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The Influence of HR Practices Upon Knowledge Brokering in Professional Organizations for Service Improvement : Addressing Professional Legitimacy & Identity in Healthcare

Abstract:

Drawing upon sociology of professions, our study extends insight into the specific HR practices that shape the micro-dynamics of knowledge sharing behaviors amongst professionals. Empirically, we examine the influence of HR practices upon enactment of a knowledge brokering role by doctors to drive service improvement in healthcare. Our study shows, first, HR practices influence professional identity, which is predicated on jurisdictional autonomy and client interest. Second, HR practices influence the legitimacy of any role and associated activities, with professionals valuing collegial leadership and evidence-based practice. Our study highlights it is employee perceptions of the effect of HR practices upon their legitimacy and identity that shape their attitudes and behavior towards knowledge sharing. Thus, different HR practices have different affects upon knowledge sharing. Further, the same HR practice may be perceived differently even within the same cadre of professionals, dependent upon their relative status and career interests.

Introduction

Within professional organizations, there is a global drive towards evidence-based service improvement (Dopson & Fitzgerald, 2005). This is particularly prevalent in healthcare, where there is a so-called 'translational gap' between 'what we know and what we do': i.e. between what research studies generate in the form of evidence about clinical effectiveness and what frontline professionals deliver in clinical practice (Currie, El Enany & Lockett, 2014). For example, research evidence may extol the benefit for patients of early intervention preventative services delivered in the community for Chronic Obstructive Pulmonary Disorder (COPD), but clinical service may remain hospital-based, delivered in responsive mode when the patient is acutely ill (Currie & Spyridonidis, 2019). A panacea for the translational gap in healthcare is the introduction of 'knowledge brokers' drawn from the ranks of clinical practitioners, defined as those 'who get the right knowledge, into the right hands, at the right time' (Bartunek, 2007; Currie & White, 2012; Hargadon, 2002; Verona, Prandelli & Sawhney, 2006). To ensure service improvement, clinical practitioners broker knowledge into

researchers' communities to ensure contextual knowledge about practice informs the development of the research, but also broker knowledge from research to practice to ensure its impact (Barrett & Oborn 2018). However, the panacea of knowledge brokering has not delivered on its promise. Commentators highlight lack of attention to the professionalized context of healthcare (Baker et al., 2009; Currie & White, 2012; Dobbins et al., 2009), and note the hybrid character of the knowledge brokering role that crosses managerial and professional domains may render it unattractive to clinicians (Currie, Burgess & Hayton, 2015). Nonetheless, scholars suggest HR practices may have a significant part to play to ensure knowledge brokering delivers service improvement in healthcare (Rycroft-Malone et al., 2011).

The suggestion from those researching knowledge brokering in the healthcare context to examine the HR challenges chimes with more generic interest in the influence of HR policies and practices upon knowledge sharing (Collins & Clark, 2003; Foss, Minbaeva, Pederson, & Reinholt, 2009; Kang, Morris, & Snell, 2007; Kang, Snell, & Swart, 2012; Krausert, 2014; Minbaeva, Foss, & Snell, 2009; Sung & Choi, 2018). Knowledge sharing behaviors require individual networking and relationship building behaviors, upon which HR practices can have a positive effect (Collins & Clark, 2003; Lepak, 1999; Prieto & Pilar Pérez Santana, 2012; Yan, Francesco, Zhang, & Chen, 2013). However, within extant literature, first there is an absence of studies about how HR practices, such as performance management, training and development, job design, shape knowledge brokering specifically. Compared to the more general phenomenon of knowledge sharing, around which homophilic actors interact, commonly knowledge brokers work in a more purposeful and strategic way across heterogeneous domains and disparate actors (Currie & White, 2012; Fernandez & Gould, 1994; Verona, Prandelli & Sawhney, 2006). Second, professional organizations represent a

distinctive context, within which professionals are concerned about the legitimacy of knowledge brokering roles and whether a knowledge brokering role aligns with pre-existing identity (Currie, Burgess & Hayton, 2015). Yet few studies take account of this distinctive context to examine how HR practices support knowledge brokering (Kang, Snell & Swart, 2012). With these two research gaps in mind, our study seeks to answer the research question: How do HR practices address concerns about professional legitimacy and identity to influence knowledge brokering in professional organizations for service improvement?

Our empirical example is the National Health Service in England, within which we consider how a regional R&D unit ('Metro') engages and supports doctors to act as knowledge brokers to drive evidence-based service improvement. There is growing interest in HRM within healthcare contexts, as evidenced by a special issue of *Human Resource Management* (Cooke & Bartram, 2015). Thus far however, analysis of the healthcare context has remained at the empirical level. There has been little theoretical analysis derived from a more sociological perspective that focuses upon professional organization and its underpinning dimensions relating to legitimacy and identity (Abbott, 1988; Freidson, 1988). Following which, there are calls for HRM scholars to engage more deeply with issues of professional organization and identity in healthcare settings (Kessler, Heron & Dopson, 2015). Our longitudinal study, carried out over five years, addresses such a call, and encompasses 139 semi-structured interviews with the Metro Leadership Team and doctors enacting a knowledge brokering role, complemented by 56 hours of observation of educational workshops in which our interviewees participated.

Foreshadowing our theoretical contribution, our study provides much needed sociological insight into how HR practices influence underpinning dimensions of professional organization, specifically professional legitimacy and identity, so that those professionals

entrusted with the hybrid role of knowledge brokering for evidence-based service improvement, enact the role effectively. In so doing our study makes a more specific contribution to HRM in healthcare organizations, associated with which are lessons for HR managers concerning HR practices around performance management, job design, training and development.

Human Resource Practices & Knowledge Brokering

The HRM literature considers 'knowledge sharing' more generally, rather than knowledge brokering specifically, although its empirical interrogation of how HR policies and practices support knowledge sharing can be applied to knowledge brokering. There are frequent overlaps in the literature between HR policies and HR practices. HR policies frame the enactment of HR practices on the ground; e.g. Delery & Doty's (1996) definition of HR practices as a set of internally consistent policies and practices designed and implemented to ensure that a firm's human capital contribute to the achievement of business objectives. Our specific concern however lies with HR practices, that is a set of practices used by the organization to manage human resources through facilitating the development of competencies that are firm specific, produce complex social relations and generate organizational knowledge to sustain competitive advantage (Minbaeva, 2005). We focus upon HR practices actually implemented at the local level, as perceived by employees and that directly affect their attitudes and behaviors. In this light, we recognize different practices may be perceived in different ways by employees (Bos-Nehles & Veenendaal, 2017; Kehoe & Wright, 2013).

