11

Processes and Responsibilities for Knowledge Transfer and Mobilisation in Health Services Organisations in Wales

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Introduction

Transferring and mobilising knowledge from research into healthcare delivery is an enduring international challenge (HM Treasury 2006; Mitton et al. 2007; Kitson et al. 2008). Research identifies better ways of providing healthcare or highlights mechanisms that no longer work, yet this knowledge often fails to influence the practices of those responsible for patient care. To inform decision-making in practice, research evidence needs to be 'available to those who may best use it, at the time it is needed … in a format that facilitates its uptake', as well as 'comprehensible to potential users and … relevant and usable in local contexts' (Sin 2008, p. 87). Finding ways to support access to knowledge that will help inform decisions is an important goal for health services research.

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However, it cannot be assumed that presentation of the 'right research' will influence practitioners (Walshe and Davies 2013). Evidence use is a complex, social and dynamic process (Rushmer et al. 2015) involving 'the messy engagement of multiple players with diverse sources of knowledge' (Davies et al. 2008, p. 188). Davenport and Prusak (1998) explain how knowledge 'originates and is applied in the minds of knowers', and how in organisations 'it often becomes embedded not only in documents or repositories but also in organizational routines, processes, practices and norms' (p. 5). In an interactive model the linkage between researchers and research users is emphasised, and interpersonal exchange relationships are a means of bridging such knowledge gaps (Greenhalgh et al. 2004; Ward et al. 2009).

Collaborations have been established to link researchers, policymakers and service providers. In England, fifteen Academic Health Science Networks (AHSNs) were set up in 2014, with a focus on 'knowledge mobilization, rather than research production' (Walshe and Davies 2013). AHSNs bring most NHS organisations in England into collaboration with higher education institutions. Working alongside many AHSNs are Collaborations for Leadership in Applied Health Research and Care (CLAHRCs). Service-led and patient-focused, thirteen CLAHRCs aim to conduct high quality research, implement findings and increase NHS capacity. To facilitate knowledge mobilisation, many CLAHRCs have dedicated roles for translating and brokering knowledge.

The Scottish Executive and NHS Scotland has a team responsible for brokering activities including research mapping exercises, developing networks and communities of practice, and facilitating knowledge sharing events (Clark and Kelly 2005). They recommend using knowledge brokers as go-betweens, linking the policy, public sector, industry and academic communities (Scottish Government Knowledge Exchange Committee 2011).

In Wales, the Academic Health Science Collaboration (AHSC), formed in 2010, is a national programme with three regional entities in the South-West, South-East and North Wales. The AHSC identified knowledge transfer and mobilisation as a priority, and a national Task and Finish Group made recommendations on knowledge mobilisation policy (NISCHR AHSC 2014). The strategy of the South-East Wales

Academic Health Science Partnership (SEWAHSP) included a commitment to increase the speed and quality of 'translational' research and promote innovation in South-East Wales through strengthening collaborations between universities and NHS organisations.

The purpose of this study was to learn more about how knowledge was currently used to improve healthcare practice in Wales in order to better understand the difficulties and identify potential solutions.

Methods

The study employed qualitative interviews to explore opinions on the status of knowledge transfer and mobilisation (KT&M) within organisations, barriers and enablers and the potential of a knowledge broker role. The Research and Development (R&D) Directors in Health Boards across Wales with remit for KT&M (or their nominated representative) and Board Members of SEWAHSP (senior representatives from Health Boards, universities and other relevant organisations) were identified as key informants and invited to interview. We conducted 28 interviews, face-to-face at the participant's workplace or by telephone, utilising a semi-structured interview schedule which we sent ahead. Interviews typically lasted 30 to 45 minutes. All were audio-recorded, with permission. Audio recordings were transcribed and anonymised.

Research ethics approval was obtained from Cardiff University (REF/25.10.12). Research governance permission was acquired from participating Health Boards/Trusts.

