Daniel Stuart Darbyshire MBBS, MRCS, MRCEM, MMEd, FHEA.

AN ETHNOGRAPHIC STUDY OF THE RETENTION OF DOCTORS IN EMERGENCY MEDICINE: MATERIALITIES, RETENTION WORK, AND STRATEGIES

This thesis is submitted for the degree of Doctor of Philosophy (PhD)

Lancaster University

Lancaster Medical School, Faculty of Health and Medicine

Submitted March 2022

Daniel Stuart Darbyshire MBBS, MRCS, MRCEM, MMEd, FHEA.

AN ETHNOGRAPHIC STUDY OF THE RETENTION OF DOCTORS IN EMERGENCY MEDICINE: MATERIALITIES, RETENTION WORK, AND STRATEGIES

Abstract

Demand on emergency departments has increased more than staff numbers, contributing to a problem with medical staffing that is politicised and emotive. Research on staff retention is decontextualised and has produced an ever-increasing list of factors of uncertain importance leading to a superficial understanding of retention in healthcare. This study aimed to gain a deep understanding of retention in emergency medicine, elucidate how retention is made possible, and make policy and practice recommendations.

I conducted 11 weeks of ethnographic observation in a single emergency department, focusing on contextualised day-to-day practices of emergency physicians of all grades. I interviewed 21 emergency physicians from two emergency departments, ten emergency physicians who had left the profession, and ten individuals holding leadership roles with stakeholder organisations. An ethnomethodological lens allowed me to draw out the day-to-day practices from the data. Reflexive thematic analysis provided structure to the analysis and facilitated incorporating grey literature.

The results showed how emergency physicians performed routine work to facilitate their retention. They did this using objects and space, which I called “materialities of retention”, and actions that l labelled “retention work”. Examples of retention work include humour, education, and building communities of practice. Portfolio careers and less than full time working were also employed as retention strategies. Emergency physicians utilised mentors, mostly informally, to navigate their careers and to take steps to facilitate their retention.

This thesis has developed novel understandings of the importance of day-to-day objects and practices for retention. Policymakers, managers, and practitioners can enable emergency physicians to make their careers sustainable by facilitating retention work and strategies.

Table of contents

List of tables

List of figures

Acknowledgments

I would like to thank my team of supervisors for helping me through the, at times, difficult journey that has been getting this document done. Individually each supervisor has been fantastic. But even more so as a team. Dr Dawn Goodwin and Dr Liz Brewster did most of the heavy lifting. Guiding me from a half-formed idea, through success and failure in obtaining funding, into completing the study and writing it up. This document would probably not be complete without their input, let alone any good. In the five years that I have known Dawn and Liz, a lot has happened, and their support has been unwavering.

My other two supervisors had a more strategic role. Professor Rachel Isba provided critical but friendly views on my writing and has helped me navigate clinical academia at my institution. Professor Richard Body has helped with the final push on several occasions, getting funding, obtaining research ethics approvals, and publishing the study protocol and scoping review.

I would like to acknowledge the funders' role, not just in providing financial support but also for the constructive feedback on both successful and unsuccessful applications. I received similar feedback from the Lancaster Research Ethics Committee, peer-reviewers, and those involved in the public and professional involvement. I am grateful for the time, effort, and insights from all this feedback.

Lancaster has welcomed me warmly. I would like to recognise the research training offered, the support of the small but friendly groups of clinical academics and PhD students, and the support with peer-review of my funding applications. In particular, I would like to thank Will Medd for the coaching and writing development.

I would also like to thank my clinical colleagues at Salford Royal for helping me to retain my skills and confidence while focusing mainly on my PhD. They were a fantastic team to face the challenges of the pandemic with.

Finally, and most importantly, I would like to thank my family for their unwavering support. My wife, Emma, and I have been through a lot while I have been doing this PhD. Our dog Lady needing emergency spinal surgery could have been a bad omen. The birth of our son Walker could have been a good omen. Moving house during the pandemic was probably an omen of stupidity. Either way, I recognise that life might have been easier if I hadn't chosen this path. Not that they made me feel like this. Emma, Walker, and Lady—and my Mum and my in-laws Janice and Martin—have done everything they could to help me. Thank you.

Author's declaration

This thesis is my own work and has not been submitted in substantially the same form for the award of a higher degree elsewhere.

Work supporting the thesis, which was conducted alongside it, that has been published elsewhere is as follows:

Scoping review protocol:

Darbyshire, D., Brewster, L., Isba, R., Body, R., & Goodwin, D. (2020). Retention of doctors in emergency medicine: a scoping review protocol. *JBI Evidence Synthesis*, *18*(1), 154–162. 10.11124/JBISRIR-D-19-00108

Scoping review of academic literature:

Darbyshire, D., Brewster, L., Isba, R., Basit, Usama., Goodwin, Dawn. (2021). Retention of doctors in emergency medicine: a scoping review of the academic literature. *Emergency Medicine Journal*, 38,663-672. 10.1136/emermed-2020-210450

Study protocol:

Darbyshire, D., Brewster, L., Isba, R., Body, R., & Goodwin, D. (2020). 'Where have all the doctors gone?' A protocol for an ethnographic study of the retention problem in emergency medicine in the UK. *BMJ Open*, *10*, e038229. 10.1136/bmjopen-2020-038229

Word count: 80,952

Daniel Darbyshire, 31st March 2022

Prologue

I officially started my doctoral studies in October 2018. However, the thinking and work of the study started long before the doctorate, and development did not stop at the official start date. My aim in this prologue is for the reader to understand the decisions I made in the thesis proper by reflecting on the development of the project.

My journey to studying emergency physician's careers

My interest in healthcare careers began sometime during my first two years as a doctor completing an academic foundation programme from 2009 to 2011.[1] During which I started a study into early academic careers, a case-study of the academic foundation programme in the North-West, which went on to form the dissertation for my master's degree. My primary finding was that doctors expected something akin to a course with a clear structure when completing an academic foundation programme. This finding perhaps reflected their recent experience with their medical degree and contrasted with the expectations of those supervising the academic foundation programme, who valued an authentic representation of clinical-academic practice, which is highly self-driven and lacking in structure (Darbyshire *et al.*, 2019b, 2019a). Central to developing this insight was integrating the views of both parties and incorporating the literature. It also highlighted to me that sometimes the most pertinent finding could exist in the space between, in this case, expectation and reality. These two features are something that I have held onto in this thesis, the utility of different viewpoints and the importance of looking not just at the data but at where the data sits to develop understandings that go beyond the superficial.

Between 2011 and 2014, I worked outside of a recognised training programme to develop specific skills such as teaching, finished my master's degree, volunteered in a low-income country, and figured out what direction I wanted my clinical career to take.

[1] The foundation programme is the two-year structured training that newly qualified doctors undertake in the UK. It generally consists of six four-month jobs in different specialties. The academic foundation programme also aims to provide an experience of research, leadership, or teaching. My academic foundation programme was medical education themed, and I was given between half and a full day each week alongside clinical jobs. The years of the foundation programme are sometimes referred to as F1/F2 or FY1/FY2 in reference material and by interviewees.

I chose emergency medicine, attracted to the variety of clinical work and the positive experiences I had of the specialty as a foundation doctor and while working as a locum[2] on and off to fund my master's degree and volunteer work.

I did not have to work in emergency medicine long to see the exodus of doctors (and nurses, porters, and healthcare assistants) and to feel the strain that being short-staffed places on those who remain. Many of the people I went to medical school with, or completed some of my training with, left the National Health Service (NHS). Some returned, but many have not. Others have left medicine entirely. The reasons people gave for leaving the NHS, or medicine in general, were complex, intertwined, and overlapping, but no two stories were identical. Discussions within the academic literature and in documents from national bodies such as the Royal College of Emergency Medicine (RCEM), the British Medical Association (BMA), and NHS Employers often simplify explanations down to single factors. Recurring issues are mental and physical ill-health, better pay and conditions outside of the UK, dissatisfaction with the realities of working in medicine, or despair at deteriorating working conditions. While one factor may be paramount for a particular individual, my experience was that such factors did not act in isolation.

Noticing this problem with emergency medicine careers while navigating the early stages of training myself led me to think about the problem in two ways. First, selfishly, I was thinking about how I could work in the specialty long term, when many others had chosen, for eminently sensible reasons, not to do so. I looked at the people I worked with who seemed to thrive under challenging circumstances and reflected on my strengths and vulnerabilities. My academic background led me to consider combining clinical work with research. At the same time, the problem with emergency medicine careers—as I was beginning to conceptualise it—looked like a promising candidate for doctoral study. A PhD is a necessity for a clinical-academic career. Emergency medicine

[2] Definition of locum or locum tenens: "one filling an office for a time or temporarily taking the place of another—used especially of a doctor or clergyman" (Merriam-Webster, 2020). For me, this meant working across several emergency departments, generally picking up shifts last minute and ad hoc. The pay rate is higher than for regular staff, but this is balanced by the lack of employment protection and no guarantee of work.

careers had the advantage of being a sidestep, rather than a radical departure, from my previous work on early academic careers.

I do not remember exactly when I started thinking about researching the staffing problem in emergency medicine. However, I remember the first time I spoke about it in any formal setting. In July 2016, I presented my ideas at a regional training day to a group of my fellow trainees. I explored what might be driving doctors from emergency medicine and what protective factors might keep them. My thinking at that time, related to previous work I had done looking at early academic careers for medical doctors, came very much from a medical education perspective. These conversations helped reassure me that the topic was worthy of study and that it was interesting enough—both to me and in general—for doctoral research.

It was natural enough for me to start looking at medical education discourses to try and understand this; I had done research and written papers in this field, I had been to conferences, I knew people. The initial conversations within medical education led to a change in direction, moving me towards a focused look at what keeps doctors in emergency medicine rather than the phenomena of career change or specific factors that might drive people to leave. This refocusing of my gaze is important as it influenced how I thought about the problem. I spent several months developing the research proposal through the lens of medical education. However, I found that the theoretical and analytical tools from this scholarly field were not the right ones. I found interesting work on career decision making and transitioning from one role to another, for example, from trainee to consultant. However, I did not believe that these were the correct approaches to understanding retention in emergency medicine at that time. It may have been that the right tools were somewhere within medical education, but they were not visible to me. Regardless, the struggles I had finding the tools within the part of academia that I was most comfortable with led me to look more broadly and in different places.

Having read an article about junior doctors' career decision-making, I met with one of the authors. While this did not lead to a collaboration, it greatly encouraged me to look more broadly and just go and speak to more people about my ideas. Each meeting I had

was valuable in developing and shaping my ideas and questions, often in unpredictable ways. At one such meeting, with a researcher who was presenting at the same event I was in July 2016, I was introduced to the idea of doing ethnographic research and to the work of Mol, specifically *The Body Multiple* (2002). This led me to develop the idea that what happens in the workplace might be important for retention and that it might be possible to observe this. Recalling a presentation by an anaesthetist studying hip fracture anaesthesia using ethnography, I sought a meeting with them. In doing so, I found their supervisor and other academics whose expertise I thought might complement the study.

This study was developed over the months and years from my initial meeting with my now supervisors in April 2017. This development occurred through conversations and emails, writing grant applications that required ideas to be developed into plans, and through the iterant peer-review that is part of seeking money from competitive funding calls. The move to ethnography and forming the supervisory team allowed me to explore alternative schools of thought and approach the problem in different and exciting ways. That is where we are now, an ethnographic study of the retention problem in emergency medicine from a sociological perspective. By this, I mean approaching ethnography from a sociological standpoint and analysing the phenomenon of retention through the lens of a specific social scientific body of knowledge, using what Mills (2000) called “the sociological imagination”. I return to sociology in the methods, and each results chapter, along with the work of Mol (2002), which remains relevant. For now, I hope to have added texture to why *I* chose to study this problem in this way. The introduction proper defines and explores the research aim and objectives as well as contextualising the problem in both time and place. First, I provide the reader with a brief synopsis of each chapter to facilitate navigation through the thesis.

Chapter synopses

Introduction

This chapter defines the research aim and objectives, the significant contexts relevant to the study, and the scope and delimitations of the thesis. The central aim of the study is to gain a deep understanding of retention in emergency medicine.

Emergency medicine originated in the UK. It is now delivered by a range of professionals and is increasingly delivered by senior clinicians. Developments in the trainee workforce provide valuable insights into the broader staffing problem in the specialty.

The international healthcare workforce context—essentially rising demand and insufficient supply—impacts the staffing problem in emergency medicine in the UK. These contexts, including an awareness of the politicised nature of the NHS, are necessary to understand the retention problem in emergency medicine and requisite to any solutions. The clinical context provides evidence for the patient benefit of staff retention. This is supported with arguments that retention is good for organisational performance more broadly.

Literature review

In this chapter, I define retention and explore definitional inconsistencies in the wider literature. Many terms that are almost synonymous with retention are used in the literature. The literature directly pertaining to retention in emergency medicine is limited and deficient in context. A scoping review of this literature reveals that factors such are burnout, working conditions, supervision, and workloads are related to leaving the specialty, but these are insufficient to explain the problem in full. The chapter also outlines ethnographic studies in the emergency department, which show the type of work done and how it can be conceptualised. They add necessary context to the literature underpinning this study.

Methodology

The ethnomethodologically informed nature the study—a focus on the day-to-day elements of work—opens this chapter. I explain how ethnomethodology can be used to explore the problem of retention in emergency medicine. Short-term and multi-sited

ethnography are elements of the array of ethnographic approaches available. They allowed me to conduct research within the constraints of the context of this study. Interviews with relevant stakeholders in emergency medicine helped me to elucidate relevant contextual factors. This chapter also outlines my approach to reflexivity, a key part of the research considering my background as an emergency medicine doctor.

The study methods involved 11 weeks of fieldwork and 41 interviews. The data I collected was analysed using reflexive thematic analysis. The influences on the study, including a reflection on the impact of the COVID-19 pandemic, are contained in this chapter.

Results chapters

The results are presented across five chapters. The first focuses on the objects and space of the emergency department and how emergency physicians work with these. The sensory elements of the space, three different objects, and the action of repurposing space provide day-to-day examples of how retention is done in the emergency department.

The next three results chapters each address a different form of retention work. Humour, education, and community are ways that emergency physicians are active in making retention. Combined, they show that retention is an active process and built in the day-to-day work done in the emergency department.

The final results chapter steps back from the emergency department and explores emergency physicians' strategies to make their careers more sustainable. Working less than full time and portfolio careers are important retention strategies. Mentors help people navigate them. Rotas and working patterns impact the work and home lives of emergency physicians. Done well, they help retention.

Discussion

Here, I delineate the gaps in the literature and how this study addresses them. I work through the aim and objectives of the thesis to show how they have been met, including making policy recommendations. The strengths and limitations of the study are discussed, and I provide recommendations for future research.

In this chapter I also aim to show the unique contributions of the thesis including how intentional policies around retention, less than full time working for example, are enacted in practice, and how many unintentional (mundane) practices sit alongside that to create the ongoing act of retention. There are also findings about care, trust, peer and social support which are novel when considered in relation to retention

Chapter 1: Introduction

Understanding of the NHS staffing crisis is mainly based on research involving those who have left and the factors that partly explain why. Despite many of my colleagues leaving, no one seemed interested in those who stayed, why I stayed. One possible explanation is that I had not experienced the push factors that seem to explain the exodus of other NHS doctors. This is quickly quashed. I have worked in the overcrowded, understaffed, and dangerous department, I have endured the long commute, I have had patients from babies to the elderly, and every age in between suffer and die. I have been affected by these experiences.

Furthermore, I am not alone. I do not think you could find a doctor who had worked in emergency medicine and did not have these experiences. They are daily occurrences. Yes, some might cite a combination of experiences, or one particularly impactful occurrence, as their reason for leaving, but those who stay have had these experiences as well.

Error, death, sub-optimal working conditions, burnout,[3] and stress are ubiquitous in emergency medicine. For some people, this makes up part of the complex milieu that drives them from the specialty, work within the NHS, or medicine more broadly. For others, this is their day-to-day. And they survive. Some even thrive. I explore this in this thesis; I try and understand those who stay. What is it about them and their interaction with the noisy, crowded, and stressful working environment and the people and groups therein that allows them to stay?

[3] Burnout is a psychological term used and misused in discussions about healthcare work. The International Classification of Disease (ICD-11) defines it as an occupational phenomenon, not a medical condition. It is defined as follows:
"Burnout is a syndrome conceptualised as resulting from chronic workplace stress that has not been successfully managed. It is characterised by three dimensions:

- feelings of energy depletion or exhaustion;
- increased mental distance from one's job, or feelings of negativism or cynicism related to one's job; and
- reduced professional efficacy.

Burnout refers specifically to phenomena in the occupational context and should not be applied to describe experiences in other areas of life" (World Health Organization, 2018).

Research aim and objectives

This study aimed to gain a deep understanding of retention in emergency medicine; to elucidate how retention is made possible. This aim required a study design that could tackle complexity and develop new understandings. The objectives were to:

- Understand in detail the day-to-day lived experience of emergency medicine doctors to identify and explore factors influencing retention.
- Situate these descriptions within the current educational and health policy contexts.
- Advance the debate and make policy and practice recommendations based on a detailed understanding of retention of medical staff in emergency medicine.

Contexts: national, global, political, clinical

Having defined the aim and objectives of the study, I now come to provide context. I do this in four overlapping sections. First, I describe the current emergency medicine workforce and how it came to be. This national, in some ways historical, context helps explain some idiosyncrasies of contemporary emergency medicine, many of which have been exported. Next, I describe the global context of the workforce challenges with a particular focus on emergency medicine. This links directly with the third context, that of the political nature of the problem. Finally, I make the argument that retention is good for patients. This reinforces the warrant for the study that I began to describe in the prologue.

National context: the UK's emergency medicine workforce

As the first country to appoint a casualty[4] consultant and the first to form a formal organisation to develop emergency medicine as a specialty (RCEM), the UK is a useful model to learn about the staffing of emergency departments. It is not my aim to

[4] Casualty is the historical name for the emergency department. Other names are accident and emergency, A&E, which is still commonly used in the UK. The United States generally use the term emergency room, ER.

recount the history of emergency medicine in the UK, but specific historical occurrences contextualise the current state of emergency medicine.

Two major trends in UK emergency medicine

The delivery of care in the emergency department is not the exclusive privilege of the emergency physician or emergency medicine trainee. Various clinicians provide a diverse range of care to patients with an impossibly varied range of conditions and needs. The emergency care workforce, which routinely includes general practitioners, physician associates,[5] and advanced clinical practitioners,[6] is growing in numbers and range of professionals.

Alongside the diversification of who delivers care to patients in the emergency department is another trend, a move towards specialism. Practitioners trained or training in emergency medicine provide emergency care. By comparison, in the past, it was often delivered by moonlighting specialists (Guly, 2005), rotating junior doctors and general practitioners, and sometimes an emergency medicine trainee.

A further, certainly linked, trend is a move towards senior decision maker[7] presence in the department—be that consultant or senior non-consultant grade clinician. The reasons for this trend are multiple, but I see two dominant factors. The first is the seemingly endless growth of demand for emergency care—attendances were up 5% from December 2018 to December 2019 (RCEM, 2020b), with an ageing population with increasingly complex medical and social problems often "blamed" for this. Whereas 30 years ago, it was not uncommon to empty an emergency department at midnight and have no patients arrive until the early hours. Now that scenario is so far from the current situation that it can seem nostalgic, even farcical. Departments are under pressure regarding attendances, acuity, and a full hospital. This has led to

[5] A physician associate (PA) is a healthcare practitioner who usually works under the indirect supervision of a physician, having received two years of training.
[6] An advanced clinical practitioner (ACP) is a healthcare practitioner (e.g., nurse, pharmacist, physiotherapist) who has completed master's level training to extend their scope of practice.
[7] "A senior decision maker is a clinician who can establish a diagnosis, define a care plan and discharge a patient without routine reference to a more senior clinician" (NHS Emergency Care Intensive Support Team, 2011, p. 8).

patients referred for admission having nowhere to go, known as exit block[8], and patients spending many hours on trolleys in the department (Kmietowicz, 2018). An additional trend is a drive towards quality and safety, with increasing recognition of the risky and error-laden nature of care for patients with undifferentiated problems (Graff *et al.*, 2002; Hassan *et al.*, 2013). These trends combine to generate a real momentum towards high-quality decision making, and therefore senior decision makers to be involved early in the care of patients presenting to the emergency department.

The trainee workforce

My account of the trend towards more clinicians, with greater experience, overseeing and providing care in the emergency department could disguise how bumpy and at times harmful this development has been to the workforce. An example highlighting some of the potential problems with large-scale change is how attempts to streamline medical training seemingly contributed to the retention problem.

Trainees in emergency medicine play an important binary role, service provision and consultants-in-training. They provide a large amount of the service provision, caring for a significant proportion of patients. In many settings, they are the sole senior decision maker out-of-hours (Heyworth *et al.*, 2011, p. 74). They are also future consultants, generally still having thirty-plus years of a consultant career after finishing training. Therefore, something affecting the trainee workforce is of immediate relevance to the present and future of the specialty. Until 2007, recruitment to emergency medicine was competitive, "the numbers of high quality applicants for higher training posts consistently exceeded vacancies" (Reynard and Brown, 2014, p. 612). The training programme was reasonably flexible, essentially involving time in an emergency department with secondments to other specialties to obtain certain competencies, such as anaesthetics to obtain airway management skills.

Attrition from training

In 2005 the government of the day implemented "Modernising Medical Careers" (MMC). First announced in 2004 (Department of Health, 2004) and intended to

[8] Exit block refers to when there are no beds to admit patients to, which quickly leads to nowhere for new patients to go, leading to "crowding".

streamline medical training, which was thought of as ad hoc and lacking structure, therefore making workforce planning difficult if not impossible. The initiative had doctors protesting in the streets and eventually led to the Tooke (2008) report into its failings.[9] While MMC created a more streamlined training programme, it also removed the previous way of training. This left trainees, many of whom would otherwise have been approaching consultant posts, either without access to the new programmes, having to start again, or facing unemployment. The subsequent uncertainty, combined with the new system's lack of flexibility, negatively impacted recruitment into many specialties, emergency medicine included. After much work by the then College of Emergency Medicine (now RCEM) and Health Education England (HEE, the statutory educational body for England) to improve the image of the specialty and the experience of trainees, recruitment to junior training posts reached 96% in 2011 (HEE, 2013).

Recruitment remains strong. Fill rates were higher than 97% in 2019, 2020 and 2021 (HEE, 2021). Yet, attrition from training programmes is unsustainably high (HEE, 2013; HEE *et al.*, 2017), something corroborated in a report from The King's Fund (2014), which stated that:

> While recruitment into emergency medicine is now high with most first-year emergency medicine training posts being occupied, problems with retention mean it has the greatest attrition rate of any medical specialty, with almost 50 per cent of registrar doctors in their third or fourth year of training resigning.
> (The King's Fund, 2014, p. 1)

A particularly useful source of information to try and understand the attrition from training in emergency medicine is the (almost) annual Emergency Medicine Trainees' Association (EMTA) survey. The survey was distributed to all trainees in the UK, with the first iteration conducted in 2013 and published in 2014 coordinated by the College of Emergency Medicine "in conjunction with" EMTA (Joy *et al.*, 2014, p. 1). Subsequent surveys were the work of EMTA alone (Archer *et al.*, 2016; Bailey *et al.*, 2017, 2018,

[9] The Tooke (2008) Report, or to give it its full title: "Aspiring to excellence. Findings and final recommendations of the independent inquiry into Modernising Medical Careers", was very critical of MMC.

2021). The perception that on completion of training and taking up a consultant post, work-life balance would remain unfavourable was one of the early and persistent findings of the survey (Joy *et al.*, 2014). This perception remains despite the positive reports of consultant work-life balance from consultants (James and Gerrard, 2017). Another recurrent finding was the impact of poorly designed, poorly managed, and inflexible rotas. This can mean that many trainees are not provided with their working hours until the last minute and still find it difficult to plan for everything from childcare to organising leave for their wedding (Bailey *et al.*, 2017, 2018).

Solutions to the problem of attrition from training

The repeated findings of the surveys have helped inform a selection of efforts trying to enhance the working lives of trainees, with the intention of improving retention. The less than full time (LTFT) pilot, introduced in 2017, was a direct response to the EMTA surveys and the General Medical Council (GMC, 2017) training environments survey, which stated that emergency medicine trainees reported the highest levels of work intensity. Ordinarily, doctors in postgraduate medical training require an extenuating circumstance to train LTFT, for instance, caring responsibilities or ill-health. The pilot removed the need to have a reason for going LTFT, merely requiring the trainee to apply within the specified timescale. The pilot recognised that allowing people to work LTFT before they become unwell, for example, might be one way of making emergency medicine training more sustainable and halting the chronic attrition from the training programme. Trainees took up the opportunity generally because they were "shattered" and had found training "mentally and emotionally exhausting" (Clancy, 2018, p. 6). Most thought that it had helped them to stay in training. The pilot has gained widespread support from RCEM and HEE and was extended for a fourth year for 2020/2021, with plans for a phased rollout across all medical specialties announced in 2021 (Golash and Lunat, 2021).

Another trend within emergency medicine training is the growth of stand-alone fellowships. These programmes tend to combine emergency medicine with something else, be that research, pre-hospital medicine or medical education, for example, in increasingly generous splits, often with added extras such as paying for a postgraduate qualification. These fellowships, for example, Bangor's "mountain medicine" fellowship,

were designed to attract doctors to departments that were traditionally hard to staff (Dykes, 2019). Some have been phenomenally popular, with leading departments managing to lose their reliance on locum doctors. The trends towards LTFT working and stand-alone fellowships point towards a return to flexibility in training in emergency medicine, a rejection of the treadmill structure of medical training implemented during MMC.

Global context: the international healthcare workforce

The main story of healthcare workers globally is that of shortage; demand is increasing alongside the global population, compounded by increasing life expectancy and the ability of healthcare to provide interventions to an increasingly expectant population. However, the shortfall is unevenly distributed—lower-income countries have it worse. A World Health Organization report for the *Third Global Forum on Human Resources for Health*, aimed at building momentum towards universal health coverage, noted that:

> Most countries with available data are reporting increases in the numbers and density of midwives, nurses and physicians: in some of these, however, the net gains in stock are not commensurate with population growth. (Campbell *et al.*, 2013, p. 24)

Building on this argument, Britnell (2019) noted that even the United States is predicted to be short 105,000 doctors and 1 million nurses by 2030. The scale of the global inequalities in healthcare workforce provision is difficult to comprehend. The numbers are vast, and the context abstract. Anyangwe and Mtonga (2007), in their article focusing on health workforce inequalities in the sub-Saharan Africa context, summarise it concisely:

> The Americas (mainly USA and Canada) are home to 14% of the world's population, bear only 10% of the world's disease burden, have 37% of the global health workforce and spend about 50% of the world's financial resources for health. Conversely, sub-Saharan Africa, with about 11% of the world's population bears over 24% of the global disease burden, is home to only 3% of the global health workforce, and spends less than 1% of the world's financial resources on health.
> (Anyangwe and Mtonga, 2007, p. 93)

As well as being too small to start with, not growing quickly enough, and being geographically unequal, the global healthcare workforce is mobile. This exacerbates inequalities, with healthcare workers moving from areas with lower pay (opportunities, quality of life, and safety) and healthcare worker provision to areas of higher pay and provision. High-income countries are recruiting trained healthcare workers from lower-income ones, with promises of higher pay and more opportunities. Training healthcare workers is expensive, and there is no remuneration for countries that are left depleted. Despite some benefits espoused for the exporting country, such as developing international professional networks and the currency that many expatriate healthcare workers send home, it is clear that "the adverse effects … are likely to predominate" (Pang *et al.*, 2002, p. 500).

International recruitment is a crucial part of the 2020 workforce plan for England (NHS England, 2021). It is unclear how "ethical international recruitment" (NHS England, 2021, p. 43) will work in the context of the neo-colonial (Horton, 2013) importing of health professionals from more resource-constrained environments. Moreover, historically the NHS in the UK "has heavily relied on professionals trained overseas to meet service demands" (Campbell *et al.*, 2013, p. 79). The exact nature of the staffing problem is unique to each specialty, each having its historical antecedents and political realities, and while the broader context informs the situation, it is only part of the story for emergency medicine.

UK emergency medicine in global context

At just over 50-years old, emergency medicine is one of the newer specialties in the UK. Following the first "Casualty" Consultant (Morris Ellis in Leeds) appointment, the specialty celebrated its fiftieth birthday in 2017. The model of emergency medicine in the UK, with dedicated training and senior clinicians, is mirrored in many countries such as Australia and New Zealand (reflecting the relative ease for UK emergency physicians to move to this practice setting) and the United States. As a result, this model of care is often referred to as the Anglo-American model (Sakr and Wardrope, 2000). The alternative model in a somewhat Western-centric dichotomy is the Franco-German model. The emergency department often exists as a physical space. However, care is provided by different specialties, for example, anaesthetists caring for the critically unwell, trauma surgeons caring for the severely injured, and paediatricians caring for children. The global context is complex, with historical linkages between countries, the timings of different stages of development, and the impact of political instability all playing a part. More developed, wealthier countries have more organised and effective systems, training, and regulation. In general, you will find the opposite in poorer countries.

In the context of a relatively new specialty and growing demand, emergency medicine internationally needs to develop its people and grow its workforce. This is what it is trying to do in a way that could be described as somewhat piecemeal and uncoordinated. Alternatively, and more positively, as ground up and focused on local needs. The growth outside of western-centric focus does not always look like it does in either the Anglo-American or Franco-German model. However, it does resemble examples of those models at different stages of their evolution. For instance, Rouhani (2018, p. 1) described an initiative from Haiti intended to address an "immediate need for emergency providers" that involved training established physicians over six-months by providing a specific emergency medicine curriculum. This medium-term approach had the disadvantage of neither creating any new physicians nor providing the in-depth multi-year training that, for example, the UK provides. However, it responded to local demands and used available resources effectively in a resource-limited setting.

Political context: linking the global, the local and the historical

The ability of healthcare economies to provide emergency care is increasing, but as already mentioned, not fast enough to meet demand. To ignore the global context when planning how to fix problems with medical staffing of emergency departments in the UK is, I would argue, immoral. In the UK, we can choose to train enough emergency physicians and develop the context in which they work into one conducive to retention. This is a political choice, as choosing to do this means spending public money and not spending it on something else. This is a choice available to less resource-constrained nations such as the UK; it is not a choice that is available in resource-limited settings. Nor is the choice in the UK binary; it is a complex situation with a history of competing professional interests, the politicisation of healthcare, and a service stretched to a greater degree year on year.

The NHS has been political from the outset. It is an example of socialised health, with the mantra—free at the point of delivery—aligning with the Labour government and socialist minister for health Aneurin Bevan, who introduced the legislation into parliament that led to its initiation (National Health Service Act, 1946). What is easily forgotten is that the NHS had support from the major political parties and that the initial 1942 White Paper was introduced by the Conservative minister for health Henry Willink (Webster, 2002). At its inception, the major resistance to the NHS came from within the medical profession, in stark contrast to the widespread professional support the institution has today (Nuffield Trust, 2019). The NHS continues to have support from across the political spectrum. Any discussion about wholesale privatisation being seen as a brave, or foolish, strategy almost certainly leading to the loss of public support and votes (Daisley, 2019). What the NHS looks like, how much direct state control is exerted over the delivery of the service, how much the private sector can contribute, and where the limits of free NHS care lay have always been controversial and debatable. This is demonstrated by the ongoing debates about the use of private companies to provide NHS services (Daisley, 2019; Keep Our NHS Public, 2019) and the repeated reconfiguration of NHS governance structures (Oliver, 2019).

Clinical context: staff retention and patient care

The idea that retaining emergency physicians and having a workforce with greater experience and numbers is good for patient care could be considered self-evident. However, more trained and experienced practitioners generally cost more in salary. The argument could be made that adequately trained, though less experienced and therefore cheaper, emergency physicians or practitioners from other professional groups may provide equally good care and be better value for money. Emergency medicine professional organisations use the approach of self-evident value (Heyworth *et al.*, 2011; Rosenau *et al.*, 2015; RCEM, 2019), though there is a more convincing, albeit still limited, evidence base for the positive link between retention of emergency physicians and patient outcomes. The evidence for the value of experience in emergency medicine, and therefore for retention of emergency physicians, can be summarised as more experienced and more senior doctors deliver better care. They perform fewer unnecessary tests and get fewer complaints, and experience is only gained by retaining doctors within the specialty (Geelhoed and Geelhoed, 2008; White *et al.*, 2010; Cole *et al.*, 2016).

In their study from two Scottish emergency departments, White et al. (2010) found that senior decision maker[7] input improved decisions around disposition, a particularly important part of the patient's journey as discharge versus admission is one of the decisions where risk and cost are most pronounced. They recorded the diagnosis and provisional plan for 556 patients initially seen by a less experienced doctor who underwent review by a senior decision maker. The authors found a 15.8% reduction in admission rate—of the 165 patients with an initial plan to be admitted, 26 were discharged immediately with no follow-up. A similar pattern was seen for patients initially planned for discharge, specialty review, or referral. The authors followed up each patient at seven days and did not find that the changes implemented by the senior review had led to more readmissions than would otherwise be expected. This study is evidence that senior review can improve decisions about admission and discharge and the utilisation of resources in terms of specialty colleagues. All of which is likely to improve the value of the care in the emergency department.

In their study from Australia, Geelhoed and Geelhoed (2008) performed a retrospective observational study over ten years in a tertiary paediatric emergency department.[10] They looked not only at measures of performance but aimed to include an assessment of cost-saving. During this period consultant numbers increased, but other staff numbers remained static. They found a decrease in the proportion of children admitted by 27%, a fall in average waiting time of 15%, and the number of complaints reduced by 41%. The cost of the additional consultants for the study period was around one million Australian dollars, clearly offset by the net saving of the performance improvements of over nine million Australian dollars. This study cannot delineate a causative relationship, and the suggested correlation is at risk of bias inherent to the methodology. However, even if only a proportion of the demonstrated relationship is due to seniority, I would argue this is further, albeit tangential, evidence regarding the importance of retention.

Beyond cost saving and abstract performance measures, such as admission rate, there is some evidence that senior clinician involvement can save lives. The introduction of the Major Trauma Networks in 2010, which incorporated consultant-led care for severely injured patients in London, saved an estimated 58 lives in the first year (extrapolated from a decrease in crude mortality by more than half for the most severely injured patients) (Cole *et al.*, 2016). Consultant-led care was only part of the intervention, with centralisation of services and improved systems and processes likely contributing to the quoted improvement in clinical outcome. Like the Australian study from Geelhoed and Geelhoed (2008), if only a proportion of the reported improvement is down to seniority, then I would argue this study offers further evidence as to the rationale of studying, and trying to improve, retention.

Turnover and organisational performance

The cost-saving associated with improving retention (or reducing turnover) is not easy to define in the context of the NHS. Turnover can be defined as the "unplanned loss of workers who voluntarily leave and whom employers would prefer to keep" (Frank *et al.*,

[10] In this context, primary refers to community—for example, general practice. Secondary care would be an emergency department, and a tertiary unit would offer a centralised service that all emergency departments do not, for example, major trauma. Most emergency departments and emergency physicians see children. In this example, the paediatric emergency department offers several specialist services not available in all emergency departments.

2004, p. 13) (other definitions related to retention will be explored further in the literature review). There is a lingering false belief in an optimum level of turnover. For example, the 2017 document from NHS Employers[11] entitled "Improving staff retention: a guide for employers" (NHS Employers, 2017, p. 3) stated that "all employers require a healthy level of staff turnover". Despite this, the business management literature is fairly consistent in stating that turnover is expensive in terms of money, human capital, and expertise and that this cost is consistently underestimated (Phillips and Connell, 2004, pp. 3–6). Perhaps this is why the idea of "a healthy level of staff turnover" is missing from the updated guide (NHS Employers, 2019).

The presumption that turnover is bad has gone largely unchallenged within the scholarly field of business management. However, in their meta-analytic review, Hancock et al. (2013) challenged the hypothesis that employee turnover is negatively correlated with organisational performance. They postulated that, as new employees are less expensive and that turnover may reduce stagnation, help innovation, and be targeted at poor performers who are in turn replaced by newer, better versions, turnover has a positive aspect. Combining the idea that too much and too little turnover is bad for organisational performance has led to the hypothesis that an inverted U-shaped relationship exists. This inverted U then suggests an inflexion point, a rate of turnover optimal for organisational performance by whatever measure being used (Figure 1). The meta-analytic review by Hancock et al. (2013) and a narrative review by Hausknecht and Trevor (2011) rejected the inverted-U hypothesis. "The performance consequences of a zero-turnover rate are not very different from low turnover" (Hancock *et al.*, 2013, p. 20). While a straight line between turnover and performance is overly simplistic, the heuristic that "lower turnover is better" (Hausknecht and Trevor, 2011, p. 21) will serve practitioners and researchers well. This heuristic is one that I will apply in the context of this thesis.

[11] NHS Employers represents NHS organisations as employers. They negotiate contracts and terms and conditions on behalf of the government and produce best practice guidelines related to employment matters.

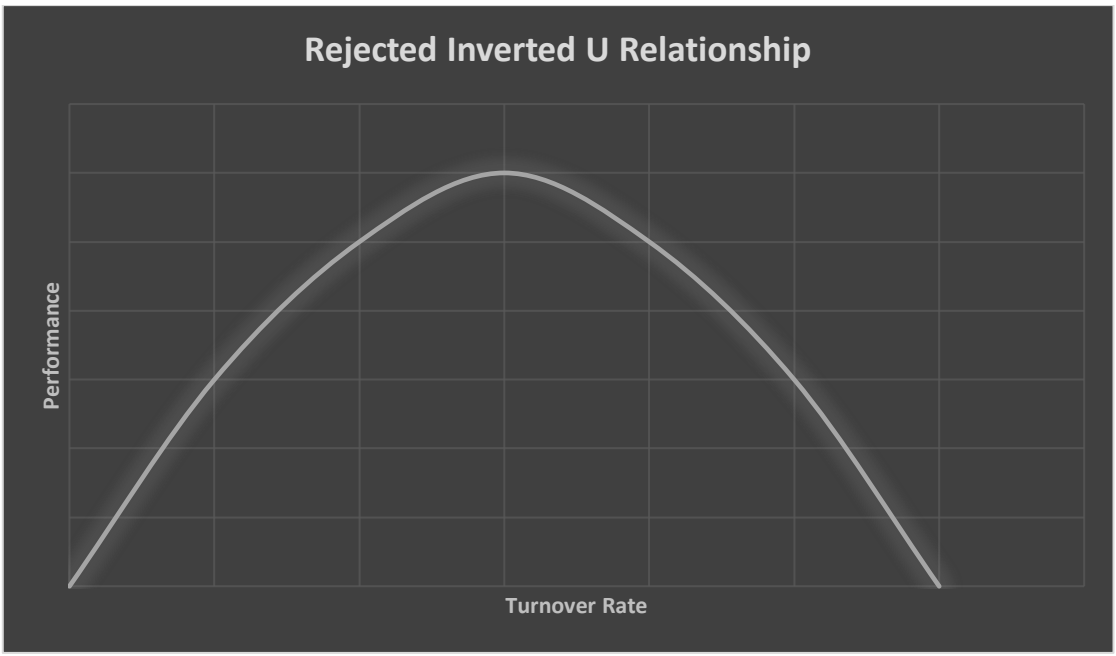


Figure 1. Conceptual inverted U relationship between turnover and performance.
As turnover rises, performance falls, but below a certain level of turnover, performance also falls. The point on the curve where performance is highest is the inflexion point, the postulated ideal turnover rate. This relationship was tested and rejected by Hausknecht and Trevor (2011) and Hancock et al. (2013).

This combination of clinical evidence that retention is associated with higher quality and better value care and the general heuristic that higher turnover is bad for organisational performance makes a convincing argument for the warrant of this study.

Scope and delimitations of the thesis

Having explored the context of the retention problem in emergency medicine and, in doing so, reinforced the rationale for studying it introduced in the prologue, I now move to define what the thesis does and does not cover. The first delimitation is my choice to limit my study to doctors. Doctors are an established professional group with a historical degree of prestige. It could be argued that resources would be better used studying more precarious professional groups. I would not dismiss this argument. These historical perceptions of prestige and the persisting power gradient that is part of this are reasons I chose to look inward. Being an emergency physician, I would feel somewhat intrusive studying the retention of emergency nurses. It would feel like research on another group, which I was adamant about avoiding. As an emergency physician, I believe that my experience and insight provides me with a useful perspective on the problem. I explore this in terms of “insider research” in the methodology chapter.

The second limit relates to the scholarly field. In the prologue, I explained how my focus changed from medical education to sociology, but I could have chosen complementary or conflicting approaches. As the literature review chapter demonstrates, research using psychological constructs, particularly burnout, are widespread. However, as I will argue, they are lacking in context. For decades, sociologists have been interested in the boundary between professions, especially medicine and nursing (Svensson, 1996). These interactions, and the supporting sociological literature, fall within the limit of the study but in a particular way. I am interested in how these interactions, as part of the work of emergency physicians in the emergency department, are enacted to generate retention. These interprofessional interactions can form *part* of the development of other findings herein, but they are not the focus. Interprofessional interactions are examined to ask if they are important for retention rather than a window into a sociological construct, such as power.

Returning to the aim and objectives of the study, the political, historical, and geographical context I have outlined above is vital for a deep understanding. This context, alongside my choice of method, facilitates the required depth of analysis. This works alongside the idea that retention is *made*, both by the work of the individual and the team in which they are situated, but also by the context—a context that is complex. I deal with this complexity by embracing it and focusing on the observable. Part of this context is educational and health policy, which the role of organisations such as HEE in the above discussion about the trainee workforce exemplifies. By conducting this study with such policy, I make it more contextually relevant and build policy recommendations to progress the existing structures.

Chapter summary

In this chapter, I have defined the aim and objectives of the study and discussed the major contexts which are important to start to address them. Emergency medicine originated in the UK. By exploring this and the trends towards diversification of the workforce and increased input of more senior clinicians, I have aimed to ground the thesis in the context that it takes place. A discussion of the trainee workforce shows how policy—in this instance, MMC—can have significant and long-lasting impacts on

the workforce and contribute to attrition from training. Solutions to this that have shown some success, LTFT working and stand-alone fellowships, suggest that the flexibility that MMC removed is vital for retention.

The global context is essentially one of healthcare workforce shortage. International recruitment is part of the proposed solution, and something the UK has relied on since the inception of the NHS. It is unlikely this can be achieved ethically. UK emergency medicine is developing as a specialty in this global context. The relationship of the UK to the broader global context is political, as is the context of the NHS.

The link between retention and patient outcomes is tenuous, with a limited number of studies demonstrating correlations between proxies for retention and proxies for high-quality care. However, when this is combined with studies demonstrating the benefits of reduced turnover for various organisational performance measures, a reasonably strong argument can be made for improving retention in the context of the NHS.

The chapter closes with a discussion of the scope and delineations of the study, which focuses on doctors, takes a primarily sociological lens, and aims to prioritise context. In the next chapter, I build on the contextual foundations in this introduction by interrogating the literature related to the retention of doctors in emergency medicine. Firstly, I explore the multiple terms related to retention and define what I mean by the term. I then review the literature directly pertaining to the retention of doctors in emergency medicine. A common theme (or criticism) of the literature in this part is that it is decontextualised, something that I aim to address. To do this, I inspect the literature based on observing work in the emergency department, specifically those employing ethnographic methods.

Chapter 2: Literature review

This chapter opens by defining how I use retention in this thesis. Following this I review various definitions of retention used across several scholarly fields to contextualise the definition I chose. Other terms related to—almost synonymous with—retention are then reviewed as these were included in the search for the scoping review presented later in the chapter. Relevant literature from related scholarly field and fields of practice, along with the literature on motives for career choice and retention are then reviewed. Next is the bulk of the chapter, a scoping review of the retention of doctors in emergency medicine which is a detailed summary of a paper that has been published in a peer-reviewed specialty journal (Darbyshire *et al.*, 2021). Taken together, the definitional work, the related work, and the literature directly related to retention in emergency medicine shows what can be learned from, but also the limits of, literature seeking to abstract the experience of working in the emergency department and understand the problem in a very narrow way. These bodies of literature lack context. The final part of the literature review draws on ethnographic studies conducted in the emergency department to show the type of work conducted there. By discussing these ethnographies, I aim to show how retention is amenable to ethnographic study and provide a sense of what work in the emergency department looks like including the character of the work, the stresses and strains, and also enjoyments of working in emergency medicine.

Defining retention

Retention is an important term to define in the context of this study. It might seem self-evident what the term means, but multiple overlapping meanings are in use, as I explore below. The term is used interchangeably with other terms, such as organisational commitment and career longevity, which do not necessarily share the exact definition.

I use the term retention in reference to its dictionary definition. The Merriam-Webster dictionary (2022d) has three descriptions that, when taken as a whole, clarify the meaning of the term "retention" without positioning it too tightly within a specific academic domain. These definitions are "the act of retaining", "the power of retaining",

and “something retained”. Retention, therefore, is something that can be done, be done in a particular way, and has been done. This brings us to “retain” (Merriam-Webster, 2022c), which is the transitive verb to the noun “retention”. The definition “to keep in possession or use” is helpful as it refers to both place and action. This definition is not time specific. A more technical definition may be required in certain contexts, such as testing an intervention to try and improve retention. As this study aimed to develop *understanding*, this is not needed here. Moving this definition from the abstract to the concrete using the research question clarifies things further. Retention as an “act”—actions that keep doctors in emergency medicine. The “power” of retention—the attributes of the department (for example, the work or the people) that keep doctors coming back to work. Retention as something which has been done so that something has been “retained”—doctors working in emergency medicine are, by definition, retained to some degree, for some period of time, be that months or decades.

The terms used in academic and policy documents around how long people stay in a particular job or organisation were inconsistent and lacked clarity. There were innumerable definitions used, and I do not seek to catalogue or examine them all. Instead, I have selected instances that demonstrate important differences and similarities between the meaning of retention used in this study and how it has been used in the literature. It is also worth noting that such an effort to exhaustively review the definitions used would face a particular problem—many of the studies, including most of them identified in this chapter, did not define their terms. The different definitions of retention related to efforts by (Frank *et al.*, 2004; Mehta *et al.*, 2014; Azeez, 2017), or the structure of (Azeez, 2017), the employing organisation to keep staff, or the proportion of workers still with an organisation after a period of time (Leveck and Jones, 1996; Hager and Brundey, 2004; Phillips and Connell, 2004). Table 1 outlines the definitions and their sources.

