Personnel flux and workplace anxiety: Personal and interpersonal consequences of understaffing in UK ultrasound departments

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Abstract

Introduction: By 2013, the UK government's Migration Advisory Committee had determined sonography to be a formal shortage specialty, and understaffing remains a key concern for research in the domain. This paper, emergent of a qualitative study funded by Health Education North West, explores unit managers' perspectives on the present state of UK ultrasound. The focus herein falls upon the personal and interpersonal consequences of this circumstance for individuals working in specific understaffed departments.

Methods: A thematic analysis informed by a Straussian model of Grounded Theory was utilised; N=20 extended accounts provided by ultrasound department leads in public (n=18) and private (n=2) units were collected and analysed accordingly.

Results: The global themes addressed herein describe (a) how both inter-departmental movement of senior sonographers and early retirement, within a nationally understaffed picture, impacts upon local knowledge economies, and (b) how such staffing instabilities can undermine the day-to-day confidence of managerial staff and practicing sonographers alike.

Conclusions: It is personnel flux, rather than simple short-staffing, that is reported to cause the greatest social-psychological problems for both managers and sonographers. The issues raised herein require further examination from the perspective of sonographers themselves, in order to corroborate the views of the managers interviewed.

Keywords: ultrasound; social science; grounded theory; social psychology; qualitative analysis

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Introduction

For some time, it has been well-established that the UK's public ultrasound departments are almost entirely, if not entirely uniformly, short-staffed to the point where the UK government's Migration Advisory Committee had already determined sonography to be a formal 'shortage specialty' by 2013.[1] It has been widely demonstrated that an overall lack of qualified sonographers is a problem that recurrently manifests at the departmental level, stretching capacity and even restricting services.[2-4] Moreover, recent evidence indicates that the shortage has created a migratory system of personnel in the UK that works particularly in favour of clinicians with the fewest social connections to their working locale, i.e. those that can move to new jobs elsewhere without having to, for example, uproot a family.[5] The same evidence, in turn, signposts how a professional economy of this order can benefit private and urban medicine at the expense of district general hospitals and other rural units, given both the perception and reality of better terms and conditions in the former.[5] In this manner, the UK's Ultrasound staffing situation reflects a broader (global) picture, in which structural inequalities are systematically reproduced at the local level; when an overall lack of clinicians prevails, there is often a persistent 'syphoning' of flexible labour and high expertise towards the socio-capitally rich at the expense of all others.[5,6]

It would be uncontroversial to propose that studies pertinent to the matter of understaffing in the Allied Healthcare domain have to date primarily addressed the "big-picture". This has largely been accomplished through descriptions and evaluations of (usually education-based) solutions to an *overall* lack of staff,[7,8] a trend mirrored in much ultrasound research itself.[3,9] While socio-structural issues are of foundational importance in understanding the broader causes and consequences of present staff-shortages in UK ultrasound, it is also important to reflect upon the resultant personal and interpersonal consequences that can emerge for managers and staff themselves. Indeed, and as comprehensively illustrated by Hudson and Shen,[10] the social-psychological impacts of understaffing have been historically under-researched across a range of organisational contexts, not least those in healthcare.

Given the above, there has recently emerged a body of pertinent work explicitly focused upon the day-to-day (though far from trivial) business of actually working in understaffed healthcare environments.[5,11] Perhaps inevitably, the most persistent themes in this corpus relate to increasing levels of psychological stress among both managers and frontline healthcare practitioners, and physiological deterioration and injury among the latter, resultant of increasingly taxing workloads.[11-13] Robust evidence further indicates that higher rates of healthcare-associated infections, unplanned extubation, postoperative complications and even mortality among patients in Intensive Care Units and wider hospital care.[14,15] Moreover, it has been demonstrated how understaffing specifically restricts opportunities for hospital nurses to provide the order of specific, persevering and personal interaction often required by individuals in the greatest need - not least among patients with dementia syndromes. Short-staffing has been further associated with increases in clinical mistakes made, e.g. administration of the wrong

medication or dose,[16] and all of the above have been reported to have had negative consequences not only for patients, but also for practitioners' own senses of self-assurance.[14,17]

