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Andreas Xyrichis, Karen Lowton, Anne Marie Rafferty

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COVER PAGE

Title: Accomplishing professional jurisdiction in intensive care: an ethnographic study of three units.

*Dr Andreas XYRICHIS[a];

Prof Karen LOWTON[b];

Prof Anne Marie RAFFERTY[a]

[a]King's College London, England, UK;

[b]University of Sussex, England, UK

*Corresponding author: andreas.xyrichis@kcl.ac.uk; +442078483649; King's College London, 57 Waterloo Road, SE1 8WA, London, England, UK.

ABSTRACT

This paper reports an ethnographic study examining health professional jurisdictions within three intensive care units (ICUs) in order to draw out the social processes through which ICU clinicians organised and delivered life-saving care to critically ill patients. Data collection consisted of 240 hours observation of actual practice and 27 interviews with health professionals. The research was conducted against a backdrop of international political and public pressure for national healthcare systems to deliver safe, quality and efficient healthcare. As in many Western health systems, for the English Department of Health the key to containing these challenges was a reconfiguration of responsibilities for clinicians in order to break down professional boundaries and encourage greater interprofessional working under the guise of workforce modernisation. In this paper, through the analysis of health professional interaction, we examine the properties and conditions under which professional jurisdiction was negotiated and accomplished in day-to-day ICU practice. We discuss how staff seniority influenced the nature of professional interaction and how jurisdictional boundaries were reproduced and reconfigured under conditions of routine and urgent work. Consequently, we question theorisation that treats individual professions as homogenous groups and overlooks fluctuation in the flow and intensity of work; and conclude that in ICU, urgency and seniority have a part to play in shaping jurisdictional boundaries at the level of day-to-day practice.

KEYWORDS

UK; division of labour; intensive care; professions; ethnography; interprofessional working; Abbott

INTRODUCTION

Despite policy reports, recommendations and research on improving the delivery of safe and quality healthcare (Department of Health, 2009; 2014; Vincent, 2001; 2009; Hogan *et al.*, 2012), public enquiries into hospitals over the past decade have demonstrated that progress is variable (e.g. Kennedy, 2001; Francis, 2013; Keogh, 2013). Key policy reports from the Institute of Medicine (IoM) in the USA, the Canadian Patient Safety Institute (CPSI) and the Department of Health (DH) in the UK argued that interprofessional collaboration and coordination of health professional work is essential in driving up the quality of care (IoM, 1999; 2001; DH, 2000a; 2008; CPSI, 2011).

Within the social sciences, interprofessional working is viewed as problematic due to the implications for reconfiguration of professional boundaries, which professions can resist (Martin *et al*, 2009; Finn *et al.*, 2010; Powell and Davies, 2012). Martin *et al.* (2009), drawing from Abbott (1988), argue that professions tend to defend their jurisdictions fiercely, and respond to incursions by reasserting the legitimacy of existing boundaries, although there are also instances where it is more beneficial for professions to also shed tasks deemed to be less prestigious. They note, however, that the majority of literature on the health professions concentrates on potential rather than actual shifts in professional boundaries, echoing calls for more detailed case studies of micro-level processes in the context of specific challenges to the professional division of labour. In this paper, we respond to this call by reporting an ethnographic study that examined health professional work in ICUs in the context of DH (2000b; 2005) policies for the modernisation of the ICU workforce.

Our data suggest that official positions in the ICU hierarchy, those of doctors and nurses specifically, did not determine the decision-making process in the way much of the literature had assumed. In ICU, nurses did not always follow medical instruction; there were also situations in which doctors acceded to what nurses suggested for patient care. We discuss how staff seniority – referring both to rank as well as the combination of experience and expertise – influenced the nature of professional interaction and how jurisdictional boundaries were reproduced and reconfigured under

conditions of routine and urgent work. Consequently, we conclude that in ICU, urgency and seniority have a part to play in shaping jurisdictional boundaries at the level of day-to-day practice.

Next, we situate the research within the policy context of health workforce modernisation and research of ICU nurses and doctors at work. The theoretical position of the paper follows, as does the method of the current study. We then examine our findings presenting field note extracts and interview quotes to illustrate our points. Finally, we critically discuss our findings in relation to existing research and theory on the division of labour.

BACKGROUND – The policy context of workforce modernisation

A way through which patient safety and quality of care concerns are addressed in many Western health systems is workforce modernisation. Modernisation is used to describe a number of health-policy initiatives calling for changes to the provision of public services in welfare states from the late 1990s onwards (Green *et al.*, 2011). Among other drivers, such as external audit, professional performance indicators, introduction of market principles and user empowerment, modernisation calls for changes to the governance style towards interprofessional working (Waring and Currie, 2009).

The NHS Modernisation Programme in the UK was an example of these kinds of policy changes (Hyde *et al.* 2005), through which health professional work was reframed around concepts such as teamwork and multi-disciplinarity (Lewin and Reeves, 2011; Martin *et al.*, 2009). The case of intensive care was indicative of such workforce changes where policy called for the modernisation of the ICU workforce through role extension and expansion for nurses; for example, through the creation of nurse consultant posts (DH, 2000b; 2005). Consequently, ICU nurses gained legitimacy to extend their influence on medical decision-making blurring the boundary with medicine; although actual changes to the division of labour were confined to ad-hoc, local arrangements rather than legal agreements (Green *et al*., 2011).

This is an example of state intervention that has the potential to compromise certain professionals' jurisdictional claims over distinct areas of practice while at the same time creating new opportunities for aspiring professional groups, such as ICU nurses. Commentators agree that while much has been written about this topic, less attention has been paid to the consequences of such policy reforms for the nature of professional boundaries and relationships between healthcare professionals (Nugus *et al.*, 2010; Kirkpatrick *et al.*, 2011; Kroezen *et al.*, 2014). Kroezen et al.'s (2014) analysis of jurisdictional control over prescribing in The Netherlands is a notable exception, although their focus on one jurisdiction that transcends all clinical specialisms limits the transferability of lessons learned to the rather distinct setting of intensive care.