Source *Title*	Definition
Retention	
Human Resource Management Textbook *Managing Employee Retention: A Strategic Accountability Approach*	"the percentage of employees remaining in the organization. High levels of retention are desired in most job groups" (Phillips and Connell, 2004, p. 2).
Research in Nursing and Health *The Nursing Practice Environment, Staff Retention, and Quality of Care*	"the proportion of full-time staff nurses employed on a unit at the beginning of the study and remaining on the unit at the end of a 1-year period" (Leveck and Jones, 1996, p. 336).
Employee Retention	
Human Resource Planning *The Race for Talent: Retaining and Engaging Workers in the 21st Century*	"the effort by an employer to keep desirable workers in order to meet business objectives" (Frank et al., 2004, p. 13).
International Journal of Advance Research in Computer Science and Management Studies *Review Paper–Study on Employee Retention and Commitment*	"a technique adopted by businesses to maintain an effective workforce and at the same time meet operational requirements" (Mehta et al., 2014, p. 154).
Journal of Economics, Management and Trade *Human Resource Management Practices and Employee Retention: A Review of Literature*	"the hierarchical arrangements and practices utilised as a part of the organisation to keep key workers from leaving the association" (Azeez, 2017, p. 2).
Volunteer Retention	
Independent Research Organisation Report *Volunteer Management Practices and Retention of Volunteers*	The percentage of volunteers involved with the organisation 1-year ago who are still involved today (Hager and Brundey, 2004).

Table 1. Definitions of retention.
From the limited number of sources which define the term.

Two of the definitions explicitly referred to retention in terms of "percentage" (Hager and Brundey, 2004; Phillips and Connell, 2004, p. 2), while a third referred to a "proportion" (Leveck and Jones, 1996). Two of the definitions made further steps towards *measurability* by including reference to a period an employee (or volunteer) must stay for, one year in both cases (Leveck and Jones, 1996; Hager and Brundey, 2004), to be considered to have been retained. Both studies' choice of one year makes some sense in context. Keeping a volunteer for a year is good for the organisation and is correlated with longer-term retention (Hager and Brundey, 2004). However, in a study

of nursing, retention of a year was seemingly chosen for purely pragmatic reasons (Leveck and Jones, 1996), and it does not make sense for retaining emergency physicians, particularly at more senior grades.

These definitions give the reader an idea of what retention looks like and what a measure of retention might involve. However, I would argue that these definitions lack sufficient detail for measurement to take place. They require greater detail to be operational. What did Hager and Brundley (2004, p. 9) mean by "still involved as volunteers"? How do the realities of employment such as parental leave, secondments, and prolonged periods of sickness affect whether someone is "remaining on the unit at the end of a one-year period" (Leveck and Jones, 1996, p. 336)? Such details are fundamental for operational definitions regarding measurement. Phillips and Connell (2004, p. 2) were explicit in their definition that retention is positive. However, their caveat "for most job groups" left space for the idea that some types of work may be exempt, something that Hausknecht and Trevor (2011) and Hancock et al. (2013) countered in their rejection of the "inverted U hypothesis" discussed in the introduction.

The language of Frank et al. (2004, p. 13) went further. They separated those whom an employer would want to retain and those, presumably, that they could lose. They did this by talking about "desirable workers" without stating what they meant by this. Defining who is an undesirable worker in the context of human resources is a problem that I do not think can be answered without courting significant, justifiable controversy. Their definition shares something with the definition I am using, in that retention is effortful. They restrict this effort to that "by an employer", whereas I use the term as something done by any of the actors involved, be they employer or employee. Mehta et al. (2014, p. 154) also referred to retention as something done, though, for them, it was a "technique". Azeez (2017, p. 2) moved towards retention as more of a structure, though their "hierarchical arrangements and practices" are not without elements of retention as something done, in that the structures can be built and are amenable to change. Each of these definitions could provide a helpful basis on which to build *part* of the analysis. However, none provide the scope and clarity that a simple dictionary

definition can provide, something that is vital in the context of this study where I aimed to develop understanding rather than testing a priori hypotheses.

Terms almost synonymous with retention

As well as “retention”, the literature contained a myriad of other terms which overlap in stated definition and usage, with many used interchangeably. For example, Castro Lopes et al. (2017, p. 4) found, in their review of attrition from the healthcare workforce, that the word “attrition” was frequently used interchangeably with the terms “drop-outs”, “turnover”, “brain-drain”, “losses”, “premature departure”, and “separation”. Several commonly used terms for both staying in a role or leaving it are defined in Table 2.

Term related to staying in a role	Definition
Sustainable careers	"the sequence of an individual's different career experiences, reflected through a variety of patterns of continuity over time, crossing several social spaces, and characterised by individual agency, herewith providing meaning to the individual" (De Vos and Van de Heijden, 2015, p. 8).
Career longevity	"a fundamental metric that influences the overall legacy of an employee because for most individuals the measure of success is intrinsically related, although not perfectly correlated, to his or her career length" (Petersen et al., 2011, p. 18).
Employee/personnel loyalty	"may be measured in terms of expressed commitment to the organisation and its mission and in terms of length of employment" (Loveman, 1998, p. 23).
Organisational commitment	"the relative strength of an individual's identification with and involvement in a particular organization" (Mowday et al., 1978, p. 4).
Occupational embeddedness	"the totality of forces that keep people in their present occupations" (Feldman and Ng, 2007, p. 353).
Term related to leaving a role	**Definition**
Turnover	"unplanned loss of workers who voluntarily leave and whom employers would prefer to keep" (Frank et al., 2004, p. 13).
Intention to quit	"how often the respondents seriously considered quitting the job, whether they wanted to quit, and whether they were actually planning to quit" (Michaels and Spector, 1982, p. 55).
Exodus	Not defined in the accessed literature. The Cambridge Dictionary has a business English definition of "the movement of lots of people or things away from a place" (Cambridge English Dictionary, 2022)
Attrition	"exits from the workforce" (Castro Lopes et al., 2017, p. 1) generally presented as a rate over time.
Career mobility	"the transition from one position to another" (Forrier et al., 2009, p. 741).
Organisational change	"any change in the employing firm" (Feldman and Ng, 2007, p. 352).
Job change	"any substantial changes in work responsibilities, hierarchical levels, or titles within an organization. It includes internal promotions, transfers, and demotions" (Feldman and Ng, 2007, p. 352).
Occupational change	"transitions that require fundamentally new skills, routines, and work environments and require fundamentally new training, education, or vocational preparation" (Feldman and Ng, 2007, p. 352).

Table 2. Definitions of terms related to retention.
Initially developed for the scoping review on retention in emergency medicine (Darbyshire et al., 2021). The sources are from the business and management literature, expect Michaels and Spector (1982) which is from applied psychology, and the dictionary definition of "exodus".

The term other than retention that I use the most is "sustainable careers" or terms with considerable overlap, such as "sustainable working". This is a set of terms present in the

literature directly pertaining to emergency medicine and was referred to by interviewees in the results chapters. Smith and Dasan (2018, p. 498), in their pragmatic review of the literature describing the impact of increasing working pressures on staff in the emergency department, used the term "sustainable careers" as a policy imperative for the NHS. Fitzgerald et al. (2017) conducted 18 semi-structured interviews with emergency medicine consultants in the southwest of England. Their interpretative phenomenological analysis had the primary aim of exploring their experience of psychological wellbeing and distress. They found that "participants unanimously identified with the term 'sustainability' when describing their emotional and physical status" (Fitzgerald *et al.*, 2017, p. 5). The term sustainability was also found in various pieces of grey literature, notably the work of RCEM's Sustainable Working Practices Committee (SWPC).[12]

"Turnover" is the other term that many of the papers explored below used. This refers to people leaving and—though not in all definitions—being replaced. The definition of turnover and several of the definitions of retention share many similarities, albeit focused on the two different sides of the same story. The similarities between the definitions of retention and turnover (and all the other terms, see Table 2) allowed me to draw on literature that used these almost-synonymous terms. For this reason, a comprehensive search strategy employing most of the terms was used in the scoping review (Darbyshire *et al.*, 2020a, 2021) discussed in the opening of this chapter and expanded on in a later section. This allowed me to decide if I think the terms used in each case could be interpreted to mean retention as I have broadly defined.

Other practice areas and scholarly fields have addressed the problem of retention. In the following section I highlight key findings from literature that can help build understanding of retention in emergency medicine. This builds on the introduction section *Turnover and organisational performance* that draws on literature identified in a

[12] The SWPC is a committee of the RCEM established in June 2017 which aims to develop sustainable working in emergency medicine. It has around a dozen members, mostly consultants and fellows in emergency medicine, with additional representatives from trainee and non-consultant college memberships. As of July 2020, the committee added an advanced clinical practitioner representative. Notable outputs include guidance on flexible working and rotas (Hulbert and Galloway, 2019), engaging and retaining established staff (Dasan, 2018) and a wellness compendium for emergency medicine (Hewitt and Kennedy, 2019).

review of the Human Resources (Frank *et al.*, 2004; Phillips and Connell, 2004; Hausknecht and Trevor, 2011) and Business and Management (Hausknecht and Trevor, 2011; Hancock *et al.*, 2013) literature. These reviews, like those below, in the sections that precede the scoping review, and a review of ethnographies in the emergency department that follows the scoping review, happened early in the development of this thesis and consisted of focused integrative literature reviews (Torraco, 2005) aiming to understand how retention is understood in each arena. In each instance a key database was searched for specific terms and papers selected for initial screening based on the relevance of the title combined with review of the most highly cited twenty papers. From these, the included articles were identified. The search was supplemented by accessing literature cited in these studies and wider reading related to the thesis. This was a pragmatic approach to developing a "good enough" understanding (Gerring, 2011, p. 625) of multiple fields that might inform understanding of the research aim and objectives of the thesis. Summaries of this process are available in Appendix 1. For this chapter the key findings are organised into sections on understandings of retention from related scholarly fields, understandings of retention from related fields of practice, and motives for retention. This reflects the overlap of the areas searched (see Appendix 1 below) and organises the findings in a way that relates to the research aim and objectives.

Retention in related scholarly fields

Business and management approaches

Much of the literature related to workforce retention is from US Business and Management Schools and departments of Academic Human Resources. These two overlapping fields have both tended to focus on retention to organisations rather than to a particular profession. Studies often measured turnover using a narrow range of methodological approaches with 86% of studies measuring correlations between turnover and postulated correlates and 79% taking the form of a survey (Allen *et al.*, 2014). Research has prioritised the "accumulation process" (Dunne *et al.*, 2008, p. 273), that is economic growth and capital accumulation (Freire-Serén, 2002), as the prime outcome of organisations. Although the methods and positionality of this work is different to my own approach, the notion that retention is positive in terms of

organisational performance (Frank *et al.*, 2004; Phillips and Connell, 2004; Hausknecht and Trevor, 2011; Hancock *et al.*, 2013), discussed in the introduction above, was a pertinent finding for this thesis. This is supported by a body of literature demonstrating the high cost of turnover in multiple fields including teachers (Watlington *et al.*, 2010), hotel workers (Davidson *et al.*, 2010), and healthcare (Schloss *et al.*, 2009; Waldman *et al.*, 2010). Beyond the organisational benefits of retention these scholarly fields delineate factors that seem to influence retention in a wide range of settings and shows how turnover can significantly vary by professional group within a specific organisation.

A meta-analysis from Rubenstein et al. (2018) collated factors related to retention, which they termed "turnover antecedents", of which they identified 57 from 316 empirical studies. The authors statistically interrogated the data to decipher which antecedents were most important, however, they were limited by the completeness of the published data and that many studies measured turnover intention rather than turnover. Rubenstein et al. (2018) highlighted the large number of factors, each of which had at most a moderate influence on turnover, that may influence retention of emergency physicians. They divided these turnover antecedents into nine groups of factors with the first, individual attributes, including abilities and skills, age, agreeableness, children, conscientiousness, education, emotional stability, ethnicity/race, extraversion, internal motivation, locus of control, marital status, openness to experience, sex, and tenure. Factors that related to the job included job characteristics, job security, pay, role ambiguity, routinisation, task complexity, and workload. Factors related to attitudes included job satisfaction, organisational commitment, and job involvement. Factors related to personal conditions included coping, engagement, and stress/exhaustion. Factors related to the organisational context included centralisation of power, workplace climate, organisational prestige, size, and support. Factors related to the interface between the person and the work context included fit, influence, job embeddedness, justice, leadership, peer/group relations and work-life conflict. Alternative employment opportunities was a stand-alone external job market factor as was thinking about leaving. The final group of factors related to employee behaviours and included absenteeism, lateness, performance, and organisational citizenship behaviours (Rubenstein *et al.*, 2018, pp.

27–32). This long list of antecedents points towards retention having multiple factors of varying importance depending on the context in question.

Studies that looked at turnover between different groups within the same organisation revealed that there was often no, or very limited, correlation between the groups. This was reflected by factors influencing turnover, such as demographic diversity or organisation size, often having opposite effects on different groups within organisations (Hausknecht and Trevor, 2011). For example, Lu and Gursoy (2016) found significant differences between generations on measures of burnout, job satisfaction, and turnover in the hospitality industry, and Jackson et al. (1991) found that decreased similarities to the wider workforce, across several factors, predicted turnover but was not related to rates of promotion. Conversely some factors do seem to cross hierarchical boundaries, with union membership being widely and consistently correlated with lower rates of turnover (Hausknecht and Trevor, 2011). These findings are important as they highlight how studies can fail to reveal differences between groups such as a small subgroup having high turnover in an organisation with otherwise low turnover (Rubenstein *et al.*, 2018).

Health professions education

Some of the papers from this body of research refer to motives for career choice from medical student (Cleland *et al.*, 2017) to retirement (Cleland *et al.*, 2020), these are discussed in a subsequent section below. The bulk of research about retention in this academic field related to postgraduate trainees, in a similar way to those specific to emergency medicine (see The trainee workforce in Chapter 1 above). These studies delineate elements that contribute to retention such as feeling well supported and supervised correlating with higher satisfaction (Lennon *et al.*, 2020) or they identified problems that contribute to the retention problem such as poor job satisfaction (Ryan *et al.*, 2018). A small number of studies reflected the dominant analytical approaches of the business school and research in nursing and allied health professionals in correlating factors with turnover intention. For example, Xiao et al. (2021) found a correlation between a measure of person-group fit with job satisfaction and professional efficacy, and between person-job fit and turnover intention. For this thesis it is helpful to note that many of the findings from the broader research base from the business and

management school are echoed in the more focused, and much less extensive, health professions education literature.

Retention in related fields of practice

Nursing and allied health professionals

A systematic review of interventions to improve retention in early career nurses found that various educational approaches, for example preceptorship, mentorship, teaching and training correlated with retention (Brook *et al.*, 2019). Earlier reviews had similar findings (Hayes *et al.*, 2006; Moseley *et al.*, 2008; Mbemba *et al.*, 2013). Cosgrave et al. (2018) conducted semi-structured interviews with early career nurses and allied health professionals and found that early turnover intention was primarily influenced by professional satisfaction whereas later turnover intention related more to personal satisfaction. Estryn-Béhar et al. (2007) surveyed over 28,000 nurses from ten European countries and found that quality of teamwork, interpersonal relationships and career development opportunities were consistently correlated with intention to leave. Work-family conflict, burnout, and satisfaction with pay were also correlated but not in all nations.

An ethnographic study from Muir et al. (2022) (discussed here rather that the ethnography-specific section below) explored nurse burnout in the emergency department. The authors conducted an 18-month ethnography in a single United States emergency department and developed “an explanatory model of nurse burnout impacts”. They found that "the culture of burnout, driven by the perceived inevitability of burnout, unsafe staffing, leadership mistrust, and fear contributed to RN [registered nurse] turnover ideation’” (Muir *et al.*, 2022, p. 6). This adds to the research identified in the scoping review discussed below that linked burnout with retention (Goldberg *et al.*, 1996; Estryn-Béhar *et al.*, 2011) and also shows how an ethnographic approach can help gain understanding about factors related to retention.

Rural health care

The literature around attracting and retaining healthcare workers to rural settings, particularly for physicians, is notable for the social science approach running through it. The United States, Australia, and Canada all share a large geography and a centralisation

of medical training and expertise. As such, each has its own problem serving the large and disparate rural population. This is a discussion of place, different to that of profession or role. However, certain parts of this literature were helpful in understanding the problem in emergency medicine. In his study of retention of family practitioners in rural Kentucky in the United States, Cutchin (1997b, 1997a) argued that integration into the community is key. Indeed, retention and integration are so strongly linked in this context, they cannot exist independently of one another. Previous experience of rural practice was found to be important for retention, but that specific experience of the locale where the clinician was practicing was not (Cutchin, 1997a), that is that previous experience was related to retention to rural practice rather than retention to a particular place. This is helpful in interpreting the findings of this group of studies in the light of the retention problem in emergency medicine which I have considered in terms of the profession rather than the geographically located department. This finding was also reflected through the lens of medical education (Curran and Rourke, 2004; Rourke, 2010) and in the related problem of retention of teachers in rural settings (Goodpaster *et al.*, 2012). Though it was absent from the nursing human resources literature, perhaps due to its focus on measuring factors related to retention instead of developing a clear understating of the phenomenon (Mbemba *et al.*, 2013).

Motives for career choice and retention

Studies related to motives for career choice and retention can be found from a wide range of scholarly fields including careers counselling (Harms and Knobloch, 2005; Larsson *et al.*, 2007), education studies (Smethem, 2007; Bergmark *et al.*, 2018), and social work studies (Burns, 2011; Chiller and Crisp, 2012). Studies were generally either small scale and exploratory (Chiller and Crisp, 2012; Bergmark *et al.*, 2018) or provided weak linkages between factors and retention (Harms and Knobloch, 2005; Larsson *et al.*, 2007). Despite these limitations, which were common across several areas of literature and were similar to those in the scoping review discussed below, several of the studies identified factors related to motives for career choice and retention helpful for this thesis; in particular, the role of supervision (Chiller and Crisp, 2012), organisational

support and social exchange with peers (Burns, 2011), and professional identify (Smethem, 2007).

Foundational to the work of Cleland et al. (2020) was the concept of occupational embeddedness (Feldman and Ng, 2007; Ng and Feldman, 2009) that I linked to retention in the introduction to this chapter (see Table 2. Definitions of terms related to retention. Cleland et al. (2017) conducted a discrete choice experiment with final year medical students from six different medical schools across the UK. They aimed to understand the importance of individual and job-related factors identified from the literature in influencing medical career decision making. They found that working conditions was clearly the most influential characteristic when expressing a preference for a (hypothetical) training position. This preference was less strong in older medical students reflecting a trend for prioritising geographical stability with increasing age in the wider graduate workforce (Kitagawa *et al.*, 2022). Another study from Cleland et al., (2020), this time looking at retirement decisions for doctors working in Scotland, employed semi-structured interviews to identify "stay" and "go" factors that influence retirement. One factor was the importance of the social links with work colleagues; where this was good it was a retention factor and where it was a problem it was a driver for early retirement. The participants in the study from Cleland et al., (2020, p. 826) almost universally valued their profession, however pressure from "demanding work schedules, busy environments, long working hours, insufficient staff" was described as impacting both personal well-being and patient care and therefore acting as a "go" factor in retirement decisions. Moreover, the "myriad daily hassles such as insufficient administrative support, poor information technology facilities and lack of staff parking" (Cleland *et al.*, 2020, p. 825) eroded feelings of being supported by their employing organisation.

The literature around retention from related scholarly fields and fields of practice, along with that on motives for career choice and retention help highlight the large number of factors that have been studied and correlated with retention. It is notable that no specific factors dominate the literature, and that this multiplicity of factors can be found across the bodies of literature examined above. This is something that is echoed in the

section below, which aims to identify factors related to retention specific to emergency medicine using scoping review methodology.

Scoping review methods

In line with best practice (Peters *et al.*, 2020) the protocol for the scoping review was published in advance and is available open access (Darbyshire *et al.*, 2020a). The aim of this review, aligning with the scoping review methodology (Munn *et al.*, 2018), was to map the extent of the literature directly pertaining to retention of doctors in emergency medicine. More specifically, this involved identifying the types of evidence available, collating the key characteristic of papers, identifying the key definitions and concepts, and delineating and analysing the gaps in the literature. This is in keeping with the predetermined review question:

- Primary questions: What is known about retention of doctors in emergency medicine?
- Sub question 1: What factors have been studied relating to retention of doctors in emergency medicine?
- Sub question 2: What interventions have been implemented to improve retention of doctors in emergency medicine?

A search of MEDLINE, Embase, Cochrane, HMIC and PsycINFO was initially completed on 15 March 2019 by Helen Elwell, clinical librarian at the British Medical Association Library, and then updated for papers published in the interim, on 14 April 2020 (Cochrane and MEDLINE) and 21 April (Embase, HMIC and PsycINFO). This was supplemented by searches of Business Source Complete, Proquest Business Premium Collection and Emerald Insight. The search terms for Ovid MEDLINE are available in Table 3 with the rest available in Appendix 2 below.

	Search Term
1	physicians/ or exp pediatricians/
2	(physician$ or doctor$ or trainee$ or foundation year or fy1 or fy2 or sho or shos or senior house officer$ or registrar$1 or staff grade or associate specialist$ or consultant$).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
3	p?ediatrician$.mp.
4	(medical practitioner$ or clinician$).mp.
5	or/1-4
6	emergency medical services/ or emergency service, hospital/ or trauma centers/
7	emergency medicine/ or pediatric emergency medicine/
8	(emergency medical services or emergency service or trauma center$ or trauma centre$).mp.
9	(emergency medicine or pediatric emergency medicine).mp.
10	(emergency department$ or emergency room or casualty department$ or "A&E").mp.
11	"accident and emergency".mp.
12	emergency training program$.mp.
13	emergency medical care.mp.
14	or/6-13
15	5 and 14
16	workforce/ or health workforce/ or personnel loyalty/ or work schedule tolerance/ or work-life balance/ or workload/ or personnel turnover/
17	burnout, psychological/ or burnout, professional/ or exp occupational stress/
18	Career Choice/
19	career mobility/
20	(workforce or manpower or staffing or retention or work-life balance or turnover or leaving medicine or exiting or burnout).mp.
21	(career adj4 (choice or mobility or progress$ or ladder or promotion or advancement or satisfaction)).mp.
22	or/16-21
23	15 and 22

Table 3. Ovid MEDLINE search strategy.

All searches were limited to English language. No date limitations were applied. Given the vast number of results, a team-based multi-stage approach was undertaken. I reviewed the titles and excluded clearly irrelevant items. Abstracts were then independently reviewed by me and a fellow emergency medicine trainee Usama Basit. To ensure consistency this was piloted with tranches of 20 until complete adherence was achieved and reviewers were in frequent communication during the abstract screening process. Abstracts were reviewed against the inclusion criteria (see Figure 2),

with those clearly not meeting the criteria excluded. Full-text articles were then accessed and compared with the inclusion and exclusion criteria.

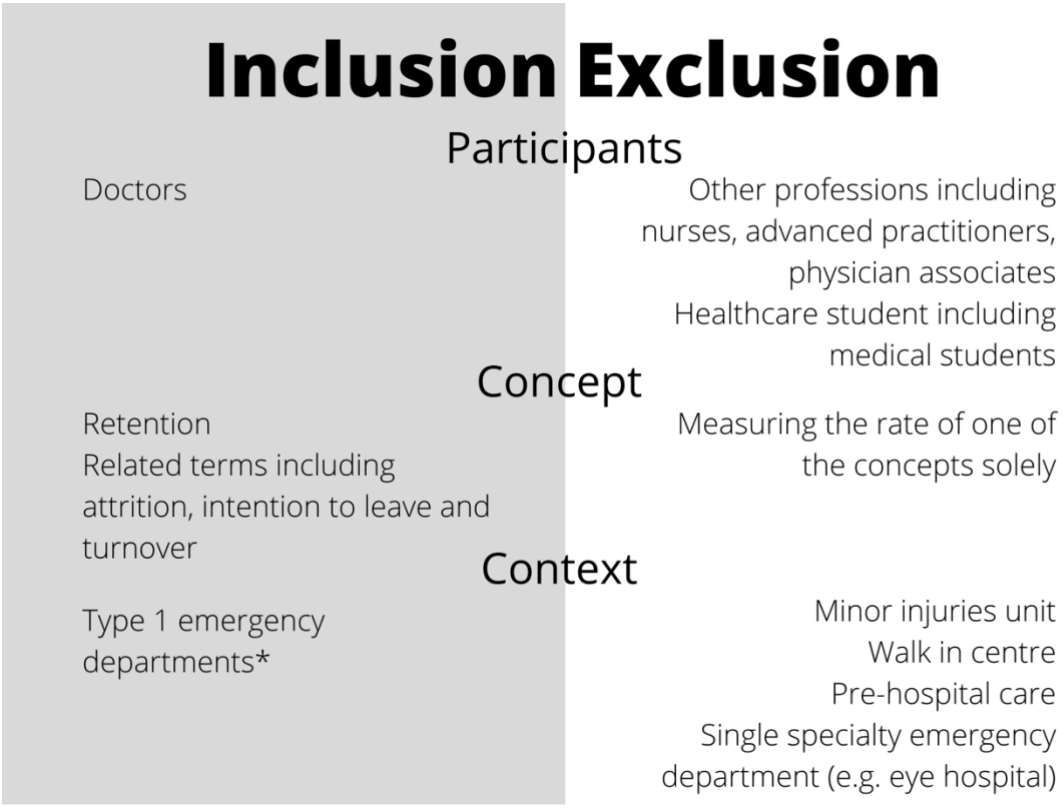
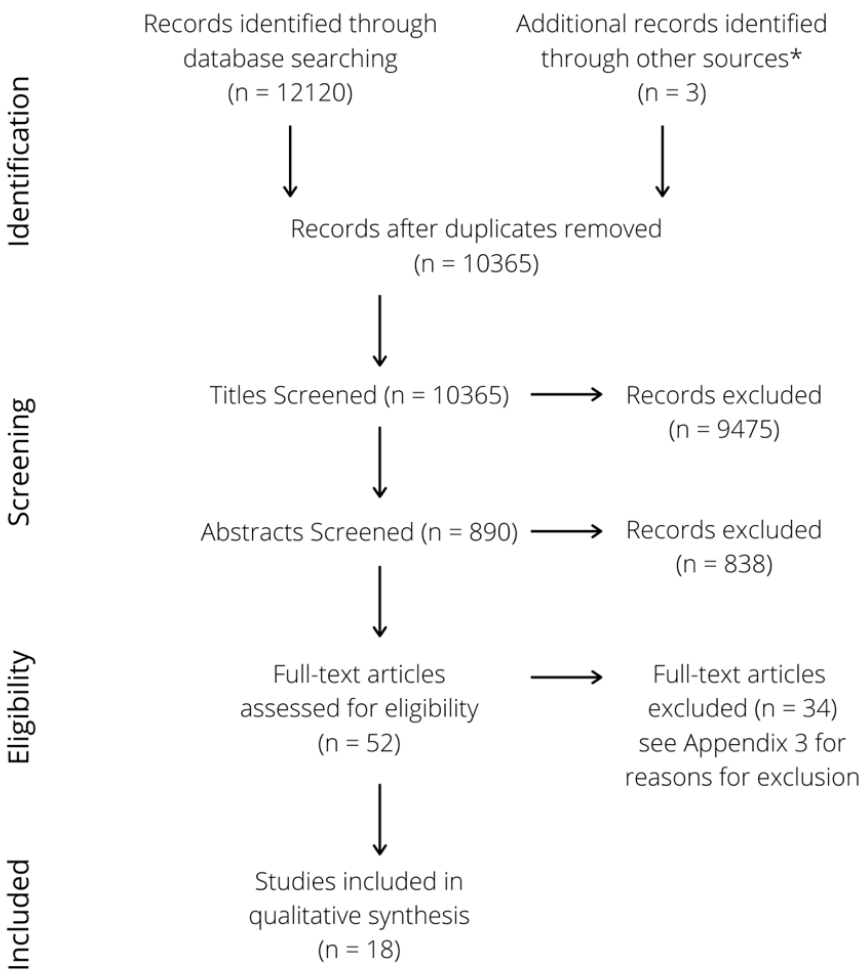


Figure 2. Inclusion and exclusion criteria.
**Type 1 emergency department are "consultant led 24 hour service with full resuscitation facilities and designated accommodation for the reception of accident and emergency patients" (NHS Data Dictionary, 2018).*

The following data were extracted from the included articles: citation, methodology, factors influencing retention, efforts to improve retention, and other findings relevant to retention of doctors in emergency medicine. Data is presented to summarise the different approaches to doctor retention in emergency medicine that are represented in the literature, and to give a picture of where the gaps in the literature lie. Papers not pertaining to emergency physicians, and those that did not go beyond measuring a rate of retention (or attrition) were excluded. This is because defining the rate of retention in emergency medicine was not a research question for this scoping review and would be best answered with a complementary methodology such as systematic review and meta-analysis.

Scoping review results

The results of database searching are presented in the PRISMA diagram (see Figure 3 below). The studies excluded at the eligibility (full-text reading) stage, including rationale for exclusion, are summarised below (see Appendix 3: Scoping review table of excluded papers). Methodological details and study characteristics of included papers is available below (see Appendix 4: Scoping review—methodological details and study characteristics of included papers). A summary of each paper alongside the links to the scoping review question is in Table 4 below.



*Other sources - 1 published conference abstract led to identification of a PhD dissertation, 2 conference abstracts to full papers.

Adapted from: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097

For more information, visit www.prisma-statement.org.

Figure 3. PRISMA diagram.

Paper Details		Extraction			
Author Year Origin	Journal Type of Paper	Method and aim of study	Factors influencing retention	Efforts to improve retention	Other relevant findings
Estryn-Béhar et al. 2011 France	Emerg Med J Research Paper	Questionnaire using several psychological scales applied to 538 emergency physicians and 1924 matched physicians from other specialties. Aimed to measure and correlate aspects of working life and intention to leave.	Intention to leave linked with quality of teamwork, burnout, musculoskeletal disorders, job offers from outside medicine, absence of continuing education for 12 months, worry about mistakes, harassment by superiors, lack of influence at work and tense relations with administration.	None	Working conditions may be more important than pay.
Feitosa-Filho et al. 2017 Brazil	Rev Assoc Med Bras Research Paper	Questionnaire of 659 ED physicians across a region of Brazil assessing workplace characteristics, emergency physicians training, main reason for working in emergency medicine, work satisfaction and reasons why they might leave. Primary aim to quantify work characteristics.	Higher job satisfaction correlated with lower intention to quit.	None	81.3% said they intended to stop working at the emergency department in the next 15 years, pointing out “excessive stress at work” as their main reason
Fitzgerald et al. 2017 UK	Emerg Med J Research Paper	Interpretive phenomenological analysis (IPA) study based on 18 semi structured interviews with emergency medicine consultants in southwest England. Primary aim to explore the experience of psychological distress and well-being.	Consultants perceive the physical and emotional strain of emergency medicine work to be unsustainable. Peer social support and developing new roles can help sustainability.	The emergence of selfcare and compassion dialogues may be beneficial.	“Participants unanimously identified with the term ‘sustainability’ when describing their emotional and physical status.”

Paper Details		Extraction			
Author Year Origin	Journal Type of Paper	Method and aim of study	Factors influencing retention	Efforts to improve retention	Other relevant findings
Goldberg et al. 1996 USA	Acad Emerg Med Research Paper	Questionnaire of 1272 attendees at an emergency medicine conference over 4 years. Questionnaire incorporated the Maslach Burnout Inventory and practice demographics including intent to practice emergency medicine in the future aiming to measure burnout and identify predictive factors.	Intention to leave emergency medicine correlates with a higher burnout score.	None	None
Hall et al 1992 USA	Ann Emerg Med Research Paper	Postal questionnaire sent to United States emergency physicians who finished training between 1978 and 1982. 539 responses. Compared practice characteristics of those who still practice emergency medicine with those who have left.	Those who left were; less likely to be board certified in emergency medicine, more likely to be board certified in another specialty, were less likely to work with residents, and reported lower income.	None	None
Hall and Wakeman 1999 USA	J Emerg Med Research Paper	Questionnaire sent to residency trained emergency physicians about demographics, work characteristics, attrition, and reasons for leaving. 1638 responses. Aims to measure practice characteristics, how careers change with time and career longevity.	Emergency physicians with higher income had lower attrition but those who left didn't rate income as a reason for leaving. Emergency physicians who had done a residency or fellowship outside emergency medicine or were not board certified had higher attrition.	None	Clinicians decreased clinical work and increased other work though their career.

Paper Details		Extraction			
Author Year Origin	Journal Type of Paper	Method and aim of study	Factors influencing retention	Efforts to improve retention	Other relevant findings
Holmes 2019 Australia	Emerg Med Austral Brief Communication	Discussion paper (termed "Perspective" in this journal) giving the authors view on sustainable careers in emergency medicine in Australia. Two areas of focus are burnout, and the ageing emergency physicians.	The author believes that credentialing in a subspecialty field, maintaining professional links, and lifelong learning may help sustainability.	Unreferenced claim that some countries do not require older doctors to work on-calls or out of hours and a belief that this would help in Australia.	The authors state that "there has been insufficient recognition of the particular needs of older physicians including that they tolerate shift work and night duty more poorly than their junior colleagues."
James and Gerrard 2017 UK	Emerg Med J Research Paper	Semi-structured interviews with 10 consultants from Welsh emergency departments exploring what attracted them to the career and what keeps them there.	Diagnostic challenges, teaching junior colleagues, teamwork, flattened hierarchy, flexible working, and positive work-life balance.	Participants thought that improving flow and staffing would help retention.	None
Kalynych 2010 USA	UNF Graduate Theses and Dissertations. Dissertation, Primary Research	Questionnaire of 273 emergency medicine residents measuring margin in life (psychological theory of adult development) scale and intention to leave. Aim to assess for a difference between emergency medicine residents scores and remediation, intention to quit and actual attrition.	No correlations identified	None	None

Paper Details		Extraction			
Author Year Origin	Journal Type of Paper	Method and aim of study	Factors influencing retention	Efforts to improve retention	Other relevant findings
Lloyd et al. 1998 Canada	Acad Emerg Med Research Paper	Questionnaire to compare two different job satisfaction instruments with 14 “reasons for leaving”. The study aim was to evaluate the predictive validity of the Emergency Physician Job Satisfaction (EPJS) and Global Job Satisfaction (GJS) instruments.	A low GJS instrument score is associated with leaving emergency medicine (the test characteristics mean it is not a useful predictor).	Scheduling, as an extrinsic component of job satisfaction, is amenable to change.	Ranked reasons for leaving emergency medicine and compared to a previous (United States) cohort.
Mallon 2000 USA	J Emerg Med Letter	Letter commenting on Hall and Wakeman 1999 and referencing the authors study (Goldberg et al. 1996).	Reiterates key points from Goldberg et al. 1996.	None	Concern about overestimating attrition and oversubscribing the workforce devaluing emergency physicians and creating job insecurity.
Murphy 2014 Ireland	Ir Med J Editorial	Editorial outlining the retention problem in Ireland.	Better support and less stress, Personal development.	Streamline training. Ministerial review of the medical workforce.	There is a retention problem across Irish medicine, it is more visible in emergency medicine.
Pflipsen et al. 2019 Ireland	Ir J Med Sci Research Paper	Questionnaire. Sent to those who had left the Irish emergency medicine training scheme. 30 respondents. Aim to gain insight into reasons for attrition from emergency medicine training in Ireland.	Lack of training and supervision negatively impacted retention, as do excessive workloads and poor working conditions.	None	Findings similar in other specialties in Ireland.

Paper Details		Extraction			
Author Year Origin	Journal Type of Paper	Method and aim of study	Factors influencing retention	Efforts to improve retention	Other relevant findings
Smith and Dasan 2018 UK	Br J Hosp Med (Lond) Review	Pragmatic review of academic and policy literature aiming to describe the impact increasing working pressure is having on staff in the emergency department and to begin to explore the potential for developing sustainability within the workforce.	Occupational stress and burnout negatively impact retention.	Job planning, less than full time working, portfolio careers, appropriate renumeration, wellbeing. Introduces sustainability work from RCEM.	None
Takakuwa et al. 2013 USA	Acad Med Research Paper	Questionnaire. Sent to leads of emergency medicine training programmes. 78 responses. Aims to describe the policies, practices, and attitudes of emergency medicine leaders about workforce issues particularly for emergency physicians in the last decade of their career.	A strategic approach to staffing overnight shifts. Various policies inconsistently applied.	Refers to documents related to ageing and emergency medicine work produced by the group that did this research.	Variable and inconsistent approach to the role of the emergency physicians in the final 10-15 years of their career.
Xu et al. 1994 USA	Acad Emerg Med Research Paper	Cohort Study using routinely collected data. Looking at 3 groups: those who choose emergency medicine and stay, those who move into emergency medicine and those who leave. Compares academic performance, age, and indebtedness with an aim to identify factors that may have contributed to career change.	High academic performance and high indebtedness are factors associated with choosing or staying in emergency medicine.	None	Indebtedness is complex.

Paper Details		Extraction			
Author Year Origin	Journal Type of Paper	Method and aim of study	Factors influencing retention	Efforts to improve retention	Other relevant findings
Xu and Veloski 1991 USA	Acad Med Brief Communication	Questionnaire. Sent to graduates of a specific university who had chosen emergency medicine at graduation. 36 responses. Aim to measure factors influencing their decision to continue emergency medicine careers.	Most important factors for remaining in emergency medicine were challenging diagnostic problems, predictable working hours, intellectual content of the specialty and income.	None	Educational debt a minor factor.
Zun et al. 1988 USA	Am J Emerg Med Discussion	Case Report & Literature Review. Discuss a case where a patient dies after being discharged from the emergency departments. This leads to a discussion, citing relevant literature, about the stress such an event causes and stress for emergency physicians in general.	Discusses factors that lead to stress for emergency physicians, specifically errors, incivility by colleagues and working patterns.	Authors thoughts. Open discussion as key to helping manage stress, also helped by time management systems, lifestyle approaches and specific relaxation approaches.	N/A

Table 4. Scoping review summary of included papers.

Intention to leave

The studies identified in this section explored retention in many ways. Three papers analysed factors that correlated with intention to leave (Goldberg *et al.*, 1996; Estryn-Béhar *et al.*, 2011; Feitosa-Filho *et al.*, 2017). Goldberg et al. (1996) conducted questionnaires at emergency medicine conferences over four years. They measured practice and demographic characteristics (including age, gender, marital status, years in practice, the average number of shifts per month, and the average number of night shifts per month), stated intent to practice emergency medicine in the future, and burnout using the Maslach Burnout Inventory.[13] They found a correlation between higher burnout and intention to leave emergency medicine. Of note is the authors' thoughts about the emergency physicians who are not experiencing burnout, something that strongly resonates with the focus on those who stay in this thesis:

> Is there a "survivor" category among emergency physicians, consisting of physicians capable of practising for many years with low levels of burnout? If so, can such physicians be characterised in terms of personal and practice habits and attitudes?
> (Goldberg et al., 1996, p. 1163)

Intention to leave was correlated with a plethora of other scales. The authors found a link with burnout, perceived quality of teamwork, musculoskeletal disorders, job offers from outside medicine, the absence of continuing education for 12 months, worry about mistakes, harassment by superiors, lack of influence at work and tense relations with the administration. The authors ranked the factors in terms of risk for leaving emergency medicine, with low-quality of teamwork the highest risk followed by burnout, with an almost four-fold increased risk for both. Their finding that "working conditions may be more important than pay" (Estryn-Béhar *et al.*, 2011, p. 404) is one that recurred throughout the papers identified by the scoping review and is an argument for looking closely at work and the workplace in a study of retention. The primary aim of the study from Feitosa-Filho et al. (2017) was to characterise the training and motivation of emergency physicians in one region of Brazil. In addition, this

[13] The Maslach Burnout Inventory is a questionnaire that takes around 15-minutes to complete. It is a psychological inventory related to occupational burnout (see footnote 3 for a definition of burnout).

questionnaire of 659 emergency physicians asked if they intended to stop working in the emergency department in the next 15 years. In the NHS, this question would be interpreted differently as it would include a significant proportion of emergency physicians approaching retirement. In this study, the mean age was 37.7, so only a small number could be accounted for in this way. Their findings are concerning for emergency departments in Salvador, Brazil, but difficult to interpret in other contexts:

> Only 13.1% were fully satisfied with their job and 81.3% said they intended to stop working at the emergency department in the next 15 years, pointing out "excessive stress at work" as their main reason.
> (Feitosa-Filho et al., 2017, p. 113)

Reasons for leaving

One way that scholars have tried to understand staffing problems in emergency medicine is by correlating potential factors with some measure of the exodus from the specialty. Xu et al. (1994) took data from doctors graduating from one United States medical school from 1978 to 1987 and compared three groups: those who chose emergency medicine and stayed, those who moved into emergency medicine from other specialties and those who left emergency medicine. They compared academic performance, age, and indebtedness with the aim of identifying factors that may have contributed to career change. The paper had a small number (n=85) of participants for the method, and the statistical analysis did not control for multiple comparisons. As such, their finding that high academic performance and high indebtedness are associated with choosing, or staying, in emergency medicine is not convincing without other supporting evidence.

The study by Hall and Wakeman (1999) replicated the previously published study by Hall et al. (1992), adding a further six years of data and complementing the original aim of comparing practise characteristics of those who still practise emergency medicine with those who left, with the aim to assess how careers change over time and measuring career longevity. Both papers used postal questionnaires sent to all residency-trained[14]

[14] Residency training is akin to specialty training in the UK. A formal, structured training programme that, when combined with exams, leads to access to the highest clinical tier, consultant in the UK, attending in the United States.

emergency physicians in the United States who finished training between 1978 and 1982 (Hall *et al.*, 1992) and between 1978 and 1988 (Hall and Wakeman, 1999). The latter study received 1638 responses from a population of 2874 emergency physicians, giving a 58.3% response rate (Hall and Wakeman, 1999). Both papers ignored non-residency trained emergency physicians,[15] were unable to obtain mailing lists for all training programmes, were at risk of respondent bias, and statistically tested a large number of variables attributed to the small group of emergency physicians who left practice risking non-existent correlations appearing by chance. Despite these limitations, the studies add some helpful insights. Those who left emergency medicine were less likely to be board certified[16] in emergency medicine and more likely to be board certified in another specialty or have completed a fellowship[17] in a different specialty. The latter study also found that emergency physicians with higher income had lower attrition but that those who left did not rate income as a reason for leaving (Hall and Wakeman, 1999).

Pflipsen et al. (2019) sent a questionnaire to all 43 trainees who had left the Irish emergency medicine training programme, receiving 30 responses, a 71% response rate. The response rate is encouraging, but the journal paper lacks detail. Therefore, it is difficult to interpret the findings in the context of the other papers here or apply them in a different setting. The authors did not provide the wording of the questions or state how the data were analysed. However, the findings that a lack of training and supervision, excessive workloads, and poor working conditions negatively impact retention makes intuitive sense and echo findings in other specialties in Ireland (Brugha et al., 2018; Nally et al., 2018).

[15] This is an important group as, like emergency medicine in the UK at this time, much of the work was done by specialists from other fields and rotating trainee doctors.
[16] Board certification is a primarily United States phenomenon. It is an exam or series of exams that doctors can complete to demonstrate mastery relating to knowledge in a specific field of practice, such as emergency medicine. It is not a legal requirement, but some hospitals (employers) require it.
[17] Fellowships are generally a year-long period of training in a sub-specialty area of practice for someone who has already completed most of their clinical training. Examples for the emergency physician could be ultrasound, resuscitation, or simulation.

Rationale for continuing

Two papers reported research attempting to understand something about the reasons for continuing to practise emergency medicine. Xu and Veloski (1991) sent a questionnaire to graduates of one United States medical school who stated emergency medicine as their career preference. They received 36 responses, a 68% response rate. The questionnaire asked respondents to rate on a scale from zero to four how much each of 23 factors influenced their decision to remain in emergency medicine. The sample was small, and, as the publication is brief, there was no rationale for the choice of questions. They found challenging diagnostic problems, predictable working hours, the intellectual content of the specialty, and income to be the most important factors for remaining in emergency medicine.

James and Gerrard (2017, p. 436) conducted ten semi-structured narrative interviews with emergency medicine consultants from seven different emergency departments in Wales. They aimed to cover what attracted them to the career, barriers to sustainable working they had encountered, if they had considered leaving, and what "keeps them there" now. The interviews were conducted between February and April 2015. The interviewees had an age range of 30 to 69, their years of consultant practise varied from two to 19 years, and there were equal numbers of men and women. The paper is close to my study in terms of philosophical outlook. It overtly values narrative, and the analytical framework is taken from applied policy analysis, reflecting a similarity to my approach in working to bridge the policy and academic literature bases. The self-selecting nature of the participants almost certainly influenced the results. However, the findings that diagnostic challenges, teaching junior colleagues, teamwork, the flattened hierarchy in emergency medicine, flexible working, and positive work-life balance are reasons the interviewees stay in emergency medicine correlate with other studies identified within the review. This suggests that the findings may be important for some emergency physicians in locations other than Wales.

Physical and emotional strain, peer support, strategic rostering, and the idea of sustainable working practices

Fitzgerald et al. (2017) also used semi-structured interviews with emergency medicine consultants in a geographically defined part of the UK. They conducted 18 interviews in

southwest England between May and October 2013. Their choice of interpretive phenomenological analysis was in keeping with the primary aim to explore the experience of psychological distress and well-being of emergency physicians. Their study used and clearly described methods firmly established in contemporary psychology research. They found that consultant emergency physicians perceived the physical and emotional strain of emergency medicine work to be unsustainable but that peer social support and developing new roles could help with sustainability. This provides a more nuanced and in-depth interpretation of the problems of working in emergency medicine than the numerous studies estimating the prevalence of burnout in emergency physicians (Rotenstein *et al.*, 2018; Schooley *et al.*, 2016).

Takakuwa et al. (2013, p. 269), like many of the studies discussed above, employed a questionnaire. Their focus was not on individual emergency physicians but "academic leaders at emergency medicine residency programmes in the United States." Their primary aim was to describe the policies, practices, and attitudes of emergency medicine leaders about workforce issues, particularly for emergency physicians in the last decade of their career. The study is limited because responses were almost universally from white men over 55 years of age. Also, the authors utilised an un-validated survey that requested large amounts of data and only sampled academic emergency departments.[18] Despite these limitations, the finding that a strategic approach to overnight shifts, especially in the context of emergency physicians in the last 15 years of their career, is being used in some places to help retention is a useful one.

Reviewing academic and policy literature, Smith and Dasan (2018) described the impact ever-increasing working pressures are having on staff in the emergency department and began to explore the potential for developing sustainability within the workforce. The authors concluded that occupational stress and burnout negatively impact retention before making suggestions to improve retention (which I will move on to in the next

[18] In the United States context, an academic emergency department is one that is involved in training emergency physicians—residency training to use the United States terminology. In the UK, most emergency departments are involved in training emergency physicians.

section) and discussing the sustainability work from RCEM (including the formation of the SWPC, which I discussed above).

The factors identified in this review as impacting retention, summarised in Table 5 below, are various and multiple. This suggests that retention is a complex phenomenon built by a combination of these factors. That is not to say that all these factors are required or that the list in Table 5 represents all the factors. More that the literature has provided an idea of the multitude of things that impact an emergency physician continuing in emergency medicine. All the papers discussed highlight factors that may influence retention, but only a proportion provided insight into how retention might be improved.

