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The role of hybrid middle managers in the implementation of national public policy

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Introduction

Difficulties associated with the implementation of public policy have been studied by academics for around 40 years (Barrett and Fudge, 1981). Concerns arising from recent major policy failures have triggered a resurgence in interest (OECD, 2010). A key strand has concentrated on the disparities between the top down objectives of politicians and policy designers, and the bottom up responses to these (Ansell et al., 2017). These studies highlight the potential for conflicts between the 'rational' intentions of national policy designers, and their 'subjective' interpretation by local actors (Sausman et al., 2016; Richards and Duxbury, 2014; Oosterwaal and Torenvlied 2012). Increasingly, the designers of evidence-based policy try to draw on the experiences of practitioners and incorporate what is working well in practice into their interventions (Fleming and Rhodes, 2018). These recent themes have coincided with the shift from New Public Management (NPM) studies that concentrate on top down policy efforts, towards New Public Governance (NPG) analyses that places greater emphasis on the variety of actors and processes that impact on public policy implementation (Osborne, 2010, 2006; Barber, 2008; Barrett, 2004). It has been suggested that the trend towards flattened layers of managerial hierarchies within the public sector, in theory at least, may provide middle managers

with greater scope to act as lynchpins between their top executives and frontline staff during policy implementation (Richards and Duxbury, 2014; Carlström, 2012).

In a parallel stream of research, studies have identified an emergent hybridised role for middle managers, providing professional practitioners with additional managerial responsibilities for local teams (Currie et al., 2015). This research tradition draws a critical distinction between hybrid middle managers (HMMs), who may try to utilise their professional knowledge to gain greater legitimacy in managing change processes in the workplace, and the generalist middle managers operating within the corporate hierarchy (Currie and Spyridonidis, 2016). The mechanisms deployed by HMMs include brokering knowledge, and applying their professional expertise (McGivern et al., 2015). Similar activities are also highlighted in studies considering the 'bottom up' attitudes and interests of local individuals (McDermott et al., 2015; Compagni and Tediosi, 2012).

Yet, little attention has been devoted to the specific activities that HMMs perform when brokering knowledge to locally implement policy (Currie et al., 2015). To addresses this gap, our study shifts the focus towards the micro activities performed by HMMs, conceived from a 'strategy as practice' perspective that recognises the contribution of individual actors when implementing organizational policies within their local work environment (Jarzabkowski, 2008; Johnson et al., 2007). A practical example of this approach is provided in Balogun and Johnson's (2005) study of the way middle managers respond to a regulatory change by deploying micro activities within their teams during its implementation. This study established that enforcing change could not be guaranteed by the actions of top executives alone. Instead,

middle managers were able to deploy detailed social interactions to tackle informal lateral processes of resistance taking place within their local teams. In responding to the call for more research into a wider number of actors involved in policy implementation, we concentrate on the micro activities used by HMMs to broker knowledge and forge workable compromises (Radaelli and Sitton-Kent, 2016).

We have chosen to focus on hospital patient safety as an area of public policy that has grown in importance internationally as it has become known that around 10% of all patients are harmed during their hospital stay (Dolores Menéndez., et al., 2010; Asavaroengchai et al., 2009). In developed countries, a common response has been to implement national, or system-wide, programmes to improve patient safety that share similar elements (Øvretveit, 2013, Wachter et al., 2013; Shekelle et al., 2013). Despite this homogeneity at the policy design stage, analysis of implementation reveals (but largely fails to explore) significant variations in terms of processes and outcomes (Ingold and Moghan, 2016; Rycroft- Malone et al., 2016; Stone, 2017; Nutley et al., 2012).