LITERATURE REVIEW – Modernisation in the context of intensive care

Within the context of intensive care, little research has considered the effects of modernisation policy on health professional work and its division of labour. In an interview based study with 45 intensive care staff in England examining their perceptions of the ICU modernisation programme, Green *et al.* (2011) identified that staff reported modernisation had led to better functioning teams. Nurses in particular spoke of more collaborative team-working between them and ICU doctors following the modernisation policy. Based on these findings, it would appear that in ICU the shift in professional jurisdictions brought about by the modernisation agenda did not lead to attempts from professionals to defend their boundaries; rather modernisation appeared to be a mutually beneficial professionalising strategy (Green *et al*., 2011).

Green *et al.*'s findings may be explained, in part, by the unusual context of the ICU specialism compared with other hospital areas. In particular, ICU is a relatively recent specialism that continues to evolve rapidly. The complex nature of ICU patient conditions and reliance on one-to-one nurse-to-patient ratios means the ICU has been inherently multidisciplinary. However, this explanation glosses over the ways in which professional role changes and redistribution of responsibilities are

97 actually managed by ICU professionals in day-to-day practice and does not illuminate the conditions
98 and processes through which professional jurisdiction is accomplished in the ICU setting. Clinicians'
99 and policy makers' ability to learn from the ICU to inform future decision-making is hindered in this
100 and other clinical settings as a result.

101 At an international level, Paradis *et al.* (2014) undertook a comprehensive literature review of 23
102 ethnographic studies in ICU, out of which 11 addressed aspects of the nurse-doctor boundary. They
103 found little evidence of collaborative working as most studies reported conflict, and concluded that
104 nurses and doctors in ICU have unique professional approaches to healthcare work that are not
105 always compatible (Paradis *et al.*, 2014). Further examination of these studies reveals key challenges
106 and contradictory findings, discussed next.

107 In an ethnographic study of three British ICUs Coombs (2004) identified that despite good working
108 relationships, with respect to decision-making nurses perceived doctors to be domineering; they
109 reported difficulties in having their contributions accepted, considered or validated by doctors and
110 thus felt excluded from the decision-making process. Similarly, ethnographic work consisting of
111 observations and interviews with staff in an Australian ICU argued that doctors tended to use nurses
112 only to supplement information and provide extra details about patient assessments (Manias and
113 Street, 2001), which led nurses to report difficulty in participating in ward rounds and care
114 discussions. More recently, ethnographic work in four North American ICUs (Reeves *et al.*, 2015)
115 confirmed that typical hierarchical relations continued to prevail between doctors and nurses.
116 Interactions between them were brief and serendipitous in nature, while medicine dominated
117 decision-making.

118 In contrast, in an ethnographic study of three British ICUs involving observations and interviews with
119 doctors and nurses, Carmel (2003; 2006) argued for a professional allegiance towards a common ICU
120 project through which collaboration was fostered and boundary tensions avoided. Carmel (2006)
121 argued that the physical and organisational separation of the ICU from the rest of the hospital

served to reify the ICU team, as doctors and nurses worked closely to respond to clinical challenges. Carmel's study was undertaken at a time when modernising the ICU workforce was a key policy priority in England, which may partly explain his findings. The extent to which Carmel's findings are enduring or contained in that time period remains unclear.

Alexanian *et al.* (2015) reported from an ethnography of two North American ICUs that staff talked about there being a broad and inclusive notion of a health professional team in those ICUs, partly supporting Carmel's conclusion. However, in contrast with Carmel, what was observed in practice was more complex with non-medical professionals operating on the periphery of the medical team, causing them to feel frustrated and excluded. The only exception to this was during crisis situations, such as cardiac arrests, where all professionals seemed to come together as a team to resolve the crisis; a finding also supported by an interview-based study with nurses, doctors and respiratory therapists in a North American ICU (Piquette *et al.*, 2009). The notion of ICU professionals working as a tight team was also supported through a recent North American ethnography of one unit where staff referred to examples of collaborative working arrangements (Rodriguez, 2015). However, the focus of that paper was on family member involvement, rather than professional interaction.

Existing ethnographic work yields useful insights on the social organisation of health professional work in ICU, although findings from different studies seem contradictory with some giving evidence of conflict while others of collaboration. However, the extent to which such boundaries were clearly demarcated, settled, and the processes through which these were accomplished in day-to-day practice, has not been the focus of in-depth examination.

THEORETICAL POSITION – The division of labour

The analysis presented here is informed by an interactionist perspective of the division of labour, drawing its main inspiration from the work of Hughes (1928), who argued that the division of labour implies interaction because it consists not merely of the different kinds of work people do, but

because the different tasks so divided are parts of a whole product to which people contribute. He argued that the logic behind the division, and combination, of activities and function into occupations, and of their allocations to people in various systems of work, should not be assumed as given. This perspective was elaborated and complemented by Strauss, who shifted attention from Hughes' macro ecology to the microcosm of everyday interaction, which he identified as operating within a negotiated order. Strauss *et al.* (1964) saw the division of labour not as a set of disembodied standards but as human arrangements subject to negotiation. Allen (2001) developed Strauss' position further by clarifying that formal organisational structures can be modified even in the absence of face-to-face negotiations, and therefore proposed the division of labour as continuously accomplished rather than negotiated.

While both Hughes' and Strauss' insights are relevant to the clinical microsystem within which health professionals work, the division of labour is framed within a wider context influenced by both external and internal pressures, as promulgated by Freidson (1976) and most significantly by Abbott (1988). Freidson argued that the forces of social organisation are inseparable from the empirical division of labour since these can influence the number of occupational roles, the selection and distribution of individuals through them, and even the content of those roles. For the majority of time, the limits to interaction posed by such forces are sufficiently broad and permissive that a variety of bargains are possible for the participants, and it is precisely within this bargaining space that Freidson sees the division of labour as a process of social interaction.