Experience of Work	Teamwork (Estryn-Béhar et al., 2011; James and Gerrard, 2017) Harassment by supervisors (Estryn-Béhar et al., 2011) Incivility (Zun *et al.*, 1988) Job satisfaction (Lloyd et al., 1998; Feitosa-Filho et al., 2017) Excessive workloads (Pflipsen et al., 2019) Poor working condition (Pflipsen et al., 2019) Peer support (Fitzgerald et al., 2017) and professional links (Holmes, 2019) Diagnostic challenges (Xu and Veloski, 1991; James and Gerrard, 2017) Errors (Zun *et al.*, 1988) Lack of influence at work (Estryn-Béhar et al., 2011)
Training and Education	Absence of continuing professional education (Estryn-Béhar et al., 2011) Lifelong learning (Murphy, 2014; Holmes, 2019) Lack of training and supervision (Pflipsen et al., 2019) Board certification (higher training) in emergency medicine (Hall et al., 1992; Hall and Wakeman, 1999) Board certification in another specialty (Hall et al., 1992; Hall and Wakeman, 1999) Fellowship in another specialty (Hall and Wakeman, 1999) Work with trainees (Hall et al., 1992) Teaching (James and Gerrard, 2017) New roles (Fitzgerald et al., 2017) Subspecialty training (Holmes, 2019)
Impact of Work	Worry about mistakes (Estryn-Béhar et al., 2011) Musculoskeletal complaints (Estryn-Béhar et al., 2011) Physical and emotional strain (Fitzgerald et al., 2017) Burnout (Goldberg et al., 1996; Estryn-Béhar et al., 2011; Smith and Dasan, 2018) Occupational stress (Smith and Dasan, 2018) Stress (Murphy, 2014)
Work-life Balance	Debt (Xu et al., 1994) Income (Hall et al., 1992; Xu and Veloski, 1991; Hall and Wakeman, 1999) Work-life balance (James and Gerrard, 2017) Flexible working (James and Gerrard, 2017) and predictable hours (Xu and Veloski, 1991) Strategic approach to shift work (Takakuwa et al., 2013) Anti-social working pattern (Zun *et al.*, 1988) Receiving a job offer outside of medicine (Estryn-Béhar et al., 2011)

Table 5. Factors which are linked to retention in the literature.

Efforts to improve retention

I did not find any academic literature that assessed interventions to try and improve retention of doctors in emergency medicine; as such, I have extracted what information

I can from the papers discussed above. The attention I give to this section is limited by the corpus of literature and not the importance in which I hold it. The majority of papers did not directly address efforts to improve retention (Xu and Veloski, 1991; Hall *et al.*, 1992; Xu *et al.*, 1994; Goldberg *et al.*, 1996; Hall and Wakeman, 1999; Estryn-Béhar *et al.*, 2011; Feitosa-Filho *et al.*, 2017; Pflipsen *et al.*, 2019). Of those that did, only three drew conclusions from empirical work (Lloyd *et al.*, 1998; Fitzgerald *et al.*, 2017; James and Gerrard, 2017). One of which was a questionnaire primarily aimed at seeing if a questionnaire-based tool measuring job satisfaction could predict who would leave emergency medicine; it could not (Lloyd *et al.*, 1998). The authors did find a link between a low score on the Global Job Satisfaction scale (the scale to which the authors were comparing the scale they had developed) and leaving emergency medicine. This association was not strong enough to be predictive. However, the authors hypothesised that improvements in scheduling[19] (as an extrinsic component of job satisfaction amenable to change) might help with retention. The other two empirical studies that addressed how to improve retention both employed semi-structured interviews and drew on their interviewees' suggestions. The participants in James and Gerrard's (2017) study thought that improving flow[20] and staffing would improve retention, while Fitzgerald et al. (2017) reported that their participants thought that the emergence of self-care and compassion dialogues within emergency medicine might be beneficial. These are important points that I return to in the results chapters.

The other studies offered suggestions from a range of perspectives. The discussion section of Takakuwa et al. (2013) referenced a two-part report on ageing and the emergency medicine workforce from the United States-based Society of Academic Emergency Medicine.[21] While Takakuwa et al. (2013, p. 273) made no firm

[19] Scheduling is how workers are allocated to shifts. In the UK, it is more commonly referred to as rostering or rota management.

[20] Flow is the patient's journey from the emergency department into the hospital and onto a bed on a ward. If there is not a bed available, or significant delays in finding one, patients can build up in the emergency department. Poor flow leads to crowding where every space is taken, leading to a problem with delays when there is nowhere to see new patients.

[21] SAEM, the Society for Academic Emergency Medicine, is a United States-based professional organisation for academic emergency physicians. In this context, academic emergency medicine is more broadly conceived, including education at all levels of seniority related to emergency medicine. The work of SAEM is primarily related to physicians, though not exclusively so. It also includes emergency medicine research.

recommendations, their suggestion that those involved in managing emergency physicians in the last 15 years of their career "must creatively manage work-related issues" and avoid a "one-size-fits-all" approach makes intuitive sense. I return to this in the results chapter (specifically the section Rotas and work patterns in Chapter 8). Smith and Dasan's (2018) review paper highlighted measures to improve retention, reflecting some of the findings from the previous section, specifically: job planning, LTFT working, portfolio careers, appropriate remuneration, and wellbeing.

Scoping review discussion: many factors, little context

It has been over 20 years since the first paper on retention of emergency physicians, identified by this review, was published (Zun *et al.*, 1988), with a seeming trend of increased activity in this domain reflecting the growth of emergency medicine research globally (Smith *et al.*, 2020). Despite this relative growth, the absolute number of papers was low, and those that have been produced display significant methodological heterogeneity. The most frequently utilised methodological approach was measurement, using a pre-existing scale of a psychological construct and testing to see if it is correlated with retention (or a term related to it) (Goldberg *et al.*, 1996; Kalynych, 2010; Estryn-Béhar *et al.*, 2011; James and Gerrard, 2017). Burnout was the most assessed construct (Goldberg *et al.*, 1996; Estryn-Béhar *et al.*, 2011), reflecting the prominence of burnout research in both the emergency medicine (Howlett *et al.*, 2015; Verougstraete and Idrissi, 2020) and wider medical literature (West et al., 2016; Halliday et al., 2017; Chou et al., 2014). Again, reflecting the wider medical literature on burnout, problems arose with definitions and interpretations of the term, different cut-offs used for the threshold for defining burnout, different burnout inventories used, and type 1 errors (false positives) when multiple tests for correlation were undertaken (Eckleberry-Hunt *et al.*, 2018).

Despite these issues, it is useful that two studies from different continents, using two different validated measures, have linked burnout with retention (both via intention to leave) (Goldberg *et al.*, 1996; Estryn-Béhar *et al.*, 2011), a finding that was replicated in the nursing profession (Jourdain and Chênevert, 2010; Muir *et al.*, 2022), teachers (Weisberg, 1994), and volunteers (Allen and Mueller, 2013). Margin in life (a

psychological theory of adult development) was not correlated with intention to leave (Kalynych, 2010)—the measure is most often correlated with readiness for change such as organisational restructuring or merger (Madsen *et al.*, 2005, 2006). While global job satisfaction was correlated with attrition, Xu et al. (1994) found that the correlation was not strong enough to use the scale predictively, a finding consistent with the broader human resources literature which finds that intrinsic job satisfaction is negatively correlated to turnover whereas extrinsic job satisfaction has no statistically convincing link (Lucas *et al.*, 1990).

The second prominent group of studies measured aspects of work life alongside either attrition (Hall *et al.*, 1992; Hall and Wakeman, 1999) or intention to leave (Feitosa-Filho *et al.*, 2017), or described policies related to retention in the final third of an emergency physician's working life (Takakuwa *et al.*, 2013). Of the many aspects of work life that Feitosa-Filho et al. (2017) assessed, job satisfaction—measured as a single multiple choice question with the options "satisfied", "neutral" and "dissatisfied"—was the only one showing statistically significant correlation with intention to leave. The study by Lloyd et al., (1998) discussed above, linked job satisfaction and quitting emergency medicine but not strongly enough to offer a predictive test. Feitosa-Filho et al., (2017) found that 64% of their emergency physicians who were "satisfied" and 94% who were "dissatisfied" intended to quit in the next 15 years, however the baseline characteristics of their study from Brazil make it equally difficult to apply a different practice setting. This does not mean that job satisfaction should be discounted—there is a long history from economics marking satisfaction as a "major determinant of labour market mobility" (Freeman, 1978, p. 9)—and it has been linked with concepts related to retention across several professional groups including nurses (Tzeng, 2002), general practitioners (Sibbald *et al.*, 2003), physician assistants, and nurse practitioners (Hoff *et al.*, 2019). The second aspect of work life relates to training, with board certification (postgraduate specialty examinations in the United States) and fellowships (a period, generally a year, of sub-specialty training related to the primary training specialty) correlating with lower attrition (Hall *et al.*, 1992; Hall and Wakeman, 1999). What it is about fellowship or board certification that influences attrition is not clear, but other studies have linked high academic achievement while at medical school (Xu *et al.*, 1994)

and the intellectual content, specifically diagnostic challenges, of the specialty as important (Xu and Veloski, 1991). These features can be threatened by a lack of training or supervision, excessive workloads and poor working conditions (Pflipsen *et al.*, 2019).

Most of the studies examined retention from a broad, though neccesarily superficial, perspective. However, two studies took the opposite approach, gaining indepth accounts from a relatively smaller number of participants (Fitzgerald *et al.*, 2017; James and Gerrard, 2017). Describing the physical and emotional strain of working in the emergency department as "unsustainable" adds credence to the idea that psychological measures (such as burnout) may have utility in efforts to improve retention, while simultenously suggesting that such measures may be an oversimplification. The more social aspects of emergency medicine, such as the flattened hierarchy (James and Gerrard, 2017) and peer social support (Fitzgerald *et al.*, 2017) move the discussion away from the individual approach to retention to the idea that the interactions between the people involved in the work of emergency medicine might be key.

The papers in this study support the notion that pay is linked to retention (Phillips and Connell, 2004) with higher income correlating with lower attrition (Hall and Wakeman, 1999) and with those who leave the specialty having had lower incomes than those who stayed (Hall *et al.*, 1992), though this finding could be skewed by salaries generally rising with career length. In one paper income was reported as a major factor in decisions to stay in emergency medicine (Xu and Veloski, 1991). Educational debt is another factor, representing a strong correlate with staying in emergency medicine in one study (Xu *et al.*, 1994) and a minor factor in another (Xu and Veloski, 1991). It should be noted that these studies are from the United States, where both income for doctors and educational debt are significantly higher than most other counties, with the French study by Estryn-Behar et al. (2011, p. 404) concluding that "working conditions may be more important than pay". The relationship between pay and retention is more complex than a linear correlation, so that even with high pay, "pay dissatisfaction can lead to turnover" (Phillips and Connell, 2004, p. 185). Other factors, beyond the amount of remuneration received, make pay more complex with perceptions of fairness being the most important. This is described at two levels. This first, distributive justice, refers to the distribution of pay within an organisation (Jawahar and Stone, 2011), while the

second, procedural justice, is about the process through which pay is administered (Chimhutu *et al.*, 2016) with both repeatedly linked to retention both within (Chimhutu *et al.*, 2016) and outside of healthcare (Phillips and Connell, 2004; Jawahar and Stone, 2011).

While some of the studies presented here discussed aspects of work that may be amenable to change, in order to improve retention, none tested this as a hypothesis directly. The lack of interventions in the academic literature may be due to them being reported elsewhere. It is highly unlikely that a change to a single aspect of work influencing retention would lead to measurable change—the required number of participants and scale of impact would likely be too large to be feasible. Moving towards recognising, studying, and implementing change with complexity (Greenhalgh and Papoutsi, 2018), rather than imposing false notions of simplicity, will be key to any successful interventions, something alluded to in the review by Smith and Dasan (Smith and Dasan, 2018).

The concept of career change or evolution may be more closely aligned to careers in emergency medicine than the more linear concept of promotion, demotion, and resignation. Hall and Wakeman (1999) found that clinicians decreased clinical work and increased other work though their career. Portfolio careers, here meaning role diversity within a profession rather than the definition more common outside of healthcare—"individuals develop a portfolio of skills that they sell to a range of clients" (Templer and Cawsey, 1999, p. 71), are gaining increasing prominence in discourses about health professions careers (Pathiraja and Wilson, 2011; Smith and Dasan, 2018). The idea that using skills developed through professional training and experience in related roles helps prevent people getting bored or jaded has strong face validity and, while there is a small body of research supporting this, the findings are not conclusive (Marchand and Peckham, 2017).

A recent body of work published by the UK medical regulator (GMC) started with the premise that patient safety is dependent on doctors' wellbeing. The report integrated the existing academic literature with case studies and developed the ABCs of doctors' core needs. The findings of this scoping review can be mapped to the ABC structure, see

Figure 4. While not the primary aim of the GMC's work, it was clear that retention was within its broader remit, with the foreword from the Chair of the GMC stating that "If we act together we will avoid losing good doctors and seize a golden opportunity to tackle the challenges the health service must meet now and in the future" (West and Coia, 2019, p. 8).

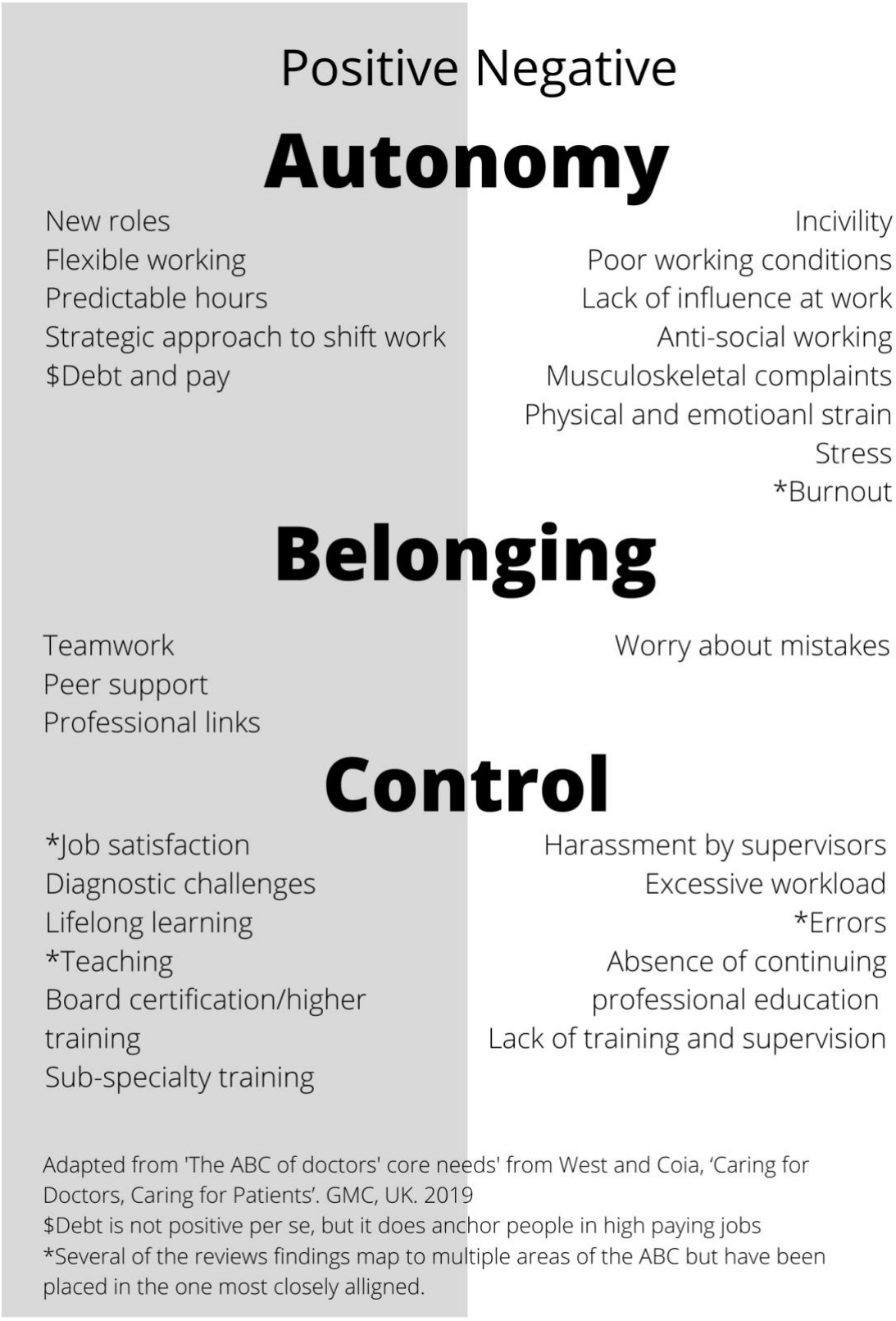


Figure 4. Scoping review findings mapped to the ABC of doctors' core needs.

The scoping review process had inherent limitations. I have described the factors that influence retention but not the scale of influence of each factor. The breadth of types of papers meant that several different quality appraisal tools would have been required to

do this and a decision was therefore made that this would not have added significantly to the current study.

The studies that I have drawn on to explore the definition of retention and those directly pertaining to retention in emergency medicine provide many factors that I explore in the empirical aspect of this thesis. However, each study paid little attention to the day-to-day aspects of work of those being studied and had a noticeable lack of workplace context. Most of the papers gathered data in the form of abstract scales measuring a specific factor that is thought to in some way correlate with, or influence, retention (or a construct related to retention). A small number of studies alluded to context by either asking about the experience of work (Fitzgerald *et al.*, 2017) or the impact of the working environment (James and Gerrard, 2017). However, none can be said to have paid close attention to the work or the workplace.

In the section that follows, I present literature that acts as a bridge towards understanding how the day-to-day experience of work and the setting where this takes place impacts the ability to work in that context. Ethnographic studies in the emergency department pay close attention to specific elements of practice, or work, in that space. They can help build an understanding of the work done there and, thinking forward to the next chapter on the empirical methods employed in this thesis, how this can be studied and understood.

Ethnographies of emergency departments

The emergency department is simultaneously a challenging and fruitful place for the conduct of ethnography for much the same reason: there is a lot going on. Some of the studies in this section aimed to answer specific questions about a particular phenomenon in the emergency department; others were more exploratory. When taken together as a body of work, they combine to provide the reader with a feel of what it is like to work in this environment and which theoretical lenses and methodological instruments can be of help to understand how work in this environment is accomplished.

The work of the emergency department

Vosk and Milofsky (2002a, 2002b, 2002c)[22] aimed to make sense of the functioning of the emergency department in an overtly and specifically sociological sense. They described what an emergency department does:

> The task of emergency medicine may be considered *epistemologicall*y as one of bringing order out of chaos. Chaos comes at the department as the uncontrolled arrival of patients with unknown diagnoses, whose conditions may range from perfectly healthy to biologically dead. The department's task is to reduce this chaos to order by diagnosing problems, initiating treatment, and sending patients on to rational destinations: either home or somewhere else inside the medical system.
> (Vosk and Milofsky, 2002a, p. 93 emphasis in original)

I find this a useful delineation of the work done in an emergency department, but more relevant is that they described it as the "department's task". The work was not done by the physical entity of the emergency department. It was done by "the people connected by tenuous, even officially non-existent bonds of authority" (Vosk and Milofsky, 2002a, p. 92). The department is these connections. Connections contingent on the work and contingent on the common purpose of those working in that space. Nugus and Forero's (2011) 12-month ethnography across two emergency departments in Sydney, Australia expanded this to show how nurses do communicative and organisational work to navigate interdepartmental boundaries for example when transferring the care of patient to an inpatient ward. Nugus and Forero (2011) and Vosk and Milofsky (2002a)

[22] Vosk and Milofsky (2002a, 2002b, 2002c) published a three-part series of articles that the authors stated was a "preliminary report of a participant-observation study conducted in a high-volume emergency department in a medium-sized eastern United States city" (Vosk and Milofsky, 2002a, p. 4). This article series was published in Emergency Medicine News, which is not an academic journal but a "news magazine for the nation's [United States] 41,000 emergency physicians" and is sent to all of which as a "complimentary subscription" (Emergency Medicine News Website, 2020). Despite the large audience, the papers are rarely cited, and I could find no evidence that the preliminary study was published in its finished state. After corresponding with Milofsky, I can confirm that the final report was never published. Milofsky provided me with a copy of an unpublished book and article based on this study, which, while interesting, has not directly influenced this thesis and is therefore not referenced further. These three papers offer a valuable contribution to this thesis both in terms of the work done by an emergency department and how it can be conceptualised that I believe warrants its inclusion despite the papers' relative invisibility in the broader literature.

together show how the interplay between interpersonal communication and organisational structures do more than just impact the work of the emergency department—they define it. The quote above from Vosk and Milofsky (2002a) talked about reducing chaos, but this is not the limit of the department's work; often, the chaos needs to be *managed*.

One way in which this is achieved is through prioritising. This occurs when there is more work to be done than the available resources allow at that time. At the extremes, prioritising is easy and obvious. A person in cardiac arrest will be managed before almost everyone else, and the person waiting for the longest will be seen first out of two patients with similar complaints. These extremes of oversimplification are not the norm, and workers must decide which work requires doing first, which sometimes leads to disagreement. These disagreements generally occur between different professionals. However, such disputes are remarkably rare despite each professional group having a different hierarchical structure (Vosk and Milofsky, 2002a). This again relates to the common purpose of the department, which, as a social and organisational unit, overrides the cross-professional disagreements that arise. Booker et al. (2019) conducted an ethnographic study aiming to understand ambulance utilisation for conditions that are more suited to management by primary care. Their study showed how clinical prioritisation in this context was negotiated and not clear cut—what a service user might consider a rational use of an ambulance was sometimes not considered such by healthcare professionals. Indeed, many of the ethnographic studies conducted either in the emergency department or, like that from Booker et al. (2019), at the interface with another service, concern themselves with how the emergency department works to bring some kind of order to unplanned and unpredictable attendances they receive (Nugus and Forero, 2011; Lara-Millán, 2014; Nugus *et al.*, 2014; Kirk *et al.*, 2021).

A second way chaos is managed in the emergency department relates to gatekeeping. The most obvious example of gatekeeping in the emergency department is the role provided by the triage nurse, who performs the initial assessment of a patient and assigns them a level of priority. Hillman's (2014) NHS based emergency department ethnography focused on triage and highlighted how it was a negotiated and co-

constructed process influenced not just by clinical priority but by judgements around deservedness. Triage-like work is also performed in a less visible and less structured way by the entire department. For example, a receptionist may alert a clinical staff member that a patient who is yet to be triaged is in immediate need. This action could be conceptualised as bypassing the gatekeeper but is rarely seen like this. In the above account, prioritising and gatekeeping were conceptualised as ways of managing the primary function of the emergency department—the clinical work. The same processes may be important for other elements critical to the work of the emergency department. I return to prioritising in Chapter 6. Lara-Millán's (2014) ethnography based in a United States emergency department showed how such gatekeeping occurred at multiple sites, not just the initial triage process, and how it was influenced by external factors, specifically whether patients were incarcerated or in police custody. These ethnographies help to show how work in the emergency department is team based in a generally distributed way. Given the potential importance of team working for retention this is an important contribution of the ethnographically based literature.

Protocols and decision making

Protocols are another way that the emergency department aimed to bring order from chaos (Vosk and Milofsky, 2002b). Protocols provide standardised ways of dealing with, in general, common problems. For example, protocols for assessing and managing patients presenting with chest pain, which in one study accounted for 6% of emergency department attendances (Goodacre *et al.*, 2005), are increasingly common, and the aforementioned practice of triage is heavily protocolised. By applying a sociological lens, Vosk and Milofsky (2002b) described the in-situ application of protocols and how their "routinisation … furthers cooperative division of labour within the team and reduces to manageable size the number of decisions that have to be made under pressure (p.6)." Though not vouched in such terms by the authors, such action to reduce the burden of decision making is something emergency physicians may do to try and make their work more sustainable.

Some of the work of the emergency department can be protocolised, and much is done by the cross-professional group of individuals working towards a common purpose. However, ultimately, the emergency physician in charge at any particular time makes

many of the decisions and gives advice and instruction that can be viewed as orders that are, in general, followed:

> The physician's command of the emergency department is not a fiction … continually giving orders everyone expects will be carried out, but authority structure in an emergency department is based on cooperation and shared goals and values rather than a simple exercise of power and rank. (Vosk and Milofsky, 2002c, p. 10)

That this work performed by the emergency physician is considered "advice" rather than "orders" is both "a highly sophisticated kind of leadership" and further evidence of the importance of teamworking, or common purpose, to the successful running of the emergency department. Another way that common purpose is apparent in the emergency department is through shared rules. An ethnographic study conducted in two UK emergency departments of the role of emotional labour in emergency department nurses showed how shared rules helped nurses navigate the "warzone" of the emergency department (Kirk *et al.*, 2021, p. 1958). In particular, the authors describe how these shared rules enable "nurses [to] undertake emotional labour to respond to mismatches in prioritisation between their perceptions of a patient's needs (assigned prioritisation) and the patient's own perceptions" (Kirk *et al.*, 2021, p. 1963) which demonstrates the importance of unwritten rules for the work of the emergency department. It also reiterates the environmental challenges of the working environment for those trying to deliver care in it and how it is managed through various forms of distributed action, be that leadership or the more informal rules that Kirk et al. (2021) discussed.

Cardiopulmonary resuscitation: decision making and categorisation

One form of work that is strongly associated with working in the emergency department is cardiopulmonary resuscitation (CPR). CPR is the combination of chest compression and supported breathing for when someone's heart has stopped beating, and they are not breathing (i.e., they are dead), to try and get them into a physiological state where an intervention, for example, an electric shock to the heart, might resuscitate them. In the emergency department, the survival rate for patients

presenting in cardiac arrest is low, with between 2% and 12% of patients surviving to hospital discharge in the UK (Perkins and Cooke, 2012). An ethnographic study from Brummell et al. (2016, p. 47) of decision making during the management of cardiac arrest in two emergency departments in Northern England had the stated purpose of investigating how staff "make decisions to commence, continue or stop resuscitation". Through their analysis, they concluded that resuscitation decisions involved categorisation. This allowed practitioners to "develop strategies to cope with the moral uncertainties of balancing intervention and withdrawal of treatment (Brummell *et al.*, 2016, p. 54).

The paper is a valuable addition to the literature around cardiac arrest management. However, their analysis did not prioritise how the team makes the decisions or how this "teamworking" is a more focused example of the general working in the emergency department. While the team was present throughout the data "it's not my decision as such, it's a joint decision with the other team members" (Brummell *et al.*, 2016, p. 53)—the interactional element and non-verbal communication received only a passing mention. Brummell et al. (2016) instead focused on the categorisation process that emergency department workers do to aid decision-making, a process reflecting Timmermans' (1999) foundational and more in-depth ethnography of CPR across many settings. Both of these forms of categorisation are further ways in which the work of the emergency department can be conceptualised as making order "out of chaos" (Vosk and Milofsky, 2002a, p. 93) and as heuristics to lessen the burden of decision making. Hillman (2014) explored this categorisation process, from the patient perspective, in the form of triage. She highlighted how such categorisation was negotiated to the point of co-production, contextual, and far from fixed.

Patient flow and interactions between colleagues

Nugus et al. (2014, p. 9) developed an "ethnographically-derived model of the dynamics of patient flow" that they termed the "emergency department carousel." This study utilised ethnography to try and understand the movement of patients in and through the department. The context of overcrowding and poor flow is as familiar to those in UK emergency departments as in Australia, where this study took place. While I do not think the model the authors developed is especially useful to try and understand

patient flow in an emergency department or solve problems, the learning they gained in developing the model is relevant for this thesis. The model itself does look chaotic, which in some ways means that while I do not think it is useful per se, it certainly reflects something of the nature of the emergency department. The learning from the model adds how the work done by those working in the emergency department can influence patient movement and flow—something which is often thought of as beyond agency as the department has little control over who turns up or bed availability in the hospital. This understanding of patient flow also brings in the routine emergency department work that has not been visible in the literature explored thus far. Nugus et al. (2014) called these "drivers of interactions", and they reflect much of what emergency physicians spend their time in the department doing:

> A = Workup (assessment, triage and diagnosis)
> B = Decision making for (admission/discharge)
> C = Managing time and space
> D = Supervising junior clinicians
> E = Inter and intra professional problem solving
> F = Negotiation outside the emergency department
> (Nugus *et al.*, 2014, p. 6)

These "drivers of interaction" represent some of the more day-to-day elements of the practice of emergency medicine. While each has an evidence base of its own (for example, supervising junior clinicians in the medical education literature), what they do in totality is show how some of these mundane practices influence other aspects of the emergency department, making them visible as methods of action influencing flow in this instance.

Crowe et al. (2019) took one particular problem related to flow—crowding—and used an ethnographic approach to not only understand it in their context, a single UK emergency department, but to try and improve it. They did this by using ethnographic data to inform the development of a mathematical model of crowding used to gauge the success or otherwise of attempts to improve. Their paper highlights the utility of ethnography for understanding problems and developing solutions in context. This

overlap between ethnography and operational research has parallels with ethnomethodologically informed ethnography discussed in the following chapter.

Chapter summary

In this chapter, I have analysed bodies of literature that have informed the conduct of the study and the results that I draw from the empirical data. The definition of retention is important for this study; I developed the dictionary definition to show how it relates specifically to it. That is, retention is the actions that keep doctors in emergency medicine, the attributes of the department that keep doctors coming back to work, and it is something that has been done. This definition was important to state as the various definitions from the literature have different characteristics, which make them useful in the context they are drawn from but less applicable to this thesis.

The literature contained multiple terms which are almost synonymous with retention. Utilising the literature that referred to these terms allowed me to explore a broader selection of work and decide if it was relevant on a case-by-case basis.

The literature directly pertaining to the retention of doctors in emergency medicine was reviewed through a scoping review. I identified many factors linked with retention (or a term almost synonymous with it). Burnout and working conditions correlated with intention to leave. A lack of training and supervision, excessive workloads and poor working conditions were reasons people gave for leaving. The diagnostic challenges encountered in the specialty, teamwork, teaching, and a positive work-life balance were why people chose to continue in emergency medicine. However, the specialty was associated with the physical and emotional strain that might require emergency physicians to take on alternative roles for some of the working week. This, alongside strategic working patterns and peer support, were evident as routes to retention. These were referred to as sustainable working practices. The literature revealed a long list of factors associated with retention. However, few studies help decide which factors might be important or why.

No papers aimed to improve retention in emergency medicine, but a small number described findings that can inform this. Improved rostering might help, as might

improvements to flow and staffing in the emergency department. The emergence of self-care and compassion dialogues in the specialty may also be important.

Ethnographic studies in the emergency department showed that the work of an emergency department could be conceptualised as bringing order out of chaos. More interesting was the description of the work as the "departments task", which demonstrates the inherent interconnectedness of work in this setting. Prioritising and gatekeeping were discussed as ways that the chaos of the emergency department was managed. Another way was using protocols, which also reduced the decision-making burden inherent to emergency medicine. These studies support my use of decision making, teamworking, and flow as concepts.

Taken together, the literature reviewed in this chapter identified many factors linked with retention. The importance of these factors is unclear as the studies that identified them lacked context. I identified several studies that provided context, but their primary aim was not to understand retention. However, these showed important aspects of work in the emergency department and that these are accessible ethnographically. In the next chapter, I outline how I bridge the gap between studies directly pertaining to retention in emergency medicine that lack context and ethnographic studies that have context but do not focus on retention.

Chapter 3: Methodology

In this chapter, I describe the study as it was conducted. To do this effectively, I provide important context and underpinning theoretical arguments that help explain why the methodological choices outlined in the chapter were made. The chapter opens with my argument for using ethnomethodologically informed ethnography to approach the research aim and objectives (repeated below[23]). I also explore how my approach to interviewing and reflexivity aligned with my approach to ethnography. This is followed by an account of the methods with sections on site selection, the conduct of workplace observation, making field notes, interview participant recruitment, the conduct of interviews, and reflexive thematic analysis. I include an account of the rationale for my analytical choices in terms of the themes that form my results chapters. Following this, I discuss external influences on the conduct of the study, namely funding, public and professional engagement, ethical and regulatory approvals, the development of a stand-alone study protocol, and the COVID-19 pandemic. The chapter closes with a section delineating how being an insider researcher affected the study.

Overall, this study consisted of eleven weeks of workplace observation which led to the production of field notes, and 41 interviews that led to the production of transcripts. Throughout the study period, I kept reflexive notes on the development of the study, the data collection, analysis, and during the write-up. The field notes, transcripts, reflexive notes, and selected literature were the data that underwent analysis.

[23] Research aim and objectives:
This study aimed to gain a deep understanding of retention in emergency medicine; to elucidate how retention is made possible. This aim required a study design that could tackle complexity and develop new understandings. The objectives were to:

- Understand in detail the day-to-day lived experience of emergency medicine doctors to identify and explore factors influencing retention.
- Situate these descriptions within the current educational and health policy contexts.
- Advance the debate and make policy and practice recommendations based on a detailed understanding of retention of medical staff in emergency medicine.

Seeing "retention work" through ethnomethodologically informed ethnography

Ethnomethodology is the study of the ways that social order is made in and through processes of social interaction (Garfinkel, 1974). As an approach to sociological analysis, ethnomethodology is concerned with how members of a group (*ethno*-), however defined, go about doing what that particular group does with *method* referring to the methods and practices they use to achieve this. The suffix -*ology* refers to the final key component—systematic description.

In the previous chapter, I explored the definition of retention, which is important for interpreting the literature and communicating my findings. However, I think the key feature of retention that makes it a thing that can be studied is how it is made in the workplace. Garfinkel and Sacks (1970, p. 342) stated that "the interests of ethnomethodological research are directed to provide, through detailed analysis, that account-able phenomena are through and through practical accomplishments"—I think that retention is a "practical accomplishment". The way of working, in a specific environment and a specific professional context, for an extended period, is, to my mind, a practical accomplishment. Retention to a specific work, workplace, work profession is itself work. The act of retention, when considered as either an individual process or a broader social phenomenon, is ordinary. It is normal to continue to do the job you are already doing. I expect to go to work tomorrow as I have done today. To study retention, it needs to be considered as the commonplace phenomenon that it is.

But how does ethnography informed by ethnomethodology align with the problem of retention of doctors in emergency medicine? The first point would be that a significant swathe of the ethnomethodology literature was done to understand problems faced by practitioners, with or by practitioners in their setting. Examples include an ethnomethodological study into the use of assessment tools in child protection conducted by a qualified social worker (Gillingham, 2009; Gillingham and Humphreys, 2010), much of the work from the field of computer-supported cooperative work (Randall *et al.*, 2021) and, often in a team containing researchers and practitioners, a significant proportion of the field of workplace studies (Luff *et al.*, 2000). This leads onto

the second point which is particularly important for the practice and policy recommendations part of the research objectives.

The second way ethnomethodology aligns with the problem of retention lies in how practical accomplishments are achieved in context through "vocabularies of motive" (Mills, 1940, p. 904). This second alignment is more complex than the first, and by exploring the theoretical linkages that construct it, I can delineate some of the foundational work underpinning this study. Mills' concept of the sociological imagination is engrained into contemporary sociology to the point that the idea—that a society, or a part of society, cannot be understood without appreciating the (historical, political, social) context—now seems like an eternal truth (Brewer, 2004). It was not always the case. The initial publication was met with a degree of controversy from mainstream American sociology, primarily due to the criticism of one of the then-dominant approaches to sociological research, particularly the tendency towards grand theorising (Staubmann, 2021). By grand theorising, Mills was talking about describing the social world through abstraction, with the organisation and arrangement of concepts either taking priority over or ignoring entirely social reality.

Another way that Mills courted controversy was through his criticism of the growing role that contemporary (American) sociology had taken—something that he named "tendencies"—in working for the government to accumulate facts to be used to facilitate administrative decision making. Mills' primary argument can be distilled down to this quote: "Neither the life of an individual nor the history of a society can be understood without understanding both" (Mills, 2000, p. 3). Here, Mills' writing on the sociological imagination can be seen to run counter to the focus on the detail of ethnomethodology. Ethnomethodology certainly cannot be laid open to Mills' critique of grand theory. Nor is it an administrative tool—though those in administration have used it to understand problems within said administration (Sopanah *et al.*, 2013; Hand and Catlaw, 2019). The friction lies in ethnomethodology's seeming focus on the detail of practice at the expense of the broader context. Rawls (2003), reviewing Garfinkel's corpus of work, described this tension:

> Critics argue that the study of local social orders is not sociological because it consists only of a description of what people do and ignores the real social (i.e., institutional) constraints within which those actions take place.
> (Rawls, 2003, p. 149)

Proponents of Garfinkel's ethnomethodology dismissed the argument that Garfinkel rejected sociology's foundational Durkheimian principle that social facts exist as external constraints, or to quote Durkheim:

> A social fact is any way of acting, whether fixed or not, capable of exerting over the individual an external constraint;
> or:
> which is general over the whole of a given society whilst having an existence of its own, independent of its individual manifestations.
> (Durkheim, 1982, p. 59)

Garfinkel did not reject the notion of external constraint. Instead, he "reconceptualised it so as to avoid the individual versus society dichotomy" (Rawls, 2003, p. 149). From an ethnomethodological point of view, the constraint comes primarily from local and, therefore, observable practices (Crabtree *et al.*, 2011). Formal institutions also provide constraint, but this is secondary and reveals itself in a specific, limited way mediated through accountability (Randall and Rouncefield, 2011). Mills' (1940) argument is that people in institutions do not act by following rules. They "act by accounting for what they have done in terms of vocabularies of motive and justification which only retrospectively references the rules" (Rawls, 2003, p. 150). That is to say that the relationship between action with reference to an institution (such as working in one) and rules is not as simple as constraint. Rather than ask what the rules are, a social actor may ask themselves what the consequences of an action might be, what other social actors in that space might say about their actions, and how they could account for said action. Mills (1940, p. 904) referred to this as a shared "vocabularies of motives".

Garfinkel expanded on Mills's theory of accounts by incorporating the multi-layered, complex, and highly contextual networks of accountability that can exist at various levels simultaneously within a social organisation. What makes the accountability

complex is that the multiple levels can exist while seeming to contradict one another. For example, persons can be accountable to their institution, profession, and colleagues (Randall *et al.*, 2001). They remain accountable at multiple levels for their actions in the social setting (workplace) "even while they are managing institutional levels of accountability" (Rawls, 2003, p. 150). Retention, when examined through the lens of ethnomethodology, is practitioner-focused and contextual with the context being enacted in local and observable practices, which building on Garfinkel's expansion of Mills' vocabularies of motives is discernibly more complex than a relationship of constraint.

In this way, this study aimed to reframe the problem of retention through an ethnomethodological lens that revealed retention to be both a practical accomplishment and a commonplace phenomenon. The study was not a pure ethnomethodological study. It did not take a firm stance on ethnomethodological indifference. The observed practices of the group was the principal focus and understanding developed from the analysis of this did draw on sociological theory. Moreover, one of the stated aims of the study was to develop practice and policy recommendations. This, combined with the focus on the "doing" of work is one reason why I have used the terminology "ethnomethodologically informed ethnography" (Randall *et al.*, 2021, p. 190) to describe the endeavour. The above writings draw on the empirical and theoretical literature to help me position the problem as amenable to study through ethnomethodologically informed ethnography. I use this term recognising that this study is not a perfect fit for any of the published forms of ethnomethodologically informed ethnography but in the knowledge that this body of literature has informed the focus on the mundane that is present throughout the empirical chapters of this thesis. In the following, I delineate how this problem may be practically accessed.

Ethnomethodologically informed ethnography and the study of retention in emergency medicine

The "ethno" in question in my study is emergency physicians, a diverse but clearly identifiable socio-cultural group. The "method" is the practices they employed in their day-to-day working, and the "ology" is the description of these practices. In this last

point, ethnomethodology most clearly aligns with ethnographic practice from other scholarly points of view in that the written product of the research is inseparable from the conduct of the study. Indeed, while ethnomethodology is described as having no prescribed methodology many of the studies beyond the canon of ethnomethodologically informed ethnography share features of ethnography (Randall *et al.*, 2021). The "method" warrants further explication, the day-to-day practices that I was interested in are those relevant to the continued work of the emergency physician, that is not simply how the observable works achieved what it achieved at the moment that it was conducted, but how actions were constituted to allow, or facilitate, the retention of the emergency physician to the profession. Referring to the origins of ethnomethodology as a discipline, Rawls stated that:

> If one assumes, as Garfinkel does, that the meaningful, patterned, and orderly character of everyday life is something that people must work to achieve, then one must also assume that they have some methods for doing so ... members of society must have some shared methods that they use to mutually construct the meaningful orderliness of social situations.
> (Rawls, 2003, pp. 122–123)

The "methods" that emergency physicians use to do their day-to-day work can be seen in a similar way to how other groups do work in their context. Ethnomethodology has focused on the methods for particular aspects of work. While the work of emergency physicians has not been the focus of ethnomethodological study, some of the elements of work that have been studied are done by emergency physicians. Rouncefield and Tolmie (2011) described processes of prioritising, demonstrating adherence to organisational policy and preserving organisational consistency as organisational acumen. Randall and Rouncefield (2011) explored plans and planning, and Hartswood et al. (2011) working with documents. While these examples are not from the emergency department, they show how ethnomethodology can help develop an understanding of work in context. For this study, the ability to focus on one particular element of work amongst the complex and multiple happenings in any given workplace is of value.

An example from a paper discussed in the literature review (Chapter 2 above) can help clarify this multiplicity. Vosk and Milofsky (2002a) discussed what interruptions in the emergency department reveal about how power and hierarchy are enacted in that space:

> In most relationships where there are differences in status as there are between doctors and nurses, a subordinate would find it difficult to interrupt or challenge the activity of a superior, but in the emergency department it is essential that nurses be permitted to demand the physician's attention when they consider it necessary. For their part physicians must accept such interruptions.
> (Vosk and Milofsky, 2002a, p. 93)

Interrupting, or managing the interruption, can, as Vosk and Milofsky pointed out, be considered as a form of work in and of itself, but the act is also doing other things such as prioritising, distributing work, planning, relationship building and communicating. In other words, a form of work observed in the emergency department can be interpreted as doing many things at once. I interpret retention work as almost certainly accomplishing dual or multiple roles. The question then is how do I access the essential "retention-ness" of workplace actions: first it is to understand the workplace in a deep and meaningful way, to use Garfinkle's (1967) term, to achieve "unique adequacy" of the methods used by people in the workplace to do their job, essentially gaining a degree of "insiderness" before any "attempt to answer the how and why questions". The second is to ask the people implementing these methods about them. These two elements are the key part of the methodology I employed.

The observability of retention

In the above sections I have attempted to make the argument for retention as accessible through ethnomethodologically informed ethnography. In this section I aim to show how other constructs that are not directly observable have been fruitfully explored with observational methods. That is, that I can learn something about retention by observing practices, even though retention as an outcome of said practices is not what I will actually see. To do this I will review important studies in healthcare

that have increased understanding about a non-directly observable phenomenon by observing practices related to it. Safety has been described as a "dynamic non-event" (Weick, 1987; Sutcliffe and Weick, 2019), that is that it is something that happens in the absence of errors. Liberati et al. (2019) conducted an ethnographic study of a particular NHS maternity unit to try and understand what makes them consistently very safe. The identified "mechanisms" (Liberati *et al.*, 2019, pp. 66–67), such as "insistence on technical proficiency" and a "highly intentional approach to safety and improvement" that can be considered as observable factors contributing to safety and the doing of these things could be considered, to use my parlance, "safety work". Observational approaches have also been successfully utilised in research aiming to improve "quality" (Leslie *et al.*, 2014), another construct that is difficult to observe though unlike safety it is not definable by the absence of an event. Observation has added greatly to understanding of learning in healthcare (Goodson and Vassar, 2011). This is perhaps even more true when learning is considered as a team-based and social phenomenon such as an ethnographic study from Dellenborg et al. (2019) which aimed to understand and develop learning around person-centred care in a acute medical ward in Sweden. Retention, like learning, quality, and safety, is difficult to directly observe. However, it is clear that useful understanding of the phenomenon can be gleaned by observing mundane or everyday practices.

Ethnography

> Ethnography is a qualitative orientation to research, derived from anthropology, that emphasises the detailed observation of people in naturally occurring settings.
> (Rouncefield, 2011, p. 46)

Ethnomethodology and ethnography are closely aligned, but the two are distinct (Sharrock and Randall, 2004; Rouncefield, 2011). The section above outlined how ethnomethodology would allow me to "see" retention in the workplace. This section outlines specific methodological choices that allowed me to address the research aim and objectives through ethnography. Two questions are vital for these methodological choices: how many sites to visit and how long to spend in them?

Short-term ethnography

Taking a traditional approach to ethnographic research, from either a sociological or anthropological perspective, I could argue that spending as much time as possible in a single site would have allowed me to gain a deep understanding of the context, allowing me to produce "thick descriptions" of what I encountered (Geertz, 1973, p. 10, 2008, p. 310). The main counter to this approach is that I am an insider-researcher, something I return to at the end of this chapter. That is to say that I can understand the broader context without spending weeks or months "learning the language and seeing patterns of behaviour" (Fetterman, 1998, p. 35). While this might bring about specific challenges—again that I address at the end of this chapter—it does mean that much of the time-consuming groundwork that acts as a prerequisite to ethnographic study, things like gaining access and trust and learning to communicate in a new setting, could occur in a more expedited fashion. Therefore, I did not need to spend the entirety of the time available for the study within one field site. It may be that a better, or at least a different, understanding would be achieved by planning to access more than one site.

Emerging within health research is the practice of short-term ethnography (Pink and Morgan, 2013). This approach focused on generating "intensity" in each research encounter (Pink and Morgan, 2013, p. 355). Traditional ethnographic fieldwork might involve accessing a site for a year or more, with a great deal of time spent "hanging around", that is, being present in the environment and engaging in tasks to gain trust and understanding iteratively. Pink and Morgan (2013) described a less time-intensive—in their example six weeks—but much more experience intensive approach to ethnography:

> In our short-term focus … the ethnographer seeks to implicate her or himself at the centre of the action, right from the start, and engages participants in the project with this intention clearly stated.
> (Pink and Morgan, 2013, p. 355)

This led me to the idea of multi-site ethnography, the idea of conducting observations in several geographically distinct locations.