This paper uses evidence from a recent major study of the Welsh national patient safety programme as the basis for analysing the micro activities performed by HMMs charged with implementing policy into the daily practice of their teams. By setting our research within the context of hospitals, we examine the micro activities of senior nurses that have been shown to be influential HMMs within studies of other change programmes (Burgess and Currie, 2013). To widen our focus on the occupational backgrounds of HMMs, we also consider theatre managers and pharmacists. Two questions guide our analysis: firstly, how can the micro activities performed by

HMMs enable a greater understanding of local policy implementation? Secondly, how can micro activities be differentiated by the occupational backgrounds of HMMs for wider application into public policy implementation? We address these questions through an empirical analysis of HMMs implementing national patient safety policy interventions within their teams. This provides the basis for an analytical model that surfaces generic dominant micro activities performed by HMMs during the local implementation of policy. Our empirical findings reveal an important new outcome identifying how policy implementation can be better understood if HMMs are differentiated by their occupational background.

The activities of hybrid middle managers in policy implementation

For over 40 years, research into the implementation of public policy has sought to address the intentions and outcomes of public policy from its design to implementation (May 2015). Increasingly, this includes the bottom up activities of individuals in local teams (Sausman et al., 2016). Previous studies highlight the complexities associated with actors and their ability to make conscious choices on how policy is implemented locally (Cairney, 2012a). Professionals frequently prioritise activities falling within their jurisdiction, in favour of taking on the additional obligations associated with the expectations of a new policy (Cairney, 2015). Recent analyses of evidence-based policy making draw attention to the impact that occupational culture has on long established activities such as the sharing of practices, beliefs and knowledge (Fleming and Rhodes, 2018). These findings illustrate the contrast between policy designers, who often expect implementation to

fit orderly into the policy cycle, and academic research that establishes implementation to be a far more complex and muddled activity (Cairney, 2015).

Studies of HMMs identify their capacity to transfer and broker knowledge to negotiate the implementation of organisational change within the teams of professionals they are responsible for (Spyridonidis and Currie, 2016). This includes implementing new policy by providing relevant information and dealing with concerns. Within the hospital context, HMMs have been shown to continue to undertake their professional responsibilities whilst simultaneously executing managerial duties. This has enabled HMMs to broker knowledge upwards, downwards and across boundaries, and is highlighted in other studies as a reason why this role is increasingly common within contemporary healthcare environments (McGivern et al., 2015). In contrast to functional middle managers, who undertake only general administrative or financial responsibilities, HMMs can utilise their professional knowledge to gain more credibility and legitimacy within their local teams (Currie and Spyridonidis, 2016).

Knowledge brokering is important to local policy implementation activities because it provides a mechanism for HMMs to manage the potential conflicts between the intended changes expected from policy designers, and the reaction of professional practitioners to these proposals (Sausman et al., 2016; Oosterwaal and Torenvlied 2012). A good general example is provided by HMMs operating at the hospital ward level, who broker the strategic expectations of the top management team with professional clinicians (Chreim et al., 2013; Travaglia et al., 2012). More specifically, the hybrid nurse middle manager, including hospital ward manager, has been shown

to bring improvements to service delivery and patient care by developing morale within their teams (Spyridonidis and Currie, 2016).

Our study considers the micro activities undertaken by the following three types of HMMs: (1) theatre managers, (2) pharmacists, and (3) senior nurses. Theatre managers are identified as being important in other studies for their ability to locally implement the usage of the World Health Organization (WHO) Surgical Safety Checklist (WHOSSC, 2009), designed to address a series of questions that guide the co-ordinated actions of hospital teams. The WHO checklist is intended to deliver high quality, safe and effective care for patients undergoing surgical procedures. Studies have highlighted the value of the active stewardship of antibiotic prescribing by pharmacists that has led to reductions in overprescribing and improved adherence to guidelines (Ostrowsky et al., 2013; Sharvill, 2013). Measures include establishing the management and administration of antibiotic medicines through mandatory reporting and surveillance programmes (Durlach et al., 2012; Sheps and Birnbaum; 2012). Pharmacists have also been shown to improve oversight of surgical disease prevention by confronting the inadequacies of clinical professionals in the administration of drugs (Anderson et al., 2012). Similarly, research into tackling *Methicillin-resistant Staphylococcus aureus* (MRSA) identifies the significance of the actions carried out by senior nurses, responsible for-infection control and managing their teams. Senior nurses also address local outbreaks of hospital infections by implementing national targets to reduce further incidents, success has been contingent on gaining the engagement of staff and effective monitoring (McHugh et al., 2010; Mielke, 2010). Other studies have also identified

senior nurses overseeing good practice across health-care practitioners, support workers and patients (Jenkins, 2011, Banfield and Kerr, 2005).