This order of concern is further developed in recent qualitative research in general radiography, which indicates how clinicians in the modern UK National Health Service (hereafter NHS) workforce rarely feel that they have time to be sensitive to the intricate interpersonal needs of patients, especially those most vulnerable, even when they are demonstrably well aware of them.[18-20] As such, both the actual and perceived need to 'rush on' to the next patient in broader staff-pressurised clinical environments can leave the practitioner conscious that (a) they have learned little from each encounter, and (b) that they may have 'short-changed' the patient in terms of the care that could ideally have been provided. It is reported that the personal and professional confidence of junior radiographers, in particular, is recurrently damaged as a result.[19]

With respect to the pertinent issue of healthcare management, meanwhile, both shortage and 'flux' in team constitution have been shown to deleteriously impact upon an individual's capacity to plan effectively and promote intra-team communication/coordination, all of which have strong implications for their own sense of professional worth *as* a departmental leader.[10,21] Indeed, and as Henwood and colleagues extensively demonstrate regarding leadership in the medical imaging domain, Consultant Radiographers typically rely upon a sense of consistency, and consistently reliable feedback, from other departmental staff in generating their own sense of self-efficacy.[22] In the absence of this order of consistency, a crisis of confidence often prevails.

What these studies particularly highlight is that, alongside the more widely documented consequences for patient health,[14,15] professional shortages in contemporary healthcare contexts

can impact upon staff at all levels in myriad ways, beyond straightforward matters of unmanageable workload and stress/injury.[2,12] Drawing on data collected from a large-scale qualitative investigation of Ultrasound Managers' perspectives on the present situation in UK sonography, thus, addressed herein are participants' concerns around their own confidence/capacity in understaffed departments, intra-departmental transfer of knowledge and expertise, and the associated matters of professional efficacy and workplace bonding that they observed among their staff.

Materials and methods

The investigative approach adopted was a thematic analysis of interview data, governed by the imperatives of a Straussian model of grounded theory.[5,23] This approach to the elucidation of healthcare issues has found extensive application in practical healthcare research to date.[5,24,25]

Participants

An opportunity sample of N=20 ultrasound department leads, predominantly from the North of England (in line with the imperatives of the funding body) was recruited; n=18 were female, n=2 were male. Amongst these, n=18 worked in public (NHS) departments, while n=2 were based in private medicine.[a] The public units included rurally-based district generals and urban teaching hospitals. Conditions of ethical approval, granted by the authors' institutional ethics panel (ref:

[a] Private unit managers were included in the original study to provide an external view to the NHS where and if relevant. In this paper, they provided no additional insight into the key matters at hand, and none of the data below emerge from their interviews.

15/30), determine that further accounting of participant demographics, on account of prospective confidentiality breaches within a particular professional community, cannot be made freely available.

Procedure

A semi-structured interview schedule was developed, based on open topics for discussion, so as to engender free talk rather than eliciting basic guided responses.[25] Interviews were conducted via telephone by the second author, over a period of two months, and subsequently transcribed verbatim. All data analysed in this paper emerged from the simple request "Do you have any comments on the current nationwide shortage of sonographers, and how this may be affecting your own department?" The participants engaged extensively, as evidenced by the body of evidence presented herein.

Analysis

Consonant with the approach described by Corbin and Strauss,[26] the authors collaboratively developed a set of grounded codes from the original transcripts, once all data were collected, which were then axially redeveloped. From this grouping-work, a set of local theoretical principles further emerged, herein termed 'higher-order' themes, each of which was verified by the full research team as descriptive of the broader issues in the data themselves.[25]

Results

All issues relevant to the core matters at hand, as raised by participants, were grouped into two interlinking higher-order themes.[b] These were:

1. Early retirement, late movement and knowledge economy;
2. Uncertainty, insecurity and professional efficacy.

These are described below with persistent reference to the participants' accounts of their real-world experience.[25]

1. Early retirement, late movement and knowledge economy

It was widely reported by participants that the workload pressures caused by short-staffing in many departments were perpetuating rates of early retirement, and often *ad-hoc* decisions to retire early or opt for shorter hours, for which it was very difficult (if not impossible) for a manager to plan (see also Theme 2).