Multi-sited ethnography

Studies of migration have, since the 1970s, recognised the importance of both the point of departure and arrival to understanding the experiences of migrants. For example, Watson's (1977) book collated a series of ethnographies exploring the migration of people from Jamaica, India, Pakistan, Montserrat, Italy, Poland and Cyprus to Britain, all of which were at least "bi-local", to use Hannerz (2003, p. 202) term, and offered a multiplicity of perspectives when taken as a whole. Watson developed an understanding of a concept, migration, in the context of a people, migrants to Britain, by seeing it from two or more sites where the concept was enacted. The studied process occurred necessarily at the sites under study (you cannot have migration without somewhere to leave and somewhere to go), so to understand the concept of migration, you need to study the multiple locations where it occurs. Other times it is not the concept that necessitates mobility, but those being studied. Hannerz (2003, p. 206) described his study of news media foreign correspondents, who by the nature of being a foreign correspondent moved around, and conceded "that perhaps the term 'multilocal' is a little misleading" arguing that the term "trans-local" better reflected the mobile nature of the study. Hannerz's study was both trans-local and multi-sited in that he studied different correspondents in Jerusalem, Johannesburg and Tokyo. The reasons he gave for choosing these specific sites was a combination of theoretical sampling, "because I was interested in reporting over cultural distances", and happenstance, "in no small part I went there because I had an invitation to a research workshop in Japan" (Hannerz, 2003, pp. 207–208).

The participants in my research did not necessitate multiple sites. They were not moving between places. What I was studying did not have an origin and destination—my reason for choosing more than one site related to theoretical sampling and happenstance. Happenstance was important. I had the opportunity to conduct research in more than one location, and if that were not the case, I would not be able to make the argument for this choice in terms of theoretical sampling. As I began to think of retention as an "emergent object of study" (Marcus, 1995, p. 102), I realised that something could be gained by delineating the concept in more than one location. I had a suspicion that much of what keeps an emergency physician in emergency medicine is

the same across locales. However, I knew from my own experience that some of the work done in emergency medicine looks different in different places. I thought that the only way to reconcile this seeming contradiction was to conduct the study in more than one location.

> Thus, in multi-sited ethnography, comparison emerges from putting questions to an emergent object of study whose contours, sites, and relationships are not known beforehand, but are themselves a contribution of making an account that has different, complexly connected real-world sites of investigation.
> (Marcus, 1995, p. 102)

Interviewing

I conducted formal interviews to support the informal talk contained within fieldwork. Interviews with informants, conducted away from the field site, are commonplace in ethnography. A standard assumption is that if the ethnography is well described, then the interviews were conducted in a methodologically sound manner. For example, Prentice's (2012) ethnography of anatomy and surgical education contained paragraph length excerpts of speech yet did not refer to how the speech was recorded and what, if any, interviewing techniques were utilised. Many influential ethnographies provided little if any detail about the practice of interviewing (Mol, 2002; Brummell *et al.*, 2016; Liberati *et al.*, 2019), though some make clear that they carry a tape recorder along with their notepad when in the field (Atkinson, 1995). This lack of detail about the conduct of interviews may be a methodological norm. It may be influenced by the presumed audience of a book (Mol, 2002), limited space available in a journal article (Liberati *et al.*, 2019; Brummell *et al.*, 2016) or that the author has chosen to detail their methodological choices *in general* elsewhere (Atkinson, 1995). Whatever the reason, I see this as a missed opportunity. Perhaps because much of my previous research has utilised interviewing as the primary technique, I believed my ethnography could be strengthened by utilising a specific interviewing approach and the significant research base on which this was built.

Brinkmann and Kvale (2014) have heavily influenced my approach to interviewing. Their concept of interviews as a craft, a social production of knowledge, and a social practice has broad epistemological alignment with my conception of ethnographic (and medical) practice. This is key for this study as an insider-ethnography (a term I expand below). While I recognise that epistemological methodological tensions can have utility (Carter and Little, 2007) and that as a researcher conducting ethnography in the context of a predominately positivist emergency medicine research landscape, I in some ways embodied this tension. However, I believe that the messy research space where I was practising called for a substantial degree of alignment between my practice as an interviewer and as an ethnographer.

Interviews are established within common culture, within our "interview society"—to use Brinkmann and Kvale's (2014, p. 15) term—to the point that they are often undertaken with the belief that they are easy; that our conversational skills will suffice to produce research data. This was the approach Skinner (2013) described when recounting tagging on some interviews to the end of his ethnography in the introduction to his edited volume *The Interview: an Ethnographic Approach.* Skinner did not advise this approach; his account introduces the pitfalls an ethnographer can encounter when undertaking such a practice. He does this prior to introducing an earlier version of Brinkmann and Kvale (2014) (then with Kvale as a single author):

> One of the strengths of Kvale's work is to situate the interview within the philosophy of research methods … and that it can … link the interview to the philosophy of phenomenology and to the discipline of anthropology.
> (Skinner, 2013, p. 9)

I am more aligned with the sociological practice of ethnography than the anthropological. However, I share their belief that aligning the philosophy of the research method with the overarching methodology is important. In addition, Brinkmann and Kvale's (2014) approach to interviewing as craft clarifies how I can use the interviewing skills developed as a clinician (and qualitative interviewer) while cautioning that the social practice of interviewing in these two different settings calls

for both additional skills and a different application of existing skills. A reflexive approach helped me navigate this.

Reflexivity

Reflexivity is the conscious examination and explanation of how the researchers' positionality influences and is influenced by the research as it progresses (May and Perry, 2017). It is more than a label attached to the analytical structures I used to help generate a deep understanding of the data. It is the general approach I applied to the conduct of the entire study. I used an analytical toolset—reflexive thematic analysis—because it aligned with my reflexive practice of ethnography. It would be incorrect to say that my practice of ethnography is reflexive just because I have chosen to perform reflexive thematic analysis; the practice needed to go beyond that. My reflections on my multiple roles and on being an insider-researcher go some way to demonstrating this process, and the work I show through the results chapters adds to this. Here I will explore why and how this process helps me demonstrate quality in ethnographic research.

Many approaches to ensuring quality in qualitative research exist, the choice and implementation of which is influenced by more than the desire to do good research. For my study to have any impact on practice, it must be accepted as a "legitimate approach to inquiry" (Varpio *et al.*, 2017, p. 40). One consequence of this requirement is that discussions about quality are often forced into the domain where they have taken place. Emergency medicine research is dominated by positivist orientated studies asking questions about how to make accurate diagnoses, if a treatment works in a particular setting, and disease prevalence. Discussion about quality in this frame is concerned with statistical interrogation and rigour, reproducibility, and a clear answer to a predefined question. Researchers who have tried to ask questions in the context of positivist-dominated fields have adopted strategies to assist the integration of their qualitative work. Varpio et al. (2017) discussed this in the context of health professions education research, a field which, despite having a much stronger qualitative leaning, still experiences this struggle. Indeed, it may be that the health professions education

struggle is more complex given that it interfaces with all the slightly different (though nearly universally positivist) historical preferences of each health profession.

Davies' (2002) guide to reflexive ethnography provided a helpful structure to thinking about the practicalities of doing reflexive ethnography. In working through the aspects that Davies (2002) described, I was forced into self-reference, relating what I have written and done to reflexivity. I risk giving the impression that reflexivity can be demonstrated by merely ticking these boxes. Far from it, I aimed to evidence that reflexivity has been done, not to show how it is done. This mirrors Davies' (2002) aim to guide how reflexivity can be done, using examples of how it has been done, not to dictate how it should be done.

Reflexivity is evident in the development of my research aim and objectives. I have not only explored the practical and policy imperative for them. I have also attempted to incorporate the "combination of personal factors, disciplinary culture, and external forces" (Davies, 2002, p. 29) that have led me to the aim and objectives as presented. This included the almost-taboo topic "the availability of funding" (Davies, 2002, p. 29) and its impact on the research development (discussed below). While "for anthropologists the selection of research topic has been so intimately connected with the choice of research site as to be virtually the same" (Davies, 2002, p. 32), this cannot be said for classically sociological ethnographies or this study. As I have described below, I had several choices for sites and was probably more guided by practicalities than theoretical elements, but as I argued, this is not predictably problematic. To know which sites would and would not prove useful, I would have needed to have completed the study, and, at this stage, I can say that I was either lucky or correct in selecting sites as I did.

Principally, I selected the methods because they could move me towards the research aim and objectives. This is not reflexive. It is a necessary part of good research in all scientific fields. To be reflexive, I needed to go beyond this relationship, to state how, while this was the primary motivator, other things influenced the decisions. Doing ethnography for my thesis allowed me to learn a new research skill. The inclusion of interviewing within the ethnographer's toolkit allowed me to build on the research

method that I am perhaps most skilled in. Oddly, the need for research funding was perhaps a driver against ethnography. Despite (eventually) being successful at obtaining funding, it is almost certain that I would have had an easier time proposing a survey. This links to the strategic thinking, in terms of my career, behind doing a PhD. I mentioned in the prologue above how I thought that combing clinical work with academia might be a way for *me* to have a sustainable career. To do this, I have to think about the academic niche that will make me employable to an academic employer, and the approach taken herein helps me carve this out. By outlining how I have introduced reflexivity through the development of the study and how I maintained reflexive methods throughout its completion, I hope to have convinced the reader that this is a reflexive ethnography.

Methods

In the above sections of this chapter, I have outlined the theoretical orientation and justifications for this study. The section below outlines the methods I employed to meet the research aim and objectives in light of the orientation and justifications mentioned above.

How many emergency departments?

My status as an insider-researcher (which I return to at the end of this chapter) meant that I believed that I did not need a protracted period to gain entry. This decision was influenced by but did not seek to duplicate Pink and Morgan's (2013) methods. Related to this is the concept of information power (Malterud *et al.*, 2016)—based on my knowledge of the sites, I predicted that each would provide vast amounts of information. This, combined with the defined study aim and the specified group being studied, led me to think that candidate sites would have the potential to have high information power. Low's (2019) concept of theoretical saturation is more associated with interviews (see the section on Interview participants below) but is applicable here. I thought that the richness of the data available in the emergency department would mean that theoretical saturation would be achievable with a limited number of sites. Furthermore, I suspected that what keeps emergency physicians in emergency medicine is broadly similar across the UK. Combined, these led to my decision to access

two sites. A third, fourth or more sites would have two major costs: first, it would have reduced the amount of time I could spend in a specific site, second it would have generated further regulatory work to gain the requisite approvals to access sites, which would take time away from other aspects of the study. This question of "how many" has been previously explored in the methodological literature (Crabtree *et al.*, 2013).

I initially planned to spend 12 weeks in each emergency department, aiming to perform four three- to four-hour blocks of fieldwork each week. I intended to spread these across the week to include the normal working day, evenings, nights, and weekends, by scheduling 48 periods of observation over the 12-weeks. This provided flexibility, the option to repeat observations at times I found valuable, and provided just under 200 hours of observational data from the first site.

At the first site, this is very much what happened, with the only deviation being a slight reduction in the number of observations in the final two weeks, as both the COVID-19 pandemic entered the horizon and the utility of each period of observation reduced; I was not seeing new things and my developing theories about retention were not being challenged. My first day of fieldwork at Site A[24] was on Tuesday 7th January 2020, with the final day Monday 16th March, giving 11 weeks of fieldwork. My plans to conduct fieldwork at Site B from April 2020 were put on hold by the pandemic and not completed. I expand on the impact of the pandemic in the final part of the section on external influences on the study (below) and in one of the appendices (Appendix 5: Statement for submission with a thesis impacted by the COVID-19 pandemic for PGR Students).

Which emergency departments?

Choosing which site to access and negotiating access were intimately linked. Beyond the broad exclusion criteria (outlined below), I believe that the majority of departments would have been receptive to hosting me as a researcher. This perception is based on the response to discussing the study as part of the professional engagement discussed below and in the subsequent conversations I had while conducting the study. Most

[24] In the methods section, I refer to the two sites as Site A and Site B. In the results section, I refer to them by their pseudonyms. I do not find it necessary to link the two, and indeed declining to do so facilities my attempts at confidentiality.

emergency departments in the UK are research-active, recruiting patients to national studies, even if conducting their own studies is the purview of a much smaller minority of departments. My study was very different from a large multi-centre clinical trial in many ways, but the way it was administered shared many features. If an emergency department was hosting other studies, then hosting mine as well would require very little work from their perspective.

I excluded sites that might have an emergency department label but were not what I meant by emergency departments (such as the emergency eye department) and those that were very much outliers in terms of performance. I did not want to burden a department seen as "failing". I did not want to access departments that were "high flying", as I anticipated the argument that my findings might only apply to departments performing as such. I disagree with this argument, but I did anticipate it being a barrier to developing policy recommendations. This led me to stipulate the following exclusion criteria in the study protocol and submissions for ethical approval.

Exclusion criteria:

- Type 2 emergency department (single specialty e.g. ophthalmology or dentistry).[25]
- Type 3 emergency department (minor injury unit or walk-in centre).
- Top or bottom 5% of departments in terms of attendances (NHS Digital, 2021), four hour performance or Care Quality Commission (2021) rating.

I then had to think practically; I would often attend the site and at odd hours. I was fortunate that I could drive and owned a car, and there were many departments within driving distance from home. I have been through the approval process for NHS-based research before. It can take a long time. I did not want a department to agree to host me, then something changing between agreement and collecting data, leading to the department being unable to host. As such, choices were made in large part due to trust. I was working clinically at one site while developing the proposal and felt I had good

[25] Type 2 and Type 3 emergency department definitions from the NHS Data Dictionary (2018).

relationships with several people who would act as "gatekeepers", to use the term ethnographers use to describe "individuals, groups, or organisations who have control or influence over a researcher's access to participants" (Latchem-Hastings, 2020). At the second site, one of the consultants (who had previously been my clinical supervisor) had continued to help me develop the study, reviewing various drafts of funding proposals. They were also the research lead for the department. These two departments provided me with the opportunity to gain secure access. I truly believed it would take something very significant to prevent access to either. These two sites provided me with the opportunity to conduct the research in the two main classes of emergency department in the UK, that of a trauma centre and district general hospital. It is a bit more complicated than this.[26] Nevertheless, the division is often how departments are described, and it impacts the work that takes place in each.

Workplace observation

My ethnographic practice in Site A was in many ways typical of what other ethnographers have described (Atkinson, 1995; Mol, 2002; Seim, 2020). I would arrive for my observation period, leave my things in the office I had been granted access to, head into the "field", and begin my observation. I would make a point of introducing myself to the nurse and consultant leading the shift, a process that took less and less time as people got used to me. I would then place myself in a part of the department and begin observing. I would introduce myself to the staff working in that area, giving a brief account of the study. This would generally lead to a brief conversation about something aligned to retention somehow. Other times it would end with a very brief comment along the lines of "interesting" before the individual continued with their work. I would spend time in an area until I thought it was time to move on. I would then

[26] Major trauma centres (MTCs) are hospitals designated to receive the most seriously injured patients. England has 27. The Northwest has three adult MTCs and two children's MTCs. Trauma units are designated to manage less serious trauma or stabilise and transfer immediately-life-threatening trauma. A district general hospital (DGH) used to be contrasted with a teaching hospital—one that provides education for trainee doctors. Now almost all DGHs provide teaching, so they can be thought of as a hospital that provides mostly general hospital services, with specialist centres providing more specialist services. However, some specialist centres may lack some specialist services, which may be hosted at the local DGH.

move to a different part of the department, repeating until I felt like I had reached capacity. This was more of a feeling than a measured period or volume of field notes.

Observation in the emergency department was exhausting, and I was always aware that the department never stops, that I would have to transcribe my field notes and then drive home. As such, the planned half-a-day could be anywhere between two and four hours. After completing a period of observation, I would go to the car to expand on my field notes, generally with a coffee, before driving home. I completed observations every day of the week and weekend, in the morning, afternoon, evening, and night.

I conducted observation during handover[27] on multiple occasions as it was particularly rich. However, beyond that, I found I could generate useful conversations and make valuable observations at any time, and while there were trends as to how busy, crowded, or well-staffed the department was, I could equally easily find the opposite to the trend. For example, a Monday morning was often a problem in terms of crowding. The hospital got full over the weekend, and patients who arrived on Sunday night often had nowhere to go, so they ended up spending many hours in and filling the emergency department's cubicles and corridors. I saw this on Monday mornings, but I also saw Monday mornings where there was space to see patients and the hospital had achieved flow over the preceding weekend.

In my time at Site A, I was never asked to stop observing or move to a different part of the department. I think this was due to my experience working in emergency departments in general and in that department in particular. I moved to different parts of the department or moved where I was positioning myself within an area on several occasions before I got in the way.

During the eleven weeks of field work I conducted observations in all parts of the department where emergency physicians do their work. This includes areas catering for different acuity of presentations from those who walk in, to those who are brought in

[27] Handover is the transfer of information and responsibility from one clinician to another. It occurs all through the shift as people come and go, but it is concentrated at the transition from night shift to day shift. It is a safety-critical event. Some of my previous research focused on handover from an educational perspective, which may have sensitised me to focus on this aspect of emergency department practice.

by ambulance and seen immediately in the resuscitation room. I conducted observation in the dedicated paediatric area, the handover room, the office, and break spaces. I conducted observations on each day of the week and at various periods of the 24 hours of the day including the evening when the volume of patients is the greatest and the night shift when there is less senior doctor presence. I blocked out four hours in my diary for each period of observation and planned observations for four days each week. I completed observations on 44 days in total, however I did not record the exact start and finish time however as I have noted I the experience was exhausting so I sometimes finished before the planned four hours was up. I estimate that I completed 132 hours of observation in total. Detail regarding these observations are available in Table 6 below.

Date	Day	Time	Hours Observed	Focus
7th January	Tuesday	AM	4	1st Day, team working, environment
8th January	Wednesday	PM	3	Majors area, office space
10th January	Friday	PM	2	Corridor and overflow areas, uniform, facilities for staff
12th January	Sunday	Late	3	Majors, crowding, staffing
13th January	Monday	AM	4	Handover, exit block, staffing, team, humour
14th January	Tuesday	AM	4	Paediatric area, environment, dark humour,
17th January	Friday	AM	4	National quality, end of night shift, handover, shift pattern
22nd January	Wednesday	AM	3	Case discussion, dark humour, fans, noise, systems
23rd January	Thursday	Night	4	Temperature, atmosphere, chaos
24th January	Friday	Night	2	Resus, work, new space, interpersonal relationships
25th January	Saturday	Late	3	Atmosphere, leadership, objects, teaching, broken machines, bleeping
27th January	Monday	AM	4	Traffic, portfolio careers, respite, atmosphere of calm, teaching
29th January	Wednesday	AM	3	New and old space, broken equipment, temperature
30th January	Thursday	Night	4	End of night shift, lighting, movement, exodus from NHS, retention work
31st January	Friday	Night	3	Team, difference with flow, broken equipment, taped
1st February	Saturday	Night	2	Coffee cups and water bottles, referral, conflict, relationships
4th February	Tuesday	AM	4	Leadership, working environment, policy, culture, wider NHS
5th February	Wednesday	Late	3	Rota, staff toilets, scrubs
6th February	Thursday	Late	4	Improvisation with equipment,
9th February	Sunday	AM	2	Portfolio careers, retirement, blocked space, repurposing space
10th February	Monday	AM	4	Repeated minor inconvenience, noise, flow, crowding
11th February	Tuesday	PM	4	Atmosphere, trauma call, training
13th February	Thursday	PM	3	Inadequate facilities, rota
14th February	Friday	AM	4	Temperature, noise, broken equipment, handover

Date	Day	Time	Hours Observed	Focus
17th February	Monday	PM	2	Office space, lack of windows, sickness, additional clinical space
18th February	Tuesday	AM	2	Missing equipment, majors, valuing, ultrasound machine
20th February	Thursday	AM	5	Handover space, air conditioning, RAT area, navigating the department
22nd February	Saturday	PM	2	Expansion space, decoration in paediatric area, radio, cleaning
25th February	Tuesday	Late	4	Smell, crowding, problems locating equipment, idle chatter
27th February	Thursday	Late	2	Supervision, broken equipment, roles, rest of hospital in darkness
29th February	Saturday	AM	2	Resus, humour, narrative
1st March	Sunday	AM	2	Water bottles, teamwork
2nd March	Monday	PM	3	Physical environment, broken and missing equipment
3rd March	Tuesday	AM	4	Conflict, colleagues, rest facilities, light, sound, atmosphere
5th March	Thursday	AM	2	Handover, humour, uniform, office space
6th March	Friday	AM	3	Education, narrative
10th March	Tuesday	PM	3	Lack of space, space between trauma call and arrival of patient
11th March	Wednesday	PM	2	Breaks, coffee cups and water bottles, noise, lighting, corridor care
12th March	Thursday	Late	3	Chat, humour, brief interactions, noise, uniform
13th March	Friday	Late	2	Visiting the space, paediatric area, humour
16th Match	Monday	AM	3	Handover space, absence, handwashing, eating on a corridor
17th March	Tuesday	AM	1	Documentation, computers, handover, signs
18th March	Wednesday	Late	3	Staggered shift starts, narrative, scrubs
19th March	Thursday	AM	2	Apprehension, change, team

Table 6. Summary of fieldwork.
All dates from the year 2020. AM refers to 7am to noon, PM to noon to 6pm, late 6pm to 11pm, night 11pm to 7am. Hours observed are approximate. Focus refers to key areas extracted from fieldnotes.

Field notes

I made my field notes in a notebook with a pen. The notebook had a scaled-down copy of the information sheet I gave to anyone who wanted more information on the study stuck to the front, see Figure 5. Sometimes I was able to make detailed notes. At other times this was limited to scribbled words. I drew things from maps to what I saw, my drawing skills are poor, but it helped me think differently about what I saw. I did not record full names. Instead, I used shorthand that I could make consistent when building on the handwritten field notes. I could not record long conversations verbatim. Instead, I noted down what conversations were about, sometimes quoting short phrases or key words in speech marks. My focus was not accurately recording what was said, more how it was said, the context, the meaning I took from the conversation, and how I interpreted the scenario in which the talk was taking place. My handwriting is not great. While I can consciously make it legible when writing clinical entries, it was immediately apparent that I would have to type up my field notes. I believed that there was a genuine danger that I would not be able to decipher the writing if I returned to them after a break. As such, I took to doing this in the car, helped by technology.

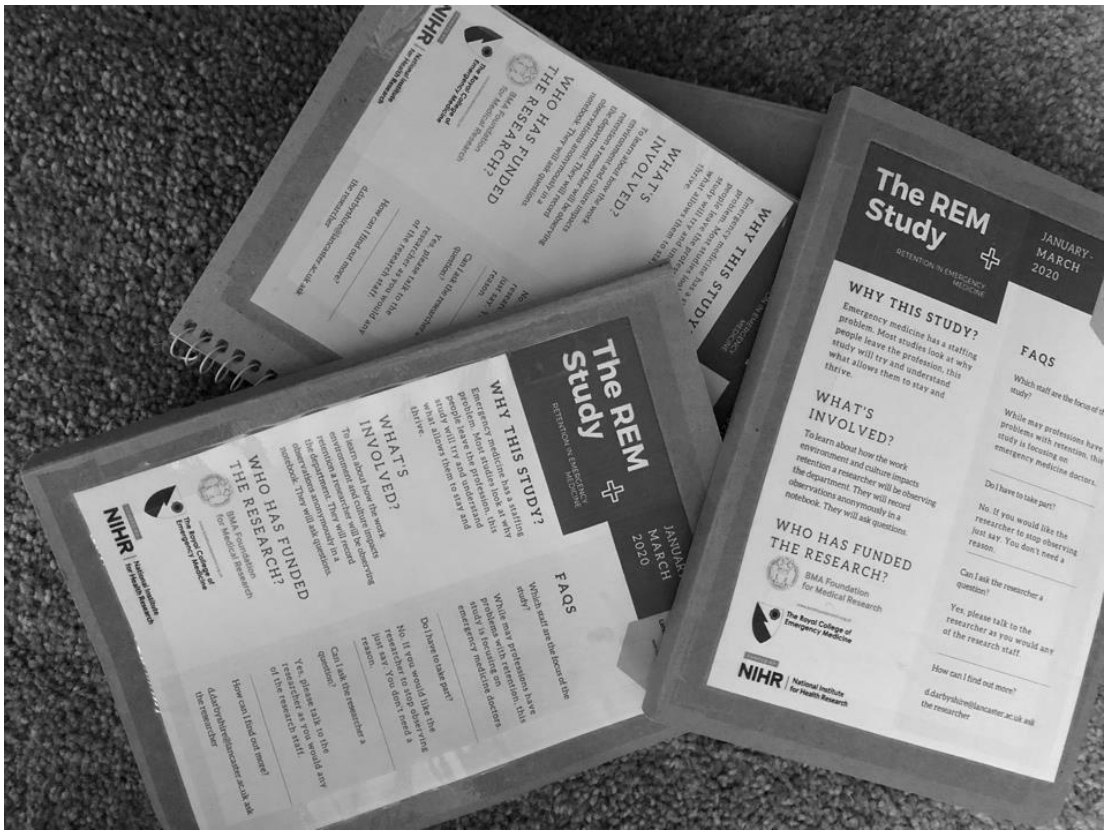


Figure 5. Photograph of some of the notebooks that I made field notes in.

I used a piece of software to organise my field notes, OneNote (Microsoft, 2020), which not only synced between my computer and phone and stored notes securely on the University's chosen file storage software, it allowed me to dictate my written notes straight into the software. I had started using this feature to dictate notes when I was reading papers and books for this study, finding that it allowed me to quickly record my thoughts without having to scramble for a pen and paper or my laptop, and in doing so, lose my train of thought. In expanding on my written field notes, I would record what I had written into OneNote, take pictures of anything I had drawn in case something happened to the notebook, and record my extended reflections on what I had seen, felt, or thought both in and after the observations. This would mean that a few pages of written notes could expand to several hundred words of observation and reflection. Doing this also started the process of analysis, which I will contextualise in the section dedicated to the analysis below. In doing so, I undertook what Emerson et al. (2011) termed "in-process analytic writing" (p.79) using various techniques depending on the situation that I was recording. I used asides to get something brief down on paper, often a link to the literature or another occurrence or a very brief reflection on the event. For more detailed expansion on the written notes, I used "focused commentaries"

(Emerson *et al.*, 2011, pp. 81–84), these were generally paragraph length extended reflections on what I have recorded, though I also recorded my rationale for choices I made about each day's observation. This also provided me with the opportunity to think, after each observation period, what would be the most helpful strategy for the following observation and plan accordingly.

Consent for workplace observation

Informed consent for ethnographic study, especially in a setting as fluid as the emergency department, cannot be conducted in the same way as for interviewing. I provided a detailed explanation of the ethical basis for the consent process I used in the application for ethical approval. Here I will limit my discussion to a description of the process.

A continuous information sharing approach was taken to ensure participants were informed of the study protocol, aims, and data collection methods. This approach was previously utilised in ethnographies within the NHS (Idelji-Tehrani and Al-Jawad, 2018; Liberati *et al.*, 2019) and the emergency department. This approach involved presenting the research plan at opportune meetings such as the departmental consultant meeting, junior doctor teaching sessions, and nursing handover. I put up posters prior to starting the study (available in Appendix 6 below). The continuous sharing approach continued during my time at Site A.

When conducting observations, I introduced myself to staff members, reminded them of my role and the aim of the study, or briefly explained it to those who had not previously been exposed to the study. Along with my notebook, I carried brief study information sheets for people who wished for more information based on the posters mentioned above (see Appendix 6 below). While I reinforced that observations would stop if anyone objected, no one did. This might have been due to my experience as an emergency physician and developing familiarity with the department. I was able to anticipate when observations might not be appropriate and move to a different part of the department.

I recorded no patient identifiable information. A few patients asked what I was doing after overhearing me explaining the study to a staff member. I explained the research

and a bit of the background. Patients were generally interested—being in the emergency department, they all had an *interest*—and none objected. I recall some comments along the lines of "you should pay them more" or "I don't know how they do it", but I did not dig for depth.

Interview participants

The protocol for this study planned for 40 interviews, ten with emergency physicians from Site A, ten from Site B, ten with doctors who had left emergency medicine, and ten with individuals in stakeholder roles related to retention. Primarily these numbers were thought to be sufficient to meet the aims of the study. However, there were other influences. These numbers were chosen due to the requirement that they are included in the various funding and regulatory documents discussed later in this chapter; they were an estimate based on the experience of the broader research team and the constraints of the doctoral process. In terms of knowing when enough had been completed, I utilised Low's notion of "conceptual rigour" (2019, p. 136). Low takes the position that the more commonly used term "theoretical saturation", which is often interpreted as the point in which no new information arises, is a misinterpretation of both Glaser and Strauss (1967) and Charmaz (2014), who in their writing do not refer to the concept in these terms:

> Thus, we must let go of the false assumption that there can ever be complete analysis of data or that our explanatory theory or conceptual models can ever be absolute.
> (Low, 2019, p. 137)

This echoes Gerring's (2011) argument for researchers to strive for the "best-possible research design" (p.625). I could not predict the required number of cases or the ideal characteristics for my interview participants. I could merely make choices based on the situation in which I found myself. As such, I formed an expected number of interviews when developing the research through its proposal and ethical approval stage. This utilised my experience, the experience of my supervisory team, and the literature on sample sizes in qualitative interviewing (Brinkmann and Kvale, 2014; Robinson, 2014; Malterud *et al.*, 2016) and was in the knowledge it was subject to revision.

I conducted eleven interviews while conducting the fieldwork in Site A (see Table 7). Interview candidates were primarily identified during fieldwork, for example, to expand on a necessarily brief conversation in the workplace. I also asked each interviewee if there was anyone else they thought I should interview. I deliberately set out to include emergency physicians from different career stages. This was more pronounced at Site B.

Interview number	Grade	Gender
Site A – 1	Higher specialty trainee	Male
Site A – 2	Staff grade	Male
Site A – 3	Higher specialty trainee	Male
Site A – 4	Higher specialty trainee	Female
Site A – 5	Higher specialty trainee	Male
Site A – 6	Core trainee	Male
Site A – 7	Consultant	Female
Site A – 8	Core trainee	Female
Site A – 9	Consultant	Female
Site A – 10	Consultant	Male
Site A – 11	Consultant	Male

Table 7. Interviewees from Site A.
Interviews were conducted between February and March 2020. Core trainee here incorporates the ST3 level.

I conducted ten interviews with emergency physicians from Site B (see Table 8). Not being on-site during any part of the data collection meant that I had to rely on other methods of identifying and recruiting people to interview. I utilised pre-existing contacts to secure interviews with a trainee, a staff grade emergency physician, and three consultants. One consultant was approaching retirement, one in the mid-point of their consultant career, and one in the first five years. This was constrained by the practicalities of arranging interviews. However, the spread of different career grades was deliberate. I wanted to hear from individuals in the main career groups in documents that I identified as important, such as those from the RCEM SWPC. The remaining participants were recruited with the help of the first five participants, with me seeking to deliberately address the gender imbalance that the first five interviews produced. The final four interviews were conducted within a few days of each other. During these I decided that I had conducted enough interviews with emergency physicians to achieve conceptual rigour (Low, 2019).

Interview number	Grade	Gender
Site B – 1	Higher specialty trainee	Male
Site B – 2	Consultant	Male
Site B – 3	Consultant	Male
Site B – 4	Consultant	Male
Site B – 5	Staff grade	Male
Site B – 6	Core trainee	Male
Site B – 7	Staff grade	Female
Site B – 8	Core trainee	Female
Site B – 9	Staff grade	Female
Site B – 10	Staff grade	Female

Table 8. Interviewees from Site B.
Interviews were conducted from October 2020 to January 2021. Core trainee here incorporates the ST3 level.

I started interviewing people from stakeholder organisations (see Table 9) early in the data collection phase of the study. However, I soon had to prioritise fieldwork and interviews at Site A. This, along with the pandemic, meant that the vast majority of stakeholder interviews were completed towards the end of 2020.

I identified individuals to interview via a variety of methods. Some were contacted as they were authors or listed on websites related to work by statutory educational bodies or other organisations related to retention. Some were identified through my work with RCEM's SWPC. Others were identified as a result of me presenting work-in-progress to various organisations. This description is deliberately vague to maintain the anonymity of my participants. Many of the individuals I was seeking to interview had very pressured diaries, and before my return to clinical practice for the pandemic, I found it challenging to arrange times to meet as it would often mean me travelling. The enforced change to interviewing via video conferencing software made this process much easier.

Interview number	Role	Gender
Stakeholder – 1	Clinical fellow at SEB working on supported return to training programme policy and delivery	Female
Stakeholder – 2	SEB careers lead	Female
Stakeholder – 3	Academic doing policy analysis for SEB	Male
Stakeholder – 4	Campaigner on project related to retention	Male
Stakeholder – 5	Royal College committee	Female
Stakeholder – 6	Clinical psychologist with a special interest in emergency care practitioners	Female
Stakeholder – 7	Healthcare systems expert	Male
Stakeholder – 8	Human resources director	Female
Stakeholder – 9	Medical education researcher interested in career decision making	Female
Stakeholder – 10	Workforce development project manager	Male

Table 9. Interviewees from organisations with a stakeholder interest in retention.
Interviews were conducted between January and December 2020. SEB = statutory educational body.

The final group that I interviewed was people who had left emergency medicine (see Table 10). Like the stakeholder group, the logistics of this was greatly facilitated by videoconferencing, and recruitment was via many routes. Participants had left emergency medicine for a variety of reasons.

Interview number	Final role in emergency medicine	Gender
Left emergency medicine – 1	Senior staff grade	Female
Left emergency medicine – 2	Higher trainee	Male
Left emergency medicine – 3	ST3 trainee	Female
Left emergency medicine – 4	ST3 trainee	Male
Left emergency medicine – 5	Core trainee	Female
Left emergency medicine – 6	Consultant	Male
Left emergency medicine – 7	Consultant	Female
Left emergency medicine – 8	Higher trainee	Female
Left emergency medicine – 9	Staff grade	Male
Left emergency medicine – 10	Consultant	Female

Table 10. Interviews with doctors who had left emergency medicine.
Interviews were conducted between November 2020 and January 2021.

The interviews were fairly uniform in length, one lasted only 25-minutes, two were over an hour, the rest were between 45-minutes and one hour. The interviews produced a large quantity of written transcript. As an example, interview "Site A – 7" which was of average length produced 11 pages of transcript and just under 6000 words of text. In addition, I made notes after each interview which were incorporated into my field notes.

Approach to interviews

Interviewees each provided informed written consent. A copy of the consent form is available in Appendix 7 (below) and the participant information sheet in Appendix 8 (below). Interviews were recorded with digital voice recording software iTalk Premium (Griffin, 2017) and transcribed via automated transcription service nVivo Transcription (QSR, 2019). I reviewed transcripts and corrected any transcription errors. I ensured confidentially by changing names to pseudonyms and de-identifying people and the sites involved in the research. In addition to the verbatim record of the interview, I recorded alongside my ethnographic field notes my initial reflection on the interview and my thoughts while sorting the received transcript. This created a dual recording of the social practice of the interview. First, the written account of the words said during the interview. Second, my thoughts about any observed emotions or environmental influences on the interview and reflections about my emotional response and practice of being an interviewer.

Data management

The study generated a large volume of textual data; around 400 pages of interview transcripts and 700 pages of field notes. These were uploaded to nVivo for Mac (QSR, 2018) and tagged with demographics such as site, date and anonymised participant identifier to enable me to more easily find specific entries. Following this. I conducted iterative reflexive thematic analysis as described in the following section. This generated analytical data, themes and codes and text describing these, which was held within nVivo and analytical writing which was managed as further field notes. The software helped store and organise data but analysis was essentially done by hand as described in the next section.

Reflexive thematic analysis

Like the description of the conduct of interviews within ethnographic work, the description of analysis in ethnographic research often lacks detail (sometimes absent). I find the limited description of analysis—as reading and re-reading the written documents (field notes, interview transcripts)—problematic. It is not that I want to have a straightforward recipe for analysis, but that I want to understand the process that a researcher undertook that led them from fieldwork and interviews to textual

representations of these activities and on to understanding and conclusions. As such, I will outline the analytical approach I have taken, one structured around reflexive thematic analysis. I utilised the "six phases of reflexive thematic analysis" described by Braun et al. (2019, p. 853). I briefly describe the process here, not seeking to repeat what Braun et al. say, but to integrate my epistemological position and role as an ethnographer.

The first stage of reflexive thematic analysis is familiarisation. This involved "becoming 'immersed' in the data and connecting with them in different ways" (Braun *et al.*, 2019, p. 853). I read through data, made notes about it, highlighted connections to other data and literature. What was important about this stage for my ethnography is that it was distinct from the work I did with the data when in the field. That is not to say there was no overlap or influence, but the purpose of the data work at each stage was different. During the fieldwork, I reviewed the data to guide the fieldwork (and interviews)—the notes I made about this process became themselves data for analysis. The field required moment on moment reflection and action: I saw or heard something, interpreted it, and sought additional or contrasting information. A similar process happened during interviews: asked a question, got an answer, interpreted, follow-up question. The interpretative work during these interactions could be nuanced and insightful, but it was innately different to the interpretative work that occurred over much longer timescales and as the sole focus of endeavour.

Familiarisation was the process of reading, listening to, making notes about, and really getting to know the data. This sounds very similar to the description of analysis in many ethnographic texts, suggesting that this might be where analysis starts and finishes. Indeed, it is likely that after this the data could have been organised, and thick descriptive accounts generated for several topic areas. However, as Braun and Clarke (2019) argued, this somewhat passive approach to analysis belies the analytical work required to create themes from data. The next stage involved moving from familiarisation to constructing meaning from and organising data.

Generating codes involved systematically and succinctly constructing meaning throughout the dataset. It involved attaching labels to portions of data. The primary aim

at this stage was to "organise the data around meaning patterns" (Braun *et al.*, 2019, p. 853) that were further developed later. This organisation was key, but it was meaning that was being organised, not just the data:

> Coding is not about finding meaning hidden within the text. Instead, it is concerned with creating meaning at the intersection between the data set and the interpretative resources that you bring to the data set.
> (Terry, 2016, p. 118)

There are two broad ways of thinking about generating meaning from the data, inductive, where the researcher generates meaning without importing ideas from elsewhere, and deductive, where the researcher approaches the data from a particular standpoint with predetermined ideas about what theories or ideas may be relevant. Some approaches to analysis are strongly related to one or the other, for example, grounded theory and inductive coding. A reflexive thematic analysis of a reflexive ethnography stridently eschews the idea that these are mutually exclusive. However, for clarity and transparency, I describe the process I applied as *initially inductive*. By this, I mean my initial codes came from the data.

The second consideration was whether to construct "semantic" codes, that is, codes close to the source material in terms of using the participants' language or aiming to capture their explicit meaning. Latent codes, in comparison, "focus on a deeper, more implicit or conceptual level of meaning, sometimes quite abstracted from the explicit content of the data" (Braun *et al.*, 2019, p. 854). This is not a rigid binary or a mutually exclusive choice. Both approaches have utility. What I found important was to be mindful of the choice, to ask what the code was actually doing? The software I used to facilitate this process allowed me to write descriptions of the codes. This was a helpful way of documenting, remembering, and making explicit the rationale for choosing a particular code.

The next stage involved constructing themes by working with initial codes. To think about this process, it is worth considering what a good theme does:

> A good theme will identify an area of the data and tell you something about it. Furthermore, a good theme is distinctive but relates to the other themes: together, the themes provide a clear image of your data set and your interpretation of it.
> (Clarke and Braun, 2016, p. 104)

Practically this involved grouping codes that informed a particular issue. This required me to step back from the minutiae of the data and consider the broader patterns that I was identifying. These initial themes—often called candidate themes—were temporary. Some evolved while others were discarded. Developing them was part of the analysis, but it was not the entirely of the analysis. The codes were similar. Some changed, new ones were identified, and others were discarded. Hence the repeated reminders in the writings of Braun, Clarke, and Terry that reflexive thematic analysis is a fluid, non-linear process (Braun and Clarke, 2013; Clarke and Braun, 2016; Terry, 2016; Braun *et al.*, 2019; Braun and Clarke, 2019).

The fourth stage of the six stages of reflexive thematic analysis involved reviewing (Terry, 2016) or revising (Braun *et al.*, 2019) themes. The nomenclature is not vital as the two essentially talk about the same process. An important aspect of this stage was:

> Compiling all coded data for each of the candidate themes and reviewing them to ensure that the data relate to a central organising concept; another stage of review involves checking the themes against the whole dataset.
> (Braun *et al.*, 2019, p. 859)

This was akin to a mapping process, and visualisation of themes and relationships was useful for drawing connections. This was an iterative process. I kept detailed notes about the choices made during the development of these themes by writing, drawing, and mapping into the notebooks I used for field notes.

This fifth stage involved defining and naming themes. Candidate themes, and the notes made about them, helped with this naming, but the naming of themes at this stage went beyond simple description. “The naming and defining task essentially provides the scaffolding on which the next phase rests” (Terry, 2016, p. 124). The next phase being

writing, the key, some would argue, defining aspect of ethnography (Humphreys and Watson, 2009).

Writing in the context of reflexive thematic analysis refers explicitly to producing the report, or putting it more broadly, the output from the research. While this writing was for the audience, it was not "purely a writing-up exercise" (Braun *et al.*, 2019, p. 857). The process of writing tested the themes. How well do they work both in isolation and in the context of the full dataset? How does the broader literature relate to the analysis? Weaving this together profoundly influenced the analytical conclusions. It repeatedly led me to return to previous stages of analysis, to explore a new area of the literature, or to re-explore something familiar through a new theoretical lens (Silverman, 2015). In this way, writing for reflexive thematic analysis is explicitly similar to the iterative writing process that characterises ethnography (Humphreys and Watson, 2009). This process is very apparent in the multiple drafts leading up to this version; my thinking about the results and analysis developed with the process of writing up, and I repeatedly went back and forth between naming and defining themes and writing around them in the thesis.

Analytical choices and their presentation

The description of reflexive thematic analysis above provides an account of how I progressed from textual representations of field work and interviews, along with various types of literature, to themes. This process generated many themes, only a small number of which are presented in Chapters 4 to 8. In this section I aim to describe the choices I made about which parts of the analysis became chapters or sections in the thesis. The main factor which influenced if a specific theme was developed was how closely it linked with the research aim and objects (see Footnote 23 or Chapter 1 above) as the theme was developed though iterative writing. For example, the chapter on materialities (see Chapter 4) is most closely aligned to the objective to "understand in detail the day-to-day lived experience of emergency medicine doctors" while the chapter on retention strategies (see Chapter 8) relates to the policy referred to in the second and third objectives. The three central chapters of the results section (Chapter 5, 6, and 7) each address a different form of retention work, that is, actions that

emergency physicians can be observed to conduct as part of their day-to-day working in the emergency department, that my analysis suggested contribute to retention. This relates to a part of the research aim—"how retention is made possible"—and the definition of retention delineated in Chapter 2 above. The three results chapters refer to retention work as something which is done in the workplace, not necessarily primarily with the intention of improving retention, but where retention is one of the multiple things that the action may be contributing too.

A second factor which influenced the analytical choices was the degree to which I was able to anchor the findings within bodies of literature which were helpful for meeting the research aim and objectives. This process mainly occurred though writing when I sought to challenge or develop my understanding of a developing theme through the literature. Candidate themes which were not amenable to development through the literature were jettisoned or redeveloped. These two factors were paramount in the selection of themes and ultimately thesis chapters, however each remained my choice. I have aimed to provide insight into my thinking behind each results chapter within the body text of said chapters, and through the prologue I aimed to set out my positionality. These descriptions of rationale for inclusion of certain data points do not seek to detract from the underlying "subjective messiness of ethnography" (Ghodsee, 2016, p. 24).

I ordered the results chapters with readers not intimately familiar with the emergency department in mind. The first results chapter I present (Chapter 4: Materialities of retention) includes descriptions of the physical environment to give the reader a sense of place. The middle three chapters (Chapter 5: The retention work of humour, Chapter 6: The retention work of education, Chapter 7: The retention work of community) build on the sense of space and add elements of what goes on there. The final results chapter (Chapter 8: Retention strategies) build on the understanding of emergency physicians work in the emergency department to explore ways in which they manage their work through actions not directly observable on the shop floor.

I made choices about which pieces of data to include, be that fieldnote excerpts or interview text, with the above factors in mind. Data were chosen to illustrate a theme

and add understanding of the emergency department or the practice of emergency medicine. That is, analytical decisions were made about which themes and chapters to include then I selected data that I thought would make these themes clear to the reader.

External influences

In the previous section, I outlined the choices I made in the design of this study. In this section, I outline the key external influences that impacted the conduct of the study. These constrained, influenced, or directed parts of the study. By describing them, I do not seek to remove my agency in the decision making. That remained. But to make apparent what factors beyond my decisions impacted the study.

Funding

Following an unsuccessful application to the National Institute for Health Research (NIHR), I was able to start my PhD with support from a BMA Foundation Kathleen Harper Award in October 2018. Based on NIHR feedback, I improved the proposal by gaining more formal involvement of a senior emergency department clinician and developing the researcher training programme and was awarded funding in October 2019. Requisite to the NIHR funding was the addition of interviews with doctors who had left emergency medicine. Support from an RCEM grant in the meantime allowed NIHR portfolio adoption and provided funds to attend a summer school on ethnographic methods.

Public and professional engagement

In 2017 RCEM and the James Lind Alliance conducted a research priority setting exercise (Smith *et al.*, 2017b). This highlighted staffing and retention as one of the top five research priorities for emergency medicine. To support funding applications, I conducted further public and professional engagement. I conducted a small group discussion with members of the public identified by the Blackpool Hospitals Research and Development department. Over an afternoon, we reviewed the rationale for the study and explored how those in the emergency department might experience it. The panel thought that my presence in the emergency department would not concern patients as research staff, like other clinical staff, are expected to visit this space. They

thought that a detailed study of one group could inform understanding of the problem across the NHS. Two members of this initial group volunteered to have ongoing input into the study. They helped me produce lay summaries and provided insight into my interpretations of the grey literature.

The study participants were primarily fellow professionals, and I sought input from this group in several ways. I presented the research plan at the EMTA annual conference in Cardiff in November 2018, The Oxford Emergency Medicine Conference in December 2018 and the RCEM Clinical Studies Group in January 2019. I also presented at the work-in-progress masterclass at the Association for the Study of Medical Education Researching Medical Education meeting in December 2018. As well as the verbal feedback and questions, I asked the audience to provide written feedback via an online form. I sought further engagement through an emergency medicine trainees Facebook group and by engaging with each conference's Twitter feed. Twenty people responded, providing a wealth of information and opinion. Key messages were to utilise existing data such as the GMC and EMTA surveys, the belief that retention is complex and multifactorial and that a variety of methods might be needed.

Ethical and regulatory approvals

Ethical approval was obtained from the Lancaster University Faculty of Health and Medicine Research Ethics Committee on 15th April 2019 (reference FHMREC18058). As part of the review process, it was determined that the study required HRA (Health Research Authority) approval but not NHS REC (Research Ethics Committee) approval; this was received on 11th November 2019 (IRAS project ID: 256306). These approvals are available in Appendix 9 (below). The COVID-19 pandemic necessitated an amendment to conduct interviews via Microsoft Teams (Version 1.3.00.18164; 2020), which was received on the 15th July 2020 from Lancaster (FHMREC19133) and 10th August 2020 from the HRA. These amendments are available in Appendix 10 below.

The ethical approval process mainly led to clarification around certain processes, such as what I would do should a patient object to the study during periods of observation in the emergency department.

