

Getting the most out of knowledge and innovation transfer agents in health care: a qualitative study

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Scientific summary

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Scientific summary

Background

Knowledge and innovation transfer (KIT) is a complex, dynamic and evolving process, and a long-standing international challenge for organisations. Academic Health Science Networks (AHSNs) were set up in response to the Carruthers report (i.e. Innovation, Health and Wealth: Accelerating Adoption and Diffusion in the NHS), to encourage quicker transfer of new practice by fostering collaborations between academia, industry and health service. In this context, our study sought to find out about the role of KIT 'agents' in AHSNs in England and in Academic Health Science Partnerships (AHSPs) in Wales, and what helped them to achieve the desired outcomes. KIT agents (also known as knowledge brokers) are NHS and university-based staff, often with a clinical background, responsible for supporting the transfer and mobilisation of knowledge (broadly conceived) from knowledge producers to knowledge users (health-care managers/practitioners/decision-makers). According to one classification, factors enabling this knowledge producer–user relationship relate to:

- context – external (macro) and internal (meso) factors including policy shifts, fiscal restraint, organisational culture and leadership
- content – relevance and match with local priorities
- processes – actions undertaken by agents
- individual dispositions (micro).

Research questions

Our research addressed the following questions:

- What are commonly shared expectations of the KIT agent role?
- What, in practice, do KIT agents do?
- How does the work of KIT agents impact on health-care planning and practice?
- How can KIT agents be best supported?
- What measures can be used to assess the impact of KIT activity?

Methods

The research, conducted in 2014–15, used an in-depth qualitative case study design, focused on a sample of KIT agents from AHSNs in England and an AHSP in Wales. The study was enriched by the contribution of a project advisory group comprising NHS managers, chief executives, a funder representative, academics and patient representatives. Patient and public involvement (PPI) occurred through the advisory group and the nominal group; some case study KIT agents worked directly to enhance PPI.

Research ethics approval was obtained from Cardiff University (reference number 20/08/13) and the project registered on the Welsh portfolio (#15479).

Theoretical frameworks

Data gathering was shaped by Kirkpatrick's framework for programme evaluation: the participants' reactions, learning gains, behaviour change and results (impact). This framework fits well with social marketing theory, which we used to interpret our findings.

Data collection and sampling

A targeted review of literature was undertaken to identify existing KIT practices, barriers and enablers encountered, and outcomes. The findings supported robust data analysis, informed the nominal group process and provided context for consideration of findings.

For the national mapping of KIT intentions, we collected data from 15 AHSN prospectuses and business plans, plus the South East Wales AHSP's 'Five Year Strategy', and held telephone interviews with 14 of the 16 network or partnership leads. From this, we drafted a typology of KIT agent roles that we used to inform the identification of our individual case studies.

We purposively sampled 13 KIT agents from five of the 16 networks/partnerships. We collected a wealth of data from observation of KIT events/meetings; semistructured interviews with the KIT agents, their line managers and those they supported ('Links'); and audio-diaries kept by KIT agents over 4 months. Despite notable disparity in data collection across agents and relatively low participation in audio-diaries overall, excluding meetings to negotiate access, we conducted 50 interviews (23 with KIT agents, 22 with Links and five with line managers), 20 observations, and received 6 hours 20 minutes of audio-diaries.

To address the research question on impact, we used a consensus method in a meeting of experts (nominal group technique). Our nominal group comprised a purposive sample of eight people from England, Scotland and Wales. Some panel members held dual roles, and the group included three knowledge brokers, three researchers/academics, two network/policy leads, a senior information scientist and a PPI specialist.

Analysis of case study data

The analysis of the field notes, documents, and the interview and audio-diary transcripts was both deductive and inductive. We used a classification of factors as the basis of our analytic framework, extending it to include the Kirkpatrick levels and descriptive codes for the KIT agents' background and role. This coding frame was supplemented by emergent themes and subthemes (such as conceptual definitions). Data triangulation was achieved through the use of multiple data sources; what we heard from agents was corroborated with data from interviews with others and observations. Data were regularly discussed with the advisory group. Validation was also sought through presentations to research workshops and conferences and feedback to the KIT agents and their networks sites.