Research Design

Background to the implementation of the Welsh national patient safety programme

In common with other UK NHS hospital patient safety programmes, the Welsh approach has been to implement evidence based clinical practices and performance monitoring systems (Gillam and Sirwanda, 2013). More specifically, activities in Wales commenced with the launch of a national hospital improvement programme by a collaboration of government and health agencies. This intended to reduce the number of deaths caused by inadequate care practices, and to reduce the number of adverse incidents. It was superseded, in 2010, by the 1000 Lives+ national programme which was based on the ‘model for improvement’ approach (Langley et al., 2009). This approach was firmly grounded in improvement science principles, offering a broader range of patient safety interventions, and aligned resources, for NHS Wales’ health boards to implement (Dixon-Woods et al., 2011). This built on the momentum of its predecessor by offering contemporary interventions forming a core component of the Welsh Government’s delivery framework for the NHS in Wales.

Research methods

This analysis uses data collected during a major study, funded by the National Institute for Health Research (NIHR), which examined the local implementation of

the Welsh national patient safety programme, called *1000 Lives+* (Herepath et al., 2015). We followed a principle that has been utilised in previous research methods in taking part of the larger case study to explore additional, but related, research themes to those considered within the original analysis (Ferlie and McGivern, 2013; Marinetto 2011). It is important to note that whilst the designers of the focal patient safety interventions in Wales adopted a policy science approach (Cairney, 2017; Keating, 2009), the research methods of both the larger study and the analysis reported here applied interpretive and realist principles to studying emergent phenomena such the role of HMMs in policy implementation (Cairney, 2012 a, b).

The major case study sought to identify and analyse the organisational factors associated with the outcomes of hospital patient safety interventions. Data were collected from each of the seven Welsh health boards to allow the following within-case comparators: (1) A major hospital, (2) A district general hospital, and (3) A small community hospital, this is illustrated in table 1: Number of boards and hospitals in Wales.

Insert table 1 about here

To optimise the scope for description, interpretation and explanatory analysis we took steps to minimise the possibility of bias (Eisenhardt and Graebner, 2007; Dopson, 2003). This involved focusing on a specific component of the qualitative dataset produced from the major case study and applying an interpretive and realist approach to identifying the specific micro activities performed by HMMs within their local teams during patient safety implementation (Cairney, 2012, a, b). Therefore,

our focus was neither concerned with exploring the intricacies of the policy science approach adopted by the national designers of the patient safety interventions, or on the wholesale implementation of the Welsh national patient safety programme covered by the major case study across the seven administrative health boards in Wales. Instead, this analysis concentrated on the micro activities of three types of HMM implementing patient safety interventions within hospitals: (1) theatre managers, (2) pharmacists, and (3) senior nurses.

Data collection

To refine an analysis of the context and events that led to the development and implementation of the 1000 Lives+ programme, empirical corroboration was sought from participants in the seven Welsh health boards. Individuals were purposively identified from a wide range of organisational roles in each health board, encompassing the corporate management structure, and health-care clinical professionals. The technique of snowballing enabled respondents to suggest further potential research participants to increase access to staff across NHS Wales. It also provided access to meetings and observations of the established practices of health-care delivery. 160 interviews, face to face or by telephone, digitally recorded and transcribed, took place across phases 1 and 2 of the study between October 2011 and March 2014. The participants for our research study were gleaned from 60 interviews with -surgical / theatre department managers, pharmacy staff (departmental managers, clinical pharmacists-antibiotic medicines management, clinical pharmacists) and senior nurses (ward managers, ward sisters, band 6 through to band 2). Interviews ranged in duration from 30 minutes to 90 minutes,

with a mean time of 40 minutes. A fuller summary of the interview data is provided in table 2: Number of interviews with each profession.