Study protocol

The funding and approvals processes required iterative versions of the study protocol to be produced. I also decided to publish the study protocol to aid transparency for the work-in-progress and increase the likelihood of publishing the study findings in a high impact journal. Feedback from the peer-review process moulded the study protocol (Darbyshire *et al.*, 2020b), which influenced the methods. This influence was not really in terms of what was done—the study remained one based on observation and interviews—but the peer-review process helped me increase the precision with which I used certain terminology. This occurred even when changes were not made. For example, several reviewers challenged the use of the term participant-observation, arguing that as I would be in the space of the emergency department but not practising emergency medicine, then it would be better to describe the process as non-participant observation. Indeed, I would not be practising medicine, but I did not think that would mean not participating in the workplace. Instead, I would be participating and observing in my role as a researcher. To call myself a non-participant observer would imply that I thought I could make myself invisible. Responding to such suggestions enabled me to critically engage with the methodology of ethnographic study.

One reviewer comment related to how retention could be in any way observable; this led me to revisit ethnomethodology and was the start of my focus on the mundane and the day-to-day. The second area of development was clarifying the role that the patient-clinician interaction would have in my study. In the initial protocol, it was unclear that the focus would be on the work outside the patient-clinician interaction. That is not to say that the focus is on inter-professional interactions or any other specific aspect of the day-to-day work of an emergency physician, but that the work that occurs "behind the curtain" is specifically not the focus. For emergency physicians, patient-clinician interactions occupy the minority of the working day, with organisational and administrative tasks supporting these interactions taking far more time and usually occurring in the shared space of the emergency department. For these reasons, coupled with the inevitable time constraints imposed, I to choose to prioritise the work done outside the cubicle. Clarifying this was driven by the peer-review associated with publishing the protocol.

COVID-19: something very significant which prevented access

Included in the appendices is my *Statement for Submission with a Thesis Impacted by the COVID-19 Pandemic for PGR Students,* which is on a proforma provided by the Lancaster University Doctoral Academy (see Appendix 5 below). I have already alluded to aspects of the study impacted by the pandemic in terms of the regulatory amendment and the impact on the plan for public involvement in the grey literature review. The major tangible effect of the pandemic on this study is twofold: it delayed the completion and prevented access to Site B. Having completed observations at Site A and several interviews, I returned to clinical practice full-time during the "first wave" of the pandemic. This lasted for four months from March 2020. After this, demands on emergency departments had reduced, and the mentality and practical arrangements from funding agencies had changed from "all hands on deck" to trying to establish some of the other work of the health care sector, including research. This allowed me to return to research. In addition to the four months of full-time clinical work, I took seven weeks of shared parental leave in June and July 2021. In total, this added six months to my completion date.

I could return to research, but the country was still in varying degrees of lockdown, which impacted what I could do. I continued interviews, albeit via video conferencing software, and worked on the analysis, but the proposition of further fieldwork was uncertain. Given the intensity of the observations at Site A and that I believed that I would still be able to conduct interviews as planned, further fieldwork was deemed preferable but not essential. That is, I thought that it might add something to the study, but it was not essential for the findings to have utility. As such, the bar for returning to fieldwork was set as when the emergency department at Site B returned to allowing visitors as before the pandemic. When this decision was made, this seemed a reasonable prospect, and it was not until August 2021 that it became clear that even a much-reduced period of fieldwork would be unfeasible within the context of the PhD. As such, the thesis consists of fieldwork from Site A only.

Being an insider-researcher

The researcher's position, or positionality (Jafar, 2018), relative to the research they are conducting has been discussed within the sociology literature for decades. Gold (1958, p. 218) prefaced his typology of participant/observer roles with an acknowledgement that the researcher is doing both at once, being a researcher—an outsider, and being a participant—an insider: "every field work role is at once a social interaction device for securing information for scientific purposes and a set of behaviours in which an observer's self is involved" (p.218). This embracing of complexity is sometimes forgotten amongst the surety of the language used in typologies.

O'Reilly (2008) rejected any clear notions of a participant/observer binary. She described it as more of a constantly shifting continuum, the fluid nature of which describes the reality of ethnographic practice. The idea of a continuum gives the impression of a line, a two-dimensional construct with participation at one end and observation at the other. This makes me think of a dial on a piece of scientific instrumentation, like a Geiger counter for "insiderness" (see Figure 6), flitting from one side to the other, often hovering in the middle as circumstances and researcher choice moves one from participant to observer and vice versa. This conceptualisation conveys

the volatility of such positions; however, importantly lacking from this conceptualisation is the multiple roles that I embodied when conducting research.

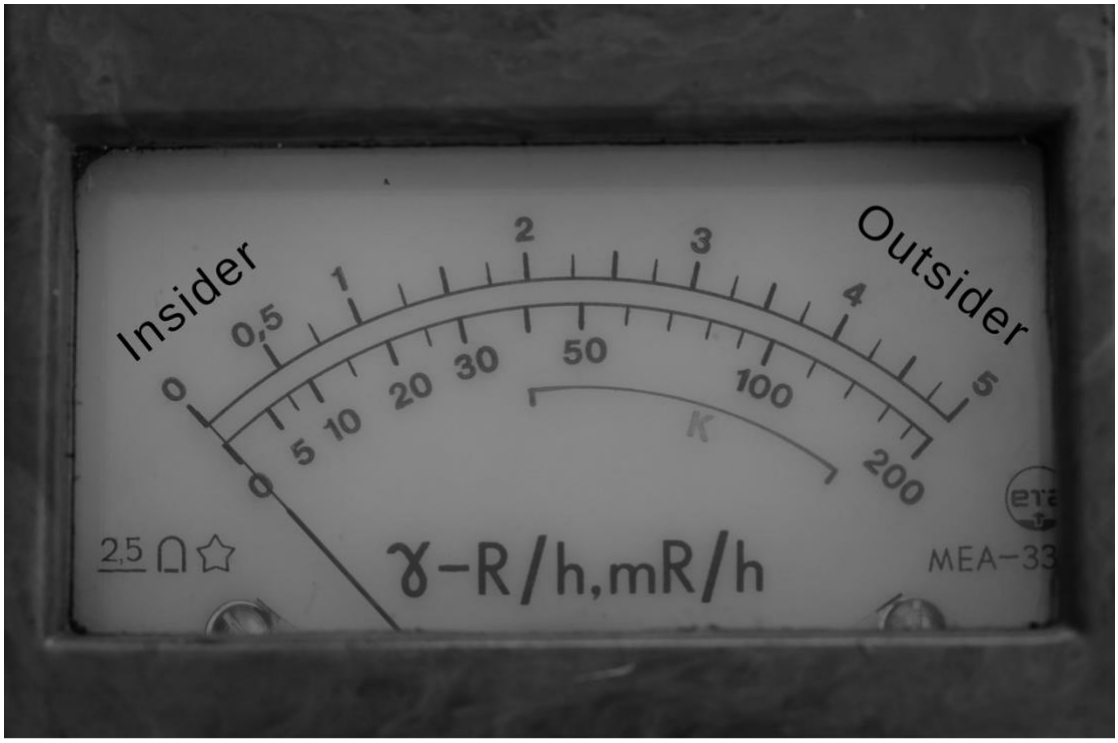


Figure 6. Insider/outsider continuum Geiger counter.
Adapted by Darbyshire from copyright free image obtained from https://pxhere.com/en/photo/630996

Role multiplicity, or perhaps complexity, is my lived experience as an emergency physician. Simultaneously I can be leading a department and taking direction from the organisational structures and leadership; act in a supervisory capacity to more junior doctors while being supervised from a distance by more experienced consultants. At other times, I may be the clinician providing direct care to a patient, liaising with colleagues who may be strangers or friends, working in the context of a broad multi-disciplinary team. I may be hungry, tired, and stressed, or sated, rested, and focused. I am also male, cis-gendered, heterosexual, white, from a single-parent working-class family, from the North East of England, agnostic, well-travelled, I could go on. Each of these characteristics provides me with different levels of, for want of a better term, "insiderness" in any given situation and could be a barrier, a facilitator, or somewhat irrelevant depending on the context (Bucerius, 2013). I discuss this not to renege on the utility of conceptualising the insider/outsider continuum but to add a necessary level of complexity to the concept. This does make it harder to visualise, especially as many of the "variables" have a complexity beyond binaries, gender, for example.

Criticisms of insider-research

Insider/outsider or participant/observer are useful ways of thinking about positionality in research and a route into reflexive practice. Before moving on to the close of this chapter, I engage with some of the major and recurring criticisms of insider research.

"The anthropologist in a foreign culture has to struggle to gain insights; the anthropologist in her own culture must struggle to withdraw from it" (Hennigh, 1981, p. 125). The idea that an insider ethnographer loses the shock of the new and, as such, is unable to make novel insights into the situation they are researching is as old as insider ethnography. This critique is premised on the idea that an outsider can generate these novel insights through their different perspective on the site under study. This premise has face validity but lacks a strong empirical basis. Even historic anthropologies, where researchers such as Malinowski (Thornton and Skalnik, 2006) or Mead (1943) visited cultures entirely foreign to them, seem to have developed their understanding over time, gaining insights from the long and hard slog of ethnographic research.

O'Reilly explicates another issue: the informants think that what they have to say is not interesting enough. That, as an insider, you are already well versed in the situation and already understand what is going on.

> One problem when doing ethnography in a group with whom you are very familiar or in a parallel culture is that people tend to think they cannot be an object of interest because they are not interesting enough… In my own research in Spain, British people would tell me to talk to others who spoke more Spanish or had been there longer, or whatever else they considered more valuable than what they themselves had to offer.
> (O'Reilly, 2008, p. 160)

This is of particular note when the ethnographer seeks to understand the ordinary. It would seem that there is no specific solution, though successful accounts seem to espouse patience and perseverance (Mol, 2002; Fox, 2014).

I certainly experienced this at Site A. Many of the people I spoke with underestimated the value of what they were saying, stating that I would be better off speaking to people

who experienced it tougher. They may have said this to be self-deprecating or utilised humour as a defence mechanism, but it did not end the conversation. My approach was to note their suggestion and try and bring the conversation back to them. This only occurred during departmental observations and not in recorded interviews, and my approach generally managed to keep the conversation on track.

One aspect of being an insider-researcher in an emergency department is that I have, over many years spent in the environment, learnt behaviours to deal with some of the problems I was trying to research. On a normal day, I could be surrounded by noise, smell, heat, and suffering, and I would not notice it if it was within the norm for the department. As an ethnographer, I was trying to notice these. In making a conscious effort to notice these things, I was overwhelmed by them. Some of my notes from these periods show the sensory overload that I was experiencing. This was difficult, but it yielded useful data about the environment. I could also stop noticing; indeed, it was easier to return to my learned habit of blocking all this sensory information out. I do not know how long it would take an outsider researcher to do this. It is almost certainly something that would vary with different people but being able to do so facilitated the noticing beyond the sensory overload.

An example of where my multiple roles interwove with the ethnography was when one site was looking to revamp the rota for the senior trainees. I previously mentioned how I was co-opted on the RCEM SWPC. One of the significant outputs of this committee was the guidance on flexible working and good rota design (Hulbert and Galloway, 2019). I joined the committee as this document was in an advanced draft stage and was active in promoting it. The consultant leading the rota change at Site A knew this, we had spoken about it, and they asked if I would sit in on the meeting to see if I could help. During this meeting, I held multiple roles. I was a colleague to some of the senior trainees I had worked with, others I barely knew, I was an ethnographer, I was someone who had worked on the problematic rota at Site A and someone who had knowledge of rota design good practice. Trying to decipher *if* this complex mesh of relationships adds or detracts from the reliability of the ethnography is not helpful. It did all these things. What is useful is *how* this occurred and how I accounted for it. As discussed in this

chapter, reflexivity was key, something that I continue to demonstrate throughout the empirical chapters that follow.

Chapter summary

In this chapter, I have outlined what I did and the reasons for doing it. The chapter opened with an argument for focusing on the day-to-day work of emergency physicians to gain a detailed understanding of retention. Ethnomethodology is one way of seeing retention by conceptualising it as a practical accomplishment. The concept of shared vocabularies of motive showed how, when retention is examined through ethnomethodologically informed ethnography, it can be seen as being both practitioner-focused and contextual. Next, I utilised examples of ethnomethodological research to show how elements of work that emergency physicians do are accessible to analysis. This was reinforced by revisiting an ethnographic study located in the emergency department to show the inherent multiplicity of actions in that setting and the importance of gaining understanding—unique adequacy or a degree of insiderness—of the space to analyse the observable actions occurring in it.

More focused and distributed forms of ethnography can be used to meet the research aim and objectives within the constraints of contemporary doctoral study and research regulation. That is, I could utilise my insider status to conduct legitimately useful observations in a period of months rather than the classical approach to ethnography, where the time spent "in the field" often could amount to a calendar year. This opened the possibility of performing research in more than one site, something that I explored in the context of multi-sited ethnography.

Interviewing was a central part of my ethnographic practice. I explored the methodological underpinning that I utilised to generate and demonstrate quality. This relied on the concept of interviewing as craft, one that I have honed in my practice as an emergency physician and qualitative researcher.

My practice of reflexivity was vital to interviewing and the ethnography. I explored the basis for my reflexive practice and how it contributed to demonstrating quality. I also provided a reflexive account of my decisions in developing the research.

Having discussed the central theoretical orientations and justification for the study, I moved on to the methods I used. Here I described how I conducted 11-weeks of fieldwork at Site A but could not do any fieldwork at Site B because of the pandemic. I described the rationale for choosing which emergency departments to conduct the study with. This could be described as a blend of pragmatism and purposive sampling.

I next described my practice of workplace observation and making field notes, drawing on methodological literature and personal reflections on the process to give a clear explanation of what I did and why.

Next, I returned to interviews and described whom I interviewed and some of the critical choices made when recruiting them. This was followed by a description of the technical aspects of interviewing, specifically recording, transcription and consent. I also showed how I expanded on the spoken aspect of the interview by recording reflections alongside my field notes.

I described my analytical approach—this utilised reflexive thematic analysis. I described how I became immersed in the data, sorted the data, and developed meaning with it. The process is described in stages, but it is important to reinforce that this was an iterative process that continued into the write-up. Following this I described how and why analytical choices were made in preparation for the results chapters to follow.

I then explored how gaining funding, public and professional engagement, ethical and regulatory approval, developing a study protocol, and the COVID-19 pandemic influenced the study. Some of these changes were relatively minor, while others had a profound impact on the data that was collected. The pandemic preventing access to the second site was the most tangible impact.

I closed the chapter with a discussion of being an insider-researcher. This allowed me to forego much of the process of familiarisation with the field site and provided me with the opportunity to reflect on the multiple roles I embodied as a researcher and as a clinician in the emergency department. I also addressed some of the common criticisms of insider research, primarily drawing on reflexivity to demonstrate quality in the empirical chapter to follow.

A note on the empirical chapters

In the introduction (Chapter 1), I outlined the problems underlining the research aim and objectives. In the literature review (Chapter 2), I defined retention and explored the multitude of terms almost synonymous with it. I then analysed the literature related to the retention of doctors in emergency medicine and reviewed ethnographic studies in the emergency department. In the methodology chapter (Chapter 3), I outlined the theoretical justification and orientation of the study through a discussion of ethnomethodology, ethnography, interviewing, and reflexivity. I then described the methods I employed to collect the empirical data before closing the chapter with reflections on external influences on the study and the role of being an insider-researcher.

The preceding chapters foreground the empirical chapters to follow. In the first of these (Chapter 4), I focus on the objects and space that makes up the emergency department and how emergency physicians work in that space. I describe this as the materialities of retention in reference to the literature base that supports the analysis in this chapter.

The next empirical chapter (Chapter 5) outlines the retention work that humour does in the emergency department. I describe the properties of humour in this context in that it is often in the form of non-seriousness, can be dark, and is mainly self-deprecating. Humour is used to create an atmosphere, as a cohesive device, and a coping mechanism. The last of these uses highlights some of the problems of humour as retention work in the emergency department.

The following chapter (Chapter 6) explores the retention work of education. I describe three examples of prioritising education then discuss how this can be seen as a form of valuing. Education also adds variety to the working day and is a means of supporting interdependence. I close this chapter by linking entrustment with retention and discussing the role narrative plays in the retention work of education.

In the subsequent chapter (Chapter 7) I present the retention work of community. This allows me to integrate teamwork and communities of practice. I expand on this by

showing that the retention work of community fosters belonging and is developed in different ways. I close this chapter by emphasising the active nature of retention work.

These three chapters (Chapter 5, 6, and 7) all describe different forms of retention work. Taken in turn they emphasise the importance of humour, education, and community for retention. When considered as a whole they show that one way that retention is made is through the actions of workers in the workplace. Each of these chapters utilises the term retention *work*, not to imply intentionality, but to align it with the effortful nature of labour. The use of this term in relation to intention is explored further in a later section (Three forms of retention work).

The final empirical chapter (Chapter 8) moves away from the directly observable elements of retention to those actions described to me by participants. Emergency physicians utilise retention strategies to make their careers more sustainable. The key strategies I discuss are managing the working work, LTFT working, portfolio careers, rotas and work patterns, and mentorship.

Chapter 4: Materialities of retention

This chapter has two broad aims, the first of which is to explore how aspects of the material environment of the emergency department impact retention, including specific attention to the ways emergency physicians work in relation to the workplace. The second aim is to give the reader an appreciation of the emergency department as a place. Both aims are achieved through a detailed description of the emergency department derived from my field notes, supported with selected excerpts from interviews and analysed in the context of literature predominantly from medical sociology and materialities of care. The first aim guided which text I incorporated, and the second aim influenced the breadth and level of detail.

I am intimately familiar with an emergency department, and, after home, it is probably the place in my working life where I have spent the most time. I anticipate that many readers may not have had this experience professionally. Any knowledge they may have of the emergency department is through the lens of whatever role they may have embodied while occupying the space. My descriptions contain details of both the material and the sensory to bridge this gap. Reflexive accounts of my experience, both during this study and while working as an emergency physician, provide further insight into the experiential and emotional practice of working and being in an emergency department.

The aims of the chapter are met through discussion focused around two major themes drawn from analysis across my empirical data: objects and the repurposing of space. Each is explored, in turn, with examples drawing out the importance of objects and repurposing space for retention. The descriptions are locally constructed and constrained by the specific context in which they were observed. The two themes, which I argue stand up to critical scrutiny through the literature, can offer insights beyond the contextually constrained descriptions by adding to an understanding about the different ways that retention is enabled and the importance of the material to this.

A challenging work environment: sensory materiality

On the first day of my fieldwork, I did not set out to note anything sensory. It was not that I aimed to avoid paying attention to this, more that it was only on subsequent visits that I deliberately set out to notice these elements of the working environment. My priorities were to get used to the field and orient myself to the research site. I was used to the emergency department working environment when in my role as an emergency physician. When in this role, I did not register the sensory experience of the department unless it was particularly extreme or remarkable. I did not notice the smell of cleaning solutions or bodies and their fluids. If I brewed myself a "proper" coffee, I made myself notice the aroma. I can still remember the smell of a family tragically rescued from a house fire, too late. Certain smells hit me but were quickly forgotten: necrotic toes, C. Difficile diarrhoea, congealed blood. I can say the same for the other senses. I noticed the cold if I went out to an ambulance in mid-winter. A child crying was generally reassuring, but a mother's anguish always penetrated. I was always sweaty at the end of a shift, but the PPE (personal protective equipment) during the first wave of the COVID pandemic made this brutally obvious. It is not that these sensory experiences did not have an effect. It is that I no longer noticed them for the vast majority of my time in the emergency department.

From the second day of my fieldwork onwards, at times, I made a conscious effort to try and notice these sensory aspects of the workplace. I say at times because such deliberate noticing was not something that I could sustain for the entirety of a period of observation or day-on-day. I suspect that in some ways, not noticing these things when in my role as an emergency physician was necessary—a form of protection against the sensory overload that deliberate noticing made re-visible. Whether it was the sensory information, the noticing of the sensory, embodying a new role in a challenging environment, or in all likelihood, a messy combination of them all that affected me is not possible to say with any certainty. But affect me the experience did. It was truly exhausting. On numerous occasions, I would have to relocate to the trainees' office to sit for a few minutes or walk to the furthest vending machine that I knew of—several hundred metres away, to give myself five minutes of respite. Despite this, I would often be exhausted at the end of a half-day of observation. I would use the time sitting in my

car using the voice recognition software built into my phone to transcribe field notes, using a coffee, a snack, and some much less taxing work to recover before driving home.

The sensory elements of the workplace that I noticed were not individually extraordinary, but they were incessant and multiple. Each sense was constantly inundated, and my field notes highlight how I experienced this. On one occasion, I observed in the resuscitation room and noted that it was "windowless but bright" and that there was a "monitor bong every second, but it is otherwise quiet". After an hour of observation focusing on other aspects of work in the resuscitation room, I again became aware of the sound; "the beeping hasn't stopped but only occasionally do I notice it". In contrast to what might be perceived, the resuscitation room was usually the calmest. This was both in terms of the work done and the sensory experience of the space. Walking from one area of the emergency department often made these contrasts visible. On one occasion, I walked from one part of the department to another. I noted: "lots of people in the corridor, change in temperature immediately noticed, hot, close—all cubicles full." This reflects the norm of most of the department, both in terms of physical space and time workers spent in them. One interview participant described how the environment "could quite easily become a source of frustration that would make me not want to come into work" (Interview with Galen, Higher Trainee in Emergency Medicine, The Royal) while another summarised their general impression:

> So, I think at The Royal … the department itself is less than ideal. And I think it is probably fair to say, it's not fair for purpose. … There are particular areas in the department that are very dated.
>
> Interview with Leigh, ST3 Trainee in Emergency Medicine, The Royal

---

The sensory experience of working in the emergency department brought various challenges. One way that emergency physicians navigated their workplace was with objects. The two that I focus on in the following sections—water bottles and uniform—are both used day-to-day and show the utility of focusing on the mundane to

understand how retention is made possible. To ground my analysis around these two objects, I will first discuss two strands of literature related to materialities and healthcare that were important to developing my understanding.

Materialities and healthcare

> Objects are important not because they are evident and physically constrain or enable, but often precisely because we do not *see* them. The less we are aware of them, the more powerfully they can determine our expectations by setting the scene and ensuring normative behaviour, without being open to challenge.
> (Miller, 2005, p. 5 emphasis in original)

The importance of the material in healthcare has received increasing attention over the past twenty years, with growing recognition of the importance of objects for people utilising care and for those providing it. I interpret two major narratives running through the academy relevant to this study.

The first relates to the "mundane material" (Brownlie and Spandler, 2018, p. 257) that is integral for "seeking and accepting help in everyday life" (Brownlie and Spandler, 2018, p. 256). In their ethnographic study, Brownlie and Spandler (2018) recounted the low-key ways in which members of communities provided informal care for those who needed it—not that it was seen as care, more as just helping out—through day-to-day objects such as shopping and food. This is merely one example of the roles that objects play in care, both formal and informal, that is key to understanding the process and place in which these activities take place. Or, to put it another way, to neglect the role of objects merely because they are in many ways unremarkable is to miss much of what is important to the practices of care. In some ways, the observed actions of emergency physicians in the workplace resembled informal acts of care for both the self and the other workers in the emergency department, and the mundane materials, particularly around sustenance, were used in various ways to achieve the "art of holding one's own" (Brownlie and Spandler, 2018, p. 256). But work is not illness, and for the reasons discussed in Chapter 2, I will seek to avoid conflating work with psychological distress.

The second major focus of the literature was the role that objects play in the *doing* of professional healthcare work. The writing of Heath et al. (2018) focused on the micro-materialities of care. Their study on the passing of instruments between surgeon and scrub nurse highlighted the interdependence of the two practitioners and the complementary ways each saw that specific work situation. This allowed for the creation of work that was often synergistic in its application to the task at hand. Objects were used in emergency medicine to achieve technical work, and occasions where the synergy between surgeon and scrub nurse described by Heath et al. (2018) did occur in the emergency department. However, they were not the norm. The norm was for the individual to utilise the object. This is in the context of many professions being involved in the patient's care. However, this was not in the same way as the surgeon and scrub nurse. Either in terms of physical or temporal proximity. Or in terms of both having detailed, step-by-step knowledge of the work from their professional lens. Therefore, while my analysis shares an ethnomethodological lens on the study of healthcare work in context with Heath et al. (2018), my focus was more towards the role objects played in retention than the ways objects were used to achieve technical work.

Objects for sustenance: water bottles

Bringing water bottles onto the shop floor can be thought of as an effort to stay hydrated, an action from the worker to try and maintain their performance. However, given the limited nature of the rest facilities and the frequency that staff of all grades and professions were unable to take their breaks, they were also methods by which members of the workplace embodied the reality of their challenging working situation. They acknowledge the multi-faceted and continuous insults that the working environment produced. I first noted the drinking bottles on the second day of my fieldwork—around the same time that I began to deliberately notice the sensory. The following field note excerpt from the majors area is a representation of what was seen, albeit in slightly different forms, across the department and for the entire duration of my fieldwork:

> There is a myriad of staff drinking cups. For comfort or for the inevitable long stretches without a break of any kind? The bottles range from a 500 ml bottle of Highland Spring with the owner's name scribbled on a bit a clinical adhesive tape stuck to the side, to expensive insulated bottles that keep the contents cold, and everything in between. There is the odd cardboard coffee cup with a plastic lid, but these are less evident, the reality being that a cold drink will remain drinkable if the owner is unable to get to it for a protracted period whereas a hot drink will become cold.
>
> Field notes excerpt

The water bottle has not been wholly neglected in ethnomethodological studies. However, it mostly has been an object of study when its mundanity has been challenged by the context in which it is being perceived. Such as "when a water bottle causes airport security anxiety" (Neyland, 2009, p. 22) or "the hopeless waiting for water in disaster areas" (Ayaß, 2020, p. 426). In the emergency department, water bottles can be perceived in many ways. The haphazard collection of drinking containers can look untidy or even be considered rubbish. Swathes of environmental sociology consider these containers, especially those of the "bottled water" form, as markers of consumption and waste (Shove and Warde, 2002). Or, on the contrary, their reuse "can be an intended outcome of social structures [and] the design of objects" (Vaughan *et al.*, 2007, p. 121). Water bottles can be an object of politics, of power, and at times of controversy. They have been banned in some departments using arguments that they are "unprofessional" or contravene "infection-control"—both of which were disputed (Oliver, 2020, p. 1). In the recent past, they were once banned in both The General and The Royal but were entirely uncontroversial during my period of fieldwork.

Here I conceptualise the water bottle as a form of retention object. By this, I mean it is a material thing that is in some way used by the members of the group I observed to engage in an activity that makes their work more sustainable. Many objects can be considered in these terms, and thinking about mundane materialities in this way helped make visible, or palpable, the role that objects play in the long-term doing of day-to-day work. The first way that a staff water bottle can exist as a retention object is as a means

to stay hydrated, to have a drink—an object that can mitigate some of the sensory challenges in the workplace.

Embedded knowledge and rituals

My reflections on the consequences of not drinking enough, and the actions of staff in the emergency department in prioritising their own hydration, pointed towards "embedded knowledge" (Mol, 2002, p. 15) that this activity was required to be able to come to work tomorrow. Young (1981) took a rather critical lens to the concept of embedded knowledge. However, there is nothing in his critique of medical anthropology to suggest that banal activities such as staying hydrated would be considered "tailored to fit an hypothetical Rational Man" (Young, 1981, p. 317). However, I would argue that the link between embedded knowledge and the "capacity for continued productive work" (p.324), retention, is present. Young's critique was primarily aimed at the then preponderance to assume the primacy of rationality in speaking, doing, and thinking about health and illness. This is important as while I can rationalise the observed behaviour of those in my study—and rationalise my own behaviour—in relation to using water bottles merely to stay hydrated, for example, this may be an oversimplification that missed some important nuances of the methods used to work in a sustainable way. Even with this caveat, the capacity for continued work is on a day-to-day basis, and the data herein supports an argument that retention is made in the everyday.

If this interaction with the retention object were merely rational then challenges to access to the object would be met in a rational fashion. During the first wave of the COVID-19 pandemic the need to stay hydrated increased due to the practicalities of personal protective equipment (PPE) but access to such hydration was restricted by the zoning of space and the physical limitations of the PPE. Failing to stay hydrated in this setting challenges the idea that embedded knowledge is merely rational in line with Young's (1981) more general critique of the concept. The use of water bottles in the emergency department is more than just a rational response to the physical environment, they can be seen as a ritual object in which retention is the intended outcome; but how this is achieved involves a greater number of factors than solely hydration.

Waring and Bishop (2010a) defined rituals as:

> Those customary, patterned social practices that occur on an almost taken-for-granted basis. These ritualistic practices tend to convey symbolic, shared meanings, for example reinforcing roles, group membership, status, or group cohesion.
> (Waring and Bishop, 2010a, p. 1336)

Studies around rituals and healthcare have generally focused on areas of clinical practice with a clinician-patient interaction such as ward rounds and surgery. In the emergency department, the practices, or methods, around staying hydrated can also be seen as rituals. It was patterned—different clinicians had different approaches, but each had a kind of ebb and flow to their efforts to drink enough. The objects—the bottles themselves—became objects of ritual and the act of possessing one, and using it, was a way for members to display their group membership. Clinicians from outside the emergency department rarely, if ever, brought a water bottle with them to the emergency department. It was the domain of the staff in the emergency department. The way water bottles were generally arranged, all together in one part of each area of the department, not designated just seemingly attracted to one another, had the effect of zoning that small area as belonging to the emergency department staff. In many instances, more than one member of staff would stop at the same time to have a drink, to access the retention object. This provided an opportunity for a brief social interaction, many of which involved little more than eye contact and a facial expression. In this way, the symbolic role of the object was to define the space that they occupied as a meeting locus. A space where, because the worker was engaged in retention work, it was socially acceptable to pause and engage in brief peer interaction.

Creating space for interpersonal interaction

In the context of an office, these interactions often take place around a "water cooler". DiFonzo (2008) explored the "water cooler effect" in terms of how rumours influence people in the workplace, with the water cooler being the location popularly associated with the discussion of rumours. The meeting locus created around water bottles was not somewhere people in my study lingered. "Water cooler learning" is a second

concept tangentially related to the locus around the water bottles. Waring and Bishop (2010b) explored sharing knowledge in relation to patient safety and organisational learning. Their ethnographic study shared many features with this study but differed in its setting of day-surgery units and that the water cooler was a "backstage" (Waring and Bishop, 2010b, p. 330) feature. In contrast, the locus around the water bottles in the emergency department was, in the department where I conducted observations, very much in the clinical space.

The noticeable absence of educational interactions, of "water cooler learning" was, I believe, more to do with the acceptance of education as part of everyday work in the emergency department—something I explore in Chapter 6 (below). The interactions between colleagues around the water bottles were noticeably more rapid than the interactions with a clear educational element. Despite the brief nature of encounters that were observed at the meeting locus around the water bottles and the absence of "water cooler learning" or the "water cooler effect" of rumour, these interactions have characteristics that may be, like the water itself, sustaining—although clearly in a different way.

Lin and Kwantes (2015, p. 254) linked social interaction with co-workers, outside of work specific tasks, with perceptions of competence and found that "new employees who engage in high levels of private interactions with co-workers are expected to be more well-liked" (Lin and Kwantes, 2015, p. 254). This study highlighted the importance of social interactions between co-workers to concepts, most notably competence, related to retention. I reinforce this link in subsequent chapters, notably those on education (Chapter 6 below) and community (Chapter 7 below). The water bottle is a response to the challenges of the work environment. It is a form of necessary sustenance that those working in that environment employed. Like the water bottle, the uniform is a response to the materiality of the workplace. However, rather than sustenance, the uniform of the emergency physician is an object of, and for, practicality. In the following section, I discuss how uniform can be a retention object.

Objects for practicality: uniform and work wear

In my reflexive research diary, I wrote about why I was choosing to use pseudonyms rather than descriptions to delineate individuals. The example I used was, on reflection, more telling than I initially appreciated. “Young doctor in ill-fitting scrubs”, I wrote, was not a useful delineator. What I meant here was that there were many doctors in ill-fitting scrubs. Scrubs being the term used in both British and American healthcare to describe the type of clothing that someone would wear in the operating theatre that has been incorporated as uniform in most emergency department in the UK for at least the past decade. Most departments provide a limited number of sets for rotating or substantive employees, with The Royal providing two sets. The General, to try and ensure that people do not arrive or leave in scrubs, provided a clean pair for each shift, and laundered the worn sets. Workers did not have their own set for their duration of time working there, the uniform was communal. This was more akin to what happens in operating theatres. It is worth noting that this was not the case for consultants at both sites who had their own, distinctively coloured, personal, sets. In the interview with Galen, he highlighted one of the problems—being provided an insufficient number of pairs of uniform—in the context of institutional undervaluing of staff presented though a series of examples related to materialities:

> In terms of values, I feel that people care, and I feel that people's behaviour reflects the fact that they care. And I feel that the values have been expressed in a really constructive way. It's not perfect. I think one of the ongoing difficulties within my current department is I think feeling powerless. And it's with several areas. So, I think the institutional approach to trainees isn't particularly constructive. And I kept my two sets of scrubs from my ST3 job here. But, you know, the doctors were only given two sets of scrubs. There's no staff toilets. The reg's[istrars] have got a little office, but it's shared by about 15 people. It's a box basically, basically a box closet with no window or air conditioning. So, it's pretty hot, gets pretty smelly and gets full of people's stuff.
>
> Interview with Galen, Higher Trainee in Emergency Medicine, The Royal

Galen's comments are not only relevant to The Royal. Survey work from EMTA has repeatedly shown such environmental limitations (Archer *et al.*, 2016; Bailey *et al.*, 2017, 2018, 2021). But, despite the limitations of being often ill-fitting, in unflattering colours, and of insufficient quantity, scrubs provided several advantages to the emergency physician as workwear. They acted as a retention object that the employer supplied. Garments are also important for other occupations. To benefit from the insights from research in other settings I also conceptualise scrubs as "workwear" and emergency medicine as "repair work". The following section describes this conceptual link and the findings that it helped me draw from the empirical data.

Repair work

The practice of emergency medicine can be considered a form of repair work. The object of repair was sometimes a broken body or a person for whom their physiology has been impaired by illness. At other times it was the wider conception of the health and social care system that was mis-functioning and the work of the emergency physician—the work of the emergency department—was to try and mitigate this in some way. Repair work is a developing area amongst science and technology studies scholars. The opening chapter of a recent edited collection of repair work ethnographies succinctly summarised the heart of the field that it is aiming to:

> Make explicit the technical expertise and practical reasoning, lay and professional, displayed in the actual courses of repair work, as well as the entangled background of material conditions, procedural knowledge and social circumstances that such work may disclose in situ and in vivo. … How do these situations actually unfold? How far are they extended? What kind of actors, materials, and technologies do they involve, if not co-constitute? Is their extension discussed? And how does the "status of the object" (Pels *et al.*, 2002) *under repair* get re-examined, renovated and/or established? (Sormani *et al.*, 2019, p. 4 emphasis in original)

A pair of scrubs is designated workwear. It does not really have applications beyond the workplace. In contrast, a pair of old jeans worn by a mechanic has no such clear delineation. But whatever form the workwear takes, it makes visible something about the work and those engaged in it that might be otherwise less evident. Emergency physicians are involved in the repair work of bodies, people, and the healthcare system. But also of each other and themselves. The work and the workplace repeatedly, and in varied ways, challenged the ability of the worker to return the next day to repeat their labour. The materiality of a pair of scrubs, along with the worker's relationship with them, revealed something about how emergency physicians managed to return the next day.

Conceptualising the practice of emergency medicine as repair work, as Schubert (2019, p. 32) did with "routinely scheduled surgical operations", has two advantages to understanding how "scrubs" act as retention objects. First, it moves the discourse away from uniform. This is important. Both commonly and in much of the sociological literature, the term is associated with military and other uniformed services. For certain analyses, the designation of uniform is helpful—notions of hierarchy and power are rife within healthcare. The NHS' rigid and persistent hierarchy is repeatedly implicated in failings of the system (Pope, 2019). The notions that uniform may act a "group emblem" (Joseph and Alex, 1972, p. 720) and a "certificate of legitimacy" (p.722) have some bearing on retention in that they relate to structural elements of group cohesion and the symbolic nature that a piece of clothing can hold. However, the designation of a piece of clothing as uniform can somewhat neglect the material properties of the thing.

Particularly in healthcare where, outside of the more traditional ward or out-patients clinic, when doctors might be seen in formal workwear with other staff wearing profession-specific attire, professionals in the emergency department can often all be seen in scrubs. It is the material properties of the thing that make it useful as a retention object. For this understanding, what emergency physicians don as *workwear* is helpful because it allows the work, and the materialities integral to that work, to be appreciated as repair work. These material properties—I explore durability and cleanliness in the following paragraphs—allow the workwear to function as a retention object.

Durable workwear

In the interview excerpt above, Galen highlighted the problem of only being given two pairs of scrubs to wear. Shift patterns incorporated multiple shifts in a row, transitions from day to evening to night shift and a high total number of hours made always having clean and dry workwear difficult. The working environment compounded this. I certainly could not wear a pair of scrubs for two shifts in a row; the perspiration makes this possibility unappealing at the very least. Add in the real possibility of the workwear becoming soiled, with plaster of Paris if the worker is lucky, blood, vomit, or other bodily effluents if they are less fortunate. Galen mitigated this by retaining a set of scrubs he had been given when he previously worked at The Royal. But, this was not an option open to everyone and was not possible for Galen during his original tenure in the department.

The thin, synthetic, and robust nature of the object meant that it could be treated roughly. It sustains being washed at high temperature and can be tumble dried, not that this was often necessary—it is so thin that it dries in a matter of hours merely by hanging it up somewhere. The property of thinness that the workwear has can help mitigate the aforementioned perspiration in some small way. Not so that the worker does not perspire, but so that they can at least complete a shift without having to change. The item is durable and reusable, something that cannot be said of much of the equipment in the emergency department, most of which has become, or is becoming, increasingly single use. This trend has garnered some attention in healthcare research in terms of the environmental and financial costs associated with single use (McGain *et al.*,

2017). However, the attention from sociology has been much greater. This is perhaps best exemplified by incorporating the term "throwaway society" within the lexicon of the academy (Evans, 2012). In contrast to many objects in the emergency department, the reusable nature of a pair of scrubs might run counter to the trend towards a "throwaway society", but that is not to say that the object symbolises or embodies permanence. Quite the contrary; they are simultaneously reusable and disposable.

Clean workwear

Pink et al. (2014, p. 426) examined the materiality of more overtly disposable (and consumable) items in the healthcare setting using "anthropological approaches to knowing, in relation to material culture, to focus on how human and material elements are interwoven in the making and enactment of safety". As well as showing that a focus on materiality can add understanding to the more traditional focus on practices, this study adds to the understanding of "how health care workers' sensory ways of knowing are enacted and materially mediated" (Pink *et al.*, 2014, p. 428) in the context in which they work. While hands, the predominant focus of embodiment in the study from Pink et al. (2014), can be easily draped in a protective layer with gloves and cleansed with alcohol gel or soap and water, the protection and cleaning of workers' bodies is a greater task. The uniform, the workwear, or in the setting of the emergency department, a set of scrubs, is a practical solution to facilitate the delivery of care in the setting, symbolising (Brown *et al.*, 2008) and facilitating cleanliness which is so closely associated with professionalism and quality in healthcare (Greaves *et al.*, 2013). It is in this way that, despite the problems with the garments, it can be orientated as a retention object.

Scrubs share the association with cleanliness that more disposable objects are given. The ease with which they can be cleaned (and dried) enables this to be practically enacted. This is especially important in the emergency department as it experiences high footfall and is, to all intents and purposes, a public space. The department is never empty to be cleaned, unlike other parts of the hospital. While they are not "smart" like formal military dress or traditional nursing uniforms, the association with cleanliness allows them to be a necessary object to the delivery of clean healthcare.

The idea that physicians require the perception of being able to deliver quality care as necessary to sustainable careers is in some ways common sense but in other ways a relatively new formulation. In their work for the GMC, West and Coia (2019, p. 1) looked at "how to transform UK healthcare environments to support doctors and medical students to care for patients". They identified the "ABC of doctors' core needs" with "C" for "competence—the need to experience effectiveness and deliver valued outcomes, such as high-quality care" (West and Coia, 2019, p. 15) being vital for sustainable working in UK healthcare. This reiterates the importance of competence, initially seen in the section on water bottles, to retention. Indeed, both water bottles and workwear can be seen to be simultaneously objects that facilitate work in the specific work environment that is the emergency department and as enablers of competence. This multiplicity, to borrow the term used by Mol (2002), is made visible through the material properties of the objects examined in this chapter.

This chapter opened with an account of how the emergency department is a challenging working environment. This was followed by a discussion of how the literature on materialities helped me see the environment differently. I then explored how a water bottle can provide sustenance and how a set of scrubs can be used to facilitate retention through its material properties of durability and cleanliness. I now return to the workplace, focusing on the properties of objects and the environment that make it challenging. The properties of being misplaced, broken, or temporarily fixed are individually low-key. I explore two ways these properties are managed: duct taping and improvisation. Having discussed the material barriers to quality care, I will return to a final specific object that is more overtly linked with care quality: the ultrasound machine.

The material barriers to quality care

I opened this chapter with an account of the deficiencies in the sensory experience of working in the emergency department that those practising there must navigate. While these problems certainly impacted the ability to provide quality care, the relationship was indirect and mediated through factors such as dehydration and fatigue. Other barriers contingent on "things" were present in the emergency department in three

main ways: not being able to find the thing, the thing not working, or the thing requiring "duct taping"—a term I will expand on when I return to it—so that they can function, albeit often in a sub-optimal way. People looking for equipment was a routine activity in the emergency department. Part of this was due to the nature of the work. Each patient's requirements were unplanned and unpredictable. Therefore, pieces of equipment were moved to where they were needed when they were needed. The complexity and constant turnover of patients meant that it was impossible to know what objects were in use where at any one time. Some pieces of equipment were used often. For example, several patients would have an electrocardiogram (ECG, heart tracing) each hour. The Resuscitaire, a piece of equipment used when a baby is born requiring medical input, on the other hand, is used very infrequently in the emergency department, with most emergency physicians only needing to use it a handful of times in their careers.

Missing equipment

The more often an item was used, the more mundane the work, the more it was visible in my fieldwork. Cannulation is one of the most frequent practical procedures done in the emergency department. It involves placing a needle sheathed in a plastic tube into a vein. The needle is then removed, leaving the plastic tube in the vein. The cannula is then fixed in place with an adhesive dressing, and it can be used to draw blood for analysis or the administration of intravenous medications and fluids. This skill is performed by many staff groups in the emergency department, including doctors of all levels. It requires a limited collection of equipment which is usually stored in close proximity; in The Royal, each clinical area had a trolley with drawers containing this equipment. On several occasions, I observed increasingly frustrated staff members hunting for a mundane but vital piece of equipment.

Maya, one of the staff grade doctors, had started seeing a patient, and after a few minutes, she came out of the cubicle and started collecting the equipment for cannulation. Most patients who need cannulation have this done during triage with protocols directing initial blood tests based on the presenting complaint intended to improve flow through the emergency department (Hitchcock *et al.*, 2014). However, sometimes the assessing clinician identified a reason for cannulation or taking blood

tests not identified at triage, or sometimes the procedure was technically challenging, and the practitioners working in triage were unable to accomplish it. In these circumstances, it was not unusual for the assessing clinician to get a few minutes into their assessment and decide that the patient did indeed need this procedure.

Maya collected a tray, cleaned it, and started rummaging through the draws of the cannulation trolley collecting equipment. She went through them all once, collecting what looked like most of the equipment required. She then went through them all again, looking increasingly frustrated. She went to an adjacent part of the department, and I could see her looking through the cannulation equipment there. Visibly frustrated, she went to speak to the nurse coordinator and asked, "there are no flushes[28] in here or [other clinical area]; where can I get some?" The frustration that Maya had embodied was absent from her voice. "I'll sort it. Is it for the lady you have just gone to see?"' the nurse coordinator replied. I had the immediate impression that this was something that she was aware of and had asked someone else to sort out. She went on to say, "do you want to go back and finish seeing her, and I'll get someone to do the cannula. What bloods do you want?". Maya then gave a succinct account of the patient's requirements and her rationale for them and then returned to finish her assessment. Around three-quarters of an hour later, I observed a healthcare assistant carrying several boxes of "flushes"—"I had to borrow these. There are more coming this afternoon".

I observed workers hunting for equipment every day of my fieldwork. For example, a student nurse came into resus to see if they could borrow their ECG machine as the one for majors had "gone missing". Junior doctors looked for equipment to examine a patient's ears or reflexes, and the daily hunt for the bladder scanner was a running joke in every department where I have worked.

[28] "Flush" is medical jargon. It refers to a pre-filled sterile syringe of saline (water with salt in it) that is used to the fill the tubing of a cannula with fluid so that air is not injected and to ensure that the cannula is working.

> Yeah. Yeah. What was it? Yesterday, I was looking for a bladder scanner for a patient. Think I spent I'd say at least 15 minutes going around the department looking for the bladder scanner at some point had to go to ambulatory care to ask if it's there and it wasn't there. So, at the end of the day, I couldn't. I spent so much time looking for the scanner, I didn't find the scanner, so I had to do without it. I think there is a lot of that, or you looking for a tendon hammer, sometimes you're looking for an otoscope, you know. So that's not that that's not helpful. ... I've come to accept it as part of the work, [it] can get really frustrating.
>
> Interview with Emre, Staff Grade in Emergency Medicine, The Royal

The interview excerpt from Emre reiterated that looking for equipment was a regular part of working in the emergency department. He also introduced some of the consequences. Maya was briefly frustrated, while Emre described having to do without a piece of equipment. Broken equipment can stop or make it difficult for an emergency physician to do their job well. This can impact their sense of competence, something that I introduced in this chapter and return to several times in the following chapters, particularly those on education (Chapter 6) and community (Chapter 7). Another way that missing equipment was mitigated was through improvisation, which I explore below while exploring the common occurrence of broken equipment.

Broken equipment

Even when equipment was found, there was no guarantee of it functioning. It is both inconvenient and embarrassing to take a piece of equipment to a patient only for it to fail to work. But, it is not only clinical equipment that was often broken. On one occasion, I observed in the newly built rapid assessment and treatment area (RAT). I had sat down at a desk to write some notes.

> I notice a hole-punch and, for some reason, pick it up. It is broken. Stuck and unable to do the job. Yet it is still here. Set on the desk below the computer monitor. It is purple and not obviously broken until you inspect it closely.
>
> Field notes excerpt

These words are copied verbatim from my field notes, which I recorded in the first month of observation. They represent me starting to notice the impact object fragility had on the work of emergency department workers, sensitising me to the multiple minor insults that problems with mundane but frequently used objects caused. The hole-punch stayed there, remaining broken, for the entirety of my fieldwork. It was not repaired or replaced but remained in place, broken. That a piece of broken equipment is unremarkable and can stay in place aligns with the observable normality of broken equipment in the emergency department. This particular object might be how I was sensitised to this, but it was not limited to stationery. Clinical equipment was also routinely broken, some of which could be described as mundane clinical equipment, others less so.

