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EDITORIAL

Perspectives on healthcare safety and quality: selected papers from the 2nd Nordic Conference on Research in Patient Safety and Quality in Healthcare

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This special section of Cognition, Technology and Work is a collection of papers presented at the 2nd Nordic Conference on Research in Patient Safety and Quality in Healthcare (2012, Copenhagen). The conference was organized by the Danish Research Network for Patient Safety and Quality in Healthcare in collaboration with sister organizations in Norway, Sweden and Finland.

The section illustrates and promotes research in a broad socio-technical field in which quality and safety adversely affect more people than in any other sector of society, with the exception of war and large-scale natural disasters. At the same time, the papers exemplify current multidisciplinary approaches to the study of the interaction of work, technology, patient involvement and empowerment and the management of complex processes.

The majority of papers delivered at the Nordic conferences are, unsurprisingly, presented by Nordic authors, but the issues addressed and the methods of approach applied in the eight papers in this special section are not limited to a specific societal or regional context.

The papers exemplify how research may point the way to reducing and sometimes even controlling risks in the broad socio-technical field of healthcare. At the same time, the papers exemplify the relevance and much needed application of multidisciplinary approaches to the study of the interaction of work, technology, patient involvement and empowerment as well as the management of complex processes.

In the first paper in this Special section, Ekstedt and Ödegård report on their study of patient safety challenges of ensuring continuity of cancer care. Although based on observations garnered in a particular specialty, the study results point to a generic safety requirement: healthcare professionals' ability to anticipate, detect and handle gaps created by the system. When factors such as resource constraints, limited contact between healthcare professionals, and unclear responsibility and accountability for care come into play, healthcare professionals' ability to identify and mitigate the risks is essential to keep the patients safe. The study highlights the challenges related to patient treatment in complex and fragmented healthcare systems and the inherent risk when care involves different professions. The study also suggests a difference in how professionals at the sharp and the blunt end of the healthcare system approach safety, and the authors set the stage for an interesting discussion of how design of resilient care organizations may rely on management's response to identified gaps.

Another perspective on safety challenges related to care coordination is addressed in the literature review by Dyrstad, Testad, Aase and Storm, who focus on patient participation in transitions of elderly patients. This is a topical focus considering that terms such as 'patient centeredness,' 'patient involvement' and 'patient empowerment' are often used in headlines on health policy agendas. The trend of engaging patients is motivated not only by the expectation that when patients act as an additional safety barrier they may supplement the barriers inside the healthcare system, but also by a desire for a more profound

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change of the underlying values, the design and the culture in today's healthcare systems. The review uncovers a deficit in the efforts to involve elderly patients, and the authors identify several tools that can support involvement. The authors discuss some basic challenges of involvement and they advocate that healthcare professionals should be trained to deliver patient-centered care but also that patients should be educated and invited as active partners in both patient safety efforts and in their own patient care trajectory.

Evaluation of healthcare quality based on patient information is increasingly being used, reinforcing the movement toward patient-centered care. This trend is illustrated well in the survey of patients' perspectives described by Sandager, Sperling, Vinter and Knudsen. Patient Reported Outcomes (PRO) is an umbrella term referring to information that comes directly from patients themselves, typically collected via questionnaire surveys. The term covers two distinct entities: Patient Experienced Outcome Measures (PREMs) that represent patients' satisfaction and experience with a given treatment and Patient Recorded Outcome Measures (PROMs) that describe patients' experienced symptoms, functional capacity and quality of life. The PREMs collected from Danish cancer patients illustrate how information from patients may play a valuable role in identifying potentials for improvement in care. The results of this survey reinforce the need for care that is respectful of and responsive to individual patient preferences, needs and values, and for ensuring that patient values guide all clinical decisions—in other words, the need for patient-centered care.

The paper by Doupi, Svaar, Bjørn, Deilkås, Nylén and Rutberg contributes to the discussion on the measurement and monitoring of patient safety, presenting a study of the Global Trigger Tool (GTT)—a widely used method for monitoring patient safety levels within a healthcare provider organization. Around the world, patient safety professionals seek to apply methodologically sound tools to assess levels of safety and, typically, to evaluate whether safety levels have improved after major interventions. The authors provide an overview of the adaptation and use of the GTT in the Nordic countries and describe lessons learned as well as the pros and cons associated with the use of the tool. The authors suggest that, while the GTT may be capable of identifying a variety of adverse events, it may be used as a supplement to incident reporting and other assessment methods to obtain a comprehensive picture to contribute to the learning system.