Abbott consolidated and elaborated the above ideas into a more contemporary framework of the social organisation of work, arguing that it is the content rather than the structure of professional work that is changing; and it is control of work that brings the professions into conflict with each other. He identified the professional task area as the unit of analysis, and in particular the links between a profession and its work, which he referred to as 'jurisdictions'. Since none of these links is absolute or permanent the professions make up an interacting system, an ecology, affected by wider social pressures, such as health policies, which open and close areas of jurisdiction. Therefore, it is

the interaction between professions in the workplace as they compete for control over work jurisdiction that is critical and the proper focus of investigation. By employing the concept of jurisdiction Abbott provides the link through which social structure enters and conditions everyday professional interaction, which in turn may influence social structure through the mounting of jurisdictional claims that can be used to advance professional status.

Abbott's work is important here because it brings together interactionist elements of the division of labour, such as Strauss' concern with everyday interaction and negotiation, but sutures them within the wider system of social relations between professional groups. In this way, Abbott builds on Freidson by emphasising the interdependence of different groups. Abbott's approach therefore offers greater explanatory capabilities to research on the division of labour by incorporating and linking together both structural and interactionist concerns. This theorisation opens up the possibility of a more nuanced and complex matrix of relationships in which jurisdictions between different professions are in flux.

METHOD

Fieldwork was undertaken over one year, between April 2008 and May 2009, in three purposefully chosen ICUs situated in two hospitals in England. These are given the pseudonyms Cityview, Riverview South, and Riverview North. They reflected units of different staff numbers, patient capacity, geographical location, older and newly built units. These were typical of ICUs in urban teaching hospitals in England, which employ a large number of nurses and have high turnover of staff. In the first instance, the manager and senior nursing and medical staff of the three units were approached to participate in the research through email, followed by an informal visit by the first author to introduce the study. A multi-site approval from the National Research Ethics Service and R&D approval from individual hospitals was gained. Participant information sheets were distributed to all staff in the units, inviting their voluntary participation. Additionally, at first face-to-face

encounter the first author confirmed staff were happy to be involved; nobody refused to participate. Posters informing staff of the researcher's presence were also in place throughout the observation period.

Data were collected by the first author, a former ICU nurse, through non-participant observation (240 hours) and interviews with 27 health professionals (table 1). The sites were not previously known to the researcher. In order to contain risks associated with selective data collection and the researcher's own sensitivities, observations were made at different times of the day and night, both on weekdays and weekends; these included shadowing different health professionals in the ICUs for the duration of their shift, including bedside nurses and medical consultants, and attending interprofessional patient discussions during medical rounds. Fieldnotes were made contemporaneously in a journal, in a chronological fashion, and in as raw a format as possible (Allen, 2010) paying attention to thick description. Both formal and informal interviewing techniques were used (Hammersley and Atkinson, 2007). Informal interviewing occurred in the ICU, usually following an incident about which clarifications where sought, and were conversational in approach. Formal interviewing occurred outside the unit, mainly with senior staff (consultants, nurse managers). These interviews followed a topic guide to enable a level of consistency; this included the interviewee's role in the ICU team, their views on interprofessional working, the way they perceived ICU work to be organised and delivered, as well as their views on possible influencing variables. All interviews were audio recorded and transcribed verbatim. Reflective notes were kept in a journal throughout the study and fieldwork was regularly discussed in meetings between all three authors.

TABLE 1

Data were analysed iteratively by the first author following standard approaches involving thematic coding, categorisation and abstraction (Coffey and Atkinson, 1996; Hammersley and Atkinson, 2007). Coding was undertaken using NVivo 10 (QSR International) and involved reading of fieldnotes and interview transcripts to note segments of text on areas of thematic importance. Both open and

focussed coding was used, employing professional 'jurisdiction' and 'boundary' as 'sensitising concepts' (Blumer, 1954:7) to gain conceptual leverage on the data (Schatzman and Strauss, 1973). Instances of doctor-nurse interaction were compared and contrasted to examine the ways in which these differed, and in so doing uncover the conditions under which different interactional approaches were exhibited; this revealed seniority and urgency as key influencing variables, as our findings below demonstrate. Analysis of data paid attention to the means and methods whereby health professionals organised and performed ICU work, as well as the more tacit rules and norms that guided their practice. Moreover, health professional interaction was analysed both in terms of professionals' exhibited behaviour and their informal conversations, bearing in mind that through everyday talk people also perform social actions (Coffey and Atkinson, 1996). Analysis was iteratively discussed and sense-checked between all three authors; any disagreements were resolved through consensus.

We present findings under three thematic headings: boundaries reproduced, obscured and suspended. Under 'boundaries reproduced' we discuss the typical nature of professional boundaries between doctors and nurses in day-to-day practice under instances of routine work, and argue that these were unproblematically reproduced. Under 'boundaries obscured' we reveal instances in which nurse and doctor seniority had a shaping role in the nurse-doctor boundary becoming obscured. Under 'boundaries suspended' we examine how under conditions of urgency professional boundaries were temporary suspended.

In the context of the ICUs studied, seniority (i.e. rank) was inextricably linked with, and a reflection as well as combination of, staff's experience and expertise. Staff's experience is one of the criteria used for promotion to a senior nursing or medical post in addition to demonstrating relevant expertise. Given the nature of ethnographic research and non-participant observation, it was not possible nor appropriate to attempt to disaggregate staff seniority – which was identified through staff lists and staff's name badges – from years of ICU experience or level of expertise. We acknowledge that in other organisational contexts outside healthcare seniority may not encapsulate

experience and expertise in the same way. In our findings below, we use junior doctors to refer to qualified doctors in training towards becoming consultants, also known as medical residents; ICU training for junior doctors is at least two years, so the junior doctors in this study had less than two years of ICU experience. We use junior nurses to refer to those with typically less than two years' ICU experience; senior nurses are those with at least two years' ICU experience, a requirement for a senior nursing post in the ICUs studied.

FINDINGS

For the purpose of this paper, we discuss findings relating to the nature of the interprofessional boundary specifically between ICU nurses and doctors. While typical doctor-nurse boundaries were largely reproduced under routine work conditions, we also identified instances in which these were obscured and others in which these were suspended. These findings point towards a model of professional work in which typical boundaries are reproduced during routine work, and when junior staff are involved, but become gradually obscured as staff seniority and work urgency builds up (figure 1).