Insert table 2 about here

Data Analysis

Our analysis commenced with an exploration into the broad concepts associated with the micro activities of HMMs and how their position within the organizational hierarchy provided them with the potential to translate ideas of management and clinical practice (Fitzgerald and Ferlie 2000; Llewellyn, 2001). We concentrated our attention to theatre managers responsible for implementing the surgical safety checklist; pharmacists in antibiotic medicines management responsible for implementing the welsh antibiotic patient guidelines and senior nurses with responsibility for infection prevention and control responsible for implementing standard precautions including hand hygiene. These are detailed in table 3: Hybrid middle managers and their responsibilities for implementation.

Insert table 3 about here

An initial analysis of interview transcripts was conducted using an inductive theory building approach to explore the micro-activities of HMMs within hospital functional teams (Gioia et al., 2013).

Coding

The comparison of Information from interviews with HMMs enabled us to structure the data. These are presented in figure 1: Summary of the micro activities of hybrid middle managers.

Insert figure 1 about here

First order themes identified specific micro activities emerging from the data including brokering compromises, challenging poor practice and detecting areas of resistance. The second order codes provide six categories of the micro-processes performed by HMMs: *assessing*, *adjusting*, *challenging*, *manipulating*, *observing* and *auditing*. These were deployed by HMMs to locally implement the national policy interventions. An iterative process was used for an analysis of the empirical data enabling the micro processes to emerge (Corley and Gioia, 2004). The six-second order codes were contained within the three broader aggregate categories of *reworking*, *prompting* and *overseeing*.

Micro activities of HMMs in implementing national policy

The findings presented provide a focus on the micro-activities that enabled HMMs to broker knowledge and implement policy within their teams. In broader terms HMMs used their professional expertise to make *assessments* and *adjustments* that would enable them to *rework* the national policy into the working patterns of their teams. HMMs also used their local knowledge to *prompt* their teams towards adopting policy interventions by *challenging* areas of non-compliance and *manipulating* the policy

intervention into daily practices. HMMs also combined their management role and professional knowledge to *oversee* their teams' adoption of the policy interventions through the micro activities of *observing* and *auditing*.

Our development of an analytical model affords the opportunity to illustrate the interrelationship of the micro-activities that HMMs engaged in during policy implementation by their occupational background. This provides a new contribution to the literature relating to how HMMs to broker knowledge locally (Currie et al., 2015; McGivern et al., 2015). Specifically, we analyse how HMMs rework policy interventions by applying their professional expertise within their occupational background to address the concerns of their teams and assess local needs. Our analytical model, therefore, provides a more detailed consideration of the micro-activities that HMMs utilise to broker knowledge within each of their distinctive occupational backgrounds (Currie and Spyridonidis, 2016).

Reworking

Activities associated with reworking policy for local implementation involved HMMs encouraging bottom up activities from professionals within their teams (Sausman et al., 2016). Theatre Managers performed a knowledge brokering role by managing potential differences between the intentions of policy designers and the response from their teams during implementation (Currie et al., 2015; Oosterwaal and Torenvlied 2012). Pharmacists utilised their previous experience to assess the effectiveness of national policy guidance, concluding that it offered little to what they knew already, highlighting the potential benefits of an evidence-based approach to local policy implementation (Fleming and Rhodes, 2018). Traditional expectations

that local implementation could easily fit into the policy cycle contrasted with our empirical findings with respect to the activities of senior nurses, supporting previous research that has shown this to be a far more complex activity (Cairney, 2015).

Theatre managers described how they operated within a unique work setting that was separate from the rest of the hospital. This required them to combine their managerial responsibilities with their local professional experience when adjusting policy interventions for implementation:

'Theatre is its own little world. There isn't that link between the theatre and the rest of the wards, and the larger organisation' (Theatre manager).

