

The knowledge-brokering role of middle-level managers (MLMs) in service innovation: Managing the translation gap in patient safety for older persons' care¹

Graeme Currie, Nicola Burgess, Leroy White*, Andy Lockett, John Gladman** & Justin Waring***

Warwick Business School, University of Warwick; *Department of Management, University of Bristol; ** Faculty of Medicine, & Health Sciences, University of Nottingham; ***Nottingham University Business School

Corresponding author: graeme.currie@wbs.ac.uk

Study number: HS&DR project 09/1002/05

Competing interests: None declared²

¹ This report presents independent research commissioned by the National Institute for Health Research (NIHR). The views and opinions expressed by authors in this publication are those of the authors and do not necessarily reflect those of the NHS, the NIHR, NETSCC, the HS&DR programme or the Department of Health. The views and opinions expressed by the interviewees in this publication are those of the interviewees and do not necessarily reflect those of the authors, those of the NHS, the NIHR, MRC, CCF, NETSCC, the HS&DR programme or the Department of Health.

² All authors have completed the unified competing interest form at www.icmje.org/coi_disclosure.pdf (available on request from corresponding author) and declare (1) no financial support for the submitted work from anyone other than their employer; (2) no financial relationships with commercial entities that might have an interest in the submitted work; (3) no spouses, partners or children with relationships with commercial entities that might have an interest in the submitted work; and (4) no financial interests that may be relevant to the submitted work.

Important

A 'first look' scientific summary is created from the original author-supplied summary once the normal NIHR Journals Library peer and editorial review processes are complete. The summary has undergone full peer and editorial review as documented at NIHR Journals Library website and may undergo rewrite during the publication process. The order of authors was correct at editorial sign-off stage.

A final version (which has undergone a rigorous copy-edit and proofreading) will publish as part of a fuller account of the research in a forthcoming issue of the *Health Services and Delivery Research* journal.

Any queries about this 'first look' version of the scientific summary should be addressed to the NIHR Journals Library Editorial Office NIHRedit@soton.ac.uk.

The research reported in this 'first look' scientific summary was funded by the HS&DR programme or one of its predecessor programmes (NIHR Service Delivery and Organisation programme, or Health Services Research programme) as project number 09/1002/05. For more information visit <http://www.nets.nihr.ac.uk/projects/hsdr/09100205>

The authors have been wholly responsible for all data collection, analysis and interpretation, and for writing up their work. The HS&DR editors have tried to ensure the accuracy of the authors' work and would like to thank the reviewers for their constructive comments however; they do not accept liability for damages or losses arising from material published in this scientific summary.

This 'first look' scientific summary presents independent research funded by the National Institute for Health Research (NIHR). The views and opinions expressed by authors in this publication are those of the authors and do not necessarily reflect those of the NHS, the NIHR, NETSCC, the HS&DR programme or the Department of Health. If there are verbatim quotations included in this publication the views and opinions expressed by the interviewees are those of the interviewees and do not necessarily reflect those of the authors, those of the NHS, the NIHR, NETSCC, the HS&DR programme or the Department of Health.

Scientific summary

Background

Patient safety is a global concern. In line with the US and Australia, research suggests that around 10 per cent of patients admitted to acute hospitals in the UK experience an adverse event of which half are identified as preventable, and costing the NHS around £1bn a year in terms of additional bed days. Empirically, our study focuses upon the brokerage of patient safety knowledge by hybrid middle-level managers (H-MLMs) for quality improvement in the care of older people in a hospital, a knowledge domain considered to be ineffectively mobilised for continuous improvement in clinical frontline care. H-MLM refers to individuals who hold managerial responsibility as well as being engaged clinically in the delivery of care.

Data captured via the UK's National Reporting and Learning System (NRLS, released September 2012), identifies inpatient falls within hospitals as the largest single type of patient safety incident (26 per cent), followed by medication incidents (11 per cent), and incidents relating to treatment and/or procedures (11 per cent). This trend remains consistent with previous data releases. Such patient safety issues are the subject of intense policy focus across developed countries, particularly with ageing patient populations, where older patients take up increasing hospital resources to the extent that their care may be characterised as 'mainstream business', rather than specialist. Linked to this, older patients may remain in hospital, rather than be discharged (e.g. because they have fractured their hip following a fall), or be discharged, but quickly return to hospital (e.g. because the social care package is inadequate in the light of cognitive impairment, such as dementia), both of which are very costly.