FIGURE 1

Boundaries reproduced

In common with previous research (e.g. Coombs, 2004; Carmel, 2006; Alexanian *et al.*, 2015; Reeves *et al.*, 2015; Rodriguez, 2015) expected professional boundaries between doctors and nurses were in the main reproduced in the ICUs studied, particularly under conditions of routine work. This was especially the case when examining interactions between consultants and junior nurses. Medical consultants held jurisdiction over deciding the patient care plan and nurses were responsible for executing this. When a junior nurse was asked to comment about how she planned her daily work, she responded:

> *It's important to know the medical plan of the day and where we are going. So your nursing plan is based around that **grand plan** and you have to adapt to what's going on.*
> (Interview Cityview ICU: Patricia, junior nurse)

Patricia's choice of words here (*'grand plan'*) signifies her perceptions concerning the primacy of the medical plan over the nursing plan for ICU patients. In this context medical consultants held ultimate jurisdiction over ICU patients' treatment plans and consequently over intensive care work. This served to reinforce consultants' powerful position in the division of labour, which also enabled them to claim overall leadership of the ICU, as a medical consultant at Cityview ICU highlighted in response to an interview question about their role:

> *I am basically a consultant covering the intensive care unit and when I'm on, I'm basically **in charge** of the ICU.*
> (Interview Cityview ICU: Mark, medical consultant)

ICU nurses accepted that the treatment objectives for patients were set by consultants, with the minute-by-minute decisions on aspects of basic care remaining within the jurisdiction of the bedside nurse. Characteristically, a junior nurse at Riverview North ICU commented:

> *The aims and objectives are set by, the key ones, are set by doctors, because it is their job; and smaller, like hour-to-hour basic stuff, like when patients are going to get out of bed into the chair, that would be decided by nurses.*
> (Interview Riverview North ICU: Louise, junior nurse)

Junior nurses observed in this research also attempted to influence the medical ward round and the decisions reached. This influence was exerted tactfully, although overtly. Typically, junior nurses would attempt to influence decision-making by asking the medical consultants about possible changes to treatment. Some typical questions nurses asked at ward rounds across ICUs included:

> -*"can I start feeding?"*
> -*"can I stop antibiotics?"*
> -*"can I hold fluids?"*
> (Fieldnotes Cityview, Riverview North and South ICUs)

The consultants' responses to such questions were typically either approving of the nurse's suggestion or tentatively permissive of the nurse to proceed only on the condition that the situation was re-evaluated. A typical consultant reaction encountered across ICUs was:

> *-'why don't you try that and see how it goes?'*
> (Fieldnotes Cityview, Riverview North and South ICUs)

This style of interaction suggests that in the ICUs studied there were still traces of Stein's (1967) doctor-nurse game, described as an elaborate ritual involving the nurse providing subtle cues to guide doctors in their decision-making while avoiding overt confrontation. This finding also aligns with Coombs' (2004) finding of consultants dominating the decision-making in ICU with nurses remaining in a subservient position. Indeed, where a junior nurse made more overt suggestions about treatment decisions, rather than providing subtle cues, consultants were hesitant and defensive. For example, the following interaction was noted at Riverview South ICU between a medical consultant and a junior nurse:

> *Rachel (junior nurse): 'He's (patient) been having hallucinations. Maybe you would like to review his methadol (for pain)?'*
> *Mary (medical consultant): 'Hmm… fine.'*
> *Rachel: 'About metoprolol (for blood pressure), because his blood pressure can get quite low, are you not worried about it?'*
> *Mary: 'He is young, **he can take it!** If you're really concerned you can ask us again.'*
> (Fieldnotes Riverview South ICU)

In response to the nurse's first suggestion the consultant was initially hesitant to alter the prescription, but ultimately conceded. Here, the consultant seemed to acknowledge the nurse's knowledge of the patient's condition and response to the particular drug (*'He's been having hallucinations')* as a legitimate argument; however, was dismissive of the nurse's concerns about the patient's blood pressure, deferring the decision to later. While the consultant's argument for this was rather vague (*'he can take it'*), the junior nurse did not challenge this or ask for further clarification.

Junior ICU nurses' interactions with consultants in particular were rather reserved. While the previous instance indicates that some did attempt to inform a consultant's decision, most were noted to simply report descriptive facts about patients' conditions with minimal interpretive effort or recommendations. In this context, the typical professional boundary between nurses and doctors was reproduced in the ICUs studied. This was achieved through nurse-doctor interactions during day-to-day practice, in which medical consultants worked towards maintaining their leadership and authority over ICU work, clinical decision-making about patient treatment in particular; the consultant director at Cityview ICU commented in an interview:

> *You have to encourage discussion and debate and arguments in order to have a chain of command. So while it may sound dictatorial, it actually pulls the team together if they think they have a say, even if they are overruled at the end.*
> (Interview Cityview ICU: Alan, medical consultant)

The above quote shows the consultant wanted to maintain the appearance of collaboration rather than accommodate competing viewpoints, especially if these conflicted with his own plan of action, as signified through his choice of words (*'think they have a say'*). The ICU consultant viewed the *'chain of command'* as something he had to accomplish in interaction, rather than something that was accepted unquestionably. In this context, the consultant's openness to other professionals' input was a strategy aimed at reinforcing his own position in the ICU and reproducing typical doctor-nurse professional boundaries.

Boundaries obscured

The above data are typical of the kind of examples previous ethnographies drew from to argue that ICU nurses were being excluded from clinical decision-making (Coombs, 2004), becoming 'mini interns' (Zussman, 1992) and increasingly subsumed within ICU medicine (Carmel, 2006). However, our data also revealed instances where the boundary between the doctor and the nurse was less

clearly demarcated. To illustrate this point, below we examine interactions at different seniority levels between consultants, senior nurses, junior doctors and junior nurses.