We took a framework approach to the analysis (Ritchie and Spencer 1994). We developed a coding matrix of *a priori* themes based on Walker et al.'s (2007) four categories of factors that influence organisational change:

- *Context* factors in the external and internal environment
- *Content* the changes being transferred and implemented
- *Process* actions taken by the change agents
- *Individual dispositions* attitudes, behaviours, reactions to change

This model shares similarities with others (Kitson et al. 2008).

We also coded for understandings of knowledge mobilisation and whether KT&M processes were systematic. The coding process was iterative with identification of emergent subthemes. All coding decisions were discussed with the research team. The matrix allowed us to explore the analysis both across themes and across cases.

Results

Understandings of KT&M

Most interviewees thought KT&M was poorly defined. Interviewees expressed some confusion over the distinction between KT&M and other processes (such as audit, innovation, evidence-based practice, NICE guidelines or quality improvement).

> There's got to be a differentiation between R&D, KT, innovation – all these words are coming through at the moment, and they are confusing people. [Interview #20]

Some also suggested an understanding of knowledge which extended beyond formal sources; experiential forms of knowledge were valuable to decision-makers.

> There's a whole bunch of knowledge in an organisation that is not explicit … that soft intelligence is very often not written down … I would want to include that in part of the knowledge transfer process. [Interview #50]

Interviewees distinguished between the transfer of knowledge and its translation into practice, improved service delivery and patient outcomes.

> Basically we're talking about how does research really hit the ground to make a difference to people. [Interview #32]

The term 'knowledge transfer and mobilisation' was seen as useful for encapsulating both the transfer and implementation of knowledge.

Is KT&M Systematic?

Participants discussed the extent to which KT&M was embedded into practice within their organisation. While respondents indicated that it was an integral part of their personal professional practice, few saw it as an integral part of their organisation. KT&M activities tended to be ad hoc and individually driven, rather than embedded within organisations. Although some differences between professional groups, topic areas or improvement programmes were noted, the focus remained on individuals or teams:

> We still rely on individual teams to think about their own particular issues, their own particular services and where they might go to access evidence. [Interview #6]

Another interviewee explained how their organisation distributed newsletters and held dissemination meetings, but that these were ignored by most apart from those who were already research-focused ('the converted'). Information and knowledge sharing events for those in health service management roles were rarely mentioned.

However, practice differed by professional group, and national best practice guidelines and improvement programmes were said to have introduced a systematic process for some specialities:

> In terms of a specific technology in cancer, let's say a new drug, I think it's pretty well-developed. We all either have taken part in the clinical trials or we are contacted by the pharmaceutical company or NICE bring out a guidance – or it's in the press. [Interview #35]

However, the process was less straightforward for managers:

> We spend a lot of time talking about clinical evidence and research in relation to clinical care, but we don't spend so much time thinking about the evidence about the management of the service, the research into policy and practice that's around – how we deliver and manage and lead health and social care systems. [Interview #6]

1000 Lives Plus, a national NHS improvement strategy supported by Public Health Wales, was valued as a formalised technique for introducing service improvements.

> It actually introduced a structure by which evidence-based practice could be formally considered, discussions had about how we can change and implement it. [Interview #36]

Barriers to and Enablers of Knowledge Mobilisation

We asked participants what helped or hindered KT&M. In the analysis we coded these to the four factors in Walker et al.'s (2007) framework. These are summarised in Tables 11.1–11.4.

Context factors external to the organisation were thought to influence KT&M (Table 11.1). Positive government support for KT&M was said to be needed alongside policy linking social and health care, public health and universities. Some interviewees had observed a groundswell in KT&M policy in recent years. However, it was noted that a structured programme of support was also required to encourage and expect KT&M.