Learning from safety events and clinical risks is recognised as vital to enhance patient safety, yet the brokering of patient safety knowledge (PSK) to the clinical frontline remains problematic. Indeed, the brokering of PSK related to the care of older people represents a high-profile and visible topic to examine more general matters of knowledge brokering by H-MLMs in healthcare and social care organisations beyond hospitals, and in service domains beyond elderly care. H-MLMs act as a 'knowledge broker', who: uses their in-between vantage position to support innovation through connecting, recombining, & transferring to new contexts otherwise disconnected pools of ideas; i.e. they get the right knowledge into the right hands, at the right time.

Objectives

© Queen's Printer and Controller of HMSO 2014. This work was produced by Currie et al. under the terms of a commissioning contract issued by the Secretary of State for Health. This 'first look' scientific summary may be freely reproduced for the purposes of private research and study and extracts may be included in professional journals provided that suitable acknowledgement is made and the reproduction is not associated with any form of advertising. Applications for commercial reproduction should be addressed to: NIHR Journals Library, National Institute for Health Research, Evaluation, Trials and Studies Coordinating Centre, Alpha House, University of Southampton Science Park, Southampton SO16 7NS, UK.

Our research aims to generate a deep understanding of the processes through which H-MLMs broker knowledge, grounded in the wider healthcare context, aligned with the following research questions:

1. Which H-MLMs broker what type of knowledge (exogenous or endogenous), and why?
2. How do H-MLMs broker exogenous and endogenous PSK?
3. What are the limiting and facilitating contextual features for H-MLM knowledge brokering?
4. How can H-MLMs be enabled to broker PSK related to the care of older people more effectively?

Methods

We examined knowledge brokering of PSK related to the care of older people, focusing upon issues shown to be important in national statistics, namely falls, medication management and transition, focused upon hospital care, but encompassing concern for interaction with other health and social care sectors. Our fieldwork utilised a mixed methods approach: informed by the literature review, we undertook semi-structured interviews with external producers/disseminators/auditors of exogenous PSK; informed by the literature review and social network analysis (SNA), we identified and interviewed key H-MLMs who brokered exogenous and endogenous knowledge; we carried out in-situ observation of knowledge brokering around PSK linked to elderly care within clinical governance committees; and we carried out tracer studies, encompassing interviews, observation, documentary analysis and focus groups, of knowledge brokering from Root Cause Analysis (RCA), following an adverse incident, for learning towards service improvement in elderly care.

Alongside semi-structured interviews and SNA, our research design involved collecting archival data and observational field notes, so as to triangulate sources of evidence. Firstly, we observed relevant meetings, such as risk and governance committees, action groups concerned with reducing falls amongst frail older people in the hospital, and ward meetings concerned with service improvement for the care of frail older people. During the observations, the researchers took detailed notes and then wrote up a more expansive commentary post-observation, where they reflected on what they had witnessed. The notes were written up on the day of the visit. Where available, we collected minutes of the meetings we observed, and similar meetings that preceded these over the previous 12 months. Secondly, we examined relevant Government White Papers and associated publications. And thirdly, at the organisational level, we collected strategy papers concerned with quality of care for frail older people, creating a substantial archival residue.

In advance of data analysis, we assembled all of the documents, interview transcripts and observational field notes for each of the cases into a single data file. We began with a fine-grained

reading of the data, and then inductively created a list of first-order codes from the case evidence. We then consolidated all of our codes across the three cases, progressing with axial coding, structuring the data into second-order concepts and more general aggregate dimensions. In doing so, we engaged in deductive reasoning whereby we linked our inductive codes with existing concepts and frameworks, derived from our literature review. While we accept that our accounts are one of many potential interpretations, we worked to ensure that we did not retro-fit the data to service our theorising in two ways. Firstly, we triangulated between data types; then, secondly, we triangulated across analysts. Our approach was designed to move from the 'raw' data to the theoretical and thematic interpretation of that data.

Results

Our study confirms assertions linked to strategic management literature that the value of middle-level managers lies, at least in part, in their character as a knowledge resource, and in their ability and willingness to broker exogenous and endogenous knowledge for organisational improvement. H-MLMs are of strategic significance in healthcare organisations, due to their ability to understand and respond to both professional and managerial concerns

We find that clinical governance delivers managerial legitimacy against externally imposed requirements of performance, but there remains the challenge of ensuring a more productive relationship between clinical governance and service improvement, which requires knowledge brokering by H-MLMs, particularly those located nearer the clinical frontline

To realise a more productive relationship requires that we move beyond a naive understanding of knowledge brokering, and consider how various factors – the nature of knowledge that one is seeking to leverage; politics and power around sharing knowledge, and cultural frames of reference around knowledge sharing – impact the relationship between clinical governance and knowledge brokering for service improvement. From this perspective, firstly, clinical governance relies upon explicit, rather than local tacit, knowledge; secondly, there exists considerable power and politics around clinical governance as doctors and managers struggle over professional autonomy; and thirdly, management and clinicians hold different world views, with the information requirements of managerially-led clinical governance systems opaque to clinicians.