Consultants and senior ICU nurses

In contrast with much of the recent literature (e.g. Reeves *et al*., 2015) our data include examples involving senior ICU nurses discussing openly and confidently with medical consultants about making patient care decisions. Such interaction was recorded during a field visit at Cityview ICU:

> *With the ward round at bedside four, Mark (medical consultant) stated that the patient would be kept off sedation for fear of renal failure.*
> *Charlotte (senior nurse): 'She (patient) is also on amoxapine (sedative) if we're worried about that (renal failure).'*
> *Mark: '**What can we do about that?**'*
> *Charlotte: 'She's on 60, prophylactic dose is basically 40.'*
> *Mark: 'Let's do that.'*
> (Fieldnotes Cityview ICU)

In the above instance, the senior nurse and consultant discussed possible treatment options for the patient openly, with the consultant also asking for the bedside nurse's opinion (*'What can we do about that?')*. Here, the interaction was collaborative although the final decision still needed to be taken by the consultant.

Experienced ICU nurses were seen to be actively drawing from their intricate knowledge of their patients' conditions, progress and reactions to drugs to contribute to medical decision-making. This intricate patient knowledge was acknowledged by doctors in this study. For example, during a field visit at Riverview South ICU the following interaction was noted between a senior nurse (Tim) and a medical consultant (Mary):

Mary: How is he (patient) doing?

Tim: He is doing great actually.

Mary: Is he on dextrose?

Tim: Yeah, and actrapid (for glucose). He hasn't had his bowels open. His NG (nasogastric tube) just gave 125ml until this morning. They've aspirated him but nothing aspirated. And now it looks like 25 since six this morning.

Mary: So we can start feeding him?

Tim: Yeah.

Mary: He needs to be more awake I think for extubation…

Tim: We'll try to stir him up a bit more.

Mary: Sinus rhythm?

Tim: Yeah, he went into AF (arrhythmia) last night but when his electrolytes were supplemented he went to sinus and stayed that way.

(Fieldnotes Riverview South ICU)

Typical nurse-doctor boundaries became obscured in ICU when interactions included experienced nurses; here, doctor and nurse were seen to discuss the patient condition as equals and jointly deciding on the patient care plan. On other occasions consultants would openly seek senior nurses' input in making a patient care decision, for example about patients' readiness to be extubated:

John (medical consultant): 'What happens if you wean fentanyl (anaesthetic)?'

Jo (senior nurse): 'He gets agitated, we tried yesterday.'

(Fieldnotes Riverview North ICU)

Christian (medical consultant): 'Do you think you can turn down sedation or is she (patient) not tolerating the tube?'

Danni (senior nurse): 'I can try [and see how it goes].'

(Fieldnotes Riverview South ICU)

Senior ICU nurses perceived this characteristic of their role (intricate and up-to-date knowledge of patient condition) to be their distinctive feature compared with other health professionals, and ICU doctors in particular. The key difference between ICU nurses and other hospital areas lay in the provision of exclusive and intensive one-to-one patient care. Each ICU nurse was allocated a particular patient for whom they provided exclusive care for the duration of their shift. This enabled

the ICU nurse to develop familiarity with a patient and use that intricate knowledge of the patient's condition, and their responses to particular treatment interventions, to contribute to care decisions. As a senior nurse argued during an interview:

> *Alice (senior nurse): Because you are the one, there, by the bedside, 24 hours a day, you know the patient inside out.*
> (Interview Cityview ICU, Alice senior nurse)

Consequently, this in-depth knowledge conferred a sense of nurses' authority and jurisdiction over the detailed operationalisation of clinical decision-making. In turn, this enabled senior nurses to engage with medical consultants more confidently and contribute overtly to patient care decision-making. In this way our data contrast with previous assumptions of ICU nurses lacking a unique contribution to, and being excluded from patient care decision making (e.g. Manias and Street, 2001; Coombs, 2004; Paradis et al., 2014).

Junior doctors and ICU nurses

Both senior and junior ICU nurses exhibited greater persistence in their interactions with junior doctors, often providing overt instruction. Junior nurses in particular, while they were seen to be reluctant to engage with medical consultants, were more direct when interacting with junior doctors. In this context, the typical nurse-doctor boundary was obscured with nurses holding an equal, if not superior, standing to junior doctors in the division of labour. For example, ICU nurses would often ask junior doctors to change a patient's prescription based on their own assessment of the patient condition:

> *Diane (junior nurse): 'Would you mind changing the haloperidol to PRN (when necessary). He doesn't really need it.'*
> *Damon (junior doctor): 'Yes, I agree. He is much better.'*
> (Fieldnotes Riverview North)

ICU nurses frequently asked junior doctors to sign forms or prepare documentation for their patients. Nurses often completed forms requesting blood tests or x-rays for their patients and then asked junior doctors to sign these:

> *Janet (junior nurse): 'Jacob (junior doctor), could you sign a chest x-ray for me?'*
> *Jacob nodded affirmatively.*
> *Janet: 'I'll get it ready and then I'll call you.'*
> (Fieldnotes Cityview ICU)

Junior doctors were not noted to resist or question such requests from nurses. This may have been due to them accepting nurses' greater experience and familiarity with consultants' preferences, in addition to their aversion to paperwork.

The manner in which nurses made such requests varied according to whether nurses were more junior or senior. In particular, while junior nurses mainly used an inviting tone in their requests, senior nurses were often more direct:

> *Kathryn (senior nurse) while at bed space one called to Susan (junior doctor) who sat at the nurses' station. Susan walked up and approached Kathryn.*
> *Susan: 'What do you need me to do?'*
> *Kathryn: 'Just a discharge summary.'*
> *Susan: 'Yeah, I can do that.'*
> (Fieldnotes Cityview ICU)

Junior doctors in ICU were particularly attentive to senior nurses. While this may have been a response to senior nurses' position in the nursing hierarchy, this also suggested junior doctors appreciated senior nurses' experience and expertise.