Interviewees argued against a one-size-fits-all approach, suggesting that approaches need to be adapted to local context. Within organisations, the culture and ethos, leadership and infrastructure (whether linkage was encouraged or whether silo-working dominated) were identified as influential factors. The pressure to deliver within a finite budget and extensive service demands could lead to a risk-averse culture. Lack of receptivity to new evidence, absence of an innovative culture and resistance to change were seen as barriers at all levels of the workforce. Participants highlighted the need for a supportive culture and a collegial approach within organisations. They remarked that culture change

Table 11.1 Context factors influencing KT&M

Barriers	Enablers	Illustrative extract
Competing priorities/agendas; meeting different demands on a finite budget	Targeted government policy to create a 'push' for change; policy based on meeting areas of patient need; research excellence framework giving attention to impact	Enabler: *I think policy would be a good thing. Policy statement encouraging you, expecting it is an important thing to aid knowledge transfer. [#65]*
Organisational culture which does not recognise the value of new evidence/change	Bottom-up changes in organisational culture to reframe professional role, valuing evidence and innovation; good leadership and management support at all levels—empowering staff and encouraging change	Enabler: *Rather than top-down, if you encourage individuals to do it and to use their own skill and common sense to get information, I think that's a nicer way of doing it. [#17]*
Unsupportive organisational infrastructure; no clear path for accessing/implementing evidence; reliance on personal interest or motivation	Clear signposting of opportunities/resources; support from an identified knowledge broker within the organisation	Barrier: *I think a lot of the time it's a lack of receptivity, not a lack of enquiry or intelligence There's no system to it, and therefore people don't look for it. I think that's the challenge. [#35]*
Lack of cross-professional working (professions, organisations, NHS and universities)	Multi-professional networks and face-to-face meetings; sharing knowledge and encouraging opportunities for innovation; engagement with organisations to make links (for example, SEWAHSP); communication	Barrier: *Sometimes what you've got is professional tribalism … and that can be within professions and between professions. You've got hierarchies, it's a very difficult quagmire to find your way through. [#3]*

comes from the ground up, and accordingly, staff members throughout the organisation need to be engaged in the process of change. However, frontline staff were considered to have limited opportunity for communicating successful changes to other departments.

Communication issues were discussed in terms of a lack of linkage between different sectors within and outside the organisation. Termed 'professional tribalism' by one interviewee, a lack of communication was noted within professions (staff hierarchy), between professions (nursing and medicine; clinicians and managers) and between organisations (primary and secondary care; NHS and universities). Creating networks and holding cross-disciplinary and multi-professional meetings was viewed as a way to help break down professional barriers, encourage communication between groups and facilitate organisations working as a whole.

The content or focus of the evidence was seen to impact on the mobilisation process (Table 11.2). Our participants wanted research to be relevant to population need, timely and motivating. Centring research on improving and addressing gaps in patient care was key. Alongside relevance for patients, having clear application to clinicians' practice was viewed as beneficial. 'Soft' intelligence and experiential knowledge were thought to be important in healthcare, yet they were not always considered legitimate by clinicians. One interviewee argued that the privileging of scientific knowledge in research excluded other types of knowledge and created distance between academic research and clinical practice.

The pressures of day-to-day work meant little time for reflection ('headroom') to consider the what, why and how of their current practice or to read new research (Table 11.3). Although important, interviewees suggested that KT&M was readily deprioritised when faced with day-to-day work pressures. Introducing supervision, coaching or feedback activities into routine practice was suggested as a way to tackle this, discussing the service and patient objectives and how they relate to their practice.

Participants commented that practitioners needed a coordinated approach since responding to different initiatives concurrently could be overwhelming. The need for collaborations and effective research/practice links was emphasised; stronger links between the NHS and universities were desired. While the importance of discussion was noted, it was

Table 11.2 Content factors influencing KT&M

Barriers	Enablers	Illustrative extract
Difficult to see relevance to practice in academic papers	Knowledge broker with good knowledge of target audiences to synthesise information and disseminate to appropriate professionals; involving NHS in research processes and researchers in dissemination; sharing examples of improvement arising from KT&M	Enabler: *It's about relevance. I think in terms of practitioners, staff nurses, ward sisters, community nurses, midwives on the ground, they've got to see that it is relevant for them and their practice and ultimately their client group and I think that bit is one of the challenges that people might find reading an academic paper. [#32]*
Valuing scientific research over organisational services research; 'soft' intelligence and experiential knowledge not valued as evidence	Recognising the importance of tacit knowledge/experience.	Enabler: *We need to reclaim some experiential knowledge. [#65]*