The decontextualised nature of exogenous sources of PSK means that it may be acquired by healthcare organisations, but then it is not subsequently applied for service improvement. Such PSK appears stuck with those H-MLMs, more senior in the managerial hierarchy, and who are orientated

towards compliance rather than service improvement. For those more junior H-MLMs, closer to the frontline of clinical care, such PSK will only be 'pulled' in where they perceive its relevance to the practice and operations of their local area. Linked to this, much of the PSK likely to impact service improvement is endogenous. Endogenous PSK is experiential or practice-based, often tacit, embedded in communities of practitioners, and not amenable to codification. To pull such PSK up through clinical governance systems that encourage codification is also problematic.

Taking account of these two challenges to the brokering of PSK, fusing top-down exogenous knowledge with bottom-up endogenous knowledge represents a challenge. Rather than a knowledge-brokering chain upwards and outwards, inwards and downwards, we characterise the chain of knowledge as 'broken', rather than brokered.

Specifically, our findings highlight the effect of how a healthcare organisation is structured managerially and professionally. The interests and perspectives of managers and healthcare professionals are potentially at odds with each other, specifically with respect to knowledge brokering. In particular, managerial concerns around PSK may be seen, by healthcare professionals, to emphasise bureaucratic compliance, and so to represent a 'managerial sideshow' to on-going clinical practice. Our empirical cases highlight that H-MLMs are indeed key to brokering PSK for a service improvement effect in the care of older people around falls, medication management and transition, which bridges managerial and clinical boundaries. However, the level at which H-MLMs are positioned appears crucial to effective knowledge brokering, with the potential value of lower-level H-MLMs located nearer the clinical frontline lost, unless they are able to broker through senior H-MLM peers. Further, we find that the need for hybridity extends beyond bridging managerial and clinical structures and practices, as follows.

The professional organisation is itself differentiated, structured inter-professionally so that similar occupations work together, and then stratifying further intra-professionally around specialist practices, which commonly cohere into communities of practice (CoPs), as members are socialised towards shared interests and practice. This engenders professionally based knowledge around PSK, which may prove difficult to broker across boundaries, as perspectives and interests diverge. Those H-MLMs with rare, valued PSK in others' eyes, such as knowledge in the mental health domain, appear able to broker knowledge more effectively across boundaries. So, legitimacy may not just be attributed to those individuals with status and power, but also to those who hold knowledge that is considered distinctive and valuable.

Doctors are better able to broker PSK, both upwards and downwards beyond their professional boundaries, than nurses. At the same time, within the medical profession, some doctors, such as geriatricians, may struggle to broker PSK to their peers, such as surgeons, because the latter are more narrowly focused in their role and less concerned about more holistic dimensions of care. We also suggest some specialties, such as geriatrics, are perceived as less attractive than others, and so have traditionally been perceived as lower status within the medical community. Further, we note that power and status can be used to block knowledge brokering, even by those in H-MLM positions. For example, we find that some doctors in H-MLM positions adopt a gatekeeping role to broker knowledge to junior doctors as they themselves deem appropriate, sometimes even encouraging their junior counterparts to ignore PSK. Meanwhile, we find that the brokering of PSK by nurses is less bound by specialism difference, and more by rigid hierarchy. Such hierarchy may, however, prove helpful in brokering PSK. Those more senior nurse H-MLMs may find it easier to broker PSK upwards and downwards compared to H-MLMs further down the nursing hierarchy, particularly where the former H-MLMs are embedded in formal clinical governance structures. However, we note, in so doing they have some dependency upon their more junior H-MLM counterparts closer to the clinical frontline, to broker PSK for service improvement. Meanwhile, we highlight that junior H-MLMs are ideally situated for brokering practice-based knowledge upwards, but lack the legitimacy to do so.

In short, performance management demands appear decoupled from the need for service improvement, with a consequent deleterious effect upon knowledge brokering upwards and downwards by H-MLMs, so that the brokering chain is somewhat 'broken'. More 'savvy' H-MLMs, both doctors and nurses, recognise the need to align with managerial concerns around compliance for the effective brokering of endogenous knowledge upwards. Their 'savvy-ness' may be engendered by greater exposure to, perhaps even engagement in the development of measures of compliance; i.e. their hybrid activity may encompass policy development, as well as organisational management.