In considering HR practices, the focus of HRM study has been upon an individual level of analysis, notably how to enhance motivation of individuals for knowledge sharing (Foss et al., 2009; Gagne, 2009; Minbaeva et al., 2009), specifically the role of training and development,

performance management, reward, and job design (Gagne, 2009; Minbaeva et al., 2009). First, employee motivation for knowledge sharing can be enhanced through training (Kang et al., 2007; Minbaeva et al., 2009; Patel et al., 2012; Prieto & Pilar Pérez Santana, 2012; Youndt et al., 2004). Second, HR practices can reward knowledge sharing, not so much through extrinsic incentives for so doing (Espedal, Gooderham & Stensaker, 2013; Kang et al., 2007; 2012; Lepak, 1999; Minbaeva et al., 2003; Minbaeva et al., 2009; Yan et al., 2013), but where the incentive is intrinsic, derived from personal values and norms (Foss et al., 2009; Gagne & Deci, 2005). Third, HR practices in the domain of job design engender opportunity for knowledge sharing (Foss et al., 2009; Gagne, 2009).

Individuals are likely to share knowledge more easily within their peer group rather than across professional groups (Bednall & Sanders, 2016). However knowledge sharing represents a double edged sword. On the one hand, it may be valued by the organization and enhance individual status and career opportunities, particularly where members of a collective share the belief that it is safe to do so (Edmondson, 1999). On the other hand, knowledge sharing may render employees vulnerable in a competitive labor market (Yang et al., 2016, 2018).

Some HRM studies have moved beyond the individual level analysis, towards greater consideration of the group level (Kaše, Paauwe & Zupan, 2009; Minbaeva et al., 2009). HR practices in the areas of job design (Kang et al., 2007; Kaše et al., 2009; Minbaeva et al., 2009) and training and development (Kaše et al., 2009) are significant in their effect upon development of social networks, specifically in knowledge intensive firms (Kaše et al., 2009). Where training and development encompasses a diverse range of actors, HR practices encourage development of social capital and accompanying collaborative behaviors and actions that support knowledge sharing across boundaries, providing it aligns with pre-existing culture, common identity and shared values (Espedal, Gooderham & Stensaker,

2013). Similarly, job design, such as implementation of self-managed teams (Foss et al., 2009; Kaše et al., 2009), can ensure social or relational aspects of work are encompassed so that professionals are motivated towards knowledge sharing.

Notwithstanding the potential value shown in the more general literature about how HR practices support knowledge sharing that is applicable to the specific case of knowledge brokering, we need to understand how this ensues in a professionalized context such as healthcare.

Knowledge Brokers & Professional Organization

Knowledge brokers facilitate access to novel information and transfer of knowledge, and generally co-ordinate the efforts of distributed actors (Long, Cunningham & Braithwaite, 2013). The use of knowledge brokers has proved particularly valuable in mediating homophily, the tendency for actors with similar attributes or tasks to be linked, and conversely for those with dissimilar attributes to remain decoupled (Burt, 2004). The use of knowledge brokers to translate research evidence into frontline professional practice is common in healthcare, where an epistemological divide between research and practice communities makes knowledge sharing difficult (Canadian Health Research Foundation, 2003; Currie, El Enany & Lockett, 2014; Ward, House & Hamer, 2009; Spyridonidis & Currie, 2016).

Within healthcare settings, while the use of knowledge brokers to translate research evidence into practice has gathered conceptual momentum (Rowley et al., 2012), there is growing concern for the way professional organization and systems hinder the knowledge brokering process. To date, the knowledge brokering approach has been curiously individualistic, with little consideration of influence of organizational context, specifically in healthcare settings (Baker et al., 2009; Currie & White, 2012; Dobbins et al., 2009). Studies

have pointed to a need to support knowledge brokers as they enact their role so that service improvement ensues (Bornbaum et al., 2015; Kislov, Wilson & Boaden, 2017; Spyridonidis, Hendy & Barlow, 2015). In healthcare settings, research highlights clinicians do not find knowledge brokering roles attractive, and even where they take these roles on, may lack opportunities to enact them (Baker et al., 2009; Chew, Armstrong & Martin, 2013; Currie & White, 2006; Currie, Burgess & Hayton, 2015; Currie et al., 2014; Dobbins et al., 2009; Kislov, Hodgson & Boaden, 2016; Spyridonidis, Hendy & Barlow, 2015). Despite such concerns, there is a lack of research about the effects of HR practices upon the success of knowledge brokering to drive service improvement in healthcare organizations (Rycroft-Malone et al., 2011).

So what are the characteristics of the professionalized context that limit effectiveness of knowledge brokers in translation of evidence into frontline practice? In an organizational archetype such as the professional bureaucracy, the core group of professionals are dominant (Mintzberg, 1979). Professionals construct jurisdictions over which they claim exclusive authority and defend these jurisdictions from competing claims by other professions (Abbott, 1988). In healthcare, managers and other professionals, such as nurses, cannot simply intrude on doctors' jurisdictional space because the latter has mandated authority in their specific area of expertise (Freidson, 1988). Rather, doctors exercise a high degree of autonomy and clinical judgement, and self-police professional practice (Abbott, 1988; Freidson, 1988). Derived from status differentials within and across professions, legitimacy and power to retain autonomy is established within situated interactions framed by an occupational hierarchy within the workplace (Abbott, 1988). Further, the term 'professional' represents a much sought after identity, associated with exclusivity and privilege for those who lay claim to it (Freidson 1988, 1994; Nancarrow & Borthwick, 2005; Sanders & Harrison, 2008). A

distinctive professional identity is developed and shared amongst a professional group through enhanced career prospects, socialization, long and rigorous training, and a lifetime spent doing the same tasks with a group of peers (Pratt, Rockmann & Kaufmann, 2006). At the core of professional identity are moral values that underpin a sentiment of care for the client a professional serves, which transcend self-interest or organizational interest (Brint, 2015; Wright, Zammuto & Liesch, 2017).

The dynamics of jurisdictional legitimacy and identity relate to intra-professional, as well as inter-professional comparison. Doctors are likely to specialize in particular segments of care and so attain jurisdictional legitimacy and buttress identity through such means, with greater power and status ascribed to specialist doctors compared to their more generalist peers; e.g. a respiratory or cardiac physician is likely to enjoy greater power and status than a geriatrician, paediatrician, public health doctor or primary care physician such as the General Practitioner (GP) (Currie et al., 2012). Taking on a knowledge brokering role might be viewed by doctors and their peers as diluting specialization since it represents a 'hybrid' role that extends their domain towards a more managerially inclined one (Llewellyn, 2001). As such, the hybrid role of knowledge brokering is likely to invoke concerns about identity transition amongst medical ranks, with some doctors resisting imposition of a managerial role and associated activity (Doolin, 2002; McGivern et al., 2015; Spyridonidis, Hendy & Barlow, 2015). In essence, professional groups tend to protect their jurisdiction and exclusively claim knowledge, rather than seek to share it, certainly sharing knowledge across occupational boundaries in healthcare is limited (Currie & Waring, 2012; Currie, Burgess & Hayton, 2015).