Results

Knowledge and innovation transfer intentions

The interviews showed that the networks were at different stages of development, started with different structures and had unique operational models. However, all pursued the aim of driving improvement through innovation. Fellowships or secondments were the most common strategies for supporting KIT during early network formation. We also noted the emergence of operational leaders with specific duties around promoting improvement and innovation. We labelled seven ideal types in our general typology of KIT roles: the dedicated KIT fellow, the dedicated KIT lead, KIT within research role, KIT within operational role, project programme implementer, project implementer and hobby project champion. The roles varied in terms of how the KIT agent was supported; the duration of the role and the proportion of time devoted to the role; the number of agents and whether or not they were in a team; and the focus of activities (on research and data gathering or implementation). Other features included whether the role was aimed at clinicians, managers or both; the primary location of the KIT agent (NHS, universities or industry); type of training planned or received (knowledge brokering or improvement methodology, bespoke or à la carte); and strategy focus (health, wealth or both).

Case studies

We noted similarities in Links' and line managers' expectations of the KIT agents' role (i.e. linking, engagement and knowledge management). This was surprising, given the differences in the KIT agents' level of seniority, length of time in post, amount of time dedicated to KIT work and focus (i.e. service improvement, innovation or knowledge mobilisation).

The KIT agents identified similar enablers (and barriers) operating at the micro (individual), meso (organisational or network) and macro (political and system) levels. These included:

- a clear expectation and definition of the role, agreed by the KIT agent and their line manager
- adequate resources for KIT agents and line managers to devote to projects
- support for line managers and KIT agents (and their teams)
- access to data and their utilisation.

The organisational and political context could be challenging. KIT agents were not only addressing local barriers, such as siloed working, but were also navigating regional or national policies, which often resulted in competing priorities. Those on short-term contracts or employed by networks lacked job security. The role required similar resources regardless of network maturity. Organisations with board-level support for knowledge mobilisation together with a culture of reflection (listening to front-line practitioners), openness to challenge and receptivity to research enabled KIT agents to achieve desired outcomes.

Assessing outcomes

We drew on the nominal group exercise, the case studies and wider literature to explore possible measures that could be used to assess the outcomes of knowledge brokering activity. In our study proposal we described this goal as measuring impact. However, 'impact' is problematic if narrowly interpreted as effects on target populations (such as better health for patient groups). An important generic point raised by the nominal group was the need to relate measures to specific intended outcomes. Other issues raised related to the difficulty in demonstrating causality, the risk of overlooking the hard to measure, and the relevance of context. Findings from the case studies underscored the importance of linking measures to planned outcomes, but highlighted that very few formal assessment measures were employed by agents or their managers.

In lieu of generic measures, we propose a set of principles and a framework for measuring more specific outcomes of knowledge broker activity. The framework is organised around five areas of contribution: inputs, activities, capacity development, behaviour and outcomes. We present example indicators, evidence and likely barriers to, and enablers of, the achievement of desired outcomes.

Applying social marketing theory

Social marketing theory helped to reveal linkages between processes and outcomes and impact.

All KIT agents sought to develop *insight* into their 'clients' (Links), which enabled them to tailor support to meet the specific needs of individuals and teams. Such insight helped them to understand *competition*, that is, the factors that stood in the way of the individual's attention, willingness and ability to adopt behaviours that would facilitate change in relation to KIT. The KIT agents identified numerous competing factors including, for example, lack of relevant research; time pressures; lack of specific skills [for instance, in quality improvement (QI) methodology]; lack of knowledge; lack of confidence; politics and territorialism; and lack of alignment between national and local programmes. In social marketing theory, an '*offer*' is made. For example, KIT agents may offer to build capacity, capability and skills, support by listening, provide practical help and coaching, and make linkages.

Further themes employed in marketing are useful, including the perceived *quality* of the product or service (i.e. clinical and managerial experience was valued as it was felt to enhance agent credibility); *place or positioning* (i.e. agents commented on the importance of face-to-face meetings to build relationships);

policy (i.e. increased emphasis on cost-saving or particular patient safety targets could provide an impetus to do things differently); and *segmentation and targeting* (e.g. the KIT agents talked of working with the willing and not pushing failing projects).