> *"Just when you think you're getting towards full establishment, the older members of the team retire, or move into flexible retirement and drop their hours and then you have to start again."*

Moreover, in already short-staffed units where the main concerns were to accommodate demand on a day-to-day basis, there had often *"…not been a lot of forward thinking for people retiring* [early]*."* This issue was compounded by other seasoned sonographers leaving some of the most understaffed workplaces for 'greener pastures' in escalating numbers.

[b] Two further themes emergent of the same large data corpus are addressed in a prior paper.[5]

"[E]ach time we actually get one student who's qualified, one of the most experienced sonographers has left [for] another post in another hospital."

This recurrent 'decapitation' of the workforce had often multiple and often unsustainable impacts on-the-ground regarding knowledge-transfer.

"There are not enough sonographers being trained [here], there really aren't."

"[W]e haven't done as much training as other departments have, but that's probably down to our staffing levels."

"[Y]ou know someone's going to retire in the next five years then by the time you've trained your sonographers up you're already running short in that period, and then the older ones will start to retire."

In the most short-staffed units, a lack of end-career expertise simply shifted burden of expert knowledge-transfer onto settled (mostly middle-career) professionals, who are already shouldering the extra baseline work emergent of a lack of junior clinicians.

"[T]he staff feel pressurised to maintain training to a very high level to try and offset the fact that otherwise you might have no staff."

"[S]ome of the staff are now a little bit wary of training people with [working] stipulations that are unrealistic in a modern NHS. [They would have] been fine ten years ago, maybe, when the requirements on services weren't the same."

The impacts on departmental knowledge economies were not, however, so mechanical as to directly imply that 'short-staffed departments cannot provide sufficient training for new professionals'. Rather, a more nuanced picture emerged. Perhaps intuitively, it was made clear by some participants that the *need* for training/mentoring capacity was significantly reduced in departments where junior sonographers were being recruited in minimal numbers. In these departments, the pressure on incumbent professionals was largely functional; i.e. they were having to conduct all of the everyday procedures that might otherwise have been spread between a variety of grades. In others, meanwhile, where junior staff were regularly recruited but then moved-on quickly, there was an expectation upon this middle stratum to provide a continual cycle of 'entry grade' mentorship, while also handling their own tasks, and many of the tasks that senior clinicians would otherwise have fulfilled. In both cases, however, the core working pressure remained.

> *"[T]hey're already under pressure to deliver for every other element of the service on the timescales they've got to deliver things on and there's pressure to train other [younger] professionals in ultrasound as well so that they can move their career along…and that does make it very unsettling for [these] staff members."*

As further elucidated in Theme 2, it was recurrently observed by participants that even experienced sonographers still often required an intellectual 'safety net' of their own. Where this was absent, or in short-supply, serious issues around professional efficacy often emerged as concerns.

2. Uncertainty, insecurity and professional efficacy

It is clear, from the perspectives of the participants, that the outcomes of staff shortage are key psychological concerns for all involved in a modern NHS unit, governed by often insurmountable goals;

> *"[T]he shortfall makes running an ultrasound department, let alone being a sonographer very, very stressful, because, obviously the targets are there that we have to meet, diagnostic targets."*

For the participating managers themselves, such stress was most directly an output of attempting to make concrete plans for their department's future when the workforce therein was (a) often short-handed, and (b) the constituent personnel in real or prospective flux, particularly at the most junior and senior levels. This often rendered strategy documents obsolete before they were even finished, and caused some participants to experience active insecurity about the degree to which their departmental situation allowed them to provide any form of consistent, meaningful leadership.