Table 11.3 Process factors influencing KT&M

Barriers	Enablers	Illustrative extract
Lack of time to reflect on practice/do KT&M activities	Embedding KT&M activities as part of every professional's role; protected time within workload	Barrier: *The pace of work is frenetic … very little thought about … what we actually do. I would like to see a more cerebral approach to healthcare; where there's a bit more time to think. [#1]*
Overload of evidence; generalised dissemination of information; over-reliance on electronic dissemination (emails)	Dissemination of information that is timely, condensed, clinically relevant; central repository of relevant information	Barrier: *We are living in the middle of a knowledge explosion … The wrong thing to do is to be beating practitioners up because they haven't read enough papers, because they will never read enough papers. [#3]*
Overload of improvement initiatives	Focussed, targeted interventions/initiatives aligned with local need; outcome measures in implementation programmes to provide guidance and reward achievement and belief in the process of change; management support	Enabler: *Through making a connection with our universities and industry … to develop projects that could benefit patient care. [#4]*
Lack of communication; difficulty getting people together	Collaborations/partnerships and effective research/practice links; greater cooperation between NHS and universities	Enabler: *Get people together and have discussion or somebody present about new research. It's seems to be a way that people pick up new ideas. [#7]*

Table 11.4 Individual factors influencing KT&M

Barriers	Enablers	Illustrative extract
'Inward-looking' staff members	The presence of 'can-doers'; outward-looking, motivated and open to change; leaders modelling good practice	Enabler: *The staff in the areas that are currently delivering … will sell it more with their nursing colleagues than me standing in front of them doing a bit of chalk and talk. So it's back to that ownership, and engagement and leadership. [#10]*
Lack of skills to appraise evidence	Embed skills in clinician education; knowledge brokers with research skills	Enabler: *It's important that we teach people the skills of appraising synthesised knowledge, and it's important that we commission synthesised knowledge. [#15]*

acknowledged that getting people together can be a challenge and communication via meetings sometimes resulted in superficial relationships. It was thought that more active and structured engagement was needed to develop deeper links.

It was acknowledged that an overwhelming amount of potentially relevant information is published and a targeted approach to accessing/disseminating is beneficial. They valued synthesised knowledge, with high-quality research filtered and summarised to capture the main relevance to managers/clinicians. Suggested enablers included making better use of librarians and R&D departments to access, assess and organise information that could be made more widely available or creating a central repository with summaries of evidence explaining how it relates to practice. Appropriate depth of information needed for different groups/problems was also discussed (sometimes providing just key messages, other times in-depth discussion).

Staff members' personal receptivity to KT&M was discussed (Table 11.4). Interviewees noted a lack of curiosity and motivation among some individuals to seek out new evidence. Conversely, the

presence of 'can-doers' within the organisation, embracing change and championing KT&M, was seen as an enabler. These champions were believed to help challenge barriers, such as reluctance to change, by providing credibility, demonstrating investment and getting 'buy in'. The danger of relying too heavily on personality without a sustaining infrastructure was pointed out: the process needs to be embedded and stable enough to continue without their presence.

Who's Responsible for KT&M?

KT&M was seen as the professional responsibility of every practitioner, maintaining knowledge as a matter of patient safety.

> To me this is core stuff, it should be in all of their job descriptions. [Interview #5]

However, having nominated knowledge brokers within organisations was supported:

> I think you need to give somebody responsibility for the transfer of that knowledge, to ensure that when there is new evidence … that it gets out to the right clinicians, and the right healthcare professionals, who can actually look to bring about the change and hopefully improve patient care. [Interview #20]

A knowledge broker's responsibilities were suggested as including collaborating with R&D and audit departments, building relationships with outside departments, identifying new research, disseminating it and observing outcomes. Such tasks were noted to already be part of the remit of HCRW registered research groups. Middle managers, directors, senior nurses or lead consultants were suggested for the role as such tasks were most closely aligned with their responsibilities. However, it was suggested that a potential risk of a nominated knowledge broker was that other professionals would pass all responsibility for KT&M to

them. This highlighted the need for also embedding aspects of KT&M within all professional roles.

