strategy for both the areas of research and recruitment. The ideal is a mix of researchers from very junior to senior, from a variety of academic backgrounds that suits the research problem to be solved [6]. The research group also needs to be reasonably stable and having too many doctoral students brings instability since they move on. Having too many doctoral students also makes it difficult to achieve top-level original research because they are there to learn the trade. With a good mix of people at various levels, doctoral students, post-doctoral researchers and research assistants, and senior researchers, it is easier to offer a stimulating and exciting learning environment. National and international expertise, loosely linked to the research group, can be an added bonus.

21.4 Contributing Knowledge for Practise

The first generation of academic nurse leaders contributed a great deal of knowledge that impacted on practice, and some of that research will be mentioned here. From an overall perspective, the research and theses that came out of these departments focused on a relatively broad area. Nevertheless, the research was apparently appreciated by the healthcare organisations.

The research on dementia care, stemming mainly from Umeå University, had a great impact on attitudes towards people with dementia. Some examples of doctoral theses are given below. In particular the contemporary view was that these people had no inner life and did not experience or react to what took place around them. A ground-breaking paper was first published in 1986 and was republished in 2003 [7] since it was the most cited paper in the *International Journal of Nursing Studies* at that time. Two patients in the final stage of dementia were stimulated with music, touch and object presentation in order to explore their reactions. The research from this group also questioned the use of tube feeding [8, 9] of people with dementia, and it seems fair to state that today neither this procedure nor urinary catheters are used in the terminal phases of dementia. This research was controversial with some doctors being highly critical whilst others welcomed it. The view of what constitutes high-quality care for people with dementia was changed completely with the research being given much public attention and acceptance, resulting in improving the attitude towards dementia. This was not the effect from the beginning and early on some educated people even ridiculed research focusing those with a dementia disease. The research at this department also focused on the informal caregivers, the family members, on group dwellings and the supervision of the carers, for instance, and the implementation of family support started to improve the quality of care. It may not be an overestimation that the research into the care of people with dementia from Umeå University was ground-breaking not only in Sweden but probably also internationally.

- Sandman, PO Aspects of institutional care of patients with dementia, Umeå University Medical dissertations, New Series No 181, 1986
- Athlin, E. Nursing based on an interactional model applied to patients with eating problems and suffering from Parkinson's disease and dementia, Umeå University Medical dissertations, New Series No 230, 1988
- Asplund, K. The experience of meaning in the care of patients in the terminal stage of dementia of the Alzheimer type: interpretation of non-verbal communication and ethical demands. Umeå University Medical dissertations, New Series No 310, 1991

Two lines of research at Linköping University became influential in Sweden. These were research focusing on stroke and stroke rehabilitation and research into older people's nutritional status during hospital stays and also on pressure ulcer.

Undoubtedly the revelations about undernourishment in older people and the development of pressure ulcers received much attention from the public and the health-care system and led to intervention studies to improve the situation (see below).

- Unosson, M. Malnutrition in hospitalised elderly patients. Linköping University Medical dissertations. 1993
- Ek, A-C. Pressure sores- A problem in nursing care. A study of skin blood-flow, risk factors, prevalence, prevention and treatment in long term care patients, Linköping University, Medical dissertations, 1985

At Karolinska Institutet nursing research focused on the quality of life [10] of patients in various healthcare situations, and that also drew attention, particularly from medical researchers. Thus, it became more common for medical researchers to invite nurse researchers to participate in their research, since they wanted to add the aspect of quality of life. Another important research that had a great impact on clinical work was that concerning the treatment of chronic ulcers [11] with perhaps the most important finding being that these ulcers were very painful. This led to methods for treatment being tested and implemented, taking pain into account. Midwives also contributed original knowledge that had a great impact on practice; for instance, putting lapis in the eyes of newborns [12] was stopped, and using the kangaroo method to improve the survival of newborns became a common knowledge and practice [13]. The fact that newborns also experience pain is an example of an original finding that came from a paediatric nurse researcher [14]. The examples given are randomly selected to illustrate the work that took place early in the development of nursing research.