Another and quite different type of effort for enhancing patient safety and quality of care is the promotion and application of checklists. In other safety critical domains—e.g., aviation, military operations, and process industry—checklists have long been an essential safety support, and limited application of checklists has been found in healthcare for decades, of course. But it is only in recent years that checklists have been introduced widely. Hauken, Høyland, Thomassen and Aase report on a study of staff perceptions of the adoption of the World Health Organization's Surgical Safety Checklist, which, arguably, is the most highly promoted and possibly the most successful checklist in healthcare. Based on focus group interviews with surgical personnel directly involved in the implementation and daily use of the checklist, the authors find that the checklist improves confidence, team communication and sharing of critical information within the team. But their informants also report occurrence of wrong-site surgery not prevented by the checklist associated with cognitively automatized checklist use. The authors point to several dangers in the use of checklists, especially when they become just a tick box exercise, and they suggest that checklist performance should become integrated into surgical team training.

In their contribution, Jepsen, Østergaard and Dieckmann report on a study of yet another structured approach to improving safety, namely assessment of the non-technical skills (NTS) of healthcare professionals in real-time clinical work, primarily in the operating room and for teams handling emergency situation. Non-technical skills (NTS) are the cognitive and interpersonal skills that underpin effective team work needed for maintaining safety. The training of NTS was introduced with Crisis Resource Management training in aviation and has subsequently been adapted for healthcare. The authors review the development and validation status of 23 instruments for NTS assessment for individuals or teams within healthcare. They find that most of the assessment instruments contain two or three levels with four to eight overarching categories, the latter comprising cognitive (e.g., 'situation awareness,' 'decision-making') and social skills (e.g., 'communication,' 'team work,' 'leadership,' 'task management'). Most of the instruments are well validated only for the setting for which they were developed, the authors note. They also point out that while it takes considerable skill to make observations and ratings, no common methods have been developed for training the raters. Finally, the development of NTS assessment methods has, so far, the authors observe, not (yet) produced a gold standard for rating—which further challenges rater training and implementation.

The study by Andersen, Siemsen, Petersen, Nielsen and Østergaard addresses handover failures in healthcare. If a patient handover is carried out improperly so that wrong or inadequate information is received, important information is missing or responsibility for care is unclear, the patient may suffer serious harm, and in recent years, there has been an increased focus on adverse events related to handovers.

The authors present results of a study in which they have developed and validated taxonomy of handover failures. The taxonomy, which contains five types of failures and seven types of main causal factors, has been validated against 432 adverse handover event descriptions contained in hospital incident reports and 232 events uncovered in 48 in-depth interviews with staff conducted at a large hospital. When categorized in terms of the taxonomy developed, results show that the most prevalent causes of adverse events are inadequate competence (30 %), inadequate infrastructure (22 %) and busy ward (18 %). Inter-rater reliability (*kappa*) was 0.76 and 0.87 for reports and interviews, respectively. The authors suggest that their taxonomy may provide a tool for capturing and analyzing adverse handover events for the purpose of identifying failures with similar causes, and that this in turn may provide a basis for choosing risk control measures that address the sources of handover failures.

The final paper by Wears is a fitting finale to this Special section that contains not only largely qualitative approaches involving patients and healthcare professionals but also studies that develop and apply quantitative approaches, including highly structured ones, to the assessment or enhancement of quality and safety. The author provides a spirited review of the many heterogeneous challenges to standardization in healthcare. While the advantages of standardization are presumed to be commonsensical and intuitively obvious, as the authors point out, the theoretical, philosophical and sociocultural aspects of standardization are generally unexplored. Standardization promotes routinization, which in turn enables organisations to exploit their accumulated knowledge, thus increasing process efficiency. Wears singles out and analyses five problematic aspects of standardization as an improvement strategy. At the same time, he also points that just as unthinking application of standardization as an improvement strategy results in the type of problems described; there is also unthinking opposition to standardization that raises issues of its own. The author concludes that standardization is far from being a simple, technical solution that is fit to solve any quality or safety problems, but that it will always require continual adaptation and judgment if it is to be accepted and used effectively and safely.

Taken together, the papers selected for this Special section illustrate a range of multidisciplinary approaches to the safety and quality challenges of modern healthcare, addressing questions of patient involvement, measurement, validation and the need for adapting methods, standards and frameworks to local work contexts, practices and citizen groups.