Discussion

The semi-structured nature of the interviews allowed participants to give their considered reflections. The use of existing frameworks (Walker et al. 2007) ensured a robust and consistent approach to data analysis. The findings verified the state of KT&M in Wales and the solutions needed to enhance progress as set out in the report of the KT Task and Finish Group (NISCHR AHSC 2014).

However, there were limitations. Although we accessed participants across Wales, we did not interview all R&D Directors or all SEWAHSP Board members. While we did not intend to formally assess knowledge mobilisation, a potential limitation is that the scope of the study did not allow us to verify participant's accounts of KT&M within their organisation.

Mindful of these limitations, a clear finding is that although there was interest in and appreciation of the value of knowledge mobilisation in Wales, processes were not systematic. Rather, they were reliant on individual interest and motivation. Compared to England, infrastructure targeting knowledge mobilisation is lacking, with no CLAHRC-style organisations in place. However, the HCRW AHSC identified KT as a priority and the national Task and Finish Group made recommendations on knowledge mobilisation policy (NISCHR AHSC 2014).

Barriers to knowledge mobilisation were like those noted in other research. Professionals' capacity to evaluate complex information was limited by time, means of accessing information and skills to distil implications for practice (Evans et al. 2013; Bullock et al. 2012; Baumbusch et al. 2008; Edwards et al. 2013; Golenko et al. 2012; Bullock et al. 2012). Relevance to practice influenced knowledge sharing activity, yet research may not address the current 'predominant concerns' in healthcare (Walshe and Davies 2013). Other studies have

reported how managers source information, providing direct practical insight via informal interpersonal methods (Edwards et al. 2013; Dopson et al. 2013). Our participants discussed how disseminating evidence in timely, accessible formats and with clear relevance for practice would aid knowledge mobilisation. Their suggestions echoed others (Edwards et al. 2013) and included clear government policy linking knowledge mobilisation to R&D and quality improvement initiative which could help embed knowledge mobilisation in organisational practice.

In ever-changing systems, organisations need to be able to respond, learn and adapt (Schön 1973). Learning organisation theory explains the need to facilitate individuals' learning and link it to wider organisation achievement and practice change (Pedler et al. 1991; Senge 1990). Single-loop learning occurs where systems, values and goals remain unchallenged, whereas learning that explores systems and underlying assumptions is termed multi-looped learning. It is multi-loop learning and its outcomes that lead to organisational change (Argyris and Schön 1978). Systemic thinking within organisations allows individuals to see the long-term view of feedback (Senge 1990). Our findings show that a link from individuals to organisational change is missing, with learning remaining largely individually-motivated.

Making knowledge mobilisation work explicit and supported might consolidate KT&M as part of every professionals' role. Additionally, the knowledge mobilisation role of some team members could be optimised. Individuals skilled in appraising, synthesising and communicating knowledge to different target audiences could act as knowledge brokers. These brokers could aid networking, linking people with other relevant professionals and organisations—particularly those where there is little contact or trust (Ward et al. 2009; Bullock et al. 2016; Dobbins et al. 2009; Long et al. 2013; Williams 2002). Developing internal posts would foster the bottom-up change recommended by our participants. Knowledge mobilisation is embedded within complex organisational, policy and institutional contexts (Contandriopoulos et al. 2010), something which may challenge external boundary spanners (Evans and Scarborough 2014). Middle-managers in extended hybrid roles could bridge gaps between front-line employees and top-level management

(Birken et al. 2012; Burgess et al. 2015). However, their organisational ambidexterity may be impaired by professional demands and role conflict (Currie et al. 2015). This again underscores the need for clear organisational policy which values the broker role within a learning organisation. Care is needed so that these roles are seen as an adjunct rather than a replacement for personal knowledge mobilisation responsibility.

Conclusions

Whil we found awareness, interest and pockets of enlightened good practice in Wales, policy leadership is needed and a structured approach to ensuring that KT&M is an integral part of the day-to-day business of health organisations in clinical care. A systematic approach is needed to underscore the importance of KT&M and embed it in day-to-day activity.

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