21.5 Recent Exploration of Nurses' Doctoral Theses

The database Swepub (www.swepub.se), which gathers scientific publications in Sweden, was searched to gain a sense of the focus of clinical nursing research in recent years. The search concentrated on finding doctoral theses defended in 2005, 2010 and 2015 and indexed as nursing. In total 111 doctoral theses were found. One hundred and three were comprised of a number of articles (published, accepted for publication in scientific journals with peer review, submitted for publication or in manuscript) and a framework which puts the studies into a cohesive context. This is the most common format within medicine, natural sciences and technology in Sweden and benefits doctoral student by giving them very early entry into the international scientific community.

There were two major focuses: on older people ($n = 16$) and children or adolescents ($n = 12$).

The theses often included family members or informal caregivers from various contexts ($n = 26$), such as family members of stroke victims [15], parents of

children with asthma [16] or family members of those with mental illness [17]. Rather surprisingly 54 of the theses included staff or students (mostly nursing) in various settings. Among these, 11 included only staff or students and no patients, clients or family caregivers. Perhaps the most interesting finding was that the vast majority ($n = 64$) included both quantitative and qualitative perspectives, whilst just 16 had an exclusively quantitative approach. This observation indicates that in most cases the research includes both qualitative and quantitative methods and that clearly clinical nursing research encompasses multiple scientific perspectives. Clinical nurse doctoral students evidently have the possibility of getting a solid scientific education with a wider scope, preparing them for work with other researchers, both from nursing and from other scientific disciplines. This has implications for leadership since they have the prerequisites to be able to lead research, but they are also a useful resource for healthcare leaders who need research in their organisation. Among the theses identified, the vast majority were descriptive or explorative in design. Eighty-five were explorative or descriptive or qualitative, 70 were explorative or descriptive and cross-sectional and 4 were case studies. Sixteen had a longitudinal design, and 25 comprised at least one study with an experimental design, of which 10 out of 25 were described as randomised controlled trials. Whether the students received the necessary training in terms of study design is open to question.

Although early and current nursing research seems very much focused on important clinical nursing questions, concentrating on future challenges is also important. This requires leaders with academic competence, able to make strategic decisions about clinical research questions. The research should strive to inform practice and benefit healthcare, patients, clients and users. For the research actually to be able to do all these, there are some questions which need to be addressed and which have implications for leadership. The first is the need for more intervention and implementation research, the second is nurse researchers' access to and trust in the clinic, the third is the need for successful networks or institutions that focus on clinical research and the fourth is funding. Explorative and descriptive studies can be of great value, but for them to be useful in practice in the long run, they need to be transferred into interventions or implementation [18]. To be able to transform research results into practice, clinical nurses need access to research results, and researchers need access to clinical contexts. Making nursing an academic subject was very important, but it also meant that most research was performed by nurses working solely at universities. This is perhaps not a good model for the future. If nurse researchers are too far removed from clinical contexts, there is a risk that important research questions will emerge too late, because the nurses who detect them in clinical practice do not have access to academia and the research environment there and the researchers are too far from the floors of the clinic to detect the questions. Medical doctors working at university hospitals have traditionally combined clinical work with research and the education of medical students from the very beginning of the medical faculties. It has been considered important that these parts should be interlinked for the medical profession to be strong and evidence-based. This has not been self-evident for nursing, although nowadays it seems that

things are moving that way. There is no clear information about how many nurses combine clinical practice with research and teaching in the so-called joint positions in Sweden, but a recent report from the Swedish nurses association shows that this is developing. Credibility in education but also in research relies on clinical practice. Nurse researchers in clinics can more easily have access to participants, recruit PhD students from the clinical nursing staff and implement research findings in practice. Meeting patients on an everyday basis adds additional dimensions to clinical problems and research questions. Thus, academic nurse leaders should perhaps strive harder to acknowledge the benefit of this and facilitate the process.