HRM literature focused upon the specific context of healthcare highlights the importance of HR practices in contributing towards service improvement (West et al., 2006). On the one hand, studies suggest HR practices in the areas of performance management, job design, and

training and development support service improvement (Hyde et al., 2005; West et al., 2006), and that HR practices can engender the knowledge sharing necessary for high quality healthcare (Khatri, Brown & Hicks, 2009; Khatri, Gupta & Varma, 2016). On the other hand, studies suggest that any HR intervention is viewed with suspicion by frontline clinicians since it intrudes upon their autonomy (Bach, Kessler & Heron, 2101; McBride & Mustchin, 2013). There are calls for a multidisciplinary theoretical analysis of this dilemma (Cooke & Bartram, 2015), specifically for HRM scholars to engage more deeply with a sociologically informed debate about professional organization and identity (Kessler, Heron & Dopson, 2015).

To repeat and nuance our research question, our study asks: How do HR practices influence the role of knowledge brokers, drawn from professional ranks in a healthcare context to address professional concerns about legitimacy and identity?

In what follows, having presented our research design, we empirically analyze the influence of HR practices upon knowledge brokering by doctors, focusing upon how they differentially diminish or enhance professional legitimacy and identity across two episodes of HR intervention.

Research Design

Case context

We undertook a single longitudinal case study with embedded units of analysis (Kozlowski & Klein, 2000; Pettigrew, 1990). Metro, an R&D unit, which encompassed 1 university, 8 hospitals, 3 primary care providers, 3 public health providers, whose aim was to develop, implement and diffuse evidence-based service improvement across a regional healthcare system. Twelve individual service improvement projects, which focused upon long-term conditions within the Metro region represented the embedded unit of analysis, comparison

of which allowed us to derive insight into how HR practices shape the role of knowledge brokers, drawn from professional ranks of doctors, over time.

The executive leadership team in Metro instituted formal HR policies that framed HR practices on the ground to shape doctors' behavior towards service improvement in three main domains: job titles and descriptions; performance management; training and development.

First, doctors bid for funding (maximum of \$US200,000) from Metro for between two and four years to lead a service improvement project that was derived from research evidence. These bids were evaluated by the Metro executive leadership team in line with their aim to address significant long-term conditions in the population through applied research. If their bid was successful then the doctor was appointed to a knowledge brokering role, and given 20 per cent buy out from their normal clinical duties to enact the role. A formal job description set out expectations of the role. In its initial form, prominent within the job description for a role labelled, 'Service Improvement Lead' was the expectation that role holders, *"would manage their project teams to deliver service improvement"* and *"apply a set of Metro service improvement tools"*. In essence, the expectation was that doctors enacted a hybrid role that encompassed management activity and which extended beyond traditional clinical activity. After the first year of Metro's service improvement interventions, both the title and job description were modified, the former to 'Improvement Science Fellow', and the latter emphasizing the need for roleholders to, *"engage in research to inform service improvement"*, and *"lead collaboration with NHS managers and professionals to diffuse evidence-based service improvement across the regional healthcare system"*. From year two onwards, Metro also put aside dedicated training and development budget to support some of their Improvement Science Fellows to undertake doctoral study related to service improvement.

Second, regarding management of their performance, doctors taking up knowledge brokering roles to support service improvement were held accountable to Metro executives for project progress and service improvement outcomes. The doctors leading service improvement projects reported back quarterly through an online performance management template generated by the Metro executive leadership team, between which the doctor leading the project met with one of the Metro executive leadership team, the Director of Projects, to informally report on progress. Encompassed within the performance system, Metro contributed up to ten per cent of a doctor's pay dependent upon progress of the service improvement project. Further, failure to make sufficient progress meant removal of funding provided by Metro for the service improvement project, and discontinuation of the doctor's knowledge brokering role, with around a quarter of projects cancelled on this basis.

Finally, Metro offered one day training and development workshops, which in their initial form in the first eighteen months of Metro's service improvement intervention aimed to, *"equip participants with a set of service improvement tools"*, and *"develop capability necessary for their future roles as clinical leaders"*, which all doctors taking up knowledge brokering roles were mandated to attend on a quarterly basis. Following the first eighteen months of the workshop offering, these too were modified, with more emphasis upon inputs relating to leading research and its translation into practice. Alongside formal inputs, much more of the workshop was set aside for less structured networking time, where the doctors convened to discuss their projects and its progress.

Data Collection

Our longitudinal study, carried out over five years, encompassed 139 semi-structured interviews over four phases of data gathering with the Metro leadership team and doctors

enacting a knowledge brokering role, complemented by 56 hours of observation of training and development workshops in which our interviewees participated. The four phases of interviews were empirically structured so as to examine the knowledge brokering processes over time, and the manner in which the Metro leadership team were supporting doctors taking on brokering roles through HR practices, and doctors' responses to this.

In the first phase, at the start of year one of our study, we interviewed all the Metro leadership team (12), using a semi-structured schedule of questions to elicit information about their role in Metro, what they expected of doctors in the latter's enactment of knowledge brokering, and what HR practices were in place to support this (episode 1). In the second phase, 18-24 months into our study, we elicited Metro leadership team's (12 interviewees) views on the success of their knowledge brokering approach and how HR practices supported this or not. Interviews in this phase with Metro leaders revealed their concerns about the effects of a performative emphasis in HR practices (episode 1), and how, subsequently, they changed HR practices to support doctors' enactment of their knowledge brokering roles (episode 2). At the same time, we interviewed doctors (43) about the challenges they had faced so far in enacting a knowledge brokering role and how HR practices supported this or not (they confirmed the change in emphasis of HR practices, and the clear delineation of episodes 1 and 2, which we detail in our empirical analysis). This was followed up in a third phase of data gathering (36 months into our study) by further interviews with Metro leaders (12) around the same topic. Across all phases of data gathering, issues of legitimacy and identity associated with professional organization emerged. In our final fourth phase of interviews with Metro leaders (12) and doctors (48) in the fifth year of our study (Months 48-54 of our study), we particularly focused upon the influence of HR practices upon professional legitimacy and identity associated with the knowledge brokering role that

doctors were expected to enact. Table One summarizes data gathering, including observations and documentation collated (minutes of meetings, strategic plans, operational structures and processes, including job descriptions).