This involved them making necessary adjustments to national policy interventions by reworking the key objectives, including utilising opportunities for engagement with national policy designers to emphasise the uniqueness of their work setting and argue the case for making further adjustments to policy interventions:

'We worked with the 1000 Lives+ team and the Transforming Theatre team and looked at what we could improve. ... we were trying to do it in sort of one hit and not doing small things – small rapid cycles of change – and then sort of escalating it gradually' (Theatre manager).

Theatre managers, therefore, utilised both their managerial position and professional expertise to form an important allegiance for brokering adjustments that could facilitate greater acceptance from their team to assist implementation:

Pharmacists contacted colleagues in their professional network prior to implementation. This provided an opportunity for them to thoroughly assess the

national policy guidelines on the future use of antimicrobial drugs resulting in the consensus that these were too rudimentary:

'I feel like I'm learning something new when I attend these [professional seminars], not just being told to wash my hands before I go onto a ward, or to make sure that a course of antibiotics has a defined stop date!'...But all of these are in the strategies we've had in Wales for years! So they, they're not new and they're not separate are they?' (Pharmacist).

This provided confirmation that pharmacists concluded that the intended policy intervention offered little to what was already taking place locally. Pharmacists also highlighted the potential for this intervention to adversely impact on their other managerial responsibilities:

'1000 Lives+ is just one element. There are lots of other things you're taking in and trying to maintain as current all the time' (Pharmacy Manager).

These examples exemplify how the experience of pharmacists could provide national policy designers with valuable evidence of what was likely to work in practice. This included an overall assessment that, whilst the national policy guidance might be useful for other practitioners, it provided little to what they knew already.

'1000 Lives+ is, it's too basic, directed at lower-level nurses. For me, it offers little' (Pharmacist).

Senior nurses combined their managerial status and professional knowledge to rework the national policy interventions for adaptation into the local work activities of their respective teams:

'They started off at a very high level but there was a lot going on in the organizations and it didn't really filter down – the leadership was a little bit fragmented at that time' – 'I think in the last 2 years we've sort of taken hold of it' (Senior Nurse).

Consequently, senior nurses used their professional judgement to adjust and enable implementation, allowing for the policy to be adapted and reworked over a lengthier time period to facilitated greater local adoption.

Our results provided an interesting insight into how HMMs *reworked* the national policy interventions into the daily practices of their teams. Theatre managers predominantly utilised the micro activity of *adjusting* to *rework* the expectations of policy designers and tackle the local view that operating theatres were separate from the rest of the hospital. Pharmacists mainly utilised the micro activity of *assessing* to *rework* the requirements of national guidelines, including networking with colleagues to clarify accepted best practice. Whereas senior nurses used the micro activity of *adjusting* to *rework* national policy guidance accounting for the length of time it would take to deliver implementation.

Prompting

The prompting activities of HMMs supported previous research, highlighting their scope to act as lynchpins between their top managers and frontline professional staff (Richards and Duxbury, 2014). This was evidenced in the activities of Theatre Managers, brokering a workable compromise with surgeons to gain compliance to the completion of the WHO checklist. Pharmacists also combined their professional expertise and managerial duties to gain greater observance from doctors towards

prescribing antibiotic drugs, this contrasts with research that has highlighted policy implementation failure (May, 2015). In implementing policy within hospital wards, senior nurses demonstrated their ability to make decisions that enabled the best way forward for their team (Cairney, 2012a).

Theatre managers cited instances where they had used a combination of their managerial role and professional knowledge to challenge professional clinicians on the completion of the WHO checklist.

'Basically, we came to an agreement with the surgeons. We agreed that the scrub nurse would not start helping the surgeon until the WHO checklist was completed'... 'It was a bit of a battle at the very beginning because they started arguing with us, and we just said: 'no, we don't want to argue about this, we haven't got a choice, we've got to do it' (Theatre manager).