21.6 Swedish Nursing Research Investigated

The development of nursing research in Sweden gained the attention of the government and funding bodies, which led to reviews of the field and its development. The first, and perhaps the most important, funding body for the development of nursing research was the Medical Research Council (later integrated into the Swedish Research Council). Initially they helped out with discussions, seminars and general encouragement but also provided grants for research. This may well have been critical in raising interest among others. Several reviews and PMs were produced. For instance, the Ministry of Health and Social Care took the initiative to review “Highly specialised health care” [19] and decided to include nursing and other research areas recently included in the higher education institutions under review. A questionnaire was sent to all Swedish universities and university colleges, exploring the early development (1991–2002) in terms of academic positions, research grants and doctoral students and topics under research as well as citations in academic journals and international publications. All but one of the recipients responded to the questionnaire. The results indicated that there had been a rapid development in nursing, physiotherapy and occupational therapy. From a European perspective, the citations and publication frequency were very good, and the recruitment of nurse academics with a PhD had improved significantly. Research was ongoing at almost all the university and university colleges. The problem revealed was, however, that research was extremely fragmented, even within an organisation and bearing in mind the limited number of academics, this was noteworthy since it quite often meant that projects were run by one single researcher. This was very much in opposition to the description above of how the first generation of nurse professors worked. The more fragmented image of nursing research could have been a result of those obtaining their PhD wanting to establish themselves independently. Despite the projects usually being small and rarely focused on the area of highly specialised care, the research was, nevertheless, clinically oriented [20]. Perhaps the most important message was that the Swedish authorities showed that they were aware of the importance of nursing research.

One important explanation for this rapid development was the fact that the Swedish government decided to distribute a great deal of money to earmarked research areas through designated foundations for the specific area (see Chap. 1).

One of these foundations was the Vårdal Foundation for the support of research in healthcare and allergy. Its task was also to support the development of those subjects recently moved into the academic organisations, in particular nursing, physiotherapy and occupational therapy [21]. The foundation came into operation in 1994 with a grant of SEK 529 million (about € 47.5 million). As the total sum was given to the foundation, the money was placed on the stock market. The foundation existed until 2013 and had at that time granted SEK 870 million (about € 96.9 million) to development in the above-mentioned areas (nursing, physiotherapy, etc.).

The foundation was in a sense more free to handle the grants than traditional funding bodies. This was shown in the way that they laid out a strategy in collaboration with the most prominent researchers in the area of healthcare, many of whom were nurse professors. This initial strategy was to direct funding, meant to support doctoral students, to the universities that provided nursing education and research. Subsequently the strategy was to invite people to apply for funding just as any other funding body did. They also pushed the idea that research should be interdisciplinary and from time to time explored areas that needed funding in order to be on the frontline of whatever kind of knowledge was needed. By the time the tenth anniversary was celebrated, the foundation had granted SEK 670 million (about € 60.2 million) to both healthcare sciences and allergy research [22]. A large number of nurses at various academic levels received grants from this foundation over the years, and they were heavily involved in discussions about what would come next and which areas were of concern because of poor financing. Over the years several nurse professors also served on review groups and the board of the foundation. It may well be that the fact that the government decided to direct money to this area helped nursing research to establish itself and gain recognition in the public eye. Universities, of course, are always happy when money is made available for research. The foundation functioned as an external force, accelerating the research, the number of nurses with a PhD and the process of increasing the number of professors. The academic nurses, by being prepared to contribute, were able to exercise some control over the development.

In the next step the Vårdal Foundation decided to finance two centres of excellence, the one in healthcare sciences and the other one in allergy research. This may well have been a reaction to having reviewed so many proposals for research that were piecemeal and demonstrated no strong lines of research. Between 1994 and 2003, there were 3000 applications, and about one third received funding. It seems reasonable to assume that after a time the staff and the board of the foundation developed a knowledge of what was happening in the country, which probably had an impact on the decision. Thus, a call for applications was formulated, and the universities with a medical faculty were invited to seek funding to host a centre of excellence. The foundation set aside SEK 150 million (about € 135 million), half for the first 5 years, with an opportunity to get the rest after that. Lund University became the host in collaboration with the University of Göteborg. In the negotiations about the centre, later called the Vårdal Institute, the two county councils acted as partners each providing a similar amount of money; the two universities also had to contribute financially. In addition, some of the municipalities went in as

partners but made a smaller financial contribution. Ultimately the budget was more than doubled.

In an evaluation of all the foundations set up at the same time as the Vårdal Foundation, the authors concluded that the foundation, in an attempt to act strategically, had departed from the traditional way of funding research and that its efforts should be acknowledged. Previous evaluations had concluded that the work of the foundation had been of great importance for the development of nursing research [21].