Insert Table One Here

Throughout the five years of study, we observed training and development workshops that aimed to support knowledge brokering efforts of doctors. One of the co-authors carried out the fieldwork and became a 'groupie' on the Metro event scene, engaging in informal conversations with various Metro managers and participating doctors at serendipitous encounters during coffee breaks and lunches, spaced around workshops. Such 'hanging around' allowed us to understand the research context and to develop and sustain relationships with prospective participants over the course of our research study. The latter was important because we were 'outsiders', academics working in a business school, with little of the nuanced language and behaviors common to clinical settings. Notes were taken during or immediately following such observations or conversations as appropriate, which were encompassed within a case study database, alongside interview transcripts and documentation. However, only empirical data garnered from interviews is presented in our analysis.

Data Analysis

In our analysis of data, we followed an abductive logic. Abductive reasoning is characterized by constant dialogue between theory and empirical findings, which involves an analytical strategy based on continuous formulation and iteration of questions and answers from literature to both focus and explain emerging findings (Alvesson & Kärreman, 2007; Locke, Golden-Biddle & Feldman, 2008; Mantere & Ketokivi, 2013). So, for example, our literature review around the influence of HR practices upon knowledge brokering informed analysis in

more deductive way, whereas issues of legitimacy and identity for those doctors engaging in knowledge brokering emerged from the data, following which we perused relevant literature retrospectively.

Figure One illustrates our coding structure as it relates to those constructs of legitimacy and identity transition we induced from empirical analysis, and how they relate to enactment of a knowledge brokering role. Building legitimacy (see Figure One, Q1, Q2) relates to others' perceptions of the authority of the source of knowledge and the brokering role more generally (Suddaby & Greenwood, 2005). Q1 highlights that enactment of a new knowledge brokering role enhances doctors' legitimacy amongst their peers. Q2 suggests the legitimacy of the new knowledge brokering role is enhanced where a doctor is respected by their peers. Identity transition (see Figure One, Q3, Q4) relates to doctors' move from an identity that is derived from their specialist jurisdiction of care and sentiment of care for the patient towards an identity as a knowledge broker that encompasses hybrid activity. This requires a different capability than that for which they have been trained and socialized (Pratt, Rockmann & Kaufmann, 2006). Q3 highlights the importance of doctors retaining a focus upon patient care in any role they enact. Q4 shows the importance of aligning any new role with pre-existing clinical jurisdiction.

--Insert Figure One Here--

Our analysis of data 'progressively focused' upon the most pertinent issues of theoretical interest, with emerging analysis informing more focused interview questions and observation as we moved through successive phases of fieldwork (Stake, 1995). This also allowed us to identify change in the enactment of knowledge brokering roles by doctors and the influence of HR practices upon this as we interviewed the same subjects over time. Once all fieldwork was complete, data analysis of the complete case database progressed in three stages, during

which the level of analytical generalization was raised step by step (Yin, 2013). In the first stage, we examined each of the 12 cases separately. After transcribing interviews, each of these were read by the three authors to identify the HR practices that shaped enactment of the knowledge brokering role by doctors. After which we discussed first-order coding (as we did with second and third order coding), particularly where there were differences in analysis, and achieved agreement about first-order codes. At the second stage, we moved to more theoretical codes, and a comparative case approach, within which we elaborated concepts of legitimacy and identity transition for doctors undertaking knowledge brokering roles. At our third and final stage of analysis, we sought to understand the relationship between HR practices and their effect upon professional legitimacy and identity transition to support enactment of knowledge brokering by doctors. Within this final stage of coding, we identified two 'temporal brackets' (Langley, 1999) or episodes, with clearly delineated HR interventions and their effects upon legitimacy of knowledge brokering roles and identity of those doctors undertaking knowledge brokering roles. Episode 1 covered months 0-12 of the knowledge brokering intervention, within which performance management was emphasized. Episode 2 covered the subsequent four years of the knowledge brokering intervention, encompassing job design (its' content and title) and training and development.

Findings

In examining knowledge brokering by doctors, we reflect on the role of HR practices to address doctors' concerns about the legitimacy of knowledge brokering roles and alignment of knowledge brokering roles with professional identity. As outlined above, we induce two episodes of HR intervention. In episode 1, HR practices were not adequately supporting doctors in their knowledge brokering role and which we argue was because performance management undermined professional legitimacy and identity. Following which, in episode

2, managers redesigned their HR practices, which we argue enhanced professional legitimacy and buttressed collective professional identity for enactment of knowledge brokering roles amongst doctors.

Episode 1

HR practices that undermine professional legitimacy & identity: Performance management

The role of doctors was one that remained firmly focused upon patient care and its daily pressures, which meant:

It [knowledge brokering] is a nice to do thing, but clinical service delivery comes first. It can be hard to keep up to date with the latest evidence (Doctor 2, Hospital 2).

That doctors' prioritized direct patient care meant knowledge brokering activity was a peripheral activity in the face of immediate work pressures.

If you spoke to them [Metro leaders], they would say they offer support and they have. We have been given a day a week, but a day a week has been taken away from our clinical roles to meet increasing patient demands. That's the problem. We need to prioritize clinical care since there is no slack in the system (Doctor 34, Hospital 6).

In this light, HR practices seemed more coercive than supportive, focusing upon managing performance in initial stages of implementation of knowledge brokering.

Our overall aim is to develop a systematic approach to support the implementation of evidence-based improvement tools that can offer better care for patients through performance management. If your focus is not on performance management at the beginning, at the end of the day you don't know how you got there. (Metro Leader 7)

Such a performance imperative, however, undermined the patient focused identity of doctors.

We have huge clinical commitments and yes, we have chosen to undertake a piece of research because we're interested in it. However, it's not merely an academic issue for us, but because it benefits patient care. The managers of Metro have to realise that we shouldn't be performance managed and getting a lot of pressure from them (Metro leaders) to focus delivery against project plans, the focus needs to be first and foremost upon patient care (Doctor 13, Hospital 6)

The legitimacy of the knowledge brokering role diminished in the face of intrusion by performance management interventions introduced by Metro leaders, the latter which challenged the professional jurisdiction and autonomy traditionally enjoyed by doctors .

So, I'm pleased we got the money. I'm pleased we got our project backed by the [Metro] management. I'm pleased it's about to start running. What I'm not pleased about is over heavy handed monitoring of the system and ourselves. Let us get on with it (Doctor 39, Hospital 1).