An otoscope, a simple piece of equipment used to look in a patient's ear, which Emre talked about searching for in the interview excerpt above, also caused problems due to malfunctioning. On one such occasion, James, one of the consultants, had been seeing a patient and asked, "has anyone seen a *working* otoscope"—with the emphasis clearly on "working". He said this in the general direction of the consultant in charge and the handful of junior doctors waiting for advice or instruction, one of which responded that they had seen one outside a certain room. James answered that he had found that one, and it was broken. He headed off towards the paediatric area. This talk and event were not especially remarkable at the time. No one noted that this was in any way out of the ordinary.

Improvisation and "duct taping"

Broken equipment was not restricted to the mundane and the consequences went beyond inconvenience to the worker. The quote below refers to a piece of equipment

used in the time-critical management of severely ill or injured patients. Yet, their brokenness also seemed to be a routine thing in the emergency department.

So one particular example from over the weekend was trying to do a sedation on a patient in resus to find that the block that we were working with, just wouldn't, for some reason register on the on-screen monitor behind the patient's bed, meaning that we then had to decide to just carry on as we were, but with obviously not ideal monitoring system for the patient or reshuffle and move elsewhere in resus to try to improve the situation which takes time. Little things like, you know, the computer systems aren't the most efficient. Yeah, some of those things I, you know, many of those problems are the world through in the NHS, unfortunately.

Interview with Leigh, ST3 Trainee in Emergency Medicine, The Royal

---

Here, Leigh explained how a malfunctioning piece of equipment impacted the care she could provide for a patient. She also highlighted how she got around this, not by fixing the equipment—this was not possible—but by improvisation. In the instance she described this involved doing without the piece of equipment or moving patients around the resus room. But improvisation takes many forms and has been long recognised as a part of medical practice:

> Such situated re-purposing of available means are an inherent feature of medical practice and they make up a central element of improvisation. Therefore, it comes as no surprise to find that the discussion about improvisation is nothing new in medicine itself, where it is emphasised as an artistic skill which, for instance, enables medical personnel to deliver services in emergency situations such as war or accidents.
> (Schubert, 2019, pp. 50–51, referencing Cubasch, 1884)

Improvisation can, especially when it involves faulty equipment rather than something like an unexpected clinical need, be considered as a form of "duct taping". The term duct taping is extracted from Graeber's (2018, p. 28) "five major varieties of bullshit jobs". He focused on the duct taper as a type of "employee whose jobs exist only because of a glitch or fault in the organisation; who are there to solve a problem that

ought not to exist" (p.40). While I found it useful to distinguish improvisation, which involved "unforeseen disturbances in practice" from duct taping, which involved a workaround to "a problem that ought not to exist". Both were forms of repair work, but improvisation involved using skills, experience, and knowledge to solve problems that occurred unexpectedly. Playing a video of a cartoon on a smartphone to distract a toddler for assessment was improvisation. Having to use the end of a stethoscope as a make-shift tendon hammer because none could be found in the department was duct taping—it was due to "a problem that ought not to exist". The stethoscope as tendon hammer example was both duct taping as practice and materiality. Other observed examples are more demonstrably material in nature.

The five or six cooling fans spread around the department was one material example of duct taping. This example links back to problems with the sensory experience of working in the emergency department due to the built environment and was described to me as a "1980s build and totally unfit for purpose. Yes, it's a classic NHS carbuncle" (interview with Neil, Consultant in Emergency Medicine, The Royal). My fieldwork was conducted in winter. Despite this, these fans were necessary to provide some cool air in the otherwise overbearingly hot parts of the department. Workers were seen standing in front of them for a brief moment of respite from the heat. But they were not designed to alter the temperature of the large spaces in which they were placed. They did not repair the crumbling built environment. They merely allowed people to continue to use it despite its deficiencies.

As well as the fans acting as duct tape to the built environment, the object was also duct taped. These cooling fans were not designed to be on day and night in such a large space. They were subject to the other environmental deficiencies of the emergency department and were bumped into, knocked over and had fluids spilt on them. As such, they required duct taping to keep them functioning. One was "secured" to the wall using adhesive tape. Another looked like a bit of plastic casing had detached and broken with most, but not all, held in place with clinical tape. The resus room was recently redeveloped, had adequate air conditioning, and did not require any cooling fans. However, there were pieces of wire at the back of one of the bays attached to the wall with actual duct tape. When the wires came loose, people tripped on them. They could

have been routed through the ceiling, but this did not occur during my time in the department.

Objects can be a barrier or facilitator to delivering care in the emergency department. They can be misplaced, broken, or temporarily repaired. Entities with these properties were routine during my observations and highlighted the mundane challenge of the working environment. Objects can be seen to facilitate retention through sustenance and practicality. They can also help a clinician deliver quality care. In the final part of this chapter, I explore one such object. The ultrasound machine was chosen primarily because several interviewees discussed it in terms of quality. But also because of the observable activity around the object.

Objects for competence: the ultrasound machine

Point of care ultrasound (POCUS) has developed in emergency medicine from pioneering work in Chester, where it was initially described as an alternative to more invasive, and now largely obsolete, investigation techniques used in abdominal trauma (Chambers and Pilbrow, 1988). POCUS is now a core component of the emergency medicine training programme. It is used to assess for a small number of specific and life-threatening emergencies and to facilitate practical procedures. It is dependent on a piece of equipment: the ultrasound machine. While these come in many shapes and sizes, the examples present in The Royal were typical of those in most UK emergency departments. They resembled a laptop on wheels with usually three ultrasound probes, which can be placed on the patient's skin to gain images. Galen talked about these machines in the interview excerpt below and referenced two of their uses. FAST (Focussed Assessment with Sonography for Trauma) is a scan of the abdomen looking for blood—sonography is another name for the practice of ultrasound scanning. By "looking for an aorta", Galen described an assessment to decide if someone is at risk of bleeding from the main blood vessel to the lower part of their body.

> On the flip side, we've got two very good, well-maintained ultrasound machines. So, if you ever want to do a FAST scan or look for an aorta you've got two high fidelity tools that are incredibly powerful to help you. So, I think when it works, it's brilliant.
>
> Interview with Galen, Higher Trainee in Emergency Medicine, The Royal

By having two ultrasound machines, the department had taken steps to mitigate against the occasions when one might break down or require maintenance. Unlike more mundane pieces of equipment like an otoscope or tendon hammer, the machine was not lost or misplaced. It had a home in the corner of resus. When in use, as only a proportion of the medical workforce could use the machine, it was usual for its whereabouts to be easily discovered. This negated the frustration seen when searching for other equipment. It was not used to do “duct taping” work. Its use was more aligned with improvisation. Such as when it was used to complete a procedure that had failed. The most common example was facilitating difficult intravenous access—cannulation—by allowing for direct visualisation of deeper veins. In these ways, the object facilitated competence more directly than scrubs did through cleanliness or water bottles through sustenance. Competence was linked to the retention of doctors in the UK in the multi-method review from West and Coia (2019) that looked at how to improve the working environment for doctors and medical students.

The ultrasound machine was important for feelings of competence, which was especially important in an environment with so many challenges, as Davina explained in her interview:

> Sometimes it's good to do something that's good for the patient that not just anyone can do. Like I can get the ultrasound and do a difficult line or help with a diagnosis and I know that I'm doing good care, good medicine, when. Erm, when the place is throwing barriers in the way to make it difficult.
>
> Interview with Davina, Staff Grade in Emergency Medicine, The General

The role that objects play in "doing good care" to quote Davina, or in more general terms—doing good work, has received limited attention in the literature. Seim's (2020) study of US ambulance workers focused on the work done by ambulance workers and the context in which it was done—the ambulance. This study showed a different way that objects can help to show how workers decide if they are doing good work or not:

> There are "legit" calls and then there are "bullshit" calls. Legit calls are the so-called real emergencies that necessitate and justify the craft of paramedicine. These are typically the cases that have crews exercising the skills that they were taught. … In contrast, bullshit calls are the so-called non emergencies that involve little more than a collection of vital signs, a ride to the hospital, and maybe some minor interventions like the icing of a sore joint.
> (Seim, 2020, pp. 3–4)

It was clear from Seim's account that "legit" calls had certain characteristics when it came to materialities—equipment used in the management of gun-shot wounds and cardiac arrest are clearly aligned to the "legit" end of the spectrum. The association of these objects with working in paramedicine long-term was not the focus of the study. However, Seim described several practices which would seem related to retention even though they were not discussed in these terms. Such as when an "informal break is typically squeezed in" (Seim, 2020, p. 43) in response to the lack of provision of rest facilities and the length of time workers may be required to go before a formal break can be taken. Or on a more strategic level moving "from paramedic to manager" (Seim, 2020, p. 145) for more money, a more comfortable work experience, and the satisfaction which comes from supporting crews and patients at the most "legit" calls. The first of these links to the next section on repurposing space. The second is related

to the forthcoming chapter on retention strategies (Chapter 8 below). Seim's work highlights the link between objects and practices. The next section explores a particular practice contingent on the material nature of the workspace.

Repurposing space

So far in this chapter I have discussed how emergency physicians use objects in response to the sensory challenges of the workplace and as a means of achieving quality in their work. A practice related to the materialities of space was also observed which at times can be described as moving in space but can also be conceptualised as repurposing space. I will initially describe an example of the former before showing, and further expanding on, how the term repurposing space encapsulates both.

> You go into resus, when it's air conditioned, the temperature in there is just much nicer. You can feel yourself breathe and relax a little bit more. … So it just it feels enclosed, you know, cramped. Erm, hot, cold, stuffy. It's hard to be positive about the physical environment.
>
> Interview with Jack, Consultant in Emergency Medicine, The Royal

---

In the above example, the movement through space for a defined reason is obvious. Most of the department was hot, and even with a water bottle and wearing scrubs, this could be overbearing. As a consultant, Jack could always justify going into resus to ensure that the care of the most severely unwell or injured patients was progressing adequately. That this allowed him to cool off was helpful, but his statement suggests that this benefit goes beyond the sensory: he could "relax a little bit". This suggests a cumulative effect of environmental inadequacies on top of an already stressful role. Anna, who had left emergency medicine, described a similar approach:

> One of the things I will try is getting some headspace, so if it all got a bit too much I would go to a quieter part of the department, so maybe go sit in the seminar room and write in there for 10 minutes, or in resus if it wasn't a bomb site, as mostly most people will have been seen and sorted in there.
>
> Interview with Anna, General Practice Specialty Trainee, Former Higher Trainee in Emergency Medicine

Anna had never worked at either The Royal or The General. However, her description rings true for the observed practice at The Royal and mirrors the interview data from both. Here, she again describes repurposing space from a location that did not help gain "some headspace" to one that could. In this way, the space that she moved to was repurposed.

Being watched

The seminar room was not only used for handover or teaching. Resus was not only used for resuscitation. They were used as spaces to facilitate documentation of clinical notes and as a respite from the sensory onslaught of the rest of the emergency department. This reflects my ethnographic practice that I recounted at the start of this chapter in relocating to the trainees' office or walking to a distant vending machine to gain five-minutes respite. In the interview with Jack, a further issue was brought up, that of feeling watched:

> You feel like you're being watched by patients all the time. And if you're having a drink, or you're writing up notes you feel guilty. It's full of medical staff. Acute medics are down clerking the patients. And it just feels like a really busy environment to be in, in that period of time.
>
> Interview with Jack, Consultant in Emergency Medicine, The Royal

The emergency department is reminiscent of the Foucauldian notion of the panopticon (Cheek and Rudge, 1994). This is not surprising. Patients require "monitoring" both in the material sense of being attached to equipment to track various physiological parameters. Moreover, they may be confused or be in the receipt of treatment which

the staff need to watch to see it is working as expected or hoped. Balancing the necessity for surveillance with the desire for privacy has received much attention from the patient perspective (Olsen and Sabin, 2003; Karro *et al.*, 2005; Nayeri and Aghajani, 2010), and notions of surveillance in healthcare workers have gained attention in the sociology literature. Healthcare workers experience surveillance in many aspects of their work. Compliance with institutional protocols is monitored with implicit local cultural rules overpowering organisational commitment (Shearer *et al.*, 2012). Multiple studies monitor hand washing "compliance" and seek to improve it (Doronina *et al.*, 2017). Some clinicians have their location electronically tracked to try and improve the efficiency of the service they deliver (Yeoh *et al.*, 2018). All can be considered forms of institutional surveillance—yet the experience of feeling watched while working in a healthcare setting such as the emergency department has received scant attention.

One industry and branch of research that has started to embrace the potential importance of this phenomenon is hospitality and tourism management. The work of Graham et al. (2020, p. 27) drew on the sociology of Goffman around symbolic interactions and, in particular, interaction order to understand how working in an open kitchen influenced the practices of chefs working in them. Their work built upon a limited body of scholarship around the impact of customers on employees. For example, Kaminakis et al. (2019) considered the impact of the built environment on the employee-customer relationship in the context of the hospitality industry. Also, Wan and Chan (2013) whose study of casino workers identified the importance of the physical work environment as a key contributor to employees' quality of work life.

Crowding in the emergency department

Notions of customer service have parallels with patient care and emergency department work. Because of antisocial shifts, an emergency department worker commuting on public transport is more likely to meet a casino worker or a chef than someone working a nine-to-five office job. In hospitality, notions of caring for customers mirror the tropes of caring for patients in healthcare. These allow me to draw some helpful conclusions from this developing body of literature which might help me understand Jack's comment about how he feels "like you're being watched by patients all the time". Graham et al. (2020, p. 28) described how "the hidden chef" moving into

the open kitchen changed the culture and practices of the workers. How chefs conducted themselves in closed kitchens was "grounded in their socialisation and interactions with other chefs to perpetuate the existing kitchen culture". In contrast, in an open kitchen, they have had to adapt their behaviour to take into account the customer.

In some ways, crowding in the emergency department has inadvertently led to a similar development. Once, the emergency department was a public space in name only, and patients were the ones whose privacy was infringed by the work of the emergency department. Now the same can be said for the workers. Having patients in corridors and the space between rooms and cubicles is demonstrably bad for patient care and a clear breach of the department's obligation to respect the privacy and dignity of patients under its care. These patients, stranded on chairs and trolleys, were bodies and eyes encroaching on the physical space whereby workers would normally have a degree of privacy to complete work. In addition, the congestion in the department—so-called "exit block"—meant that patients spent much longer in the physical space of the emergency department. Reviews and onward assessments that would normally have been conducted on wards and assessment units were taking place in the emergency department. The teams doing these reviews were doing them in the emergency department.

For Jack, this had the effect of inverting the panopticon. For chefs and kitchen workers, this led to (mostly positive) modifications of the culture and behaviour in the workplace. For the emergency physician, this has led to coping behaviours to deal with the added stressor of being observed, of which repurposing space was key. In the described examples, both Jack and Anna moved into less observable locations. Resus maintained an element of being a closed space, and the seminar room even has a door that could be closed.

Chapter summary

This chapter has focused on the day-to-day experience of the emergency department and how emergency physicians use mundane objects to make their work sustainable. I opened with a reflection based on my field notes of the sensory experience of the

emergency department. When embodying my role as an ethnographer, I made a conscious effort to notice the space's sensory elements. This effort was overwhelming, and my sense of being overwhelmed revealed how much of this sensory input I routinely block out when in my role as an emergency physician.

I then discussed two significant strands of literature related to materialities and healthcare. The first was the increased importance of the "mundane material" (Brownlie and Spandler, 2018, p. 257) to understanding the context where care takes place. The second was the importance of objects for the *doing* of healthcare.

The first retention object I discussed was the water bottle. These were placed consistently in specific locations in the department for staff to access. I explored the need to utilise such an object as a form of embedded knowledge and the object itself as a ritual object. The collection of water bottles had the effect of zoning a part of the department as a meeting locus. This functioned as a space for brief interpersonal interactions. I conceptualised interpersonal interactions and the water itself as forms of sustenance.

The second retention object was uniform, known as scrubs to emergency physicians. To explore how scrubs can be conceptualised as retention objects, I oriented the practice of emergency medicine as repair work. This reoriented my theoretical lens from uniform to workwear. The physical properties of the workwear allow it to function as a retention object. Its durability allowed it to tolerate the rough treatment inherent to work in the emergency department. Scrubs not only protect the worker from soiling. They were associated with cleanliness which is related to perceptions of care quality.

The material barriers to delivering high-quality emergency medicine were evident during my fieldwork. Two key themes were missing equipment and broken equipment. How emergency physicians dealt with these two problems highlighted an essential distinction between improvisation and "duct taping". Improvisation refers to managing unexpected events creatively, whereas duct taping refers to working around problems that should not exist.

Emergency physicians completed tasks in spaces designed for other things to mitigate some of the environmental challenges of the emergency department. I termed this repurposing space. Beyond the specific sensory challenges such as the department being hot and loud, emergency physicians felt watched, something exacerbated by crowding.

By interweaving the material problems and challenges of the emergency department with the objects and actions used to mitigate them, I aimed to give the reader a sense of the space and the day-to-day nature of the focus of this study.

The following chapter explores the retention work of humour. It is the first of three chapters focusing on “retention work” and continues the orientation towards the mundane.

Chapter 5: The retention work of humour

An emergency department does not possess characteristics that would allow it to be inherently humorous. On the contrary, it is a place that people come to when they are scared, in pain, vulnerable, and the workers aid people with these far-from-funny characteristics. Despite this, or perhaps because of this, humour is omnipresent among those working in the emergency department.

> We will quite happily have a giggle on the shop floor with anybody of any rank and not fuss about that.
>
> Interview with Zoe, Consultant in Emergency Medicine, The Royal

---

Humour was used in the day-to-day work of the emergency physicians I observed. In this chapter, I analyse humour as retention work. The work of humour is multiple. For example, it can create distance from a topic making "the most dangerous, most disruptive aspects of existence, such as sex and death" (Davis, 1979, p. 107) safe to approach, and as means of "social conflict and social control" (Fine, 1983, p. 174). Humour can do all these things and more while being part of the work that emergency physicians do to achieve retention.

To show how humour in the emergency department is a form of retention work, I will demonstrate how humour in the emergency department is self-deprecating, often dark, and might be better considered in terms of non-seriousness. These properties of humour in the emergency department allow me to show how it can function as retention work through helping to foster an atmosphere and by working as a cohesive device principally through means of shared experience. I close the chapter with a discussion of humour as a coping mechanism and potential pitfalls and problems of using it in this way in the emergency department.

This chapter contains several examples to demonstrate something about the use of humour as retention work. They are, in general, not funny to read, nor are they meant to be. I include them to give the reader an idea of the type of work that humour does in

building retention and the methods that emergency physicians employ to produce them.

Non-seriousness

The first example was exceedingly brief. The observed interaction lasted only a few seconds. While it involved two clinicians, only one provided a verbal utterance, the other responded entirely non-verbally. “I was meant to go to the gym on the way home. Instead, I might just go and get drunk”. Reviewing these words in print does not immediately generate humour; these are words of despair, neglecting self-care in favour of self-destruction, and ill-advised coping methods. Only by including the non-verbal communication and the context of the interaction can the humorous nature of the exchange be made evident. I observed this utterance on a morning after a particularly challenging night shift that I heard about by attending that morning’s handover from night to day shift. The department had over twice the number of patients it was built to hold. The corridors were full of people on trolleys who had been waiting all night for a ward bed. The departing night shift had a dejected air of defeat. But this interaction was between two of the day shift clinicians. They were starting their shift in challenging circumstances, anticipating a difficult day. One walked one way, trying to find somewhere to see the next patient. The other walked in the other direction to follow up something for a patient whose care had been handed over to them. Crossing paths while walking in opposite directions, the first half of the utterance was made face-to-face with the two clinicians walking towards one another, the second half with craned necks, walking away. The two parts of the utterance had the appearance of a set-up and a punchline. The humour was enacted more in terms of wry smiles than raucous laughter, which is not unsurprising given the crowded nature of the department and the proximity of patients and other staff members. The lack of verbal response from the second clinician does not suggest passivity. They play a crucial role in the humour, which, as Fine (1983) argued, is an inherently social endeavour:

> Most humour and laughter imply a social relationship, a connection between self and other. Just as one cannot tickle oneself, so, too, one can hardly tell oneself a joke or play a prank on oneself. A jocular event typically requires a minimum of two persons to succeed—or, for that matter, to fail.
> (Fine, 1983, p. 159)

No laughter was exhibited in the above example. However, the utterance was observably humorous, and it could be construed as sharing some of the properties of a joke—a set-up and a punch line. Nonetheless, it is noticeably not a joke. Holt (2013) noted that:

> Often non-seriousness is equated with humour or joking … both analysts and participants recurrently invoke a broader class of actions than can easily be accounted for by defining them as humorous.
> (Holt, 2013, p. 69)

Non-seriousness is a broader concept than humour. Or, to use the terminology of Schegloff (2001, pp. 1952–1953), that a joke, hyperbole, and non-literalness, for example, are "but one 'value' of the more general feature 'non-serious'". I make this distinction not to engage in discussions of typology but to facilitate the inclusion of literature related to humour and non-seriousness. Whether the utterance above was non-serious and non-literal (probably) or a joke and hyperbole (probably not) is less useful than moving on to answer the following question. "How is it that this observable feature has been produced such that it is recognisable for what it is?" (Francis and Hester, 2004, p. 159). By this, I mean to explore how non-seriousness is produced as a form of retention work. To do this, I explore how non-seriousness is used to create an atmosphere conducive to work and as a means to group cohesion. To support this, I will first discuss the often dark and self-deprecating nature of the humour I observed.

Dark humour

The following example of non-seriousness came from ten minutes of observation as the team assembled for handover on a different day. Handover started at 8 a.m., and it was usual for several team members to arrive a few minutes early, as was the case for each

handover I observed. The atmosphere before handover was often, but not always, light, and as I noted in my field notes—the air filled with laughter—as it was on the day when the following interaction took place. Maya (one of the clinicians whom I did not interview) gave me their analogy of a career in emergency medicine which further demonstrates the dark nature of much of the humour. Maya described an emergency medicine career as "an abusive relationship". She explained that you have repeated bad days and are told or made to feel you are not good enough. But you still come back for more because it feels really good on a rare good day when things work. This dialogue was between Maya and me, but several other people in the room were also part of the conversation. They laughed at the statement and displayed a begrudging agreement at the explanation.

Comparing emergency medicine to an abusive relationship is in bad taste, though it would not be funny without an element of truth. As an emergency medicine clinician, Maya will have more professional experience with such things than most. Domestic violence accounts for at least 1% of emergency department attendances (Boyle and Todd, 2003; Olive, 2017). The context of the handover room being closed to the general public allowed this dark humour to occur. Would they have made this analogy to a researcher they had not also worked with in a clinical context? Possibly not, though they felt comfortable enough to say this in a room full of other emergency department clinicians who responded with a much more overt show of humour, in the form of laughter, than in the first example.

My interpretation of Maya's statement is that she does not seek to undermine the terribleness of an abusive relationship. Nor is she just highlighting the challenges faced in the emergency department, although a shared understanding of this is necessary for the humour to work. The unspoken link between the two, which is where the humour lies in this instance, is that both are bad and resistant to change. Victims of abusive relationships identified in the emergency department do not, on average, respond to offers for help and support and usually return to the relationship. The emergency physician knows this, and, on an individual level, this is one of the things that makes such cases emotionally challenging. But the emergency physician also knows that the

person may respond to the tenth offer of help, or respond on the subsequent attendance, only because they have previously been introduced to the idea.

Similarly, working in healthcare or specifically emergency medicine is also resistant to change. Attempts to change any particular aspect of working in healthcare or bring a specific issue within it to the fore have not been achieved with a single well-written paper, press release, or conference presentation. But by addressing the same message in multiple ways across multiple formats over time. Examples in emergency medicine include the Civility Saves Lives campaign (Thornton, 2020) and the anti-bullying campaign from the British Orthopaedic Trainees Association, Hammer It Out (Rimmer, 2017), which has inspired similar work from RCEM. The "abusive relationship" example demonstrates and builds on the contextual understanding of those involved on multiple levels to "accomplish affiliation between 'bona-fide' members of a collectivity" (Morriss, 2015, pp. 308–309). Or, to put it another way, humour is a method by which the group members create or strengthen links to and within the group. I return to this concept in the section on humour as a cohesive device (below).

Self-deprecating humour

The work of White (2006, p. 31) and of Morriss (2015, p. 312) identified workplace humour as being about other groups. This "ironic banter about the other", to quote both authors, was used to accomplish legitimate membership of the groups they were studying. That there was sometimes tension when workers who are members of the emergency department interacted with workers who are members of another group is no different from any workplace, or indeed any scenario in which human interaction is present. How this manifested as humour in the emergency department is different to that of the social work professionals presented by White (2006) and by Morriss (2015). In the emergency department, humour was directed at the self or the group of which those observed were members.

The social work professionals in these studies (White, 2006; Morriss, 2015) strengthened their place in the group with humour that used the other as the source of laughter. In contrast both the examples presented from my field notes used emergency medicine as the butt of the joke. That is not to say that I did not witness humour about

the other in the emergency department, I did, but it was noticeable that self-deprecation and inwardly directed mockery were the norms. There are many possible reasons for this. However, my data provide no clear reason for this finding. As this insight was arrived at during analysis, I was unable to further interrogate my participants at to why this might be the case. There are many potential explanations that can be extrapolated from the literature. Emergency physicians experience power differentials within their workplace differently from social workers (Elliott, 1972; Abbott and Meerabeau, 1998). The size of the day-to-day team and the rapidity of change of team members is different between the two professional groups (Mor Barak *et al.*, 2001; Vosk and Milofsky, 2002a, 2002b, 2002c). The day-to-day interactions with members of the public while embodying their professional roles are also likely to be different, as is the professional regulatory landscape.

Fine (1983) identified a tendency for studies in the sociology of humour to compare two groups. The group to which someone is a member and another group. Fine found that jokes where a group that someone belonged too "was esteemed" were funny whereas those that "disparaged" this group were not (Fine, 1983, p. 172). Likewise, jokes that "esteemed a person's" group were funny whereas "jokes lampooning a person's" group were not.

The earliest study identified by Fine (Wolff *et al.*, 1934) somewhat uncomfortably, given the hindsight of history, aimed to assess if there were differences in responses to humour disparaging Jewish people between people who were Jewish and people who were not. Unsurprisingly "the researchers found that anti-Jewish jokes were funnier to gentiles than to Jews" (Fine, 1983, p. 171). The authors then went on to change the butt of the joke to Scottish people and repeated the experiment with the same groups. "The researchers discovered to their surprise that Jews found these anti-Scottish jokes less humorous than did non-Scottish gentiles" (Fine, 1983, p. 171). They postulated about this unexpected finding:

> One type of affiliation was based upon resemblance—*affiliation by similarity*—to the extent that subjects who are conscious of possessing a trait enjoy hearing that trait praised in others and dislike hearing it debased (Wolff *et al.*, 1934, p. 361 emphasis in original)

This could explain why the humour that I witnessed was not usually directed at "others" and was instead self-deprecating. It may be that the broad nature of the team and the constant interactions with other groups facilitate recognition, and development, of "affiliation by similarity". I build on this in the section on humour as a cohesive device (below) and the chapter on the retention work of community (Chapter 7 below). The opening three sections of this chapter have delineated the main characteristics of humour in the emergency department that I observed. It was not all jokes and can be better described as non-seriousness. The humour was often dark and was mainly self-deprecating. In the next section, I delineate the first of three ways that humour acts as retention work; by creating an atmosphere.

Atmosphere

The idea that humour influenced the atmosphere of the emergency department was something that I noticed and noted in my field notes, with one instance seen above in the example above from handover. This initial noticing developed through analysis of the interview transcripts. For example, my writing on the "light"-ness of the atmosphere and how the "air filled with laughter" was not initially connected in the field notes, but Liam's interview excerpt (below) showed a sense in which they are linked. It is a common-sense assertion that these two workplace elements would be connected, but the atmosphere of a place is a challenging thing to define or study.

> Sometimes having a joke, being silly, just being, speaking to people nicely, fosters an atmosphere where people will want to work for you and want to work with you.
>
> Interview with Liam, ST3 Trainee in Emergency Medicine, The Royal

Atmosphere is perceived, but it is not something that is only perceived. Bailliard et al. (2018), drawing on the philosophy of Merleau-Ponty to inform their work in occupational science, noted that:

> Perception is not a uni-directional process whereby humans receive stimuli and process them internally. It is an active process where humans perceive with the world and sensed qualities are integrated into behaviours that fold back onto the world.
> (Bailliard *et al.*, 2018, p. 228)

Therefore, the atmosphere of a place, of a workplace, is both sensed and created by those occupying the space in which it exists. Liam noted that acts of humour, non-seriousness, and general collegiality created an atmosphere in the emergency department that was conducive to work. The atmosphere of a workplace can be light, participatory, or conducive to work. But what is atmosphere, and through what means did participants—and myself—notice it and through it link humour to retention? Merleau-Ponty described écart, which translates to space or gap, "as the space between what a person perceives as a figure amidst a background and the background itself" (Bailliard *et al.*, 2018, p. 229). It is something that is not the people in a scene, and it is not the physical environment, but it exists nonetheless and is experienced nonetheless. Hass (2008, p. 131) interpreted écart as "the very openness in perceptual experience which create the space or gap through which sensibility occurs". It is not a concept in the sociological sense. It is:

> Not used as the subject or object of a predicative statement. Rather, the term is an expressive device … a "showing concept", that Merleau-Ponty uses to gesture toward the subtle differentiation in experience that is not an opposition.
> (Hass, 2008, p. 129)

When considered in terms of écart, atmosphere is a showing concept through which actors in the scene, and observing researchers in my case, made sense of the sensory and social experiences that occurred. Liam used atmosphere as a showing concept to tell me about an intangible feature (atmosphere cannot be touched, though some of the things that impact atmosphere are tangible) of working in that space in his role. It is inherently contextual yet certainly not individual—the atmosphere of a place, at least when considered in terms of humour and the social actions described that influence it, can be considered as retention work made visible through discussion of this intangible component of the working environment.

Cohesive device

In the discussion about the self-deprecating nature of much of the humour in the emergency department, I drew on several authors' descriptions of humour as a means of defining a group or membership thereof (Wolff *et al.*, 1934; White, 2006; Morriss, 2015). The self-deprecating nature still allows humour to function in this way by creating a clear sense of "us". However, the "other" is everybody else rather than a particular group held in opposition. In this way, humour is used more as a "cohesive device" (Fine, 1983, p. 173). This reinforces the social nature of humour in the workplace. Moreover, it highlights the contextual nature of both the observable non-seriousness and the stimulus for the behaviour:

> One of the first goals of any group is to remain unified in the face of a variety of actual or potential forces that might disrupt or threaten it. Groups under stress may develop a sense of humour as a response to this threat … This laughter need not only apply to oppressed groups but can be a cohesive device for any social group.
> (Fine, 1983, p. 173)

Another way that humour may be functioning as a cohesive device is through demonstrating and building shared experiences between those working in the emergency department. This is something further explored in the following chapter on community. However, for now, I will explore how shared experience is demonstrated through humour and can function as a cohesive device allowing humour to be seen as a form of retention work.

Shared experience

> After a couple of shared experiences, maybe not after one, but after a couple of shared experiences, you start to develop relationships and a bit of a workplace humour and ... I think, again, it's because of the shared experience, it's quite easy to build.
>
> Interview with Galen, Higher Trainee in Emergency Medicine, The Royal

---

Galen mentioned "shared experience" twice in the short excerpt above as something that is at once caused by and causative of humour in the workplace. He made this observation in the context of talk about retention and sustainable careers. This echoes Fine's (1983) argument about the inherently social nature of humour but extends the argument to encompass the inherently social nature of work in the emergency department. Vosk and Milofsky (2002b, p. 5), in their three-part article on the sociology of emergency medicine which utilised participant-observation, noted that:

> The practice of emergency medicine is fundamentally social, due to the nature of its tasks and the organisation of the emergency department. The ED [emergency department] team is composed of doctors, nurses, and … clerical and administrative workers. The social interactions among the people rendering care are a part of the mechanism by which that care is delivered. By viewing emergency practice as based fundamentally upon cooperative relationships among a large number of people, social interactions may be considered a component of the patient care system, rather than merely a distraction from clinical medicine.
> (Vosk and Milofsky, 2002b, p. 5)

Galen's use of the term shared experience differed from the more interactional description from Vosk and Milofsky. Galen evokes how the interaction of workers and work not only produced output—the delivery of care in the emergency department—it also created narrative. I take Galen's description to be about *literal* shared experience in that he was talking about occurrences when two or more colleagues were involved with the same work at the same time in the same space. I return to Galen's use of the term being literal and will draw on two field note excerpts to show how humour and shared experience can exist in the day-to-day work of the emergency physician.

Example 1: slapstick

Transferring a patient from an ambulance stretcher to an emergency department trolley was routine work. Between 57% and 69% of patients arrive to the emergency department via ambulance (Anselmi *et al.*, 2017). There is increasing pressure on hospitals to release ambulances quickly so that they can be available for their next job (White *et al.*, 2017). Transferring was work that involved almost all team members; it was routine to observe a senior clinician assist with this task. For someone whose reason for attending the emergency department via ambulance had not significantly impacted their mobility, transferring was as simple as aligning the ambulance trolley and emergency department trolley and asking the patient to shuffle across. For many patients, this was not possible.

One morning, while observing in the rapid assessment and treatment (RAT)[29] area I noted work-related humour that occurred during the process of transfer that can only be described as slapstick—it was still self-deprecating, and the context could lead it to be perceived as dark, but it had a physical nature which makes me describe it as thus. I did not record any details about the patient other than they arrived by ambulance and were, as is usual, brought by a two-person ambulance crew. To transfer them across to the trolley required two further people. In this instance, this was done by one of the nurses and the consultant working in RAT. This, again, was fairly usual as transfer of the patient and release of the crew can be combined with a single handover of information from pre-hospital to emergency department staff. For whatever reason, this was not a straightforward task. Staff members bumped into each other in the space, which with five people and two trollies, became rapidly cramped. Nobody could find a piece of equipment to help slide the patient across, and then two were brought to the bedside simultaneously. Some documentation was rested on the bed and promptly fell to the floor. The patient was not in pain or distress. This was not a time-critical transfer, it was routine. The repeated instances of slapstick led to progressive levels of laughter involving all parties. This example was a shared experience between an emergency department nurse and consultant, who would be working together for the morning, if not the whole day, and the ambulance crew, who would likely return to the department many times. In this example, the shared experience is built with humour, and routine emergency department work.

Example 2: anecdote

The second example came from the resus room. At The Royal, the resus room was large, newly developed, and refurbished. The staff station had desk space for writing, computers for accessing clinical systems, and was where forms and notes were stored. It was approximately a five-by-five metre square with patient cubicles on either side and four more along the wall opposite. Several of the patients in the area were being reviewed by different inpatient specialties, one of the emergency department clinicians

[29] Rapid assessment and treatment is commonly known by its acronym RAT. Typically "the patient is seen on arrival by a senior clinician who can make a rapid, detailed, clinical assessment and commence appropriate investigations and treatment" (Smith *et al.*, 2017a).

was reviewing blood tests on the computer and writing in one of the patient's notes, but they were quickly distracted by a conversation with one of the sisters about some of their shared interests.

Another nurse shared his story about having a mattress delivered. He had organised the delivery for the next day but had just received a message from the delivery company saying they were an hour away from his home. The anecdote was clearly humour, and the delivery (of the anecdote, not the mattress) made it clear that it was intended as such. While it may have been delivered to preclude any criticism about making a personal phone call while on shift, I think it reflects more the shared experience of this type of challenge associated with shift work. He could not just go home for half an hour to accept the delivery. This is something that all involved in the conversation had experienced, be it this exact scenario or for other routine aspects of day-to-day life like trying to organise routine dental appointments. These conversations lasted at most two minutes before everyone returned to their individual, though linked, tasks and a second discussion about a specific clinical conundrum in managing one of the patients. In this example, the shared experience of working in the emergency department extended beyond the confines of the department to impact the rest of the individual's life in a mundane way. This was made visible through the humorous use of anecdote.

Personal illness narratives

Much of the writing about shared experience came from the perspective of shared personal illness narratives, whereby the individual and collective experience are merged into whatever therapeutic process is being described. Steffen's (1997) research with Alcoholics Anonymous groups is an example of this. In particular that "personal stories are told as a way of sharing experience in order to solve common problems" (Steffen, 1997, p. 99). Bjerregaard et al. (2017) identified the shared experience of role and work as an overarching theme. In their study of community care workers, shared experience underpinned their motivation, the quality of care they delivered and, perhaps most relevant to this study, their ability to do this type of work long term.

However, none of the aspects of shared experience that Bjerregaard et al. (2017) identified explicitly involved humour. This may be a result of the researchers employing

semi-structured interview methods and that they sought to answer questions about "what features of their work motivate" and "why does care work matter for care workers?" (Bjerregaard *et al.*, 2017, p. 117). It certainly is not the case that community care workers go about their work without humour as numerous studies have demonstrated (Åstedt-Kurki and Liukkonen, 1994; Twigg, 2000; Emmerson, 2017). Humour, then, is part of the shared experience of work and role and a cohesive device (Fine, 1983). Through these means, it functions as a form of retention work. I return to cohesion between colleagues in the subsequent chapter on the retention work of community (Chapter 7 below).

Coping mechanism

In their review of humour in the context of paramedic practice, Christopher (2015, p. 612) discussed how humour has a "cohesive function" and:

> That it can be used as a valuable coping strategy for those who have to encounter unpleasant or traumatic events in the course of their everyday lives.
> (Christopher, 2015, p. 610)

The two arguments are essentially separate in Christopher's (2015) review. However, the cohesive and coping nature of humour in the emergency department cannot be as easily separated—the idea that an individual uses humour to help them cope in isolation from the group in which the humour was enacted fails to acknowledge humour as a collective experience.

> People tend to have the same type of humour, … whether or not this becomes a coping mechanism for people, so superficially. There's comradeship, or there's jokes within the department, which in a different context people might be ... erm, think that that's not funny, but actually it's a very superficial coping mechanism that I think we portray and to bring forward that light-heartedness to grave situations.
>
> Interview with Miriam, Higher Trainee in Emergency Medicine, The Royal

Miriam's talk around humour as a coping mechanism takes the group as inherent to its existences, using terms such as "coping mechanism for people", "comradeship", and "we portray". There is no suggestion that humour may be an individually focused coping mechanism; the team element is implicit and essential.

Miriam implied that the humour in this setting is dark in that "in a different context people might be … erm, think that that's not funny". But is it essential that the humour be dark to work as a coping mechanism? Does the slap-stick humour of the RAT example work as a coping mechanism? It may be that the conceptualisation of humour as dark or gallows is a failure to appreciate the necessity of context in workplace humour. The humour is dark because of the context in which it is created. Whether that be a team of workers responsible for ending the life of a person condemned to death, clinicians working in an emergency department, or any example of worker and workplace. What allows the humour to develop is the context. The humour of a New York food co-operative is about the experience of working in a food co-operative in New York, for example (Huber and Brown, 2017).

Rather than being gallows humour, the humour in an emergency department was like that of all places of work—contextual. It was about the experience of working in that place. Humour is a way of coping with the aspects of work that are difficult and a way in which groups cohere. It appears dark is not because of something particularly special about the professions that undertake dark humour. It is the individuals in the context making use of the setting to generate humour. Seeing humour in this way, any humour in the workplace can be considered a form of coping and team cohesion. Indeed, much

of what was observed in the emergency department regarding retention can be categorised as coping. Pearlin and Schooler (1978) stated that:

> Coping refers to behaviours that protects people from being psychologically harmed by problematic social experience, a behaviour that importantly mediates the impact that societies have on their members. The protective function of coping behaviour can be exercised in three ways: by eliminating or modifying conditions giving rise to problems; by perceptually controlling the meaning of experience in a manner that neutralises its problematic character; and by keeping the emotional consequences of problems within manageable bounds.
> (Pearlin and Schooler, 1978, p. 2)

Humour cannot convincingly be argued to change the conditions leading to the experience that requires coping, but it can impact on meaning and the emotional consequences of problems. This relates to the broader set of social actions that humour achieves, and which have been studied more widely, such as creating distance from difficult topics (Davis, 1979), as a method of social control or conflict (Fine, 1983) and as a cohesive device (Fine, 1983). In this way, humour is working simultaneously as a retention object and a coping mechanism. They are overlapping constructs that make visible how workers in the emergency department go about their day-to-day tasks in a way that allows them to do so.

So far in this chapter, I have explored how humour is visible in the work of emergency physicians in the emergency department, how this humour is dark and self-deprecating and how it goes beyond the delineation of jokes to encompass the broader concept of non-seriousness. The description of this humour as “dark” or “gallows” may be an artificial construct, with this type of humour being like all workplace humour—contextual. Humour becomes a form of retention work by fostering an atmosphere conducive to work, demonstrating and strengthening the shared experiences of work, and as a coping mechanism for the challenges associated with work. This summary paints a picture of humour as a universally positive tool in the context of work. This is

not a wholly accepted view, as Miriam has inferred, so before leaving humour, I will move on to the problems that it might cause.

Problematic humour

Although the terms dark humour and gallows humour are used interchangeably (and may represent forms of contextual humour), they are etymologically different. The history of these terms is neither clear nor agreed, but that is not particularly important here—the lack of agreement mirrors societal uncertainty about what is and is not funny—what does matter is the direction, the target, of the humour. The term black humour originated in the writings of Breton, a French writer, poet and surrealist theorist, particularly in his work interpreting the writing of Jonathan Swift (Real, 2013). Breton used the term *humour noir* to describe a subset of Swift's writings in which topics such as death were the butt for humour based on scepticism and cynicism. Breton credited Swift as originating both black and gallows humour but does not delineate whether the humour is used to trivialise the target's suffering.

Though equally varied in his use of terminology, Freud—principally in his book *Jokes and their Relation to the Unconscious*—used the term gallows humour to refer to "jokes about the condemned man or hopeless victim" (Christopher, 2015, p. 611) indicating a clear direction from worker to subject. This use of humour may be problematic in the context of emergency medicine where, like the gallows, there is a clear power gradient. As I have discussed above, most instances of humour or non-seriousness in the emergency department were about the self. When they involved a patient, such as the slap-stick moment in RAT, the patient was in on the joke. Despite this observation, the professionalism literature related to humour is dominated by concerns ranging from appropriateness to overtly discriminatory language hidden in plain view with pretences to "banter" (Sokol, 2012).

Healthcare practitioners have disguised such language through obfuscation, often by using acronyms, as exemplified in Shem's (1978) fictionalised account of working as a first-year doctor in a Boston hospital. The book brought to public attention some of the terms used at the time by medical professionals in medical notes to communicate

sometimes derogatory things about patients. Terms like "GOMER" and "LOL in NAD"[30] would historically have been seen in medical notes, not just in fiction. By 2003, the authors of a study looking at the use of slang in British hospitals were able to say "that medical slang has become a predominantly verbal form of communication, seldom seen in medical notes" (Fox *et al.*, 2003, p. 178). Indeed, of the comprehensive glossary in Fox et al. (2003), I have seen precisely zero written in the medical notes and am unfamiliar with the vast majority. Of those I am familiar with, their use is either on its way out—such as "acopia",[31] Or, being inoffensive and serving a purpose, have entered the broader lexicon—such as "champagne tap".[32]

It might initially seem like an oversight that the professionalism guidance from the UK's doctors regulator makes no mention of humour (GMC, 2015). Especially with examples from the literature, such as where medical students were "disappointed by role models displaying derogatory humour and were aware that they should not imitate this behaviour". It may be that humour, like that I observed in the emergency department, is generally "dark" in Swift's terms but not "gallows" in Freud's. Or it may be that the humour deemed problematic in the professionalism literature is not problematic because it is funny. It is problematic because it is used to mask bullying (Atkinson *et al.*, 2018), sexual harassment (White, 2000; Larsson *et al.*, 2003), racism, and homophobia (Beagan, 2001). Examples of discriminatory workplace humour are unprofessional. However, self-deprecating humour is unlikely to fall in this category. But there are grey areas. Theodoli (2018), writing about the psychology of gallows humour in the emergency department suggested that:

[30] GOMER is an acronym for "get out of my emergency room". It refers to a patient who attends the emergency department with a complicated, chronic condition that the physician can do little to help. LOL in NAD is an acronym for "little old lady in no apparent distress". This refers to an elderly patient brought to the emergency department with something that the physician thinks would be better suited to community management.

[31] "Acopia: Inability to cope. Used as a diagnosis, predominantly in the elderly" (Fox *et al.*, 2003, p. 182). Geriatricians and advocates for people of increasing age seem to be winning, albeit slowly, the fight to have this term stripped from the medical lexicon for being ageist and discriminatory (Oliver, 2008; Dyer *et al.*, 2018).

[32] "Champagne tap: A bloodless sample from a lumbar puncture. Traditionally rewarded by a bottle of champagne from the supervising consultant" (Fox *et al.*, 2003, p. 183). This slang term helpfully summarises the completion of a procedure in a technically perfect way. It shows no sign of disappearing (Green *et al.*, 2020), with the only change being that I never received any rewards when I managed this.

> Often the line between laughing at the expenses of a patient and laughing at a surreal or strange situation is very thin. When a homeless man comes in with his leaking leg ulcer dressed in extra-heavy flow sanitary pads, jokes about the "fanny pad dressing" and how it would go down with infection control are not at the expense of the patient. He did his best and found an ingenious solution in a very challenging situation. When a volatile, violent patient thrashes one of the side rooms, covering every surface in blood until he is restrained by police officers, joking about how the room is now straight out of a scene from films *Carrie* or *The Shining* is not at the expense of the patient. It is rather both a way to make light of an intense situation and a way to try and warn colleagues as to just how much of a mess the room is.
>
> (Theodoli, 2018, paras 10–11)

Theodoli pointed out that when humour crosses the line to being at the expense of a patient, it ceases to be an effective coping strategy. It then resembles demonstrably ineffective strategies such as outright denial and increased alcohol intake (Craun and Bourke, 2014). A review of the use of cynical humour by emergency service professionals concluded that it should "be a sign that individuals no longer have the capacity to provide high-quality, compassionate service" (Rowe and Regehr, 2010, p. 459). This may be what Miriam means by humour being a "very superficial coping mechanism". There is a thin line between it being helpful to the individual and the team or being a risk to professionalism and a sign that the team is no longer coping.

Chapter summary

This chapter introduced the first of three forms of retention work employed by emergency physicians: humour. The humour that I observed was not all jokes—conceptualising it as non-seriousness helped me show the day-to-day nature of humour in the emergency department. The example I used to discuss non-seriousness was also very brief and interweaved with other tasks. Alongside non-seriousness, I delineated two other characteristics of the humour I observed.