ICU nurses also challenged junior doctors' medical authority if they perceived their actions to be questionable or unsatisfactory. For example, in her interview a junior nurse at Cityview ICU described her frustrations with a particular incident on the ICU involving a deteriorating patient for which she felt the junior doctor did not take appropriate action:

> *Yesterday we had a man who was on Vapotherm (type of respiratory support) and needed more oxygen and they were going to try and put non-invasive ventilation on him, but he was refusing. And he had a huge abdominal surgery, and he started to feel sick. The first thing that I did was give him an anti-emetic, and I was giving him that through his cannula, but he was saying that was really painful and so I couldn't give him the proper medication. The doctor, I had already told him that he needed a major gastric tube, so I was going to give him an anti-emetic first, then he needed a major gastric tube. Well, as soon as I couldn't give all the anti-emetic I went straight back to him and said 'Okay, he needs better access, because he's deteriorating, he's vomiting and he's needing more oxygen, so come and put a line in because we need to give him something to stop him vomiting. And I was quite forceful because he was sort of sitting around going, 'Oh yes do.' But he wasn't really offering any suggestions.*
>
> (Interview Citvyview ICU: Tracy, junior nurse)

In the above instance, the nurse's narrative indicates she perceived her interaction and assessment of the patient as legitimate ground upon which to base her claim about the required intervention; suggesting that as her interpretation of the junior doctor's action was found to be wanting, she became more assertive and instructive. While such an assertive approach was indeed observed in interactions between nurses and junior doctors, it was not an approach mentioned or observed in interactions with consultants.

Senior nurses were also often seen to informally teach junior doctors. Such teaching could be about atypical or infrequent interventions as well as more routine clinical skills. For example, the following incident was witnessed at Riverview South ICU:

> *While at the ward round the consultant asked one of the junior doctors (George) to change the patient's peripheral IV line. George got ready and approached the patient, but he appeared unsure and hesitant. George turned to the senior nurse at the bedside and asked:*

'Ehm, how, ehm, where do I stand?' The nurse approached George, stood next to him and whispered some instructions.

(Fieldnotes Riverview South ICU)

Together, these examples lend support to the argument that senior ICU nurses' knowledge over tasks that were typical for them was superior to junior doctors' knowledge in that area. The permanence of nursing staff in hospital settings affords nurses the knowledge over local policies and practices which augments their influence over doctors (e.g. Mumford, 1970; Hughes, 1988; Coombs, 2004). However, the extent to which this finding applies equally to both senior and junior nurses has not been clarified in previous work. In the current study, it was senior nurses who mostly adopted a direct approach in their interactions with junior doctors, often issuing them with instructions. In contrast, junior nurses assumed an indirect manner in interacting with junior doctors, often eliciting advice or offering suggestions. This may be in response to junior nurses lacking the experience and local knowledge that would have enabled them to approach doctors with explicit instructions rather than suggestions.

Senior ICU nurses used different interactional approaches and techniques to legitimise their claims over patient treatment decisions, depending on whether they interacted with consultants or junior doctors. When interacting with consultants nurses drew on their unique insight and familiarity with the patient rather than questioning the consultant's authority, experience or knowledge base. However, when interacting with junior doctors, whose role in the ICU was transient and less established, they would overtly draw from their own clinical experience and knowledge to influence, resist or initiate a particular medical decision.

Boundaries suspended

In contrast to instances of routine work, during situations that required urgent intervention medical consultants were less defensive of their position in the ICUs as ultimate decision-makers; and both

senior and junior nurses less hesitant to act. However, the approach consultants assumed depended heavily on the seniority, and by extension the skills and experience of the nurse involved in the incident. When a senior nurse was the bedside clinician involved, medical consultants assumed a more detached and supervisory role. In particular, they allowed ICU nurses take initiative while they oversaw from afar. For example, during a visit at Riverview South ICU the following incident was noted:

> *As the ward round moved to bed space 22, Jacob (senior nurse) in bed space 19 noticed his patient's blood pressure dropped drastically. The monitor alarm went off and Jacob rushed to the bedside cabinet and pulled out a bag of fluids (gelofusine -increases blood volume). John (medical consultant) took notice and approached the bed space; he glanced at Jacob, and then moved to stand in front of the patient's monitor which he looked at intensely. Jacob prepared a fluid-giving set and quickly connected it to the patient's IV line; he squeezed the fluid bag while looking at the monitor. John turned to look back at Jacob, they exchanged a look, and then both looked back at the monitor. The monitor alarm silenced as the patient's blood pressure rose. John moved back from the monitor to the bedside computer station, brought up the patient's notes and prescribed the fluid just administered.*
>
> (Fieldnotes Riverview South ICU)

The consultant in this instance, although not called by the bedside nurse to assist, approached the bed space and assumed the role of overlooking the nurse's intervention and patient's responses. Despite assuming a supervisory role, the consultant did not explicitly issue any instructions to the bedside nurse nor did he challenge any of the nurse's actions. The nurse, in taking the initiative to intervene and rectify the patient's condition, crossed the expected nursing boundary. In particular, the nurse made an assessment of the situation, decided on a treatment option and initiated this without a medical prescription or instruction. Although most ICU nurses do receive training in advanced life support, intervention in such events should still be guided by a doctor, particularly with regard to the administration of intravenous drugs. The urgency of the situation created a space that allowed the jurisdictional boundary to be temporary transgressed, but with implied permission. The administration of drugs has been previously identified as an area for '*de facto* boundary

blurring' (Allen, 2001) between medicine and nursing, although the precise conditions under which this is acceptable have not been explicated. In ICU, it was the interplay of seniority and urgency that enabled such transgressions to manifest, as further illustrated below.

ICU consultants were not always present in the unit during sudden patient deteriorations as they rarely stayed for long once the ward round was complete. Therefore, during such instances junior doctors were often the medical professionals involved who, unlike consultants, assumed less of a supervisory position and took a more active role with hands-on clinical care. The following incident noted at Cityview ICU demonstrates such a situation:

> *While sat at the nurses' station making notes, I heard an alarm from the direction of bed space four and looked up. The patient on bed space four self-extubated, and was waving his intratracheal tube over his head. Kathryn (senior nurse) tried to take hold of the patient's arm while Trisha (senior nurse) moved in from the next bed space and tried to keep the patient still by holding him from his shoulders while saying to the patient:*
> *Trisha: 'It's OK, OK'.*
> *Graeme (junior doctor) noticed the activity and rushed next to Kathryn who pointed out the ventilation mask to him. Trisha managed to keep the patient still and Graeme positioned the mask over the patient's face. Kathryn picked up an intubation set from the bedside cabinet, placed it on a trolley and pushed it next to Graeme. She then moved to draw the curtains around the patient (blocking the view). A few minutes later Trisha opened the curtains; the patient was re-intubated and appeared calm.*
> (Fieldnotes Cityview ICU)

Unlike instances of non-urgent work, in which senior ICU nurses often held a higher standing to junior doctors, during the incident described above doctor and nurse worked together collaboratively to secure the patient's airway and restore ventilation. In typical non-urgent work mode, senior nurses were seen to openly instruct junior doctors, however in the above incident the senior nurse only discreetly directed the junior doctor in the actions to be taken, which she coordinated with her own. Here, the division of labour between nurse and doctor was neither

discussed nor openly negotiated; during that moment, the boundary between them was no longer clear and concerns over jurisdiction were temporary suspended.