We didn't appreciate their [Metro leaders'] interference of how we are going to do the project. It is all about managing your own work and being given autonomy to do that. You always have the authority to shape things the way you personally envisage them, and that can never change" (Doctor 25, Hospital 2)

One of the challenges associated with knowledge brokering and the move to make the role more legitimate for doctors was an expectation the processes associated with implementing new evidence based practices should align with the way doctors were used to working. In particular, brokers of the new research knowledge anticipated being able to approach the changes in practice in their own way, framed around solving clinical problems, rather than bound to management's imperative and performance metrics. Metro's method of assessing success in knowledge brokering was very different from how doctors as a collective group assessed success.

There is a problem. It's a schizophrenic problem. It [Metro] wants to be measured and be sound as a measurement driven organization, but doctors are much more problem solving oriented. On one hand they [Metro leaders] are saying, "I want you to resolve your problem at local level", on the other "you are to be very focused on performance measurement". The two don't fit together (Doctor 42, Hospital 1)

The risk for doctors was they became subordinated to management.

I don't have a lot of people telling me what to do. I do not want to have, other people, particularly managers imposing targets on me. I set the objectives and compared to most senior posts in the NHS I have a lot of autonomy. I do not have to feed the managerial beast as much as other people. This is a professional job you know! I expect to carry out my research and service improvement on my own (Doctor 2, Hospital 7).

Doctors expect to retain a high degree of control over their clinical practice. Thus doctors argued any system, performance management or otherwise, which framed their knowledge brokering role, was best designed by them rather than imposed by managers.

Accountability for delivering the project is internal. It lies primarily with my project team. I ignore repercussions should I not follow their [Metro manager's] requirement. Some of their requirements are worthwhile doing, in which case we do them, but for other demands, we might just throw something together last minute just to tick their [managers'] box (Doctor 15, Hospital 1).

I don't think we comply with all the Metro monitoring requirements. I suppose the question, is whether there is a fit between the Metro performance methodology and the actual requirements and needs of the local project and clinical service delivery. We use our discretion to answer this question (Doctor 42, Hospital 6).

The emphasis upon performance management by Metro leaders was viewed by doctors as overly aligned with the managerial function and "put people off".

They [knowledge brokers] are doing a great job, but sometimes they're being put under too much pressure, too closely monitored by managers to ensure that things happen. It puts us [doctors] off and, I'm getting a bit fed up of the role (Doctor 35, Hospital 4).

The role [knowledge brokering] is the delivery mechanism for service improvement, but there is an enormous amount of performance management which limits, no eliminates our autonomy and that is the main reason for doctors' reluctance to take up the role. (Doctor 42, Hospital 8)

Further, while doctors were familiar with the sharing of knowledge with their peers in their everyday clinical practice, including recent research evidence, in this early stage they were less accustomed to 'brokering' knowledge across heterogeneous professional communities.

I should say that having a credible clinical lead, such as myself, acting as a knowledge broker is absolutely integral to the project, and to its success in my view. However, I can only deliver in my clinical area of expertise but I couldn't deliver in another clinical area with which we need to collaborate because I don't have the contacts, understand the day-to-day routine or operational issues in a different clinical area. I feel uncomfortable extending myself beyond my area. For other areas, I need to rely upon another lead clinician, who actually personally emails his colleagues, and, essentially acts as broker for the project into another clinical area. I can't be performance managed for this, it is too subtle (Doctor 44, Hospital 8)

They perceived the knowledge brokering role designed by Metro, as somewhat 'hybrid' since it incorporated a managerial agenda alongside their clinical practice, as those awarded funding and workload allocation for the knowledge brokering role were expected to manage their medical and other clinical colleagues towards the outcomes promised by the project.

The project requires good managers to be successful, and us medics need to understand and deliver on that side of things to enact the role [knowledge brokering]. I would say the project demands are ones that veer

towards management and the associated jargon, which makes performance explicit, always measuring things (Doctor 15, Hospital 4).

Following which some doctors chose to turn away from their earlier engagement with Metro.

The rigid performance management and managing our colleagues towards this actually made the project worse. Not only has it detracted from it and given us a huge amount more work, quite significant amount of more work that's not particularly relevant or helpful, it actually turns people away from it, because, we feel, "no, I don't want to get involved with that, that's Metro, and they try to manage us too much" (Doctor 14, Hospital 2)

Consequently, in this first stage, Metro's efforts to engage doctors in knowledge brokering roles to drive evidence-based service improvement were in danger of failing.

We need some degree of legitimacy to act as a force for change, to be able to push evidence forward, to push those clinicians very stuck in their own world, focusing upon the immediate. (Doctor 33, Hospital 6)

Metro leaders were aware that they needed to resolve this issue.

I guess we have taken a more traditional, managerial approach and assumed if we input all this management, we'll get the perfect kind of outputs in terms of improvement. However, we now know there is some resistance to our approach within the projects, and I think we just needed to do our groundwork better, and I think that's a lesson we need to bring forward (Metro Leader 2)

In summary, in episode 1, HR practices, specifically its performance management imperative, adversely impacted the legitimacy of, and identity transition associated with, the role of knowledge brokering to be enacted by professionals. This impacted on Metro's ability to engage doctors in knowledge brokering roles. To move forward with the development, implementation and diffusion of evidence-based service improvement across a regional healthcare system, Metro urgently had

to increase buy-in from doctors to engage with knowledge brokering roles. We detail this in episode 2, where more attention was paid to the implementation of HR practices that enhanced professional legitimacy (job titles and descriptions) and buttressed professional identity (training and development) associated with knowledge brokering roles.

Episode 2

HR practices that enhance professional legitimacy: Job role & description

In order to address the early challenges with knowledge brokering roles in episode 1, managers made a number of changes to HR practices. The content and title of the new roles were more aligned with pre-existing clinical practice that valued evidence-based practice and status associated with research.

Bringing an evidence base into practice, increasing research capacity and ultimately finding a systematic approach that works for implementation of research based on evidence standards in medicine means our efforts are highly likely to be accepted by the clinical frontline (Metro Leader 5).

For me, engaging with Metro educational and research structures has presented a unique opportunity to work with academics while still maintaining contact with the clinical frontline. It was a unique career opportunity and at the same time, something that seems to be creating a very positive image of myself as a legitimate leader of service improvement back at the frontline so that others [of higher status] let me in (Doctor 35, Hospital 6)

To encourage doctors to engage in evidence generation through research, Metro managers introduced the title 'Improvement Science Fellow' to replace the previous one of 'Service Improvement Lead'. These not only mediated work pressures through buying out doctor's time for applied research, but also reflected opportunities for research-based service improvement, which enhanced the legitimacy of the knowledge brokering role for doctors.