Conclusions

We review our research in relation to the questions in our proposal.

What are the commonly shared expectations of the knowledge and innovation transfer agent role?

Despite ambiguity at a detailed level, the role was about engaging with practitioners to help them improve services for patients. Their role was about making connections, motivating and influencing others, teaching and training, and facilitating access to knowledge.

What, in practice, do the knowledge and innovation transfer agents do?

We found both variation and commonality across the agents. All tailored their activity to the needs of their clients. Across the case studies we have examples of KIT agents providing formal research evidence, introducing or developing approaches to health-care management (QI methodologies, PPI) through formal training and support, project-specific support (most often QI related) and a focus on the growth agenda. All the KIT agents were involved in building relationships, typically intended to be finite.

How does the work of knowledge and innovation transfer agents impact on health-care practice?

It was challenging to do this, but we were able to draw attention to specific projects with measurable outcomes to which agents contributed.

How can knowledge and innovation transfer agents be best supported?

Knowledge and innovation transfer agents could benefit from more individuals in their teams. Support from senior colleagues was essential and peer support was valued. Flexibility, with respect to how the KIT agent is managed, is important; they were successful because they could adapt their role and way of working to the needs of their clients and work to their strengths.

What measures can be used to assess the impact of knowledge and innovation transfer activity?

Generic measures would not adequately assess the impact of KIT activity, as their goals and roles vary. Context is important. Logic models might be useful for planning and evaluation.

Implications for effective knowledge brokering

On the basis of our findings we suggest five implications for knowledge brokering:

1. Individual dispositions, such as an attentive and proactive approach to the role and the work, and status (i.e. relevant practitioner experience) were centrally important to KIT agent success. Person specifications and recruitment processes would benefit from being reflective of these attributes.
2. These roles take time to develop and require flexibility on behalf of the organisation. Longer-term views to assessing the roles are necessary, which we note might be in tension with short-term fellowships. A potential medium-term approach, as discussed by our nominal group, could usefully entail the use of case studies.
3. Some agents expressed feelings of isolation. It would be fruitful to explore how communities of practice could be developed to counter this.
4. Confusion about who leads and supports QI was a challenge for KIT agents that needs to be addressed to avoid duplication, territorialism and wasted resources.
5. Multiple skills are required to use local data for service improvement. This raises implications for training.

Implications for future research

One over-riding conclusion is the need for research to further our understanding and use of knowledge broker roles in health care.

- A longitudinal study of KIT roles could address whether or not the perceived risks of taking on these roles is valid; post-KIT role career options; whether or not trained and experienced KIT agents get lost in the system; and whether or not the results of KIT work can be sustained. There is significant scope to follow up on KIT agents who have been studied across a number of projects.
- There is a growing recognition that knowledge brokering roles are held within teams rather than by individuals. Future research might focus on how these roles are negotiated, maintained and transferred within a team setting, and on identifying the related outcomes and impacts.
- More work is needed to understand how success is identified, credited or measured. Social marketing theory could provide a suitable theoretical framework for this, and enable exploration of whether or not social marketing concepts could usefully guide KIT practice.
- The apparent shift from knowledge mobilisation to the application of improvement methodologies deserves further attention. The coexistence of QI and more traditional notions of research use within the same policy and funding streams needs to be unpicked.
- A comparative (country, sector, knowledge-based private sector) study of similar roles that are deemed attractive merits consideration. Those in the health-care field could learn from other contexts in which the roles are not perceived as risky.
- The nominal group exercise raised the importance of knowledge brokers linking with service users and other knowledge brokers, something rarely observed in our study. One proposition worthy of further study is whether or not patients themselves can take on knowledge broker roles.

Concluding remarks

The role of KIT agents is varied, complex and evolving. The success they have in achieving outcomes differs in relation to individual, local and policy-related factors. Given the sheer scale of the task and the environment in which they currently operate, the effectiveness of KIT agents needs a long-term view. They require senior-level commitment and support in organisations, and training and networking opportunities with others in similar roles. The roles, and people who occupy them, need to be given time and support if they are to realise desired outcomes and impact.

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