21.7 A Centre of Excellence: A Leadership Perspective

Building up a large national centre and having access to a substantial amount of money is perhaps every academic leader's dream; however, it is also a challenge. Two aspects have to be focused on from a leadership perspective: building up interdisciplinary research groups closely related to healthcare and/or social services and developing an interdisciplinary research school for PhD students and post-doctoral researchers. The proposal stated that the research should focus on: "Elderly people and their care"; "People living with long chronic diseases"; and "People living with mental health problems". Thus, three research platforms should be established, each with an interdisciplinary research program, a group of researchers at various academic levels and an interdisciplinary approach. The leadership role in the institute was formed by the basic idea that what characterises research, academic development and a good environment for creativity is critical thinking, creating a critical mass, a climate that fosters the giving and taking of criticism and the exchange of creative ideas and how to actually do all that.

The first step was recruiting the professors who could take on the leadership of the three platforms. They formed the management group of the organisation. The next step was for them to develop a research program one for each platform and encourage researchers to respond to the research questions in the platform. Developing the research programs became a real challenge, possibly because accepting comments and criticisms is not the strongest characteristic of senior researchers, although they seldom seem to have any problems giving them. This may be part of the culture of not sharing too much in the universities, perhaps because of the fierce competition. However, seminars were arranged in which the senior researchers presented, both in writing and orally, their suggestions for programs and the management group responded. Once the group felt satisfied, the leader of the platform presented the result to the board, who also responded. All board members had an academic background and were mainly professors. The most interesting approach to developing research programs was used in the second term of the institute. It was decided that the program for that period would be studies investigating the effect of interventions, keeping the same three platforms, and that the research already done should inform the following program. In order to get really good feedback, critical reflections and ideas, national experts were invited to become critical friends. A 3-day workshop was set up, 1 day for each platform.

The two most prestigious national experts available were invited to be “critical friends”, to read the program presented by each of the platforms and give feedback. This turned out to be a success for several reasons. One interesting reaction was that the invited experts really did become friends, contributing critical considerations and creative ideas, and said that they enjoyed taking that role. The other success was that the representative of the platform, the leader and co-leaders all took on board the ideas and the critique without feeling offended. In a sense it was surprising that this way of developing a research program had not been experienced before by any of the participants. The value of being able to shape a climate in which any topic can be critically and creatively discussed also shapes a climate of security.

The other challenge was to construct a learning environment for doctoral students and post- doctoral researchers. This was done by arranging one 3-day workshop each semester where all the researchers within a platform gathered to listen and discuss and exchange ideas and criticism. This meant that about 20–25 people in various academic positions, from junior to senior, gathered and presented parts of their contribution to the research program they were involved in. In addition there were theoretical discussions, lectures and shorter courses related to what the doctoral students felt they needed. A smaller group of representatives from each platform had regular meetings with the coordinator of the institute to evaluate and discuss how to improve their learning environment. Altogether more than 60 doctoral students got their PhDs from this program. A fair number of them were nurses, and others came from other scientific disciplines. All of them became trained in interdisciplinary research.

At its highest, about a 100 researchers, from doctoral students to professors, were involved and participated in the activities and research at the institute. It was an interdisciplinary organisation with nurses, occupational therapists, physiotherapists, medical doctors, economists, social workers, psychologists, philosophers, design scientists, linguists and political scientists. This meant that language and understanding each other’s way of expressing things became a challenge and the leader had to set a tone of respect and establish the underlying assumption that no one thing is more correct than another, but by listening and asking anyone can broaden their view of themselves. From a leadership perspective, perhaps the most important aspect was that the management had to balance academic freedom against moving the research forward in order to ensure that it was at the cutting edge of knowledge development. To achieve this, establishing of a creative and open climate is essential as is building up a group, assembling a critical mass and presenting them with a good working situation. This in turn requires the management to listen, to discuss the needs of those involved and, if possible, to respond to them.

21.8 The Voice of Doctoral Students

How many doctoral students are active in Sweden today is not clear. In the national statistics, nursing research is reported under the umbrella term medicine and health sciences. In general, doctoral students in Sweden have a strong position, and

doctoral education is strictly regulated. Those enrolled are students but at the same time can also be employed. This means that supervisors and research leaders need to deal with questions related to the laws governing both education and working life. This balance between management and pedagogy, work environment and learning environment, can in some cases be dynamic both for supervisors and students. In a competitive meritocratic system, where research is dependent on external funding, there is always a risk that some doctoral students will be viewed more as a labour force than as students. The learning environment, however, is crucial for a high-quality doctoral education, and it is important to have a lively discussion among managers and staff about the core values in such an environment.