In the above illustration theatre managers utilised their expertise to challenge the non-compliance of surgeons. This was achieved by brokering a workable compromise, involving a skilful trade-off by agreeing to provide the assistance of a scrub nurse in return for their completion of the WHO checklist.

Pharmacists also combined their managerial status and experience to challenge doctors over areas of poor practice:

'I challenged [a doctor] because he had prescribed two drugs, and only one was needed for the patient's indication; but all he said was: 'so what's the problem, it's not illegal is it?'... I think that a lot of my role is really about education and changing the culture in the health board' ..We don't get all doctors following the antibiotic prescribing guidelines. Some do, some don't. So it's a core part of the role for pharmacists to challenge and change that when they do their ward rounds" (Pharmacist).

The ability for pharmacists to utilise their experience of local practices demonstrated how they could control an adverse situation leading to greater compliance from doctors:

'Education is key, too, not just education for the sake of antibiotic education but to change the culture. But, again, we face a huge problem here as the attitude is: 'well, what's the problem; why do we need to change how we do things; the evidence is weak', it's always the same. ... getting people to change is difficult, especially doctors ... I feel that I have to re-prove myself to them because they prescribe, wrongly' (Pharmacist).

Senior nurses used their professional expertise of the working environment to locally implement policy interventions. This was illustrated through their ability to manipulate adverse results from a spot check inspection to achieve greater team compliance:

'[Healthcare Inspectorate Wales] did a spot audit here, last October I think it was, and on the particular morning they came in...it was absolutely bedlam! ...It looked like an absolute bomb site apparently. And in the audit they completely floored us . . . but, since then, I think it did us a favour because there were some things that we'd been fighting to get done... So there are things that we've managed to get changed on the back of this audit. So it's done us little favours' (Ward Manager).

The utilisation of their detailed experience, enabled senior nurses also to control unfavourable issues associated with policy implementation in their teams:

'If you've got high sickness rates on a ward as well, motivation is often low, so when you're trying to introduce 1000 Lives+ guided change that's going to impact more on their workload, often that's seen as a negative. The key issues then is how do you really sell that to them because it's no good us saying: 'this is all the new paperwork, go on, use this', the wards have got to see the benefits of that, and own it, and want it, for it to work. I think that's where good leadership comes in' (Senior Nurse).

Senior nurses also drew from their professional experience to identify potential aspects of policy interventions that were likely to be perceived by their team as being beneficial.

Our findings revealed HMMs *prompting* members of their team to facilitate the local implementation of national policy interventions. Theatre managers predominantly utilised the micro activity of *challenging* when *prompting* team members enabling them to tackle the power base within the operating theatre. This involved them utilising their experience to negotiate a workable compromise on the completion of the WHO checklist. *Challenging* enabled pharmacists to utilise their professional knowledge to *prompt* doctors to adhere to new policy guidance on prescribing antibiotics by *challenging* what they perceived to be adverse practices. However, despite their managerial status and professional knowledge, they still encountered difficulties when challenging site-specific areas of resistance. *Manipulating* enabled senior nurses to *prompt* their teams to incorporate national policy interventions into their work activities. Despite deploying their managerial status and professional knowledge to *oversee* improvements, there remained the persistent challenge of breaking down traditional ingrained working practices.

Overseeing

In overseeing local implementation activities, HMMs were involved in implementing instructions from top managers to manage the expectations of professional practitioners within the workplace (Osborne, 2010). Theatre Managers were expected to meet an objective of 100% completion of the WHO checklist for

surgeons. Pharmacists undertook audit cycles to assess the levels of compliance in the prescribing of antibiotics, demonstrating their ability to play an overseeing role (Barrett, 2004). Senior nurses operating at the hospital ward level, also had responsibility for brokering the implementation expectations of top management within their teams (Chreim et al., 2013; Travaglia et al., 2012).