I've been awarded an Improvement Science Fellowship, which builds on the work we've been doing in Metro but provides me with my own funding

source and protected time to do a lot more research work. And so that's drastically changed my role. It makes it look like I am engaging in research rather than just implementation and it gives it a level of legitimacy (Doctor 33, Hospital 7)

The dynamics of professional organization meant attempts by any doctor, even within their own medical discipline, to extend their role, was likely to be treated with suspicion. However, the job title, 'Improvement Science Fellow', seemed one accepted by medical peers on the basis 'improvement' and 'science' in the job title aligned with expected professional practice.

The designated job title generated a change of mindset amongst my clinical peers. Instead of seeing me as a potential threat, for want of a better term, the fellowship is something which can be quite liberating. You receive a title and training to be able to use, to legitimate, certain clinical decisions that are aimed at improvement and are science-based. What doctor could argue with that? (Doctor 1, Hospital 1)

Specifically, doctors of lesser status enhanced their legitimacy through taking advantage of Improvement Science Fellowships, when the job description for these ascribed a role that allowed interaction with high status clinical academics and academic research.

Interacting with the academics and then using improvement science on a daily basis, I find that very rewarding because you're beginning to get recognition from other doctors for your expertise. That's probably the most rewarding part but it also promotes me beyond my current status (Doctor 1, Public Health Provider 1).

Now, within each [Improvement Science] Fellow's area of responsibility, there is a good deal of freedom to lead, and I am gaining new capabilities through leading, which evaluates translation of evidence. This gives me recognition with other doctors beyond primary care to hospitals (Doctor 4, Primary Care Provider 3).

Finally, the Improvement Science Fellowships helped create the beginnings of a social network amongst those doctors enacting knowledge brokering roles, and beyond.

The ongoing Improvement Science Fellowship scheme is designed to bring doctors from different clinical domains into the Metro endeavor, and then extend the network nationally to others with similar roles. The fellows' role will be outward, and an opportunity for national networking, to drive a new role for doctors which will be something that legitimizes knowledge transfer for service improvement because it is sector wide (Metro Leader 7)

It's good to hear what difficulties other individuals and teams have had through the group work Time with other teams is good for developing a strong learning community of Improvement Science Fellows (Doctor 2, Hospital 5).

Figure Two provides additional data and summarizes the effect of HR practices upon legitimacy of knowledge brokering roles enacted by doctors.

Insert Figure Two About Here

Where the job design aligns with the clinical role and evidence-based practice, then the legitimacy of the knowledge brokering role is enhanced. There is a professional and policy drive for evidence-based clinical practice, which enhances the legitimacy of knowledge brokering roles (Figure Two Q1), as does the opportunity to pursue the highest standards of clinical care through the new role (Figure Two Q2). Similarly that job design encompasses a research role (Figure Two, Q3), such as an opportunity to undertake PhD study (Figure Two, Q4), further legitimizes knowledge brokering roles for doctors. The value ascribed to status aggrandizement within professional hierarchy through being research active should not be overlooked (Figure Two, Q5), with the title of 'Improvement Science Fellow' aiding the legitimacy of doctors taking on knowledge brokering roles (Figure Two, Q6). Overall these structural changes worked quickly to increase the engagement of doctors with the new knowledge brokering roles.

HR practices that buttress professional identity: Training & development

At the same time, albeit slower in its effect, Metro managers implemented training and development interventions. While initially these focused upon inputs around improvement tools and processes, over time more emphasis was placed upon unstructured time to enable doctors to share knowledge with each other.

We sit and we share what we've been up to regarding research and service improvement and how our [knowledge brokering] role contributes to that (Doctor 38, Hospital 6).

Because medical organization is collegiate, opportunity for building a professional network through training and development was valued.

Metro facilitates collaboration through away training days where there is an element of social networking with people that are like-minded around using evidence for service improvement (Doctor 29, Hospital 5)

Moreover, training and development worked to buttress the doctors' identity through ensuring the new knowledge brokering role was seen first and foremost as one that supported care for their patients.

The most important thing to them [doctors] is patient care and the thing they enjoy most, still, is patient care and knowing that they can deliver best care to them. So it's crucial if we want them to engage with our training schemes, we have to have the what's in it for them question, that is improved patient care (Metro Leader 7)

Should doctors not value knowledge brokering in terms of its alignment with the sentiment of care that underpins their patient-focused identity, then they were less likely to engage with associated training and development designed to enhance their ability to enact

the new role. As such, training and development policies needed to motivate participation in knowledge brokering by explicitly linking the new skills and role to patient care.

It is quite significant amount of more work and if it's not particularly relevant or helpful for patient care, it actually turns people away from it, because, we all think, 'no, I don't want to get involved with that' (Doctor 1, Hospital 6).

Training will prove ineffective when it's classroom-based. It needs to be experiential and focused on patient care (Doctor 4, Primary Care Provider 2).

Further related to their identity, as with many professionals, doctors' roles are circumscribed, with clinical protocols guiding professional practice, which bound their jurisdiction. Following which, moving outside their jurisdictionally bounded role so their specialist identity was compromised, was unwelcome amongst doctors. Indeed, those doctors enacting a knowledge brokering role, were keen to stress their specialism above all else, for example, as an "intensivist", "rheumatologist", "orthopedic surgeon".

The training encourages us to wear different hats and interesting hats in a way, but you have to be clear about the different hats you have at various times, in order to be consistent with yourself. If you skip from one to the other, you get internally very discomforted ... I see myself primarily as a cardiologist, who might do innovative things, but a cardiologist first (Doctor 31, Hospital 7).

Following which, doctors argued for training and development that aligned with pre-existing jurisdictional boundaries for this to be accepted.

I think it is very important for doctors to actually have a voice in improving science but it is more important to ensure that we are able to do our clinical jobs just as well ... so any training needs to keep our capability to deliver safe care in mind, this is expertise that is bounded by our training, which we can't go beyond (Doctor 15, Hospital 2).

Consistent with this, and their demands that any educational intervention is relevant to their frontline practice, to engage them in training and development around knowledge brokering, doctors suggested interventions utilize team-based pedagogy for team based approaches to care. In this way training and development designed around group level motivation supported the new role.

Doctors are much more interested in problem solving. Any training has to be practical, like presenting a problem for them [doctors] to solve, more real to their clinical practice, so for example, they learn as a team (Doctor 23, Hospital 2).

It was really good to have protected time to bring the teams together and concentrate on a problem around which we needed innovative approaches. When we are all together, of course it will lead to the success of the project, because any improvement involves changes in work practices across many doctors (Doctor 4, Hospital 1).

Consequently, for doctors, the focus of training and development appears less about capability building, and more about identity building. Indeed doctors invoked identity concerns explicitly, for example, about becoming a 'more complete professional'.