> *`"[I]t makes it very difficult to ensure your long term provision, and also service development, because you can't always rely on the fact that your current staffing levels will be maintained."*

> *"I've got four members of staff who could hand in their retirement notice at any point, and if that happens, the department would not be able to function."*

It was a further concern for most participants that the same instability-related issues around everyday personnel that undermined their own confidence to lead their department could also destabilise professional self-efficacy among sonographers themselves. Perhaps predictably, and

unlike many public sector professions in the current economic climate, job security itself was not reported as a major worry for the working sonographers in the participants' units. Indeed, the only emergent concern in this respect was reported to be that an under-staffed department might have to close certain provisions (such as remote clinics) and, even then, it was understood that there would always be jobs available elsewhere for staff, even if moving to 'elsewhere' was not an entirely desirable option for them. Participants did report, however, that the present workforce knowing which peers would be in the coffee room at any given time, and (relatedly) who a given sonographer might turn to for guidance/reassurance on any given day, played a key role in both workplace social solidarity and core professional efficacy. Consequently, where such certainty was absent, participants reported an increasingly anxious staffing-base who were progressively less socially and intellectually confident in their workplace roles.

> *"Well, the whole thing, it's disruptive to all the staff, they don't feel secure in their positions."*

> *"I've seen them on the verge of tears when they heard that [SONOGRAPHER'S NAME] was going to retire ahead of time…[S]o many of them relied on her for guidance."*

> *"I'm worried that once [the younger staff] feel that they are no longer learning and they realise how tough a sonographer's job now is that there might be even more drop-outs."*

This issue was primordially voiced around an assumption that long-standing sonographers would be standing fixtures until a normal retirement age. In short, and even in short-staffed departments, stability borne of having long-standing professionals on-board was often seen as being just as valuable for morale as having a fully-staffed department. In this particular respect,

and crucially, participants often viewed that the actual number of staff departures from their department was no less damaging to the collective sense of professional confidence - for managers and clinicians alike - than the *anxiety* of losing (particularly, though not exclusively, senior) staff.

> *"I just worry for the future because we've got quite a lot of our sonographers who could [leave] at any point really, they're at that stage where they could go at their whim and it not be the end of the world for them."*

> *"[T]hey all want to think their mates will be there for coffee forever. But they know they might leave [for somewhere else] at any time, because the job here now is, well, it's killing them."*

> *"[W]e all worry that [colleagues] will go and we won't be able to bring anyone in."*

A sense of depleted social morale was, meanwhile, regularly reported to have been exacerbated by the recurrent (and necessary) use of locums, who the permanent staff knew would likely be their colleagues for weeks at best. Consequently, the local sense of stable professional community was further undermined.

> *"The locums come in and, you know, they're nice people…but the staff are funny around them because they'll be off soon and [if] they live close by they'll possibly make friends. Mostly…[though], it's just 'hello goodbye'…it's not great."*

Discussion

The accounts described above indicate some issues endemic to contemporary literature on staffing shortages in healthcare; workload-related stress and - to some extent - the spiralling principle of "burnout contagion."[11] Equally, there was a recurrent concern, given early retirement and persistent migration issues, about who might pass on valuable knowledge to whom in the future.[5] Connectedly, and perhaps the most novel element emergent above, however, is how participants recurrently noted that the most damaging local consequences of the nationwide UK sonographer shortage,[5] in terms of departmental morale, were not necessarily those that arose directly from local levels of understaffing, lack of hard knowledge-transfer and/or increased workload pressure. Indeed, it is well documented in extant literature that shared experience across many difficult practical contexts of this order can often *advance* social bonding; i.e. the sense that 'we're all in this together'.[27,28] Rather, it was both the reality and the intimation of loss - i.e. the sense that colleagues do and might depart unexpectedly and at any time - that was identified by most participants as having had the most detrimental impacts upon general social wellbeing, and also professional self-efficacy, among their employees.

In this respect, enhanced rates of late-career migration and early retirement in the contemporary ultrasound economy (largely due to increasingly punishing workloads in the most short-staffed departments) were reported to be particularly damaging for current staff, in terms of current support and prospective learning.[5] It is widely documented that senior professionals in medical domains can provide both intellectual and social stability for junior and mid-career professionals alike, often in the form of direct or indirect mentorship.[29] Even when they not do not necessarily hold an emotionally-positive standing among less experienced staff, senior clinicians can still represent an important nexus of technical knowledge-transfer; a professional safety-net and consistent interpersonal presence. More commonly, however, they have been

demonstrated to provide a full raft of technical, psychological and social reassurances that are integral to the ongoing development of individuals within their locale, and thus to a profession itself.[29,30][c] The current situation in UK ultrasound, as articulated by participants in the present study, speaks to a circumstance in which the regular 'decapitation' of a workforce through premature retirement and late-career migration - particularly in departments already struggling with a lack of clinicians - not only prematurely denudes those departments of clinical expertise and social consistency, but gives the remaining staff greater cause to worry about future losses.