Under urgent conditions nurses assumed roles according to their perceived level of skill and experience. This was largely in response to particular patient situations, rather than on the basis of traditional boundary concerns. This was revealed in nurses' own talk about their response to such situations. For example, when asked during an interview to comment about her role during situations in which urgent action was needed, Tracy, a junior nurse at Cityview ICU, stated:

> *Now I think about it, if something happens like that, people assume roles, they're not told, 'You do this, you do that' necessarily. I think when you learn to do say, life support, normally there should be someone who's more experienced, should say, 'Right, you do this, you do that, you do that' and they should be told what the roles are, but actually when it's happening, that doesn't really happen. It'll more sort of come up, Oh, this or that needs doing. Say if something happens there are certain roles that I am comfortable to take because I know them, so I'll often go towards those roles and be in control of those roles. I like to leave certain harder roles to people whom I feel, who have more experience. But if nobody else steps up then I will step up and do those roles if I need to, because someone needs to do them."*
>
> (Interview Cityview ICU: Tracy, junior nurse)

As the above quote illustrates, under conditions of urgent work, nurses believed jurisdictional concerns made way for work processes that needed to be undertaken. Specifically, the nurse recalled that under urgent conditions health professionals focussed on what *'needs doing'*; although, this also depended on the other health professionals present and their level of skill and experience. More knowledge or technical skill-demanding interventions, the nurse argued, were left to those most senior, while those more junior assumed actions closer to their skill repertoire. ICU professionals' seniority, encapsulating experience and expertise, was perceived by nurses to be a determining factor in calibrating responses under urgent work conditions.

DISCUSSION

Our data suggest that official positions in the ICU hierarchy, those of doctors and nurses specifically, did not determine the decision-making process in the way much of the literature has assumed. In ICU, nurses did not simply follow medical instruction but there were also situations in which doctors acceded to what nurses suggested for patient care. In this sense our data question recent arguments, largely from North America, concerning the incompatibility of approaches between ICU doctors and nurses (e.g. Paradis *et al*., 2014), peripheral participation (e.g. Alexanian *et al*., 2015), prevailing hierarchies and medical domination (e.g. Reeves *et al*., 2015). British ICUs, on the whole, have a higher patient acuity level, stronger intensivist control over admissions, and higher nurse-to-patient ratios compared with many ICUs in North America (Sakr *et al.*, 2015); the extent to which such organisational features have a bearing on these findings can be ascertained through future multi-site, comparative research.

Whether our unique findings are as a direct consequence of the DH's ICU workforce modernisation policy (2000b; 2005) could not be reliably captured through our data. We concur with Freidson (1976) that the conditions posed to professional interaction by such policy forces are broad and permissive, so that a variety of bargains are possible at the level of the workplace. A comparison with pre-modernisation ICU work (e.g. Coombs, 2004) suggests that modernisation policy served to legitimise nurses' pushing for a greater say in the care of their patients, although the possibility that it also served to validate practice that was already occurring should not be ignored. Based on our data, and reflecting on the findings of previous work, there has clearly been a shift at the level of everyday practice likely as a result of a 'habituation period' (Kroezen *et al*., 2014) following the introduction of the DH policies. Modernisation policies, however, were not visible in the workplace nor were these mentioned or referred to by staff. We conclude that policy was diffused at the level of day-to-day practice but that it served to create a bargaining space for interprofessional interactions, the outcomes of which were influenced by professional seniority and work urgency.

Abbott (1988) argued that in the workplace jurisdictional boundaries can be settled in three ways: professions can have full control of work jurisdictions at times, while at others can have part or shared control, or control subordinate to another profession. In the example of ICU, our data show certain areas of jurisdiction, concerning patient care planning in particular, were at times shared and others contested between medicine and nursing; with nurses attempting to, but only sometimes being successful in, claiming a say. However, medical consultants were not equally resistant to all nurses; they were found to more easily accept input from senior staff. In this sense, medical consultants did not treat all nurses as equal but were more content to share jurisdictions with those more senior. This finding indicates that Abbott's (1988) theorisation of professions as homogenous groups is limiting, at least in healthcare; instead, professional seniority and the context of clinical specialisms should be taken into account in such analyses of work.

The findings presented here also open up the possibility for an additional dimension to Abbott's (1988) theoretical model by illustrating how the tensions surrounding jurisdictional boundaries play out in day-to-day practice, especially when work is conducted under urgent conditions. Our findings indicate that the urgency of the situation left little room for professionals to express the kind of jurisdictional concerns proposed by Abbott. In addition, we found little signs of negotiating activity (Strauss *et al.,* 1964) even when nurses stretched their typical jurisdictional boundaries. This finding lends support to Allen's (2001) argument about the non-negotiated order of healthcare practice, which however has not been linked with variations in the intensity of work. This additional dimension extends the reach of Abbott's and Allen's work into critical and urgent environments highlighting conditions under which jurisdictions can shift and be suspended.

While previous research suggested that ICU doctors tended to exclude nurses from clinical decision-making (e.g. Manias and Street, 2001; Coombs, 2004), our data include instances of doctors both including and excluding nurses from the decision-making process. They included nurses by inviting them to comment on their patients' progress, responses to treatment and readiness to be extubated; and they excluded nurses by rejecting their concerns over patients' medication regimes.