There is a clinical drive to improve quality, there's no doubt about that. That's why I started the journey with [Metro] to be honest with you. And I mean the other thing is a large part of my engagement relates to me becoming a better professional (Doctor 3, Hospital 4)

The importance of peer-to-peer interaction characterized by a shared common purpose was emphasized so that a collective identity cohered around being a group of professionals managing care together.

The main thing about the training and development workshops was creating that shared vision and identity amongst ourselves as improvement scientists and knowledge brokers, which I think is massively important (Doctor 13, Hospital 1).

The workshops were clever in that made us strategically what we are as a community, to forget about all our silos and come together for the common good, to forge that collective identity (Doctor 12, Hospital 5).

For lower status doctors (lower status by virtue of their specialism, or because they were relatively new medical consultants) Metro's training and development offered them the opportunity to develop social networks within their ranks and beyond that enhanced their professional status and professional identity. Importantly this helped to distinguish them as valued doctors, rather than the earlier emphasis on chasing targets.

I'm a medical doctor, I took a step from frontline care and training towards, at the time I didn't really think of it as knowledge brokering and quality improvement, but I've realized now that it was more to do with knowledge brokering from an informatics angle, and now I chair a local comprehensive research network within Metro and I am well embedded in that and have the authority to establish those key messages, and integrate them into some sort of strategic plan (Doctor 6, Hospital 2).

I recognise having exposure in research and close working relationships with an academic centre is important to enhance my knowledge, give me exposure to the issues relevant to our practice, enhance my standing, so Metro coming along to prime us and educate us about innovation and implementing change is a really very useful for me and my career, and I embrace it (Doctor 12, Hospital 6).

For doctors of higher status by virtue of their specialism however, the more generic training around innovation was dismissed as of limited value. Thus, we cannot assume that all doctors perceive the same HR practice in a similar (positive or negative) light.

Here, because it's a very specialised, a heart and lung hospital, we want to be seen we are at the cutting edge of new ways of working so training and development days that are not focused on specialist clinical care make absolutely no difference to us (Doctor 5, Hospital 4).

We're at the forefront of nearly every development in heart valves and ventilation, for a hundred years, so what I hear from [name of Doctor enacting a knowledge brokering role] is that they really didn't enjoy the training on innovation and change and they didn't find it very helpful. And, in some ways I'm not surprised because we don't need somebody coming along and saying, we want you to be an innovator, by definition, as specialists we're innovative people (Doctor 1, Hospital 5).

Figure Three summarizes the identity effect of HR practices in episode 2.

Insert Figure Three About Here

Identity is buttressed when training and development for doctors taking on knowledge brokering roles is relevant to professional practice (Figure Three, Q1) and undermined where it encourages managerial not professional identity (Figure Three, Q2); i.e. it is not just HR practices in the realm of performance management that can have a negative effect upon enactment of the knowledge brokering role by doctors. Identity is also buttressed for knowledge brokers where training and development aligns with professionals' sentiment of care towards patients (Figure Three, Q3) and where it transfers to professional practice (Figure Three, Q4). Training and development buttresses identity through encouraging peer-to-peer interaction (Figure Three, Q5) and formation of collective identity amongst those doctors enacting knowledge brokering roles (Figure Three, Q6).

Discussion

Addressing the research question of how do HR practices address concerns about professional legitimacy and identity to influence knowledge brokering in professional organizations for service improvement, our findings provide new insight into how performance management, job design, and training and development, shape enactment of knowledge brokering roles by

professionals. These can have both positive and negative effects, as shown across the two episodes of HR policies in our study.

Regarding their negative effect as indicated in episode 1, any intrusion upon professional jurisdiction proves unwelcome since professional autonomy is compromised (Abbott, 1988). In healthcare, managers cannot easily intrude on doctors' jurisdictional space because the latter has mandated authority for autonomy in their specific area of expertise (Abbott, 1988; Freidson, 1988). Specifically, first, should managers attempt to control professional practice through externally imposed performance management systems as is common in healthcare settings, this is likely to be challenged by doctors (Raelin, 1985), which in turn stymies enactment of knowledge brokering roles by doctors. Second, knowledge brokering across clinical jurisdictions cannot be assumed to be part and parcel of everyday practice since the sharing of knowledge tends to take place within clinical domain bounded communities of practice (Ferlie et al., 2005). Third, the purposeful nature of knowledge brokering instituted in our study was one that encompassed a hybrid role for doctors, around which they often feel compromised (Spyridonidis, Hendy & Barlow, 2015). Incorporating performance management within the new knowledge brokering role undermined the latter's legitimacy, particularly where doctors had to manage their medical colleagues beyond their specialist jurisdiction (Waring & Currie, 2009). Such hybrid role enactment at a more general level has been shown to be fraught with challenge around identity transition for professionals, such as doctors (McGivern et al., 2015; Spyridonidis, Hendy & Barlow, 2015).

In contrast, our study highlights HR practices that enhance involvement in academic research (Currie, Burgess & Hayton, 2015), and emphasize leadership of service improvement within a jurisdictional domain (Lockett et al., 2014), even when knowledge brokering roles are hybrid, may strengthen professional legitimacy and buttress identity of doctors. The more

positive effect of HR practices can be seen in episode 2. First, the development of job titles and descriptions in line with valued clinical practice enhanced legitimacy of those professionals enacting knowledge brokering roles. The design of jobs carved out new jurisdictions valued by those professionals enacting the knowledge brokering role and their peers (Foss et al., 2009; Gagne, 2009). Development of titles and content of the new knowledge brokering roles ensured new roles aligned with professional responsibilities, and legitimized the mandate of professionals taking up knowledge brokering roles. Being viewed by peers as exhibiting leadership around evidence-based service improvement derived from academic research, enhanced legitimacy for professionals undertaking knowledge brokering roles (Currie & Spyridonidis, 2019). Whether professionals are prepared to take on new roles, such as those focused upon driving evidence-based service improvement, is commonly a matter of status (Lockett et al., 2014). The prospect of status gain engendered motivation amongst professionals to enact knowledge brokering on the basis job design encompasses academic research activity, a high status activity in professional organization (Currie, Burgess & Hayton, 2015). Status gain may also be symbolic, reflected in job titles, perceived by professionals to enhance their individual reputation amongst peers as 'first amongst equals' in the domain of evidence-based practice (Boutinet et al., 2017; Mintzberg, 1979). In this context, other HR practices, not evident in our empirical case, such as high quality performance appraisals, may prove to have a positive effect upon professionals' knowledge sharing behavior (Bednall et al., 2014).