With further reference to this matter, one might observe that the *anticipation* of loss is a persistent theme in modern psychology, addressing issues from an impending death to the prospect of being de-friended by a popular individual on Facebook.[31,32] While the level and quality of impact of anticipated loss upon an individual varies according to the level and quality of investment in a relationship itself, hard evidence indicates that anxieties such as this can output in a high order of cognitive distraction, which somewhat inevitably correlates with depleted performance quality in day-to-day tasks.[33] Literature in the broader healthcare domain has rarely addressed such a matter outside of the business of healthcare professionals worrying about the loss of their *own* jobs.[34] As such, the type of workplace instability thus far described might well indicate a hitherto unanticipated contingency of the UK's sonographer shortage, and staffing shortages in healthcare elsewhere.

The data above also give cause for reflection on the key position of the participants themselves, a number of whom similarly articulated that their most difficult day-to-day problems also did not arise inexorably from short-staffing itself, but - for want of a better metaphor - from

[c] It is rare, though not undocumented, for a senior clinician to be a counter-productive force in this respect.[36]

building houses on shifting sands. With respect to the pertinent business of practical organisational management, it has been well-demonstrated that the persistent team member change, through internal or external movement of personnel, can have powerful detrimental consequences for a manager's capacity (and confidence) to coordinate a team at all, and the team's performance as a result.[21] For the vast majority of participants in this study, the reality of planning for the future in an understaffed ultrasound department was simply a pragmatic 'given'. This status-quo was broadly deemed unfortunate, but ultimately manageable. It was issues of unpredictable migration,[5] early retirement and corollary losses to stress/injury that were reported to have undermined their efforts to plan and, in turn - in some cases - destabilised their own senses of professional self-efficacy. In short, even those in the most difficult departmental positions generally felt fully capable of managing a difficult system, but not an inherently unstable one. As described by Booth, Henwood and Miller,[22] professional self-efficacy in medical imaging leadership can often rest on even the softest, subjective measures of workplace certainty, but on certainty nevertheless. Some of the participants in this study, in contemporary UK ultrasound, were actively struggling to find any degree of professional confidence, given the transitory nature of their staffing-base and, thus, the apparent implausibility of planning beyond the immediate.

Conclusion

As is the case with any study of this form, one should not imagine that the findings herein are descriptive of all matters relevant to the central topic, nor that the resultant analysis is fully indicative of all concerns pertinent to every participant.[5] Research of this order is, as David Silverman notes, designed to open up the nuances of debate rather than close them down.[35] In

these terms, two novel issues for future investigation have emerged for broad practical consideration in the ultrasound domain.

What is clear was that ultrasound managers themselves were potentially disadvantaged in their roles as much, if not more, by a contemporary migratory economy in UK ultrasound as they were by simple short-staffing. Planning around a stable short-staffed department was seen as a necessary evil. Planning around a department in constant flux, however, undermined all forward-thinking capacity and, by extension, their own sense of leadership efficacy. Secondly, these managers' observations indicated that their staff were progressively suffering from an anxiety borne of uncertainty regarding the future of their professional and social contacts within a department. Extant psychological literature would posit that said staff are additionally cognitively loaded (above basic high workload issues) in a manner that works in detriment to their daily performance. This is an issue that self-evidently requires triangulation from the position of working sonographers themselves. If demonstrated to be the case, it would indicate a secondary order of stress not hitherto addressed in many areas of healthcare contemporary research; the persistent intimation of loss, and the local consequences of this.

Ideally, the analysis above has qualitatively pointed to how a nuanced understanding of the UK's sonographer shortage, and how it manifests at the local level, can reveal very particular, rather than general, corollary problems for the agents involved. As such, the contention herein is that future research might be built upon these specifics, rather than the undifferentiated proposition that 'there are not enough sonographers'.

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