Doctors solicited nurses' views on matters they perceived to be within nursing jurisdiction and expertise, but excluded them on matters they believed to be outside of nurses' legitimate claim. Therefore, contrary to previous assumptions, exclusion and inclusion of nurses in ICU decision-making was not a *de facto* position but related to perceived areas of professional jurisdiction.

This study was designed to investigate how professionals accomplished jurisdiction during everyday practice within the ICU; it was not possible to follow discussions at hospital board level or trace a path through DH policy to everyday practice. It was also outside the scope of this study to map out differences in the legal responsibilities between the two professional groups, especially since these are not clearly laid out within existing legislation. Following Abbott (1988) the study focussed on professional work, as distinct from the work undertaken by non-professional groups. We however noted that a range of other staff, such as support workers and technicians, can also make a meaningful contribution to ICU work. These are potential areas of investigation to follow; to clarify the links between different levels of the legal and workplace arenas. Moreover, our data were drawn from three large metropolitan ICUs with a typically high staff turnover, which meant that more prosaic sociological explanations for our data, such as trust and professional familiarity, did not readily apply. While our data do not exclude the presence of such individual notions as trust or even confidence, we argue these should not detract from investigating the everyday conditions of workplace interaction, seniority and urgency in particular.

We acknowledge that using ICU seniority as a concept encapsulating experience and expertise, limits transferability of our findings in non-ICU organisational settings in which, unlike ICU, seniority, experience and expertise may not be as strongly linked. We also appreciate that while doctors may hold senior nurses' input in higher esteem, especially if doctors are junior, it is still doctors who are ultimately responsible for patient treatment. In this context, while occupational boundaries may become obscured, shaped by the interplay of seniority and urgency, doctors retain legal responsibility; therefore, the leverage nurses gain on medical decision-making can be more borrowed than owned. Finally, while our data point towards the interplay of seniority and urgency

as factors shaping the context of professional interaction, we do not argue for these to exclusively explain our findings. We call for future research to build on, elaborate and examine the resonance of our findings with other settings.

CONCLUSION

Our data showed that work urgency and staff seniority had a part to play in shaping health professional boundaries in day-to-day ICU practice. In particular, we found that the less urgent a decision or care task was, and the more junior the staff involved, the more typical professional boundaries and interactions were; and that these became gradually obscured as seniority and urgency built up.

These findings raise implications for planning the composition of the ICU workforce, with an appropriate mix of senior and junior medical and nursing staff in shifts. This can also foster ongoing discussions between the medical and nursing profession about the shape of the ICU division of labour; especially given that senior medical professionals have a determining role in providing a space within which interprofessional working can be achieved.

Based on our findings, ICU policy makers would do well to consider following through the introduction of future policy with forging clear links between the legal and workplace arena in order to support the implementation and habituation of policy initiatives. Our data do not lead us to make arguments around causality, but we encourage future research to investigate seniority and urgency as variables in the study of patient and organisational ICU outcomes.

This study demonstrated the potential of workplace research that pays attention to the full spectrum of work from routine to emergency, and to differing levels of professional seniority. With a view to developing theory and adding to the knowledge base with regard to the social organisation of healthcare work, we issue a call for future research to pay closer and more sustained attention to

690 the conditions and properties of work, seniority and urgency in particular, as they play out in day-to-

691 day practice.

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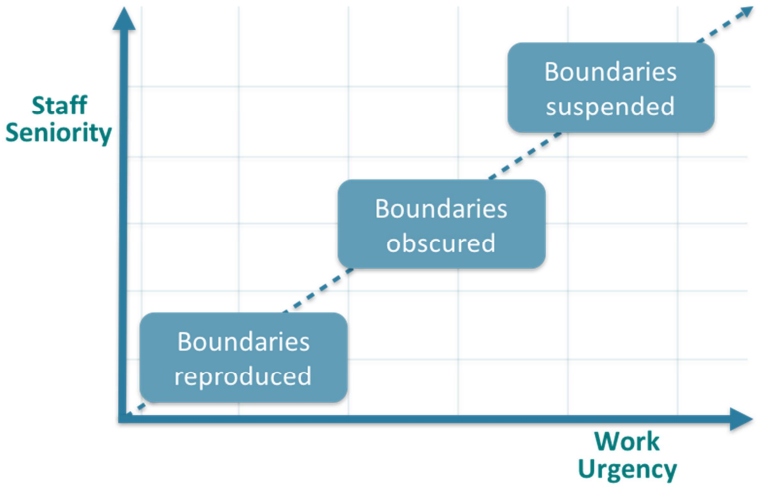
791 **Table 1: Summary of data collection**

Research site	Duration of fieldwork	Observation sessions	Interviews
Cityview ICU	Four months	114 hours collected over 19 separate observation sessions	Ten interviews with: Two junior nurses[1] Four senior nurses[2] One nurse manager One medical consultant One physiotherapist One pharmacist
Riverview South ICU	Three months	78 hours collected over 13 separate observation sessions	Ten interviews with: Three junior nurses Two senior nurses One medical consultant One junior doctor[3] One consultant physiotherapist[4] One consultant pharmacist One junior pharmacist[5]
Riverview North ICU	Two months	48 hours collected over 10 separate observation sessions	Seven interviews with: Two junior nurses Two senior nurses One junior doctor One senior physiotherapist One junior physiotherapist

[1]We used junior nurses to refer to those with typically less than two years' experience in intensive care.
[2]Senior nurses were those with typically more than two years of experience, whose role also included overseeing junior nurses as well as shift management.
[3]Junior doctors were qualified doctors in training towards becoming a consultant, also known as medical residents.
[4]Consultant physiotherapists and pharmacists were those who were dedicated to critical care, and held relevant ICU qualifications.
[5]Junior physiotherapists and pharmacists were qualified staff on rotation to critical care as part of their training.

792

793 **Figure 1: Urgency and seniority influencing professional boundaries**



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Research highlights

- We studied the conditions and processes of accomplishing professional jurisdiction
- We found jurisdictional boundaries among professionals dynamic and context dependent
- We question theorisation that treats professions as homogenous groups
- Future research should pay closer attention to fluctuation in the intensity of work
- Seniority and urgency have a part to play in shaping health professional boundaries