The second characteristic was that the humour was often dark. Dark humour allowed me to argue for the importance of context when it was used as retention work, which I built on through the chapter. The third characteristic was that the humour tended towards self-deprecation. This inward direction differed from much of the literature where other groups were the butt of the joke. There are several possible explanations for this. One was that because of the broad nature of the team and the multiple interactions with other groups, those in the emergency department developed affiliation by similarity.

These three characteristics of humour in the emergency department allowed it to function as retention work by three means. Humour created an atmosphere, acted as a cohesive device, and was a coping mechanism.

Atmosphere can be conceptualised as a showing concept to allow for communication about the intangible elements of a place. Emergency physicians used humour to influence the atmosphere to be conducive to work.

Humour worked as a cohesive device by demonstrating the affiliation of individuals to each other and the group. It can demonstrate and build shared experience. I provided two examples of shared experiences. The first involved slapstick humour and showed how shared experience was built with humour and routine emergency department work. The second involved anecdote and demonstrated the shared experience of work impacting life beyond the walls of the emergency department. I then drew on research around personal illness narratives to show how shared experience is linked with motivation and long-term ability to do work.

Finally, I explored the role of humour as a coping mechanism. This reiterated the social and contextual nature of the humour that I observed. It also highlighted that humour is not always positive. It can sometimes be problematic, and navigating this grey area is a challenge for those employing humour as retention work.

Humour, therefore, is a useful part of work in any context. It reflects the context in which it is generated but is insufficient on its own. It must function as retention work *as part of* the other elements that also function in this way. Education and community

were the most readily observable in the emergency department and will be the focus of the following two chapters.

Chapter 6: The retention work of education

This chapter explores how education functions as a form of retention work. Education influences retention through valuing, fostering competence and entrustment, and supporting interdependence. These forms of retention work are primarily observable in the workplace through staff who prioritise education and facilitate narrative between workers. In the preceding chapters, I was able to communicate a relatively simple structure when outlining the characteristics of humour in the emergency department (as non-seriousness, dark and self-deprecating) and how it functions as retention work (helping to create an atmosphere, as a cohesive device, and as a coping mechanism). The results and analysis on which this chapter is built have been more resistant to such organisation. This is partly due to the essential nature of education to the practice of emergency medicine, which makes it a common thing to observe. As such, there is much overlap, and the examples I draw on can be linked to several of the facets of retention discussed in the chapter.

Prioritising education

Example 1: getting involved

One observed example came in the context of a trauma call. The nurse in charge answered the red telephone (a dedicated line for the ambulance service to pre-alert the emergency department of the arrival of a critically ill or injured person). The nurse announced on the public address system "trauma call, 33 minutes" in the standard way for such pre-alerts. The consultant coordinator then took the sheet on which limited clinical details about the case were recorded and read them while the nurse went off, presumably to tell the team in resus what to expect. The consultant handed the sheet, accompanied by a brief verbal report, to the second emergency department consultant on shift at the time, who would act as trauma team leader for the incoming patient.

The trauma team leader then went off to find Leigh, one of the emergency medicine ST3 trainees. Assuming she was aware of the trauma from the department-wide announcement, she said that: "the trauma is 33 minutes out. Do you want to finish with your patient and join me in resus?" Phrased as a question, this is not the type of learning opportunity that a junior emergency medicine trainee would be expected to

pass on. The amount of time between the conversation and the expected arrival was presumed to be sufficient for Leigh to finish her current task and be available to assist with the trauma. This was not a request, or a demand, for help with the incoming clinical case. The trauma team leader and the soon to amass multi-specialty trauma team had more than enough resources to deliver the requisite care. That is not to say that Leigh would not positively contribute to the case. She certainly would. In seeking her out and asking her to be present, the trauma team leader had given her permission to participate in the trauma management rather than seeing the next patient in the queue. That is permission to prioritise work that is an educational opportunity over work that might be less clearly so. This acknowledged the value of such experience for the trainee and demonstrated that the consultant working in the trauma team leader role prioritised Leigh's education.

In a brief conversation later in the day, Leigh expressed appreciation that her education had been prioritised. Something that she reiterated and expanded upon in a later interview when I asked her what she thought contributed to retention in emergency medicine:

> I think training is a big thing. One of the things that I really enjoy about the department where I was working in when I decided to do A&E [accident and emergency] was that they were really good at getting junior staff involved in all kinds of cases from minors, majors, resus. And also, they did a lot of dedicated training as well. I think we had training for half an hour off the shop floor every day as a junior. And that was really good. And you felt really supported and really valued because they did that.
>
> Interview with Leigh, ST3 Trainee in Emergency Medicine, The Royal

---

Education aims to contribute to competence, which is an important component of fulfilment in work (Sandberg, 2000). Developing competence was not directly observable, at least not in the context of this ethnography. However, the ways that competence develops—discussing cases, directly supervising practical procedures, simulation—were. Indeed, in the example above, it was not education that was observed. It was valuing work (which I return to after these three examples) that

provided the opportunity for Leigh to participate in an education-focused clinical encounter.

Another way space was made for education in clinical areas is routine case discussion. These occupied much of the time of the consultant in charge during the day and the senior clinician at night. These conversations typically involved one clinician presenting the case of the patient they have seen to the more senior member of staff to get help or advice about a particular element of that case. For some cases, this occurred when a clinician recognised a gap in their knowledge. Or the case involved a degree of uncertainty with which they were uncomfortable. At other times, the case was inherently high risk, and the department, following advice from RCEM, mandated that the case be discussed with a senior doctor (Boyle, 2016). Sometimes any associated learning that occurred with these discussions was secondary. The focus was on providing safe and concise advice. However, given the perception of the busyness of the emergency department, which was observable most of the time, these more transactional interactions were not the norm. That is not to say that each interaction evolved into a twenty-minute shop-floor teaching session, some did, but most did not. It was more that the parties expanded on the interaction to some degree to add an element of education to emergency care work. This manifested in many ways, and the following example demonstrates several ways it was seen.

Example 2: discussing a case

I was observing in the main part of the department. Zoe was the consultant coordinator, and it was early evening on a weekday. The department was very busy, but not especially so. The number of patients coming through the door was slightly higher than average, but the hours beforehand provided patient flow. Therefore, fewer people were waiting for beds than usual. As such, there was space for the surge of newly arrived patients to be accommodated. Zoe had just finished running through the status of the department with the nurse in charge in preparation for the changeover of the nursing shift. She moved her attention towards Zainab, one of the junior doctors, who had *clearly* been waiting for Zoe to become free. She achieved this through proximity, standing in the area of the coordinator's desk to signal that she required the input of

the consultant-in-charge. It was clear that Zoe was involved in another task, and Zainab did not attempt to interrupt.

It was not uncommon for a queue to form of juniors requiring the support of the consultant, but this was not evident at this time. When there was a queue, those in it often spent the time chatting, sometimes about the case they were about to discuss, sometimes about things unrelated to work. This had the effect of highlighting their presence. However, the idle chatter also signalled the lack of urgency, freeing the consultant to finish their current task, knowing that urgency would lead to an action other than idle chatter. Without the queue to occupy her, Zainab idly flicked through the documentation for the patient she had just seen. When Zoe was done, she greeted Zainab by name and asked how she could help. Zainab had been in the department for a couple of months and communicated the exact requirement very succinctly: "I have a patient with chest pain that I need to discuss."

As I mentioned above, certain groups of patients require the input of a senior doctor, and patients presenting with chest pain over the age of 30 are one such group. Zainab's choice of the phrase "need to discuss" highlighted that she may not have any specific clinical quandary or that she was in any way stuck in terms of the next steps. Rather that she knew that she was required to discuss this case. Indeed, the case was straightforward, and Zoe made no alterations to Zainab's management plan. Zoe used the normal ECG that Zainab's patient had to draw out some teaching points and generate a few minutes of discussion that identified some of the boundaries of Zainab's knowledge on the broader concept discussed. This allowed Zoe to build upon Zainab's existing knowledge to introduce some emergency department-specific concepts and direct her to self-directed learning resources.

Zainab is a trainee and, as such, must provide evidence of her learning and progression in her electronic portfolio. One type of evidence is the case-based discussion, and even a straightforward case such as this one can be used as evidence. Zoe asked Zainab, "do you want to send me a ticket?" A ticket being jargon for a request to complete the electronic form for Zainab to use this discussion as evidence in her portfolio. Zoe encouraged her to do this straight away, again prioritising this element of education

that is easily neglected when faced with service pressures. Another clinician arrived and, noticing that Zoe and Zainab were at the end of their discussion, asked, “Can I show you an x-ray?” After which followed a similar interaction, by the end of which an email request for Zoe to complete her part of the case-based discussion in Zainab’s electronic portfolio had arrived, which Zoe completed immediately.

Example 3: ring-fencing teaching

The third way that education was prioritised was the ring-fencing of teaching. Be that the weekly emergency department classroom sessions that each grade of clinician attended or the assumption that trainees will be granted study leave to go to regional specialty teaching. It was assumed that teaching would occur no matter how busy the department was. I observed several teaching sessions in the seminar room—the same room where morning handover happened each day—and selected field note excerpts from one particular observation highlight some methods by which education was prioritised and valued.

This particular session was delivered by one of the emergency medicine consultants, Eric, for the more junior tier of trainees. I arrived about ten minutes before it was scheduled to start and was quickly joined by two of the trainees, Fran and David. For Fran, the start of their shift coincided with teaching, so it would be the first bit of work they did that day. David had managed to finish the work needed for the patients they had seen in the hours before teaching with some time to spare—they offered to make Fran and me a drink. We both declined, and on their way to the break room to make themselves a drink, Eric arrived. They asked if Eric would like a drink which he indeed did. Eric sat at the computer to load up some supporting material for the teaching session and asked Fran if they would “round-up” the remaining junior doctors who were due to attend teaching. This was not an unusual request, and the trainee returned a few minutes later and gave a rundown of the “ETA” (estimated time of arrival), of the other two junior doctors. One was on the phone and would be five minutes, the other was writing some notes and would be there soon, indeed they entered before Fran had reached their seat.

This action of "rounding-up" of people for teaching, which was sometimes done by one of the fellow attendees, the facilitator, or the consultant in charge on the shop floor (and on a couple of occasions by me), prioritised education work. By prioritising something that benefited the learner, the receiver of the education work, this form of action demonstrated that the context in which the education occurs valued those involved in it. Translating this into the specific context in question, the emergency department valued clinicians by prioritising and doing education work.

Valuing employees

The idea that valuing employees in the workplace leads to increased retention makes sense but has only tangential support in the literature. Research from military teams in the Netherlands correlated feeling included and valued with a willingness to invest in the team and a positive team identity, which correlated with team functionality (Ellemers *et al.*, 2013). In this paper, Ellemers et al. (2013, p. 23) defined valuing as "the perceived importance of the self for the group", and while this strips away the complexity of valuing in the team context, it serves to highlight that valuing is something that occurs in the context of the group.

The doctors that I observed and interviewed were made to feel that their learning was important to the team by the actions of those leading the team. The doctors valued their education as an intrinsic part of their ability to work and develop in the emergency department, and they felt this fostered sustainability in their careers. In a quantitative questionnaire study of over 500 physicians at a single US hospital, Simpkin et al. (2019, p. 993) found that job satisfaction correlated with feeling valued, "feeling treated with respect", and "working in a social and supportive atmosphere". The links may not be direct, but research linking feeling valued with team functioning (Ellemers *et al.*, 2013) and job satisfaction (Simpkin *et al.*, 2019) move towards that inference that valuing workers, for example, through education, improves retention.

Moseley et al. (2008, p. 50) conducted a literature review of factors impacting turnover of older nurses. They counter the presumption that more senior nurses do not desire continuing education, arguing "that equal access to training and career development activities should be provided to all nurses, regardless of age." They also noted that

offering challenges such as “taking on the role of mentor, preceptor or teacher” or “rostering them with more junior nurses” (Moseley *et al.*, 2008, p. 50) valued expertise which could help with retention in this context. Thus far, I have concentrated on how valuing is important to the receiver of education through prioritisation, as evident in the previous three examples; however, this is only one side of the story. Providing education is also a retention strategy for those undertaking the activity—though the way this occurs is distinct to the valuing work done above.

Variety in work

The above examples in this chapter may give the impression that educators and learners are distinct. While they are undoubtedly helpful categorisations that members use in the emergency department setting, the distinction is not clear cut. By this, I mean the direction of learning is not one way from senior to junior, from more-experienced clinician to less-experienced clinician. The person who would be easily identified as the provider of the educational experience, even in instances such as the brief ad hoc shop floor teaching in the example involving Zoe and Zainab above, provided opportunities for the educator to be challenged and learn something. One of the interview participants highlighted this in terms of the relationship between established consultants and newer consultants:

> It's very easy to become stuck in your ways and do the same thing that you've been doing for years and years on end. It's very easy. … Newer consultants would say, “well, actually, there's a new, there's a probably different way of doing that.” … And so, I think that that has been enormously valuable in terms of just for me reflecting, making sure that what I'm doing is the most up to date, the right thing. Not, not what I've always done or taught. So, I think that's, registrars do that. But newer consultants challenge you even more. And I think that, and you've got to be open to that.
>
> Interview with Neil, Consultant in Emergency Medicine, The Royal

---

Prioritisation of education work goes beyond staying up to date with clinical practice developments that Neil is talking about above. In the clinical space, prioritisation allowed relationships between team members to be more clearly multi-directional and

multi-faceted. Thereby going beyond the superficial transactional nature that could be interpreted from the work of distributing and allocating tasks, providing clinical information and advice, and maintaining oversight of the department. Moving an interaction from purely transactional to incorporating education involved extending the time taken for the interaction—this created space for other conversational elements to encroach around the educational encounter.

> I like squeezing in bits of teaching, maybe the juniors get a bit sick of it … (laughs), but it is important they don't just grind through patient after patient. And it adds some, erm, variety to my shift as well, and I can learn about the trainees as well.
>
> Interview with Abasi, Consultant in Emergency Medicine, The General

---

What Abasi described could be applied to the observed practice of Zoe above, as while Zoe was not visibly rushed and was not overtly "squeezing in bits of teaching", she did have competing priorities—the department was busy and getting busier. Returning to the observed interaction between Zoe and Zainab, but interpreting it in the light of Abasi's comments and more from the perspective of the educator than the learner, we can see how by using several different methods, Zoe was also engaged in retention work for Zoe. Zoe greeted Zainab by name, showing that she knew something of who Zainab is—not something that can be taken for granted in the emergency department—but this was not the only way Zoe greeted Zainab. She turned, removing her gaze from the previous focus of her attention, the computer screen showing an overview of patients in the department, towards Zainab. She looked directly at her when making the initial greeting allowing her to signal and give her attention. She did this not just in the turn of her head but by moving completely on the spot, so her feet were facing Zainab.

Zoe did not assume that Zainab wished to speak to her about a clinical matter. Her questioning was more open, leaving space for other discussions which, during the opening of the conversation, Zainab did not choose to utilise. Zoe had used both verbal utterances and her position in space to move from one task, coordinating the department, to the next task of providing clinical advice to a junior. The transition to the

educator role was further signalled by repositioning of self in space. She turned her back to the desk, shifted sideways so that there was space for both Zoe and Zainab at the desk, and placed the "normal ECG" on the desk. The use of physical positioning in space was one way in which role diversity was embodied and enacted as a form of retention work. Abasi described this as adding "variety to my shift", which is one way to conceptualise education as a form of retention work.

Linking variety in work to retention

The observational data involving Zoe and the interview with Abasi serve as examples of variety doing the retention work of education. The literature supporting this concept is limited in quantity, but the two papers I draw on here offer some support to my argument. Firstly in their study of non-healthcare workers in Italy, Zaniboni et al. (2013) correlated work variety with burnout and turnover intention. Their study primarily aimed to understand how different types of work variety affect burnout and turnover intention. Their choice of burnout and turnover intention as endpoints could be criticised with them being, as the authors highlighted, "different types of outcomes—a well-being measure and a behavioural measure" (Zaniboni *et al.*, 2013, p. 307). However, the paper essentially reported two studies, each addressing the measures separately. Moreover, burnout has been linked with intention to leave in emergency medicine in previous studies (Goldberg *et al.*, 1996; Estryn-Béhar *et al.*, 2011).

Secondly, a highly cited meta-analysis from Humphrey et al. (2007) found that motivational characteristics (autonomy, skill variety, task variety, task identity, task significance, and feedback) were related to organisational commitment but not turnover intention. This finding is difficult to unpick as it is not unreasonable to think that organisational commitment would be inversely related to turnover intention and that the factors influencing one would influence the other. The studies in the meta-analysis did not measure actual turnover or retention but the proxies of turnover intent and organisational commitment. So, it may be that self-reported intention is not predictive of actual behaviour in this context—a possibility that has some empirical support (Cohen *et al.*, 2016). Or, it may be that the work of carving out variety and prioritising teaching is less about the variety, per se, and more about the nature of the work that is prioritised and the impact this has on the wider team. Indeed, for this

thesis, the most useful finding of the meta-analysis was that social characteristics (interdependence, feedback from others, and social support) were related to turnover intentions (Humphrey *et al.*, 2007).

These two papers (Humphrey *et al.*, 2007; Zaniboni *et al.*, 2013) support the argument that work variety is linked to retention. However, this link is limited by the proxy measures of retention used.

Supporting interdependence

The social characteristics highlighted by Humphrey et al. (2007) (interdependence, feedback from others, and social support) were seen in the prioritisation of education work on the shop floor of the emergency department. The interaction between Zoe and Zainab showed how interdependence and feedback percolated through the functioning of the department and the work of the practitioners therein. Interdependence can be defined as "dealing with others" (Hackman and Lawler, 1971, p. 265) or "the extent to which a job is contingent on others' work and other jobs are dependent on the work of the focal job" (Humphrey *et al.*, 2007, p. 1336). This strongly resembles the concept of teamwork as observed in and described by the participants in this study.

The interaction between Zoe and Zainab can also be seen through the lens of teamworking (which I return to in Chapter 7 below). But analysing it as an educational interaction shows how Zoe does not just work within the interdependence—Zoe's work running the department was contingent on Zainab's work of seeing patients. By prioritising the time to do so, they created opportunities to strengthen the interdependence. The benefits for Zainab are easier to articulate. The educational interaction provided the opportunity for her skills, knowledge, and confidence to develop. She completed some educational administration required for her progression, and she received support in managing one of the patients currently under her care. The concept of entrustment can help us see how developing these aspects can be seen as a form of retention work for Zoe and the emergency department as a whole.

Entrustment

As I hope to communicate through this thesis, the emergency department can be an overwhelming place, augmented by the quantifiably large number of decisions that those practising in it must make (Zheng *et al.*, 2020). Emergency physicians use methods to mitigate the context in which they practice. One way this was achieved was through trust. While Zoe was talking with Zainab, there were dozens of patients in the department, four or five en route via the ambulance service, many clinicians—some of whom worked for the emergency department and others from visiting specialities—caring for these patients. Zoe was responsible. She was "in charge" of the department as a whole. But Zoe was not checking on every aspect of each patient's care. She was not aware of every clinical decision made in the department. How did she achieve running the department without knowing the details of everything going on? One method that has gained increasing attention in the health professions education literature, particularly around assessing learners, is trust.

Zoe trusted the professionals, the team she works with, to do the work required, and they trusted Zoe (along with others, such as the nurse in charge and site manager) to consider the department's running as a whole. Trust is an emotive term tied in with notions of morality, and I use it only to introduce the generality of what I mean in this discussion. "Entrustment" is better in this context as it is related to a specific task and not a general judgement of character. A stance in line with ten Cate (2020), who coined the neologism "entrustability" in a paper on competency-based postgraduate training (ten Cate, 2005, p. 1176).

Zoe believed that what Zainab had told her represented what the patient told Zainab and based her agreement with Zainab's plan on this. She did not see the patient herself; she did not ask for corroborating evidence. Indeed, suppose the case discussion was not mandated by the guidance from RCEM that all patients with chest pain be discussed with a consultant (Boyle, 2016), In that case, Zoe may have entrusted the entirety of the patient's medical care in the emergency department to Zainab. This was not blind faith; Zoe has built up a picture of when she can entrust Zainab with specific elements of work over the time they have worked together. Entrustment was further built by the

observed interaction whereby Zainab highlighted that she knew that certain cases must be discussed and still provided a wholly acceptable management plan. Zoe also had a wider team. She entrusted them to highlight problems. This was not just seen with significant issues such as concerns about unsafe care. But also when a clinician should be asking for help sooner or for support from within the emergency department rather than looking outside. This was often very low key, as the following example, when Neil was the consultant in charge on a weekday afternoon, demonstrates.

Neil had just returned from resus, where he had briefly walked to see how John, one of the staff grade doctors, was getting on with managing an unconscious elderly patient. "The scan's not good. John is going to speak to the family". Neil said this to the nurse in charge and me, communicating that the patient would need end of life care. Neil had also clearly entrusted John with this task without direct supervision. Following this, the nurse in charge of a different part of the department asked Neil if one of the foundation doctors had spoken to him about a particular patient. "Not yet", Neil responded. The next time this doctor entered Neil's vicinity, perhaps twenty minutes later, Neil asked them, "how are you getting on?" This invited them to discuss the case. In this way, entrustment, usually conceptualised as belonging to an individual, can be applied to the broader department. Neil entrusted the department's running to those working in the department, a crucial part of which was bringing to his attention things that needed to be brought to his attention, and vice versa, not providing him with details that are not pertinent to his role at that time. Thus, entrustment was essential to working in and running an emergency department. But in what way was developing entrustment retention work.

The education work that Zoe was doing with Zainab in example 2 above was part of a long training journey. If Zainab were to return to The Royal later in this journey, either as a senior trainee or a consultant, she would not be required to discuss all the patients she saw with chest pain. However, I don't think this is the reason for Zoe's observed behaviour. I think it had more to do with what Abasi said when he said that "I can learn about the trainees as well". Zoe was not just helping Zainab develop towards entrustment in a wider variety of circumstances. She was learning about Zainab so that she could make decisions about entrustment more readily. Other interactions may build

trust through familiarity, but education work, in particular, is well-placed to build entrustment for the educator as a means of distributing the workload in the emergency department.

Linking entrustment to retention through autonomy

Retention-related research in this domain has mainly focused on entrustment from the view of the learner, or worker, in the form of autonomy. The term "autonomy" is used in medical practice in various ways. Here, I use autonomy to refer to:

> An interpersonal orientation in which persons in positions of authority (such as educators or clinicians) take the perspectives of others into account, provide relevant information and opportunities for choice, and encourage others to accept more responsibility for their own behaviour.
> (Williams and Deci, 1998, p. 303)

A sociological lens on this definition immediately draws attention to its limitations, particularly around contested and fluid notions such as choice and authority. However, it does resemble the methods used in the emergency department and provides a "good enough" (Gerring, 2011, p. 625) theoretical bridge to the literature linking autonomy in work and retention.

Hayhurst et al. (2005, p. 284) surveyed nurses working in "inpatient bedside nursing from various units" and linked this to hospital human resources department retention data. From this, they extracted who had stayed or changed units and left the hospital at six, 12 and 18 months. They found that nurses who had stayed on their unit, compared with those who had left, had greater levels of perceived peer cohesion, supervisor support, and autonomy. Away from healthcare but linked to education are studies on teacher autonomy and retention. Skaalvik and Skaalvik (2014) found, in their study of teachers in Norway, a correlation between high autonomy and high job satisfaction and between low autonomy and high burnout. A much larger study, with a broader range of different occupations, in a UK population, also found a clear correlation between autonomy and employee wellbeing (Wheatley, 2017). Teachers, like health care professionals, reported significantly lower levels of autonomy than other professionals

(Worth and Van den Brande, 2020), with a recent UK study finding a clear correlation between autonomy and intention to stay with:

> Only around half of those with the lowest autonomy … intending to stay in teaching in the short term, compared to more than 85 per cent of those with the highest autonomy.
> (Worth and Van den Brande, 2020, p. 14)

Several studies have found similar findings. In social workers registered in California, USA, autonomy negatively correlated with turnover intention (Kim and Stoner, 2008). In newly qualified nurses in Quebec, Canada, low autonomy (as related to motivation) predicted intention to quit both the organisation and the profession (Fernet *et al.*, 2017). None of these studies directly link autonomy and retention, but they complement studies that do. Spector's (1986) meta-analysis of studies on autonomy and participation at work found a correlation between autonomy and both turnover and intent to turnover. A finding that was replicated in three studies discussed in the literature review (Chapter 2 above) (Goldberg *et al.*, 1996; Estryn-Béhar *et al.*, 2011; Smith and Dasan, 2018). In lieu of studies directly addressing autonomy or entrustment and retention, the studies above provide a degree of support that autonomy is indeed linked with retention and, therefore, that the observed education work that was developing entrustment is effectual.

Facilitating narrative

The final aspect of education as retention work that I address takes the concept of education to its more informal limits.

> But also, from a learning point of view that you can chat about difficult cases and get someone else's suggestions on it. Different perspectives. And that improves my own management of patients because I hear other people's advice or opinions and also get that I can learn from other people's cases that I haven't seen myself. … you come on and someone tells you about a particularly difficult case that you think, yeah, I wouldn't have known what to do with that one. And then you get so you can learn from other people's experiences and maybe mistakes or maybe challenges indirectly. So, I think that's been an important thing for me.
>
> Interview with Andrew, Higher Trainee in Emergency Medicine, The Royal

This quote from Andrew highlights a common practice in the emergency department that I would not have categorised as education before conducting the ethnography. The conversations were too informal, too relaxed, and would not be recorded in a trainee's e-portfolio as evidence of learning. My positionality here was probably influenced by my previous medical education research. This field has a bias towards cognitive explanations. In the next chapter (Chapter 7 below) I draw on communities of practice literature. This lens provides a social and cultural way of understanding learning and the situated nature of these informal interactions (Lave and Wenger, 1991). The informal conversations between colleagues about cases they have seen served many purposes. Sometimes they reassured a colleague that a missed diagnosis was not a sign that they are a bad doctor. I observed them used to entertain, break the ice, fill what may have otherwise been an awkward silence, and provide someone with the end to a story in which they were personally involved at the beginning.

One example occurred in the staff room. I was sitting, using the space to write up some notes and have a drink when two junior doctors entered and went about making a drink before starting their night shifts. Zainab opened the conversation by asking, "So, what happened to your lady in resus?" John, one of the staff grade doctors we met earlier in the entrustment example, sighed and recounted a concise explanation of the patient's journey through the emergency department. The sigh was not in response to the request but recognition of the inevitable poor patient outcome. Such interactions are so commonplace in the emergency department, and the practice of medicine in general,

as to render them almost invisible, but they are vitally important as Calman (2001) pointed out:

> Narrative is important in all our lives: we live and learn by stories and much of what we do relates to how we listen and understand stories. Doctors are no exception to this: they also need to tell stories and listen and learn from them. Stories, particularly those of patients, are at the heart of clinical practice.
> (Calman, 2001, p. 227)

Atkinson's (1995) ethnographic study of the practice of haematologists took this narrative beyond the confines of the patient-clinician encounter. It revealed how medical objects such as diagnosis and medical knowledge are constructed in various ways. This construction involved increasingly complex interactions between different professionals, technologies, and institutional realities. Atkinson focused more on the delineated elements of medical practice involving interactions between doctors and less on the informal talk between such events. However, his argument that "such talk is not simply about the work of the hospital. It is medical work" (Atkinson, 1995, p. 110 emphasis in original) can be expanded to forms of education observed in the emergency department. Not just for its intent as learning and development but in its conceptualisation as retention work.

The interaction above between John and Zainab involved completing a narrative. John shared the end of the story and provided Zainab with a technical, clinical case to add to the repertoire of cases that, in part, makes up her developing experience. It also added to Zainab's narrative about John and the wider emergency department. By sharing this narrative, John was not only responding to Zainab's request for a resolution to the clinical case. He was sharing something of himself. His tone and use of non-vocabulary utterances—his audible sigh— allowed Zainab to learn about his values and the emotional toll that the case had on him.

My use of narrative as an ethnographer

Indeed, I used such narratives to start conversations during my fieldwork. I would briefly describe related clinical experiences to integrate myself into a conversation or to keep a

conversation going. Such talk can also build trust. I was not dressed as an emergency physician, deliberately so as not to be inadvertently dragged into clinical work. By clarifying my dual role as researcher and emergency physician, I could demonstrate my insider status. Narrative is something that Allen (2004) also used in their ethnographic practice. However, their description neglects the learning that I have identified and is described as more planned and deliberate than my own:

> In developing my relationships with the ward nurses I was able to draw on my own repertoire of occupational narratives. For example, I told self-effacing stories as part of an overall strategy of managed self-disclosure in order to develop trust and as a way of discouraging nurses' careful public accounts of their practice by indicating that I was someone who "knew how things really were".
> (Allen, 2004, p. 21)

When insider status is already demonstrated by uniform, job titles or clinical credibility, this talk is less about strategic integration as Allen (2004) above described. It is more about finding, generating, and highlighting interpersonal connections around the sharing of narrative—which in this instance was presented in the form of clinical cases. The ethnomethodology literature, particularly conversation analysis, often described this as institutional talk. This might be the case for the examples of education as retention work in this chapter, in particular the clinical case discussion example (Mondada, 2012). However, the more informal examples resemble ordinary, day-to-day conversations. Conversations that emergency physicians reported as being important for both their day-to-day and long-term work. The "unique adequacy" (ten Have, 2004, pp. 130–131) of my role as an insider researcher, combined with the insights from interviews, helps make visible the links joining the sharing of narratives between participants, education, and retention work.

Chapter summary

The retention work of education was observed in the practices around prioritising learning opportunities. The three examples of this I gave, involving a trainee in a specific case, discussing a case, and the ring-fencing of training, are day-to-day practices that

encourage retention through various means. Of these means, valuing was seen as important from the learner's perspective and variety for the educator, though there is considerable overlap. Supporting interdependence and entrustment through education are retention work for both parties and the wider emergency department. Emergency physicians engaged in retention work by participating in and facilitating these narrative encounters. The learner, and their education, was prioritised and valued. The educator had the opportunity for their practice to be challenged informally and experienced variety in their working day. They were also provided with opportunities to learn about their colleagues in relation to entrustment. These elements were repeated day in and day out and, in some instances, several times a day. They may therefore have a cumulative effect. Facilitating narrative, and the broader concept of education as retention work, along with the previous chapter on humour, all relied on and developed connections between individuals working in the emergency department. In the following chapter, I develop this further by discussing the idea of the retention work of community.

Chapter 7: The retention work of community

"The practice of emergency medicine is a team sport" (Simons, 2017, p. 1). This is an oft-repeated phrase used to highlight one of the best bits of emergency medicine to potential applicants to specialty training. Trainee emergency physicians are then assessed on their ability to work in a team, lead a team, and develop a team. They must then demonstrate teamworking skills through a myriad of evidence to progress and finish training. Something that I am all too familiar with, as you can see from the screenshot of my e-portfolio showing the first fifteen pieces of evidence mapped to the "core competency" of "teamworking and patient safety" (see Figure 7 below).

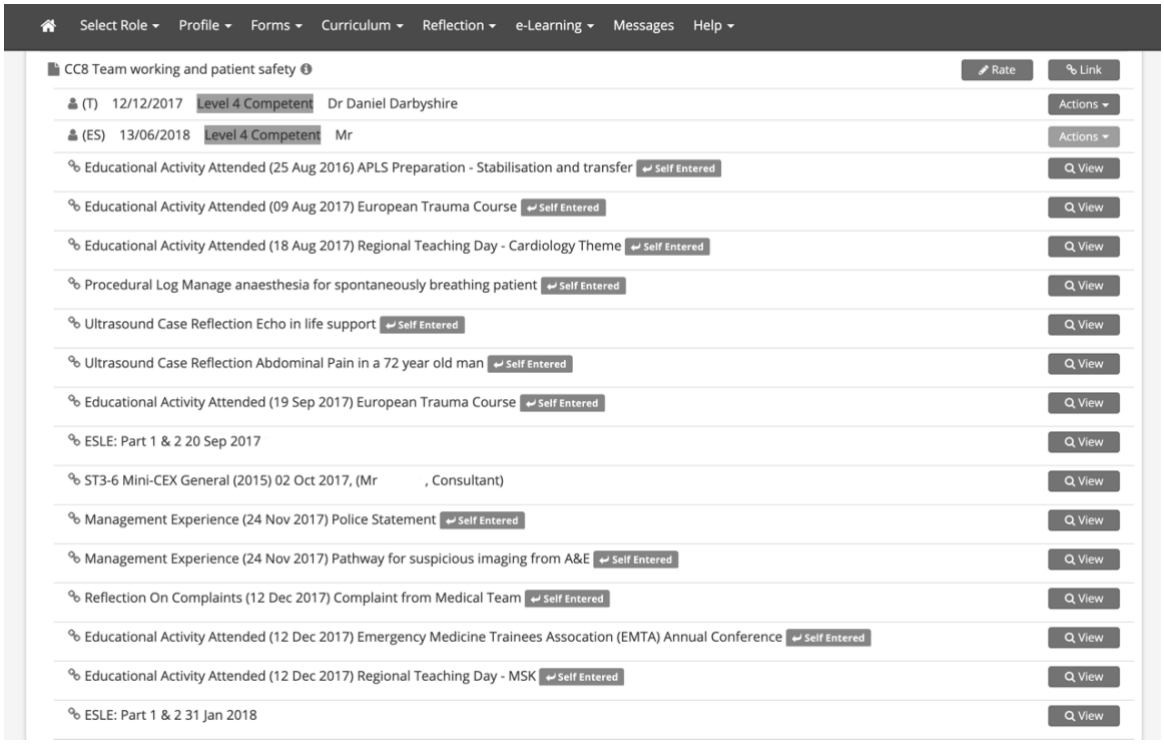


Figure 7. Screenshot of my e-portfolio.
This shows evidence mapped to the teamworking and patient safety domain of the curriculum for training in emergency medicine.

> And so, I think I particularly enjoy working with colleagues and I like that aspect of emergency medicine that … not feeling like you're working in isolation, but you're working with colleagues both from a camaraderie point of view … but also from a learning point of view that you can chat about difficult cases and get someone else's suggestions on it.
>
> Interview with Andrew, Specialty Trainee in Emergency Medicine, The Royal

This quote, which builds on what Andrew was saying in the previous chapter about building narratives, highlights the interplay between the interactions with colleagues at an informal level, learning, and notions of togetherness.

The pairing of teamwork and patient safety in the curriculum is not surprising. An RCEM safety toolkit[33] defined that "a team is a group of individuals linked together by a common purpose" (Feltblower and Hassan, 2013, p. 1). While most conceivable teams fit this definition, so do many other groups which I do not consider to be teams. So, what is a team in healthcare? The conceptualisation of team that comes to mind most readily and is most frequently studied is the resuscitation team or the trauma team. An acutely and severely injured or ill patient arrives in the emergency department. A group of individuals come together to care for them. This group probably has never worked in that exact configuration before, and roles, leadership, and teamworking must be established in a time-critical situation. The situation is, like a sports team playing a match, time-limited. The trauma team might be together for thirty minutes or two hours, but they then disperse. It is easy to see why this version of teamwork is studied in healthcare; it is significant, the time and location limited nature of the team events makes it feasible to study, and it can, to a degree, be replicated in simulation.

I opened this section with a discussion on teamwork because this was the principal reason for remaining in emergency medicine despite the myriad challenges that

[33] RCEM have developed a series of documents, "safety toolkits", "which aims to describe the structures, processes and skills required for a 'safe' department. There are resources identified within each section to stimulate, provoke and challenge, as well as guide personal development. There are overlapping references and differing perspectives, but the vision is of a resource for change and development" (RCEM, 2013).

participants in this study gave. My analysis—particularly integrating the departmental observations—showed that the day-to-day practice of teamwork was more dispersed than the resuscitation team example or a sports team analogy. Despite this distinction, my participants referred to the everyday practice of working with their colleagues and the distinct episodes of group practice focused on a single patient requiring care simultaneously from several practitioners as teamwork. In this chapter, I focus on the former, what Andrew above described as "working with colleagues" and utilise the term "community" to describe this. I do this to make the distinction described above and integrate the language and theory of communities of practice. Before moving onto an account of the observable aspects of community as retention work developed through my fieldwork and analysis, I will show, using my data and selected literature, how the practice of emergency medicine is conducted through a community of practice.

Community of practice

The term "community of practice" originated from the work of Lave, an anthropologist, and Wenger, an educational theorist, on situated learning and legitimate peripheral participation (Lave and Wenger, 1991) and while it "is of relatively recent coinage … the phenomenon it refers to is age-old" (Wenger, 2011, p. 1):

> Communities of practice are formed by people who engage in a process of collective learning in a shared domain of human endeavour. … In a nutshell: Communities of practice are groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly.
> (Wenger, 2011, p. 1)

The centrality of education to work in emergency medicine, as explored in the previous chapter, means that the practice of emergency medicine is always, to some extent, work within a community (or communities) of practice. Wenger (2011, p. 2) outlined three characteristics, the combination of which "constitutes a community of practice". I describe each characteristic and its relationship with the emergency department before making an empirical and theoretical connection with retention. The three characteristics are: the domain, the community, and the practice. A community of

practice is not merely a group or a "network of connections between people" (Wenger, 2011, p. 1). It has "an identity defined by a shared domain of interest".

The emergency department as a community of practice

In the context of a study investigating retention, the domain of emergency physicians is working in the physical space of the emergency department. Wenger (2011, pp. 1–2) used the example of a youth gang to describe what they mean by a domain:

> A youth gang may have developed all sorts of ways of dealing with their domain: surviving on the street and maintaining some kind of identity they can live with. They value their collective competence and learn from each other, even though few people outside the group may value or even recognise their expertise.
> (Wenger, 2011, pp. 1–2)

Wenger's (2011) example makes the domain for emergency physicians more evident. I demonstrated how emergency physicians work with space and objects (chapter 4) and each other (chapter 5 and 6) to make work sustainable. In other words how they have "developed all sorts of ways of dealing with their domain". Emergency physicians are valued for many things, but their ability to work in the emergency department, which is demonstrably challenging, is not one.

The second characteristic of a community of practice is, perhaps self-evidently, "the community". The people participating in the community of practice engage in certain observable behaviours related to their commitment to the domain. This commitment is demonstrated when "members engage in joint activities and discussions, help each other, and share information." (Wenger, 2011, p. 2). Therefore, the group members construct connections that allow them to learn from each other. A group that does not demonstrate these community-building practices is not a community of practice.

The third and final characteristic of a community of practice is "the practice". "Members of a community of practice are practitioners" (Wenger, 2011, p. 2). This is obvious in the context of emergency physicians, for whom the term practitioner is often used synonymously. The practise of emergency medicine is the specific focus around

which the community develops, emergency physicians "develop a shared repertoire of resources: experiences, stories, tools, ways of addressing recurring problems—in short a shared practice" (Wenger, 2011, p. 2).

Community of practice and retention

The early publications on communities of practice related to how novices and experts interact and how said novices created their professional identity (Lave and Wenger, 1991). Later work changed the focus to the journey learners take within a community of practice, moving from peripheral to core participation (Wenger, 1998). The focus of the work from the founders of the communities of practice changed once again when it developed into a managerial tool designed to facilitate improvements in organisational effectiveness (Wenger and Snyder, 2000; Wenger *et al.*, 2002). In healthcare, a similar transition in communities of practice research occurred:

> The focus of CoPs [communities of practice] in earlier publications was on learning and exchanging information and knowledge, whereas in more recently published research, CoPs were used more as a tool to improve clinical practice and to facilitate the implementation of evidence-based practice.
> (Ranmuthugala *et al.*, 2011, p. 1)

With these changes came a shift in the nature of the evidence that can be drawn from the literature. Earlier work focused on how information and knowledge are shared within communities of practice, whereas more recent research has concentrated on the organisational implications of developing communities of practice. In healthcare, this has seen a change in predominance from studies that looked at, for example, how novice professionals gained competencies in the emergency department (Wilson and Pirrie, 1999) to the impact that supporting communities of practice can have on sustainable service improvement (Chandler and Fry, 2009). A trend mirrored in the more managerial-focused literature (Li *et al.*, 2009). With this in mind, combined with the clear link between organisational performance and staff retention (Phillips and Connell, 2004), the lack of research exploring the relationship between staff retention and community of practice warrants exploration. Ranmuthugala et al. (2011, p. 1)

review of the literature about communities of practice in healthcare noted that the "effectiveness" of communities of practice was a concern for researchers. However, attribution of effectiveness was complicated by the "complex and multifaceted" nature of interventions.

Communities of practice are "complex and multifaceted". Staff turnover and retention are variably defined and challenging to measure. Literature has predominantly utilised statistical modelling (Gillet *et al.*, 2013; Perreira *et al.*, 2018) and has been criticised for failing to develop a diverse range of theoretical and methodological approaches to understanding the problem at hand or generating evidence of change (Allen *et al.*, 2014). Accepting this, I will demonstrate, using my empirical data, ways in which communities of practice are important for retention and efforts to develop and maintain communities of practice can be conceptualised as retention work.

> [What] I also really enjoy is the is the sort of close, um, teamwork. So, I think in terms of the department we are quite a tight knit group, there is a lot of human interaction with the team as well, which I quite enjoy, and I'd say so yeah, that's kept me going. And that's why I'm pursuing a definitive career in emergency medicine.
>
> Interview with Aabbaz, Core Trainee in Emergency Medicine, The General

---

Aabbaz described the community of workers in the emergency department as "the team", but his talk was, I would argue, more indicative of a community than one of the more clearly defined teams that form in the emergency department for a specific purpose. The community is "tight-knit" and built on "a lot of human interaction". Aabbaz described these interactions as his raison d'être in choosing emergency medicine as a career. They were also what "keeps me going", what gets him through the working day or working week. Zoe reiterated this point about the interactions between emergency department workers:

> So, everything that you do requires interaction with somebody else within that cohort. Even things like if you go see a patient and nothing needs actually doing to them, you still gonna go and tell somebody, even if it's one of the coordinators or the nurse for that area, what your plan is with that. So, there is, there is always interaction there. So, I think the number of interactions that we have in the emergency departments on a whole is probably much higher than in other areas.
>
> Interview with Zoe, Consultant in Emergency Medicine, The Royal

The sheer number of interactions means that good working relationships are both necessary for the performance of the work-in-question and that these repeated interactions help form the bonds that make up the community. They are essential for, and constituent on, the ability to perform the work. Importantly, in terms of retention, these bonds and interactions are needed to do the job well, as Carol pointed out:

> I think we work as a team and ED [emergency department] is about a team wherever you are. You never get anywhere as an individual here, you work together with people to achieve good outcomes.
>
> Interview with Carol, Consultant in Emergency Medicine, The Royal

Communities of practice, as visible in the emergency department, are vital for the performance of high-quality emergency medicine. This connection, combined with the interview evidence that emergency physicians see the "team"—which I take to mean the community—as important for sustainable working, provides an argument for the link between communities of practice and retention in emergency medicine. Much of the literature used the term "competence" to describe what Carol called the process whereby "you work together with people to achieve a good outcome." The West and Coia (2019, p. 15) report for the GMC, which defined competence as "the need to experience effectiveness and deliver valued outcomes, such as high-quality care" mirrored this link between quality and competence.

The link between competence and retention in healthcare has been most strongly demonstrated in nursing. Like the literature related to organisational performances and

retention, this literature has several weaknesses; once again, it is overly reliant on statistical modelling and predominantly uses proxies for retention such as intention to leave. Despite these weaknesses, the relationship was repeatedly demonstrated across geographical and healthcare settings. Takase et al. (2015) conducted a questionnaire survey and showed this link between competence and retention in a wide range of nurses and midwives practising in Japan. Castle and Engberg (2005) correlated actual turnover with proxy measurement for the quality of care in nurses and care staff working in nursing homes in the United States. A recent systematic review focusing on early career nurses (Brook *et al.*, 2019) reiterated the problems with the literature base discussed above but concluded that:

> Although there is no consensus in the literature … it would seem that … multi-faceted interventions that combine elements that focus on building competence and confidence, such as teaching, with those that focus on socialisation and embedding the new nurse into the work environment, such as mentoring or preceptorship, may be effective at retaining nurses. (Brook *et al.*, 2019, p. 56)

The authors, reflecting the literature on which the review was built, did not mention communities of practice. However, their conclusion highlighted key elements, particularly the importance of learning and other community members, that suggested that community of practice were important for nursing retention. Communities of practice were present in other areas of the nursing literature. The focus was twofold, with earlier work exploring specific elements of professional life that could be facilitated by communities of practice such as professional identity (Andrew *et al.*, 2009). More recent work focused on the online environment (Struminger *et al.*, 2017).

Belonging was linked to notions of competence in that both formed part of the ABC of doctors' core needs developed by West and Coia (2019). In their paper, they defined belonging as "the need to be connected to, cared for, and caring of others around us in the workplace and to feel valued, respected and supported" (West and Coia, 2019, p. 15). Elements from earlier in the thesis, particularly the chapter on education (Chapter 6 above), were linked to communities of practice through learning. Other elements,

such as humour, shared a less direct link but can be reconsidered in terms of how they engender belonging. The next section of this chapter will explore how belonging to the community is linked to retention.

Belonging

Learning is an integral part of communities of practice, either as the reason for the community to exist or as an unintentional element of the group. However, some of the interactions that build or strengthen the community are not obviously related to learning. Talk and interactions that build belonging strengthen the community and were readily visible in the emergency department. The following example is located around an education setting, but the focus is on the spaces between the learning, where belonging can be seen to develop. I will support this by returning to the trauma scenario involving Leigh, explored in the education chapter (Chapter 6 above), but from a different perspective. Having clarified what I mean by belonging in the emergency department, I will link with retention through my empirical data and selected literature. The following example also gives me the opportunity to present the reader with the first day of my fieldwork (I mentioned it very briefly towards the start of Chapter 4 above); I think there is value for the reader in seeing where I started, in knowing what I noticed first and how this has entered my analysis.

Noticing something missing

There was a degree of happenstance in starting my fieldwork in the simulation centre at The Royal, with a morning training session in the simulation suite facilitated by a senior emergency physician who had supported the development of the study, coinciding with the date I started fieldwork. I had not chosen to start in this location to look at teamwork. I had selected it as a gentle introduction for me to the practice of fieldwork and for the department to having an ethnographer observing in their space. I am accustomed to simulation training. It is firmly established as part of emergency medicine training. As such, the presence of cameras, one-way mirrors, and high-fidelity mannequins were not remarkable. During the training, I was mainly thinking about what the allocation of resources to such team-based training said about the organisation. However, when I reviewed the field notes, having completed my fieldwork, I was struck

by the relevance to a developing theme around team formation. The session was organised by one of the consultants, and familiarity of the emergency medicine trainees with both the simulation environment and those leading the session was evident. Participants from several other specialities also participated in the simulation. They were less familiar with the simulation environment and each other. All the simulation participants could be called to a clinical major trauma—the focus of this session. Before the scenario was run, the attendees were assigned roles to play. These aligned to their actual clinical roles where possible. One of the senior emergency medicine trainees, Galen, took the role of trauma team leader and others were assigned roles in the trauma team. I observed the simulation via video link with the participants who were not assigned roles and made notes for feedback alongside my field notes.