Our study finds that some lower-status H-MLMs enact a cosmopolitan knowledge-brokering role. For example, H-MLMs with a mental health nursing background may bring valuable, rare knowledge to other professionals, both nurses and doctors, to help the latter care for an increasingly aged patient cohort with attendant cognitive impairment problems. This explains how such lower-status H-MLMs are able to transcend organisational and professional hierarchy. For other lower-status H-MLMs, notably ward managers, the reasons behind their ability to enact a cosmopolitan knowledge-brokering

role are less clear. It seems more about their disposition for service improvement, which combines with the development of social capital. We highlight that further research is required in this regard.

Conclusions

H-MLMs positioned nearer the clinical frontline, looking to push endogenous knowledge upwards to their senior H-MLM counterparts, are likely to succeed only where they recognise the situated nature of management demands for compliance with externally imposed measures of performance. Formal structured investigations following adverse events (such as root cause analysis or 'RCA') carried out through the committee structure associated with clinical governance represent such a situated forum, where managerial demands for compliance and endogenous knowledge 'pulled' from practice could fuse more effectively. However, our study found that RCAs were variably used in such a manner, with a 'blame culture', rather than 'learning culture' prevalent. We suggest this represents a missed opportunity for situated brokering of exogenous and endogenous PSK. Ultimately, unless H-MLMs are able to engage those in senior H-MLM positions that are embedded in clinical governance systems, managerial systems and clinical practice remain decoupled. In its absence, endogenous patient safety knowledge remains brokered only in a more localised fashion. In short, despite the aspiration otherwise, the knowledge brokering chain remains 'broken'.

To conclude, within a large complex organisation, such as a local healthcare system, individual knowledge brokers are likely to have limited impact unless the system is receptive to their efforts. The fusing of exogenous PSK and endogenous PSK through H-MLMs, through a knowledge-brokering chain across the managerial and professional hierarchies, seems crucial to ensuring a service improvement effect, which complies with political demands for high-quality elderly care.

Our study highlights the potential co-ordination capability that H-MLMs represent. To emphasise, H-MLMs, by virtue of their position in the organisation, cross managerial and professional boundaries, and thus represent co-ordination capability. However, their structural position as hybrids is insufficient in isolation of social mechanisms for knowledge-brokering influence. We note H-MLMs are well connected with others, and this engenders the type of social mechanism prescribed to support more effective knowledge brokering within and across organisations, that of social capital.

We suggest the development of such CoPs, which cross organisational and professional boundaries, is not likely to be amenable to formal managerial intervention. Instead, their development is best left to those H-MLMs positioned closer to the clinical frontline, but with some power and status to bring different professional and managerial communities together. Policymakers and senior managers may

consider how they cultivate such community tendencies, rather than build them into formal structures of the organisation. On a prosaic level, a resource buffer for such community building, in terms of time and less pressurised operational environments, is helpful, but in the current parsimonious climate may prove difficult to engender.

Word count = 2475 words

Plain English summary

This study examines the role of the hybrid middle-level manager (H-MLM), who combines clinical and managerial responsibilities, in brokering patient safety knowledge (PSK) for service improvement in elderly care, both within NHS hospital settings and across the wider healthcare system.

The study has three phases. Firstly, we examine the brokering of PSK from external stakeholders; e.g. the Department of Health, National Patient Safety Agency, commissioners and professional institutes (e.g. British Geriatrics Society). We examine: *how* PSK is brokered ‘top down’ from external stakeholders through clinical governance systems and to the frontline of care; *who* brokers the knowledge; and *if/how* such knowledge informs service improvement in elderly care.

Secondly, we examine: *how* PSK is brokered upwards and across occupational boundaries within the organisation. Again, we focus upon: *who* brokers knowledge ‘upwards’ to more senior actors such as senior managers and clinicians, and *how*; and *who* brokers knowledge ‘across’ to clinicians working throughout the hospital and those external to the hospital that provide care, and *how*.

Thirdly, we trace the brokerage of PSK following an incident of patient harm (or death) resulting from a hospital-based fall, medication error, and/or patient transition between places of care – all of which are common occurrences among elderly patients.

Ultimately, we seek a deep understanding of knowledge brokering by H-MLMs in and across healthcare organisations. Following this, we make recommendations about *how* senior hospital managers may best support H-MLMs to broker PSK for service improvement in elderly care and beyond.