Second, training and development proved particularly important to buttress identity for professionals enacting knowledge brokering roles (Foss et al., 2009; Gagne & Deci, 2005; Kang et al., 2007; Patel et al., 2012; Prieto & Pilar Pérez Santana, 2012; Youndt et al., 2004). For this to be so, required training and development to align with professional practice, and pre-

existing clinical jurisdiction and clinical identities. Specifically training and development was centered around the client care identity held dear by doctors (Brint, 2015; Wright, Zammuto & Liesch, 2017). In this light, our study suggested training and development is less about ensuring competence of knowledge brokers to enact their role, and more about ensuring its alignment with pre-existing professional practice as participants transition towards knowledge brokering roles (Swanson & Holton, 2001). Our study also highlighted training and development buttresses identity at a collective level of the profession through supporting the development of a peer-to-peer social network (Espedal, Gooderham & Stensaker, 2013; Kaše et al., 2009; Minbaeva et al., 2009).

Nevertheless, our study cautions against any assumption that any HR practice acts in a consistent way across any cadre of professionals. The same HR practice may be perceived in different ways even within the same cadre of professionals (Bos-Nehles & Veenendaal, 2017; Kehoe & Wright, 2013). On the one hand, all doctors perceived job title and descriptions that emphasized a more academic research oriented role in a favorable light, since it enhanced their status and identity within medical ranks. On the other hand, training and development for change management associated with innovation was viewed in variable light. The highest status doctors, by virtue of their specialization, dismissed such training and development as constituting an intrusion of a management perspective upon clinical jurisdiction, they claimed their existing practice naturally encompassed innovation. Meanwhile, those doctors not yet at the highest echelons of their profession welcomed such training and development since it provided them with 'another string to their bow', and gave them competitive advantage in progressing their career.

Conclusion

In summary, as its prime contribution, drawing upon sociology of professions (Abbott, 1988; Brint, 2015; Currie et al., 2012; Freidson, 1988; Nancarrow & Borthwick, 2005; Sanders & Harrison, 2008; Wright, Zammuto & Leisch, 2017), our study extends insight into the specific HR practices that shape the micro-dynamics of knowledge sharing behaviors in professionalized organizations (Foss et al., 2010; Minbaeva et al., 2012; Minbaeva, 2013; Monks et al., 2016). We highlight how different HR practices have a different effect upon knowledge sharing, some are positive, some are negative, and this is contextually bound. Within this, we highlight that it is employee perceptions of HR practices that shape their attitudes and behavior (Bos-Nehles & Veenendaal, 2017; Kehoe & Wright, 2013), and this may vary across the same group of professionals. At the same time, we make a more specific contribution towards insight into HR practices in healthcare settings (Cooke & Bartram, 2015).

Focused upon a professionalized context, our study explains 'how' HR practices support knowledge brokering through addressing legitimacy and identity concerns of professionals (Kessler, Heron & Dopson, 2015). Our study shows HR practices influence two significant features of professional organization. First, HR practices influence professional identity, which is predicated on jurisdictional autonomy and client interest. Second, HR practices influence the legitimacy of any role and associated activities, with professionals valuing collegial leadership and evidence-based practice. Following which, professionals view HR practices in a negative light, if they are viewed as intruding upon jurisdictional autonomy (Abbott, 1988; Freidson, 1988), or co-opting doctors into managerial roles that cross clinical domains (Spyridonidis, Hendy & Barlow, 2015; Waring & Currie, 2009). Conversely, HR practices are viewed positively where they: support development of collective identity

(Espedal, Gooderham & Stensaker, 2013; Kaše et al., 2009; Minbaeva et al., 2009); align with the promotion of client interest (Brint, 2015; Wright, Zammuto & Liesch, 2017); and enhance status within professional hierarchy (Lockett et al., 2014), in our empirical case through being academic research oriented (Currie, Burgess & Hayton, 2015). However, we should not take too monolithic view of the effects of different HR practices, even within the same cadre, professionals may view HR practices differently (Bos-Nehles & Veenendaal, 2017; Kehoe & Wright, 2013). Their disposition to engage in knowledge brokering and see HR practices in a positive light as supporting this, appears dependent upon their intra-professional status (Lockett et al., 2014).

Regarding practical implications derived from our study, we contend HR managers need to think beyond developing functional competences to support the enactment of knowledge brokering roles and consider the implications of professional context for HR practices. HR managers might more carefully consider the characteristics of professional organization, specifically professional legitimacy and identity, when supporting knowledge brokering structures and processes.

We recognize that healthcare, with its stratification and hierarchy in professional organization is somewhat distinct. While our own case of doctors suggests sharing knowledge was less risky because innovation champions could enhance their standing amongst their peers, there may be more risk in other occupations, such as academics. For academics, knowledge sharing may be less evident in the face of their lack of trust in peers and perception that knowledge sharing is therefore risky, following which they hoard knowledge for competitive labor market and publication advantage (Nya-Ling Tan, 2016). Given professionals are increasingly moving into knowledge brokering roles across public sector organizations globally, not just in healthcare, but education (Cooper 2014; Macdonald, 2015) and

government (Castro, 2015), then we encourage further research to assess the transferability of findings in public sector professionalized organizations. The strategic role of knowledge brokers also extends beyond the public sector, an example being management consultants, expected to combine technical and customer-orientated roles where they act as brokers across their professional peers and customers (Roberts, 2017). Here, the challenge of knowledge sharing is not just between peers, who compete for clients and partnership positions (Werr & Stjernberg, 2003), but also involve simultaneously transferring knowledge to clients, at the same time as not giving knowledge away too easily so management consultants' services are no longer required (Jacobsen, Butterill & Goering, 2005). We thus encourage more research to assess the interaction of HR practices and professional organization in other contexts.

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Table One: Data Collection

Data Collection Phase	Interviews	Observation	Documentation	Episode
One: Month 1	12 Metro Managers	None	Meeting Minutes, Strategic Plans, Organizational Structures & Processes	One: Months 0-12
Two: Months 18-24	12 Metro Managers & 43 Doctors in Knowledge Brokering Roles	20 Hours Educational Workshops	Meeting Minutes, Strategic Plans, Organizational Structures & Processes	One: Months 0-12 & Two: Months 13-60
Three: Month 36	12 Metro Managers	19 Hours Educational Workshops	Meeting Minutes, Strategic Plans, Organizational Structures & Processes	One: Months 0-12 & Two: Months 13-60
Four: Months 48-54	12 Metro Managers & 48 Doctors in Knowledge Brokering Roles	17 Hours Educational Workshops	Meeting Minutes, Strategic Plans, Organizational Structures & Processes	One: Months 0-12 & Two: Months 13-60

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