Theatre managers had responsibility for overseeing the monitoring of WHO checklist completion rates. Their experience of the local working environment enabled them to identify that the corporate expectations from hospital executives to reach full completion was at the expense of securing accurate information:

'The WHO checklist should be 100% compliant: end of story! But drilling down through our data for that in more detail revealed problems. ... they were being done – but they were being done without the presence of the key members of the team, such as the consultant... They were very much nurse-led... I'm not confident that the data is accurate' (Theatre Manager).

By utilising their professional expertise theatre managers were able to detect areas of non-compliance and inaccuracies in completion rates:

'It's disappointing that the figures that are sent in to the centre about compliance bear no resemblance to what's actually going on out in the service. I just worry that people at the top may be comfortable in the fact that everyone's having a WHO checklist done and that's not the case' (Theatre manager).

Theatre managers consequently identified major anomalies occurring between the assumptions of the hospital executive team of virtually 100% completion against areas of non-compliance taking place at the local level.

Pharmacists utilised their professional experience to detect deficiencies in the auditing of levels of compliance to national policy interventions:

'The pharmacy audit will be sent to the medical director but, with the lack of prescriber identification, and data aggregation, it gets blunted' (Pharmacist).

One pharmacist's account of non-compliance to national antibiotic policy interventions provided a good illustration of how their knowledge of the local working environment enabled them to discover doctors who were disregarding the requirements of the policy intervention when prescribing medication:

'The evidence is disputed; it's not that clear cut; it's my freedom to prescribe how I see fit for my patient'. We get that same old argument, from some of them [doctors], all the time. So, we produce the health board's antibiotic guidelines and monitor them through audit cycles across each ward or base hospital' (Pharmacist).

This provided confirmation of the value of pharmacists and their ability to play an active role in overseeing policy implementation.

Senior nurses described how they had combined their professional expertise and management responsibilities to initiate stringent auditing practices. This enabled them to form the opinion that the policy intervention was, to a large extent, a replication of what they had already initiated within hospital ward teams:

'We were doing all this before 1000 Lives and 1000 Lives+ – including looking at urinary catheter associated infections and peripheral and central line infections – so the interventions 1000 Lives+ promotes are already integrated into our monitoring systems, and it would be the same for all health boards' (Senior Nurse).

The reaction of a senior nurse to national policy expectations, illustrated above, revealed a general feeling of frustration towards the development of this intervention. This example also demonstrates how evidence-based experience could contribute to the implementation of policy. In particular, policy designers could have benefitted from engagement with senior nurses to gain an understanding on what had already been well developed locally.

Another senior nurse reported on how their professional expertise of the working environment enabled them to take responsibility for auditing a wide range of patient safety interventions:

'In infection control, our role is for support and advice to staff... we're also involved in conducting audits – particularly things like hand hygiene audits, commode audits, environmental audits, and those kind of things ... But we also carry out things like surveillance' (Senior Nurse).

One senior nurse also stressed that whilst auditing was necessary, it also intruded on their normal workload, affecting the ability for their team to perform their normal activities. This included the length of time taken to admit a new patient to the ward:

'We have to keep records – it's proof, proof, proof all the time; prove that you've done it, prove that you've done it – and now there is just so much documentation just to admit a patient takes an awfully long time. But the government want proof, they want us to know that yes we've got 1000 Lives+ in place. But there's so much paperwork and some of it doesn't always follow the patient because we share notes now, sometimes, and that almost muddies the water in some respect. It's a huge amount on notes and things! Plus there's the amount of audits we do – we get audited to death' (Senior Nurse).

We observed HMMs *overseeing* the professional activities taking place locally using the micro activities of *observing* and *auditing* during policy implementation, this included adopting surveillance mechanisms to identify areas for improvement. *Observing* assisted theatre managers to *oversee* the progress of policy implementation. However, their ability to challenge malpractices was often limited, and evidenced by surgeons who delivered partially completed WHO checklists. Similarly, pharmacists utilised *observing* to *oversee* the prescription of antibiotics with the objective of facilitating better compliance. Senior nurses engaged in *auditing* to *oversee* the progress of implementing the national policy interventions related to infection control. National policy interventions were often seen as a replication of pre-existing procedures and implementing these new objectives became more challenging amid the complexities of overseeing site-specific activities.