In 2016 the Swedish Higher Education Authority carried out a national survey of doctoral students' opinions about their studies [23]. The results showed that the vast majority (83%) of doctoral students within medicine and health sciences ($n = 1223$) were satisfied with their education and that almost 80% had an individual study plan. On the other hand, 56% were dissatisfied with their introduction, and close to 50% had experienced stress resulting in negative experiences. The supervisor's role is indisputably important, and only 15% stated that their supervisor showed little interest. An evaluation from Uppsala University [24] showed that good follow-up of the study plan, that the main supervisor was involved in the supervision and regular attendance at seminars were associated with greater satisfaction among doctoral students. It is important for leaders to facilitate and work actively to implement these aspects. They were also important features in the post-graduate education that was provided by the Vårdal Institute and at the division of nursing at Lund University. One former PhD student expressed the following opinion about attending regular seminars during her education.

I would like to say that it has been a fantastic privilege and advantage throughout the entire education. It is an individual process for each PhD student, learning scientific and critical thinking, learning how to critically read papers, suggest improvements and argue for my own work and thereby be prepared for the dissertation.

21.9 Other Funding Bodies Followed

The role of the Vårdal Foundation and their strategic support for nursing research have perhaps been pivotal to its development and also inspired other funding bodies to follow suit. The Child Cancer Foundation, for instance, decided to review Swedish research carried out by nurses, because they wanted more applications from nurses, among others, that addressed care problems for children and their families [25]. Other funding bodies such as the Cancer Foundation and the Heart and Lung Foundation also indicated that they were interested in funding nursing research as well as research in the other new academic disciplines. In addition the Swedish Research Council advertised positions as research assistants and funding for a national research school. The latter, however, only recruited doctoral students who had followed doctoral studies at the Karolinska Institutet and came to serve the Stockholm geographical area rather than the whole of Sweden.

Specific funding for nursing research is no longer available, although some smaller funding bodies may have such money. Some of the large funding bodies have specific funding for healthcare research which includes nursing, whilst others invite nurse researchers to apply in the same way as any other academics. There are also funding bodies with a specific task such as FORTE (www.forte.se), financing health and social care research and research related to working life. Another significant funding source for medical research in Sweden is the government funding for research within the NHS (in Swedish ALF). ALF funding can be granted to those who hold positions within healthcare. If more nurse researchers had posts within the healthcare sector, more research would probably be funded this way. The general view among nurse researchers today would probably be that the funding for nursing research is far too limited.

21.10 Conclusion

Nurse researchers entering academic organisations require knowledge and awareness of the rules these organisations have built up and operate under. Leadership strategies experienced in healthcare, for instance, cannot automatically be transferred to other contexts. The fact that academic organisations are characterised by academic freedom, collegiality and meritocracy may cause difficulties in collaborations with the healthcare system, which has a more direct line from the top to the bottom but also democratic structures built into the system. Strategies for overcoming such problems have been described [26]. Having said this, perhaps views about what makes human beings do their best and how to give feedback and promote development are not so very different in academic and healthcare organisations. However, seeing people in this way has to be balanced against the effect on them of being in a highly competitive situation, characterised by elitism and meritocracy, and at the same time having to respect academic freedom.

It also seems useful to recognise that building up and running an academic discipline is a process and what marks the leadership in the early stage should not be transferred to subsequent stages without any critical examination. Both the inner world and the outer world change. In the case of nursing, the first generation of researchers was focused on doctoral education because that was what was needed, but that is not necessarily what the next generation needs. Perhaps those who followed were more focused on constructing their own research agendas. This may have produced an impression of fragmentation in the research field and may or may not have been right for the discipline at that time.

Academic nurse leadership has two important areas of responsibility. One is to have ideas about how to develop research, practical knowledge about how to build a creative research environment and gather a critical mass, whether interdisciplinary or exclusive to nursing. The other important task is to build up and run a creative learning environment that promotes academic growth among those involved and an academic view of knowledge development. This kind of learning environment is

mainly for doctoral students, but post-doctoral researchers and perhaps other academics striving for an academic career would also benefit from it.

The essence of the role of the leader is thus to create and manage stimulating and creative environments and balance that against what may superficially seem to be some less than humanistic elements on which these organisations operate. This is a challenge and handling it is perhaps best done by recognising what makes people grow and feel acknowledged and confirmed. At the same time the leader has to reject those who are not competitive enough, perhaps more often than in other contexts in which nurse leaders work.

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