These findings extend understandings of the bottom up activities of HMMs in response to policy implementation by providing an analytical model that configured the micro-activities of HMMs by their occupational background (McDermott et al., 2015; Compagni and Tediosi, 2012). We also observed HMMs addressing exchange relationships and border skirmishes that related to their specific occupational background during implementation. Our analytical model provided a contribution to understanding the micro activities used by HMMs to broker knowledge within their occupational teams (Radaelli and Sitton-Kent, 2016). These implications are considered in figure 2: The dominant activities of hybrid middle managers by occupational background.

Insert figure 2 about here

Conclusion

The analytical model presented in this paper directs attention to the dominant micro activities performed by distinct types of HMMs during the implementation of policy:

(1) *assessing* and *adjusting* policy interventions to *rework* these locally, (2) *challenging* and *manipulating* the broad policy objectives to *prompt* their teams to engage with new policy interventions, and (3) *observing* and *auditing* to enable the *overseeing* of progress. Differentiating the micro activities of HMMs by occupational background also builds on existing studies that have considered the importance of bottom up activities during policy implementation (McDermott et al., 2015; Compagni and Tediosi, 2012).

The analysis presented in this paper offers an illuminating account of how a further unpacking of the micro activities of HMMs during policy implementation reveals these to be nuanced activities relating to their occupational background requiring specific areas of expertise. This finding identifies how HMMs can identify specific professional exchange relationships taking place during implementation within their specific occupational backgrounds, including border skirmishes. This also provides an addition to the work of Burgess and Currie (2013) who identify the activity of knowledge brokering undertaken by HMMs when they locally manage teams. This study also widens research that has established that HMMs are able to utilise their professional knowledge as a means of gaining more credibility and legitimacy amongst their team members (Spyridonidis and Currie, 2016).

Importantly, our identification of micro activities during implementation reveals a different emphasis on the deployment of these by occupational background. Accordingly, our study suggests that HMMs possess a practical working knowledge of the specific activities taking place within their occupational area of activity that enables them to more successfully implement policy within this specific arena. These findings, therefore, have a practical relevance in informing policy designers of the potential to gain a greater understanding of how HMMs from specific occupational backgrounds broker policy implementation within their teams (Sausman et al., 2016; Cairney, 2015; Oosterwaal and Torenvlied, 2012). This provides a contribution to the small number of studies that have identified the use of micro activities by HMMs when tasked with having to translate new ideas into practice within organizations (Radaelli and Sitton-Kent, 2016). The identification of HMMs brokering policy implementation within their specific occupational background also builds on research identifying the contribution that local actors make to policy implementation (Wachter et al., 2013; Shekelle et al., 2013; Howlett, 2011). The aggregate categories of (1) *reworking*, (2) *prompting* and (3) *overseeing* can, therefore, be utilised to inform how HMMs within specific occupational backgrounds broker knowledge to locally implement national policy (Chreim et al., 2013; Aveling et al., 2012; Nagpal et al., 2012).

The findings from this analysis may, therefore, contribute to theory and practice relating to the implementation of national public policy initiatives. We illustrate HMMs' use of micro activities to broker the intended outcomes of national policy designers towards the frontline professionals in their teams. We also show how HMMs perform this through the broader execution of (1) *reworking* (2) *prompting* and (3) *overseeing*

to locally implement national policies. We provide a contribution to policy implementation literature by demonstrating HMMs brokering knowledge within their teams (Sausman et al., 2016; Cairney, 2015; Currie et al., 2015; McGivern et al., 2015). We suggest that the analytical model of these activities could be deployed by both the designers of national public policy, and researchers, in other areas where HMMs manage teams during policy implementation such as the implementation of education policies. This would contribute to work that has identified the complexity of policy implementation processes within schools (Ball et al., 2012). Our analytical model could, therefore, be applied in such contexts, where HMMs are often responsible for implementing a diverse range of policies arising from government legislation.

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