In a real trauma scenario, an alert comes through to a dedicated telephone giving limited details and an estimated arrival time. This alert provides the emergency department with the chance to create space for the incoming patient, assemble the trauma team, and prepare as best they can. The alert was simulated by providing Galen with the telephone message and having the rest of the team arrive one at a time. Galen greeted each team member as they arrived while preparing the trauma bay with the emergency department nurse. Once everyone had arrived, Galen led a round of introductions with everyone saying their name and professional role, for example, “Hi, I’m Helen, and I’m the FY2 in orthopaedics”. Galen then used this information to assign roles to best fit the assembled team to the expected needs of the patient. The team had a clear purpose, clear leadership, and clear roles. This allowed it to provide care to a severely injured—simulated or real— patient. This group of people was evidently a team. My observation highlighted something that was missing in the simulation setting—something mundane, obvious, and therefore easily overlooked in the clinical setting.

From simulated to real major trauma

Between the team formation and the patient's arrival, there was space. The estimated time of arrival was just that, an estimate, and the team could often be waiting for several minutes extra. The simulation replicated this waiting. I did not record exactly how long, but a very long five minutes is a reasonable estimate. This was filled with

awkward silence in the simulation lab, perhaps reflecting the nervousness that comes with being observed, recorded, and scrutinised. This absence of chatter in the simulation suite is what made its presence in the resuscitation room visible to me. In the department, this space was filled with informal chatter between colleagues who may have worked together for decades or who may never have met and everything in-between. I hasten to add that it was not that work was not done, quite the opposite, equipment was prepared, roles assigned, information communicated. However, this was completed quickly and efficiently. Returning to the trauma scenario involving Leigh explored in the education chapter (see Chapter 6 above), I will emphasise how the space between the trauma team assembling and the patient arriving was filled in the clinical, as opposed to the simulation, environment. Like the simulation, roles, leadership, and tasks were assigned. This was supported by the physical act of signing in—writing your name, grade, and specialty on the trauma documentation—and wearing an approximately 10cm square, colour coded sticker that designated your role in the team, see Figure 8.

Figure 8. Photograph of similar trauma team role stickers used at The Royal.
Taken from Twitter https://twitter.com/MajorTraumaRPH/status/1015218886965329921?s=20

These acts and objects symbolise the team's formation, binding the individuals temporarily to the trauma team. The sticker may state their usual role, but they became the trauma team by wearing it, signing in, and being present in the resuscitation room. Once this process was completed, there was space between the team formation and the patient's arrival. By space, I mean two things. First, the time between the task being identified and it being possible to enact a role to fulfil that task. Second, the physical space created by the lack of an object, be that patient or simulation mannequin, onto which work was done. In this instance, the time was significantly more than the five minutes seen in the simulation. Due to the anticipated severity of the injuries, the trauma team leader made it clear that the team should remain. No one dissented. I was observing from a distance, aware that I did not want to get in the way and that the clinical aspects of the trauma were not the focus of my research. The informal chat was easy to observe, even if its content was not.

Team members stood in small groups, not bound by professional silos. They exhibited relatively informal posture. The trauma team leader chatted with a senior clinician from another specialty about a clinical development within the hospital that both were involved with. It was clear, from the fragments of conversation I overheard, that despite both being established in the organisation neither knew each other well. The space provided the opportunity for an informal conversation between the emails and formal meetings. The other staff chatted about things inside and outside of work, shared cases, family, car parking. These conversations linked the team members as people, loose and ill-defined links compared to the badging that the stickers imposed. These multiple, ill-defined, loose connections between colleagues was vital to retain people in emergency medicine: they make them feel as though they belong to the community.

The community and belonging

As shown in the preceding section, members of the emergency department sometimes came together to function as a resuscitation team or a trauma team. However, more often, the community was much more informal and intangible. The community was made up of lots of linkages built by brief interactions, which, taken out of context, may be interpreted as unimportant. Individually these linkages would not build a community, but when taken together, they offer a multitude of connections to complement the discrete episode of teamwork. The strength of an individual's bond to the community can be thought of in terms of belonging. To explore this, I draw on interview data to describe how belonging developed for doctors working in the emergency department. I will then describe and analyse how brief interactions observed in the department lead to cohesion in the community.

> But, you know, I think team and being part of a team for me is just phenomenally important. And I think I've had the privilege of working in some amazing teams with some amazing people that help you realise on a daily basis that you're, that you belong, that you've got people that have got your back, that are looking after you, that you can look after them and look after their backs. And together you can achieve more than you could ever achieve on your own. And I don't know of any other specialty that does the same thing on a daily basis than emergency medicine. Which is phenomenal.
>
> Interview with Galen, Higher Trainee in Emergency Medicine, The Royal

In the excerpt above, Galen talked about how important the team is for his work as an emergency physician. Earlier in the interview, he spoke about the more discrete team, specifically the trauma team. Above he is talking more generally, using the pleural "teams" and talking about work outside the remit of the trauma team, but part of the web linking the community together. The interview data also highlights belonging and looking after one another. May (2011, p. 368) highlighted how:

> Belonging allows us to study the links between "the self" and "society" from the point of view of the person … [and] to examine how people engage with social structures in their everyday lives.
> (May, 2011, p. 368)

This is what I interpret Galen to be saying. That the people who made up the community, in their protective and supportive actions, made him feel he belonged. Belonging, in turn, made him feel as though both he and the community were able to achieve more. My analysis repeatedly highlighted the interpersonal links that could, as May (2011, p. 363) pointed out, risk "reifying social structures". I did not think this would prove helpful as it might imply that retention could also be improved by imposing these structures.

The link between belonging, community, and achievement links back to Vosk and Milofsky's (2002a, p. 93) description of the emergency department as a verb—"the department's task"—and to the materialities of retention, both of which are linked to belonging. Therefore, belonging is not merely a feeling described by people I

interviewed; it is a concept that connects emergency physicians to the emergency department. Galen also talked about the importance of being able to do the job well, something that is important to communities of practice (Wenger, 2011) explored at the start of this chapter.

Friendship?

> I just so happen to be, share, most of my shifts with one of the other reg[istrar]s … just the way the rota has fallen. And we've formed quite a good friendship, much stronger than I had at any other hospital with another peer of my, of my level. That's strongly contributed to making it a friendly environment with people I can talk to outside of work about what's going on at work, who know, who know, the working environment.
>
> Interview with Andrew, Higher Trainee in Emergency Medicine, The Royal.

While Galen talked about belonging and referred to many people in the abstract, Andrew discussed the role of a single stronger link, a friendship, in making work better. This distinction is important as while I argue that multiple connections are important for belonging and community cohesion, and therefore retention, stronger bonds also developed. In the interview, Andrew described how time had been a key factor in developing this friendship and getting to know people in the department. Whether this friendship will endure is impossible to say, but in Zoe's experience, it is not a certainty.

> I think the fact that the number of general interactions is higher in the emergency department, just on a day-to-day basis, is the thing that actually forms the connections between people. ... It's hard to go through an emergency medicine placement and not make friends with people when you are there. Even on the introverted kind of aspect of things. So, I've worked in multiple departments where I might not, I've not seen any of the people who were there socially, because I tend not to socialise with, with work colleagues. I'm one of those people would rather go home and read a book and I might not keep in contact with those people after I've left that department. So, the department where I've worked at where I have no contact with them afterwards. But whilst you're there you would consider them your friends. And I think it's just the sheer number of interactions that we have that forms that.
>
> Interview with Zoe, Consultant in Emergency Medicine, The Royal.

This conversation was not about friendships lost but of working relationships that were mutually beneficial in the moment. People you would "consider friends" does not necessitate the links branching out beyond the workplace.

The "sheer number of interactions" that Zoe discussed was also seen in the trauma team-assembling example recounted earlier in this chapter (see above). In that example, it was talk, though I did note the relaxed posture. But these interactions were not always talk, and when it was talk, it was not always a clearly identifiable conversation. More often, it was opportunistically grasped alongside other tasks. For example, a junior clinician asking a senior clinician for advice was a clearly delineated conversation (such as example 2 above). A conversation between two longstanding colleagues about a personal matter might be divided into brief, perhaps lasting only seconds, snippets spread over days or longer. These broken conversations were less identifiable predominantly because they were shorter. However, I did notice them occurring even if, as they were so spread out, I did not grasp the narrative. These broken conversations were even more subtle and fleeting when they were predominantly actions, gestures, or postures. Examples of these brief or spread out interactions were presented in the humour chapter. But belonging was not just

developed during the non-serious aspect of work. It was also in the more mundane day-to-day interactions that occurred in the emergency department as a workplace.

A place of interpersonal interaction

In the previous parts of this chapter, I have explored how belonging is important for retention. The importance of the informal conversations—that happened in the space between work—for belonging was made clear to me when I noticed its absence in the simulation suite. Belonging to the community of the emergency department linked back to communities of practice. Stronger interpersonal links—friendships—were important for some interviewees but less for others. Each of the previous examples is a form of interpersonal interaction. This section will discuss some of the more mundane interactions and how they link support retention.

> It's very rare to work individually on your, completely on your own in [the] emergency department. So, everything that you do requires interaction with somebody else within that cohort … I think the fact that the number of general interactions is higher in the emergency department, just on a day-to-day basis, is the thing that actually forms the connections between people. So, they all form to build relationships.
>
> Interview with Zoe, Consultant in Emergency Medicine, The Royal

---

The interactions that Zoe talked about above can be conceptualised along many different lines. Vosk and Milofsky (2002a) described moving work from one professional group to another by negotiating the blurry interprofessional barriers that are made in the emergency department. Or as the delegation of work to the most appropriate worker. A patient safety perspective could describe the action as completing "closed-loop communication"[34] to facilitate the safe performance of critical tasks (Härgestam *et al.*, 2013). Regardless of the conceptualisation, what was observed was that face-to-face communication between people was central to the experience of working in the

[34] Closed-loop communication describes a method of communicating task instruction and completion, particularly utilised in time or safety-critical situations. An example of this might be an instruction from a trauma team leader such as "can you put in a chest tube and tell me when it is done". It is the part after the 'and' that differentiates the statement from simple instruction and "closes the loop".

emergency department. While some encounters were positive, some negative, the vast majority were routine, as the field note below highlights.

While observing in the majors area of The Royal, around midnight on a fairly typical weeknight, I scribbled the following interaction, noting that the exchange was both banal in tone while being important to the patient's management. The emergency department junior doctor sat at the desk, got the notes in front of them, and as they were about to start writing, one of the emergency departments staff nurses walked over and gained their attention.

Staff nurse: "what's happening to (patient in cubicle 5)?"

Junior doctor: "I've referred to medics, please can he have another trop [type of blood test] at 4 [am]?"

Staff nurse: "Sure."

The doctor then returned to their note entry, and the staff nurse went to inform the nurse coordinator of the plan. This type of interaction was constantly occurring; the work necessitated it. The encounter opened with an interruption. I described this in my field notes as "caught their eye", a phrase that captures the nature of the start of the interaction as a normal form of non-verbal communication. Perhaps because of the link with vision, much of the research into this type of non-verbal communication comes from psychology (Cook, 1977; Vertegaal *et al.*, 1997). However, ethnomethodology has been applied to understand "how participants regulate visual conduct prior to opening a conversation" (Gitte *et al.*, 2019, p. 260) and shown that gaze direction is vital for ascertaining that a mundane encounter, such as the one I described above, can be commenced (Goodwin, 1981; Kendon, 1990; Rossano, 2012).

Interruptions were part of working in an always-moving system like the emergency department. Due to the link between interruptions and error, research has focused on reducing the frequency of interruptions and mitigating the risk associated with them (Coiera, 2012). But, as Coiera (2012, p. 358) pointed out in an editorial on the science of interruption, "not all interruptions are harmful, and there are settings in which

interruptions are well tolerated". Vosk and Milofsky (2002a) went further and noted that:

> In the ED [emergency department] it is essential that nurses be permitted to demand the physician's attention when they consider it necessary. For their part physicians must accept such interruptions. Nurses likewise have to accept physicians' interruptions without feeling offended or demeaned. (Vosk and Milofsky, 2002a, p. 93)

Interruptions are essential to the work of the department. These were observed repeatedly, and various verbal and non-verbal methods were used to manage the interruption. Vosk and Milofsky argued that trust must be built to allow these interruptions to occur without undue friction. I would argue that the work done in these interruptions contributed to the development of trust. Also, the work contributed to the interpersonal linkages which bind the worker to the workplace. Moreover, both are aligned with the common purpose of the department's community of practice.

Like friendships and humour, these interactions linked the individuals in the department together. The mundane connections in this section might not be as strong as friendships, but they were indeed more frequent. In these interactions, we start to see how the community is made in the emergency department. It is woven together by a thousand strands of human interaction. This is one way in which retention was made and, given the ubiquitous nature of the banal interaction described above, might be the most important. But there are others, and as these may be more amenable to engineering, they may prove more critical to efforts to try and build community or improve retention, as I discuss in the following chapter on retention strategies (Chapter 8 below).

“Making teams”

> I think we're repeatedly making new teams and bonds within the emergency department. And that's quite exciting. You've got the team that you work with on a day-to-day basis, the nursing staff, the HCAs [health care assistants], the consultants, the juniors, and you're always working together with those. But then, every now and then, you have to reach out to other people and work very quickly within a team … discussing a patient with a surgeon … or in a trauma situation where you've got every specialty under the sun, coming into the room and you've got to learn and understand those people and work out what their positives are. So, I think you're always making different teams. It's never one team that you, you spend your whole time with I think it's the ability to make different teams and work well with those people.
>
> Interview with Liam, Core Trainee in Emergency Medicine, The Royal

In the quote above, Liam reiterated what I examined about the development of the community in the emergency department. He also reaffirmed the multiple different teams that form this community. While I have discussed them as separate entities, the distinction is, if not false, then messy. The relationships developed in one team context did not disappear in another. Liam’s description of “always making different teams” is significant because it highlights how building the community in a setting like the emergency department—which was in constant flux—required continued effort. This could be thought of as maintenance. However, that would imply that the team is, at any point, complete. I think of it more as being constantly built, never completed. But, without ongoing attention, it would undoubtedly deteriorate. This was easily observable in the emergency department, and it would not be inaccurate to describe the principal work of an emergency physician being communication rather than diagnosis or treatment. It is this ongoing effort that allows “building teams” to use Liam’s words to be conceptualised as a form of retention work in the same way with humour and education can be.

Chapter summary

I opened this chapter with the adage that emergency medicine is a team sport. Indeed, my participants repeatedly discussed the importance of teamwork for retention. Workplace observations helped me to notice a nuance. Participants were talking about teamwork in two ways. The first was the time-limited and focused teams that formed for a specific scenario; the trauma team was a typical example. These were important as they aligned with notions of competence. I labelled the second way that participants discussed teamwork as community. This term was chosen to reinforce the link with communities of practice. This complemented the importance of education explored in Chapter 6.

The literature on communities of practice and retention was limited by the complexities inherent to communities of practice, along with a narrow range of methodological approaches applied to try and understand them. I presented empirical data to show the importance of repeated interpersonal interaction for retention. These interpersonal interactions were linked through communities of practice, like teamwork, to competence.

Moving on from learning, I explored how belonging to the community was linked to retention. This belonging was built by multiple interpersonal interactions. These interactions were mundane. I reflected on how I noticed them through their absence in a simulation session. Belonging was developed through multiple interactions with other workers. Occasionally these interactions developed into friendships.

In sum, the emergency department is a place of interpersonal interaction. They are necessary to the practice of emergency medicine. They are doing many things, and I use the example of interruption to show how they can develop belonging through trust. Importantly, these interactions are effortful. Community, and therefore retention, are built by actions. They do not merely occur.

Chapter 8: Retention strategies

> When I was training, it wasn't OK to not be OK, you know, that was a weakness. That was a failing. I think emergency medicine trainees have, as you'll know, embraced the opportunity of less than full time training just because that's what they fancy doing. Not because you have to fulfil criteria of health issues, care issues, sporting excellence or whatever it is. So people are choosing—and I think, I think in the northwest here Dan, isn't it about 70 percent, 60, 70 percent of trainees are less than full time—and I think that's great because as consultants, we can have a custom built job plan and the majority of us work less than full time as an EM [emergency medicine] consultant because we have interests, be it audit, be it education, be it simulation. And I think acknowledging that in our trainees' early doors is good.
>
> Interview with Alan, Consultant in Emergency Medicine, The General

In the previous chapters, I have focused on what retention looked like in the workplace. The chapters on the materialities of retention (Chapter 4) and retention work (Chapter 5, Chapter 6, and Chapter 7) were built primarily on an ethnomethodological analysis of my observations in the emergency department, supported by interview data. This chapter focuses on the strategies that emergency physicians applied away from the emergency department. These strategies were primarily accessed through interviews. To distinguish the contents of this chapter, I will refer to the different approaches as "strategies", reserving the term "retention work" for the directly observable behaviours of the previous empirical chapters. The second way this chapter is different is the literature base that I utilise. In Chapters 4 to 7, I primarily drew on literature that aligned in some way with ethnomethodology. In this chapter, the focus is away from the directly observable. I found that the grey literature—particularly workforce policy documents—were more informative when trying to understand the context that retention strategies, discussed herein, have been developed and implemented.

Managing the working week

The first strategy revolves around controlling the working week. As I have shown in previous chapters, the working day (or night) can be challenging for the emergency

physician on several levels. Despite working with the materialities of the space and utilising retention work, it can be impossible for many emergency physicians to do full-time clinical work in a sustainable way. In the interview excerpt below, Neil described one common result of full-time clinical emergency medicine working and several ways that he dealt with this by managing the working week:

I am a card-carrying burnt-out consultant, I recognised that a while ago and felt I needed to do something about it. So having gone part time, I decided I wanted to get try and kind of reinvigorate myself, try and just feel useful again and feel that I was, I could, still make a difference. So, I was fortunate in getting a job with [external organisation], which means that one day a week I go to [different city] and I'm the [explains non-clinical work at organisation]. So that's one day each week that I do that. And then I've also recently been employed by the University, … and I'm working for them one day a week teaching … . So, I do, hopefully, in the course of a week, I will do two days ED [emergency department], one day (external organisation) and one day at (local university)."

"And this kind of split working arrangement, is it the first time that you've done something like this in your career?"

"Erm ... Yes, I have in the past done little bits of other stuff, but mostly alongside a full-time job. So, for example, back in the day when there were house officers, I was the trust house officer tutor. So that that, like an F1 tutor. So that was. But that was added on to my job. … So there's been bits of things over the years: clinical director, et cetera et cetera. But predominantly I was a full timer doing, maybe doing other bits and pieces, this is the first time I've actually gone kind of properly really kind of organised it in a more rigorous way."

Interview with Neil, Consultant in Emergency Medicine, The Royal

---

The problem that Neil said prompted him change how he works as an emergency physician—burnout—is a term that has entered the lexicon of emergency medicine and healthcare more generally. Definitional inconsistencies plague research around burnout. A helpful definition from a systematic review of burnout in physicians referred to it "as a combination of emotional exhaustion, depersonalisation, and low personal

accomplishment caused by the chronic stress of medical practice" (Rotenstein *et al.*, 2018, p. 1132). Unlike the ICD-11 definition mentioned in Chapter 1 (above), this definition is specific to medical practice. Despite its limitations, research around burnout has some utility for this study, as I discovered in my published scoping review discussed in the literature review chapter (see Chapter 2 above):

> It is useful that two studies from different continents, using two different validated measures, have linked burnout with retention (both via intention to leave) (Goldberg *et al.*, 1996; Estryn-Béhar *et al.*, 2011). (Darbyshire *et al.*, 2021, p. 669)

In terms of Neil's comments, the research definition is less important than how it is used by those affected by it. Rotenstein et al. (2018, p. 1132) described how the concept of burnout developed "in the late 1960s as a way to colloquially describe" the psychological and emotional burden on staff working in clinics for uninsured patients. Since then "the term burnout has been used to characterise job-related stress in any health practice environment (Rotenstein *et al.*, 2018, p. 1132)."

This colloquial description is what I meant when I said that burnout had entered the lexicon of emergency medicine; Neil used the term in a general, rather than technical, sense. I knew what he meant by burnout. It may or may not align with one of the dozens of definitions or score highly on the multiple burnout scales (for example, see footnote 3 above). However, I understood that the many stressors of working in the emergency department—several of which I recounted in earlier chapters—had led him to experience work in such a way that it was no longer possible to continue working in the way he was. In response to this, he made several changes, all of which could be conceptualised as the strategy of managing the working week.

Neil gave two main ways in which he had sought to change his experience of work so that it was more sustainable: going "part time" and working elsewhere. I will discuss each in turn before moving onto a more technical and managerial element in which workers can gain, or can be denied, the opportunity to manage their working week: rotas. Having discussed these three elements, I discuss the role mentorship plays in facilitating retention strategies.

Less than full time working

Less than full time working is the preferred phrase for what Neil termed "part time". It was often abbreviated to LTFT in many policy documents, most of which were specific to those in emergency medicine, that I refer to in this section. LTFT working was a response to many of the problems outlined in the introduction, in particular, that:

> Trainees in emergency medicine have reported that the intensity of working is greater than other specialties, together with rota difficulties and frequent unsocial working [leading to] attrition of those who enter training in emergency medicine is currently 1:5 of all trainees.
> (Clancy, 2019, p. 2)

Following this, a pilot of LTFT working was commenced for the academic year 2017-18. Previously, trainees in medical specialties in the UK could only ask to work LTFT for reasons such as caring responsibilities, ill-health, and specific training opportunities. This was referred to as category 1 and 2 in the documentation from the Conference of Postgraduate Medical Deans (COPMeD) entitled "a reference guide for postgraduate foundation and specialty training in the UK" (COPMeD, 2020). The pilot allowed trainees to apply to work LTFT without providing a reason. This was referred to as "LTFT(3)" and was in many ways a success. The number of trainees choosing to work LTFT in emergency medicine has grown year on year. The evaluation of the pilot stated that:

> LTFT(3) is popular with those who choose it. They report an improved work life balance and report that they are more likely to remain in EM [emergency medicine] than if they had not had the opportunity to take part in the pilot. All who are still in HST4-6[35] training have continued beyond the pilot year as LTFT(3).
> (Clancy, 2019, p. 6)

Several issues arose from the pilot. These issues were not about giving trainees greater flexibility to choose whether to work full-time or not. This was broadly supported as

[35] HST refers to higher specialty training, with the numbers referring to years of training four to six. I have generally referred to levels of training as ST1-6, specialty trainee years one to six. See Glossary and abbreviations for further clarification about this terminology.

evidenced by the programme in emergency medicine continuing and being expanded into other specialty training areas (Hope, 2019). The issues were more to do with the implications of the programme's success regarding what it said about training and working in emergency medicine in general and the downstream effects of changing working patterns on workforce planning.

> And I know it's reflected in the way that the less than full time training pilot has been taken on and ran with, and that's sort of more of a national reflection on EM [emergency medicine] isn't it. … Like if we all have to step down to less than full time to actually sustain this career, then what's wrong with the career? And I think that's something that possibly hasn't been addressed yet.
>
> Interview with April, Fellow at Statutory Educational Body

April's question was never formally asked. However, the increased demand for LTFT training, the increasing and repeated reports of extremely high work intensity (GMC, 2017, 2019, 2021), coupled with a significant rate of attrition from training (Clancy, 2019; Navari, 2020), was enough of a warrant for change. For emergency medicine trainees, the major change came with the development of a new curriculum implemented in August 2021, which mandated the introduction of "educational development time" (Navari, 2021b) with RCEM stating that the:

> Curriculum (August 2021) recommends for full time ST3s 4 hours per week and for HSTs[35] 8 hours per week of Educational Development Time (EDT) to be put towards curricular activities.
> (Navari, 2021a, p. 1)

Before this, it was recommended that trainees receive half this time for "supporting professional activities (SPA)"[36] (Navari, 2019, p. 1), which mirrors the language used in the consultant contract in England. However, it was clear that despite improvements, the implementation of this policy was patchy. Fewer than half of trainees had access to

[36] Supporting Professional Activities (SPA) time comes from the consultant contract and refers to work that does not involve direct clinical contact. The College of Emergency Medicine produced an exemplar document that provides more information (Higginson, 2014).

SPA time in 2015, and 35% had no access in 2020 (Archer *et al.*, 2016; Bailey *et al.*, 2021). The educational development time (EDT) policy occurred after I had completed fieldwork and interviews, so it is absent from my data. However, the draw and growth of LTFT working are clear, as April explained above, and Leigh describes below:

I know a lot of my colleagues are planning to go less than full time from ST4 onwards. And I have to admit it was very tempting.

Interview with Leigh, ST3 Trainee in Emergency Medicine, The Royal

---

One interviewee described the eventual format for EDT almost exactly when I asked him if there was "anything else that you think is important for your, for staff retention or your sustainable career?"

We, kind of you're expected to do it in your spare time. Which is another burden on your social life as well and difficult to do. I wonder, I've always wondered whether we actually should be more protective of special interests, …. And I wonder if we should be given protected time to focus on the other things that aren't clinical. That we need to do as consultants. So have an 80 percent clinical time and 20 percent with a focus on leadership, academia, governance, teaching, whatever you want to do, but make, train us to be consultants rather than just giving us clinical, clinical education and expecting us to turn out to be good consultants.

Interview with Liam, ST3 Trainee in Emergency Medicine, The Royal

---

I posed this question during a discussion about how emergency medicine trainees are expected to develop into good clinicians. However, there is also an expectation that they develop other skills needed to work as a consultant but are not necessarily given time to do so. This discussion highlighted that the idea had been percolating within the speciality for some time.

Consultant on-call shifts and LTFT working

Working as a consultant emergency physician, similar to most consultant roles for hospital-based specialties, involves on-call work. In both departments where this study

took place, on-call meant being the responsible clinician for the department overnight. In the interview excerpt below, Carol, a consultant at The Royal, described the impact of on-call shifts and how LTFT working helped her with this. Specifically, her on-call shifts are pro-rata, which translates to proportional, meaning that Carol works a percentage of on-call shifts to match her LTFT contract. So, if she works 50% of a full-time contract, she would do half the number of on-call shifts as a full-time emergency physician.

Okay. So, I'm a consultant in emergency medicine. I work less than full time. My role is to split both in ED and as [trust education role]. And then I have a few additional things that I do. I have some educational supervision time. So you want me to go into detail about being an ED consultant?"

Yeah, please, yeah.

Okay. So, I work pro rata weekends and pro rata on-calls which help having worked previously where I didn't do pro rata weekends on calls, where I did a full on call commitment. It's definitely a selling point, having it as a pro rata. My shifts generally are probably at least 40 percent out of hours, I reckon. Certainly, last month I was over 50 percent out of hours. Which can be a bit of a burn. But like I can say with it being pro rata, it's better than it was.

Interview with Carol, Consultant in Emergency Medicine, The Royal

---

This was important for Carol, as she described later in the interview transcript, also highlighting the challenges of on-call working for emergency physicians:

> There's a sense I can't get away because there's too much to do. And so, you end up trying to make a decision or a judgment call around leaving your staff to deal with it or staying longer and knowing that the longer you stay the more tired you are getting, the more likely you are gonna make a mistake. And what if you do get to bed and then get called straight back for trauma? … The on-call shift is probably the most onerous because it has no end time. Yeah. And the idea of trying to stay awake all day and all night. I just. Nowadays, I just can't do it."
>
> Interview with Carol, Consultant in Emergency Medicine, The Royal

An on-call period starts in the early evening and continues until the following morning. The on-call clinician generally stayed until, as Carol described, either the department was under control or they felt too tired to contribute effectively. Knowing that if circumstances dictated, they might be called back to assist with an especially challenging case. During the day, consultant colleagues are physically present in the department. So, even though the on-call consultant will be responsible for the entire twenty-four-hour period, they will not be called on to deliver clinical work or direct oversight from the morning to the early evening. In a department with ten consultants and an even split of on-call responsibilities, a consultant would be on-call one night in every ten. The Royal, where Carol works, had over 20 consultants when I conducted fieldwork. Not all did on-call work. Neil, for example, who talked about being "a card-carrying burnt-out consultant" earlier in the chapter, no longer did on-call shifts. This reduction in on-call working reflected the RCEM's SWPC wellness compendium, which stated:

> For older consultants with considerable years and experience of working at that grade options might include:
>
> - A job plan which is altered over time to a greater emphasis on SPA time
> - Discontinuation of late shifts/night shifts/on-calls
> - Greater opportunities for portfolio careers and less than full time working
>
> We all age differently and have very individual personal circumstances so there is no "one size fits all". Discussions on how your job can evolve in the later years is neither a stigma nor it is obligatory.
>
> (Hewitt and Kennedy, 2019, p. 35)

The growth of LTFT for trainees and the increased acceptance of changing working patterns with increased seniority are examples of how the working week can be managed to allow emergency physicians to continue in the specialty. There is considerable overlap with portfolio careers—as Neil discussed above—which I move onto below.

Portfolio careers

LTFT working is also an increasing phenomenon for consultant emergency physicians. A 2018 RCEM workforce policy document contained a section on "recommendations to ensure sustainable consultant careers: key principles for trust executive boards". This document stated that hospitals should "actively support the development of portfolio and less than full time (LTFT) working careers" (Smith and RCEM Service Design and Configuration Committee, 2018, p. 10). This quote links LTFT working and portfolio careers. While they are distinct entities, there is overlap in practice and how they relate to the visible shop floor working more closely associated with clinical emergency medicine. Both have the effect of limiting the time that a clinician spends working on the shop floor in the emergency department, and it is certainly not a case of choosing between portfolio working and LTFT working, as Carol described in the previous interview excerpt.

A portfolio is "a collection of different items, but a collection with a theme to it" (Handy, 1990, p. 146) This reflects the skills and attributes that made the different elements of work possible and attractive to emergency physicians like Carol and Neil. The term portfolio career has many definitions (Gold and Fraser, 2002). Like the discussion of burnout earlier in this chapter, the term has entered the profession's lexicon. It is not especially important if participants' use of the phrase "portfolio career" aligns with definitions from the literature. Therefore, I did not ask interview participants what they meant by this phrase. Instead, we explored what a portfolio career looked like for them. Each example was unique, but what linked them is doing something other than clinical emergency medicine.

Full-time portfolio careers

Both LTFT working and portfolio careers can be considered retention strategies for managing the working week. As I have mentioned, how they do this is overlapping and complementary. A broad simplification could be that both reduce exposure to the emergency department as a workplace and that LTFT working does it by reducing work in total and portfolio working by allocating parts of the working week to other endeavours. Both Carol and Neil utilised both aspects of this retention strategy. However, this was not universal, with several participants working full time across several different roles in their portfolios. Jack has roles in pre-hospital medicine[37] and leadership, and it was clear that he believed this way of working was vital for him and those earlier in their emergency medicine careers:

[37] Pre-hospital medicine (pre-hospital emergency medicine, PHEM) refers to work usually with ambulance services and air-ambulance charities. Emergency physicians can work in clinical, leadership, and management roles for these organisations. Training is at least a year in supervised practice either through a formal training programme or less-formal regional fellowships.

> I think the main coping technique now is a portfolio career and not to do emergency medicine full time. My career guidance to trainees is to always make sure that they can consider other things to look at, and they don't have to just do emergency medicine.
>
> Interview with Jack, Consultant in Emergency Medicine, The Royal

Jack, again, links LTFT working and portfolio careers in limiting exposure to clinical emergency medicine. Another way the two forms of managing the working week are similar is that they are both generally tailored to the individual. The individual circumstances revealed across my interviews showed commonalities, but there was no single defined pattern for portfolio careers within emergency medicine. With education an important form of retention work in the emergency department, as outlined in Chapter 6, it is of little surprise that formal education roles were one way participants developed their portfolio careers. Both Carol and Neil, in this chapter, took this approach by working for other organisations. Zoe managed her portfolio differently in that her educational role and time were managed through the same organisation as her clinical work. However, this distinction does not seem an important factor in the reasons for, and benefits perceived, of a portfolio career:

> I think if you just did pure emergency medicine and you were doing [that] here … our standard job plan here is eleven sessions, one and a half SPAs so you'd do nine and a half sessions clinically, which is going to be four shifts a week, … I think [it] would be phenomenally draining, very difficult to do for any length of time, because I think you need, you need another interest. Or you need to be able to do something else to give you a break from that feeling of pressure and not being able to achieve when you're on the shop floor. That's what I found my sim time does for me.
>
> Interview with Zoe, Consultant in Emergency Medicine, The Royal

Alan, who is much further on in his career and planning for retirement, has had several roles with a variety of organisations across education, leadership and management:

> Now, I have over the years been a jobbing ED [emergency department] consultant, my first nonclinical role was working with a working party to bring in the PACs [digital x-ray] system. … I was also then the chair of the resuscitation committee here, which I did for a good few years. Then I started branching out into, or should I say, carrying on an educational role, doing ATLS and ALS[38] courses, both here in The General and elsewhere. … And then more and more managerial roles. I think after about five years here, I became a clinical director for emergency medicine, … and I did that for about six years.
>
> Interview with Alan, Consultant in Emergency Medicine, The General

The idea that roles change with age and experience is not new. Senior clinicians have been more likely to progress into leadership roles than those earlier in their careers (West *et al.*, 2015). However, this was not seen as a means for career sustainability. Or at least it was not discussed in these terms in policy documents related to health professionals' careers in the way it is now in emergency medicine (Dasan, 2018; Hewitt and Kennedy, 2019) and in healthcare more broadly (NHS Employers, 2017, 2019). For doctors earlier in their working life, certain decisions regarding options for their careers need to be taken. There are opportunities to develop interests in education, leadership, and research as a trainee. While some roles, particularly formal research roles, are more easily achieved if this path was started while a trainee, all are accessible in some way once training is finished. It is not impossible to train in a second specialty, such as intensive care medicine (ICM), or a subspecialty such as paediatric emergency medicine after completing training.[39] However, there are no formal supporting processes, and the barriers are, for most, impossible to overcome. As such, most decisions about the clinical aspects of a portfolio career need to be made while in training, something that Ferdinand discussed when I asked him what he thought was important for career sustainability and retention:

[38] Advanced Trauma Life Support and Advanced Life Support. Courses that emergency physicians, along with other specialists, must complete in their training and periodically through their working lives.
[39] Pre-hospital emergency medicine is a bit of an anomaly here in that the formal training programme invites applications from established consultants.

> And I guess that's partly what I'm trying to do, I don't know if it'll work, but have some kind of balance … I'm dualing now in ICM in the hope is to at least have a change of scenery, even though, you know, the ICM job will be difficult. But just by doing something different, you know, it gives you a bit of downtime mentally. And there isn't a reason I don't think that can't be done in EM, if, you know, there's more scheduling of different kinds of shifts, you know, if you know you're going to go in for some resus shifts one week and then the next, I don't know. I'm just thinking out loud now. But of just other opportunities in the departments to do stuff that isn't just seeing patients erm, you know, just to break it up.
>
> Interview with Ferdinand, Higher Trainee in Emergency Medicine, The General

The opening part of this chapter has shown two ways that the retention strategy of controlling the working week is enacted in practice and policy. Emergency physicians are navigating their workplace and the policy landscape to change how they experience their working lives by using LTFT working and portfolio careers. Ferdinand talked about this above in terms of training in a second specialty. He also discussed the importance of the different types of shifts and how they are organised. This brings in the importance of scheduling. Or to use the term generally used in UK emergency medicine; the rota.

Rotas and work patterns

One specific phenomenon, which can either facilitate retention strategies or make their implementation very difficult, is how the staffing of the emergency department is managed. Modern emergency departments require medical staffing to meet the anticipated demand around the clock. As such, clinicians are scheduled to work their contracted hours across a range of different shifts. The term generally used for this in the UK is "the rota". Working patterns are dictated by a complex combination of legislation, contracts, and ingrained socio-historical working practices. For example, the junior doctors' contract sets out restrictions such as the maximum number of hours worked, the maximum number of consecutive shifts, and the minimum number of hours between shifts. This is further complicated by most junior doctors in England

being on the newer 2016 junior doctors contract while some (including myself) remaining, for the time being, on the 2002 junior doctors contract (Mehlmann-Wicks, 2020). Moreover, different contracts are in place across the nations of the UK, which is further complicated by interaction with the European Working Time Directive (Scavone, 2021). This progression of work-related legislation was designed to safeguard both doctors and patients. In broad terms, it has achieved this, notably by reducing working hours from patently unsafe to merely potentially exhausting (House, 2009; Clarke *et al.*, 2014).

However, problems remain, some of which are unanticipated consequences of contract changes. For example, rapid switching from day to night shifts and vice versa. Moreover, because of the growth and increased professional diversity of the emergency department workforce, more complicated working structures are required. The example below (Figure 9) is a rota for a single doctor who will work from week one to nine in succession before starting again at week one. You can see that if nine clinicians worked this rota (one being assigned to each week as their starting week), then the department would still not have 24/7 cover. There is, for example, no one on this rota scheduled to work between 8 am and noon on a Monday. This suggests that several different working patterns exist for different tiers of clinicians to meet contractual and individual requirements and provide 24/7 cover.

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY	TOTAL HOURS
1	Night	Night	Night	Night	OFF	OFF	OFF	41
2	12:00-22:00	12:00-22:00	OFF	NCT (8hrs)	Night	Night	Night	50.75
3	OFF	OFF	08:00 - 17:00	NCT (8hrs)	08:00-17:00	OFF	OFF	18
4	NCT (4hrs)	14:00-22:00	14:00-22:00	14:00-22:00	14:00-22:00	OFF	OFF	32
5	17:00-02:00	17:00-02:00	OFF	OFF	08:00-17:00	08:00-18:00	08:00-18:00	47
6	OFF	NCT (8hrs)	17:00-02:00	17:00-02:00	14:00-22:00	OFF	OFF	26
7	Night	Night	Night	Night	OFF	OFF	OFF	41
8	12:00-20:00	12:00-20:00	12:00-20:00	12:00-20:00	12:00-20:00	OFF	OFF	40
9	13:00-22:00	13:00-22:00	NCT (8hrs)	OFF	OFF	12:00-22:00	12:00-22:00	38

Figure 9. Example of a rolling rota.
Average hours 37.08/week. NCT = non-clinical time. Night shift is from 22:00 to 08:15.

The rota experience

Rotas can be good or bad in diverse ways and affect individual clinicians differently. Galen described a common instance in an emergency medicine rota— poorly planned transitions from night shift to day shift—for which there is plentiful data for the physiological (Dutheil *et al.*, 2012; McHill *et al.*, 2014) and performance harms (Smith-Coggins *et al.*, 2014; Lee *et al.*, 2016). The harms of the practice are clearly recognised in several policy spheres (Health and Safety Executive, 2006; West *et al.*, 2020), yet still it remains.

> The rota is, I think, particularly poorly designed, with very quick transitions between night shifts and day shifts and lots of them with very little downtime and an opportunity for recovery,
>
> Interview with Galen, Higher Trainee in Emergency Medicine, The Royal

Miriam also reflected on her experience of the rota. The rota interacted with her other commitments in an unhealthy way. Despite working LTFT, Miriam struggled to work her current rota, and it negatively affected her home life. Miriam's description of her working pattern over the past and the following couple of days is difficult to follow; this is precisely the point. The rota prescribes a working pattern that is hardly a pattern at all. The employee is assigned to work shifts to fit around an often-inaccurate model of

when the department is busy with little acceptance of its impact on their wellbeing or performance.

> And I think with this rota the difference is that the cycle days to nights, days to nights and the quick turnaround like today. So, I finished my night shift yesterday morning and back in on a day shift today. Then I'm off the weekend. So, I'll try and catch up because I'm on a late tomorrow as well. I finish at midnight, so I'll get home probably late. If you leave late, you know, more often than not, you leave late. So, I'll get home probably half past one. Then I won't have a lie in because I've got children and they'll be up and they've not seen me so they expect to see me. So, you're, so I will go to bed early at the weekend. So, all that, you know, family time is constantly eaten into just to sustain the ability to do your job well.
>
> Interview with Miriam, Higher Trainee in Emergency Medicine, The Royal

---

As I mentioned above, this was allowed because of the complex interactions between the various pieces of contractual legislation, which dictate what working patterns are legal. This is perhaps not surprising. Legislation such as the Junior Doctor Contract and the European Working Time Directive applies to trainees working in different spheres of medicine. Such legislation has been implicated in different problems in different settings. For example, surgical trainers and trainees have raised concerns about reduced access to training opportunities (Chapman *et al.*, 2014; Hartle *et al.*, 2014) and those whose out-of-hours working is unpredictable and often done from home have had to cope with increasingly complex systems (BMA and NHS Employers, 2018). These complexities are managed and administered by a person. How they do this is influenced by resources, training, and departmental and institutional culture. The rota and these factors combine and significantly impact the working lives of those subject to the rota.

> We just need to have another think about our rotas and … the contracts changes. … There are rules and there is how those rules are implemented and it just doesn't work. We got a whole ton of courses they'd like us to attend and then trying to fit those in around a very difficult rota which you don't know for six weeks in advance. Like recently, I tried to get on an ALS course for later this year but trying to book an ALS[38] course without knowing my rota. Technically, I should be able to book it, and tell them I booked it. But that doesn't work in practice, and it becomes very stressful … . So, I think rotas are probably always going to be a huge sticking point for that because there is, they are very difficult. And I'd love to be able to plan my life a couple years in advance. It would also save me a lot of money on holidays and things like that. But at the moment I haven't got my rota five weeks ahead and I can't even tell my wife what we want to do for the summer holiday, which is, which creates friction and it's going to cost me more money because I book last minute.
>
> Interview with Liam, ST3 Trainee in Emergency Medicine, The Royal

Liam mentioned the "contract changes" and the impact that the person in charge of the rota had. He also described how problems with his rota affected his training and his ability to meet required curriculum elements for progression. Seemingly day-to-day effects such as not being able to book your summer holiday have consequences beyond the inconvenience—Liam described a financial cost and the impact on his relationship with his family. There is also developing evidence that access to annual leave has a significant impact on trainee emergency physicians' "need for recovery"—a psychological scale measuring "the subjective perception of the need to recuperate from the physical and mental demands of a working day" (Cottey *et al.*, 2020, p. 1).

Annualisation and self-rostering

The interview data related to rotas has so far come from non-consultant grade doctors, suggesting that rota problems are more significant for this group. However, consultants work at their grade for much longer so even if the rota is better at this point in their career, the longitudinal impacts can still be considerable. Zoe mentioned two ways in which rotas, for any grade, can be improved:

> In terms of our less good points as a department, erm, we have an annualised consultant rota which is not self-rostered yet, we're working on that.
>
> Interview with Zoe, Consultant The Royal

To annualise is to "calculate or adjust to reflect a rate on a full year" (Merriam-Webster, 2022a). Therefore, an annualised rota allows workers to distribute their hours for the year however works best for them. The same term is used when applied to shorter periods, such as a four-month placement. Annualisation makes it easier to plan annual leave and work for other organisations. Self-rostering allows employees to select which shifts they would like to work to meet their required hours. Both approaches require an estimate of required staffing for each day, and they are usually run with rules so that there is a fair distribution of on-calls and unsociable shifts. The two approaches are compatible.

The RCEM guide to flexible working and good rota design (Hulbert and Galloway, 2019) presented both strategies to improve flexibility and sustainability. Such approaches have proven successful in many places (NHS Employers, 2019). They are advocated for to improve working lives (EMTA, 2020) but require change in both administrative practices and workplace culture to implement. They also need a moderate investment in terms of capital as such systems are challenging to implement without specialist software. However, this investment is consistently surpassed by savings from reduced locum spending and recruitment costs (West and Coia, 2019).

Such software packages also facilitate other arrangements such as LTFT working and the various considerations that a portfolio career necessitates. For example, if a trainee has no childcare, or a consultant works for another organisation on a Monday then it is not just the Monday that must be considered, working the Sunday night as a night shift or an on-call may not be practicable (or legal). Extrapolate these restrictions, add in a rotational workforce, and the complexity is significant in effect creating a mathematical equation that is too complex for a human to solve (Glass, 2018). Even with such a system in place, rotas require management by humans. Liam started to talk about "rota masters" in the quote above, but was side-tracked. He returned to them in a later part

of the interview where he expressed appreciation for “flexibility” even in the context of an otherwise difficult work experience:

> I've worked with rota masters that I've appreciated the fact that they will be flexible for you. But I don't think it I've worked in one that was particularly well managed. No, I think they've always been very difficult rotas to suffer, and quite inflexible. It's often the well managed ones, the ones who are prepared to give you a bit of slack and you can have some, someone you can speak to who'll think around the problem for you, but they, I don't think they were particularly well managed, if that makes sense.
>
> Interview with Liam, ST3 Trainee in Emergency Medicine, The Royal

Striking a balance between flexibility and predictability is difficult. However, those I interviewed recognised that trying to do this is important. It allowed them to plan essential parts of their lives such as childcare and family holidays, respond to unexpected events, and meet training requirements. This made them feel valued as members of the team. This valuing resonates with the findings of Chapter 6 above. While rotas are an important technical requirement for the two retention strategies that opened this chapter—LTFT working and portfolio careers—they are also dependent on the people who work in the department. Something the final retention strategy in this chapter relies heavily upon.

Mentors and mentorship

Like retention and burnout, mentoring means different things to different people (Henry-Noel *et al.*, 2019). The participants in this study mainly talked about their “mentor” rather than the process of mentorship. As such, I will start this section by discussing what I interpreted them to mean by a “mentor”. Interview participants seemed to define a mentor as a “trusted counsellor or guide” (Merriam-Webster, 2022b), in line with the dictionary definition. For the interviewees, mentorship, like LTFT working and portfolio careers, was a way to manage the working week. However, this was done by managing their careers. Role models were also important as ways to see

how a career could be constructed with retention in mind and to identify potential mentors.

> All of the people that I consider to be my role models do something else. So, none of them are full time generic EM [emergency medicine] people. So, like, Jack does all his prehospital stuff, and prehospital is not something that interests me. But I think the balance that he had, you could see makes him happy and is something to then aspire to. Obviously, [anonymised] does the simulation stuff, which got me into the simulation side of things. But again, she was very forthcoming with the fact that it gave her balance and gave her something else to do.
>
> Interview with Zoe, Consultant in Emergency Medicine, The Royal

---

However, as mentorship was more evident in my data, and developing a mentoring relationship is more akin to a retention strategy, this is the focus of this section.

Michael reflected on the benefit he experienced from having mentors. He also noted that now he is increasingly taking on the mentor role, whereas earlier in his career, he utilised the input of a senior colleague to offer him mentorship:

> And I think when I first started out, I was very lucky to have a senior colleague and my mentor and then, another colleague that I'd go to for different problems. And then as I started to realise a couple of years ago, I am now that mentor, people come to me for advice, and I now considered one of the seniors.
>
> Interview with Michael, Consultant in Emergency Medicine, The General

---

Several of the mentorship relationships discussed in the interviews had evolved from the supervisor-trainee interaction. The supervisor continued to take an interest in the mentee's progression once their role as supervisor had concluded, and the trainee continued to involve them in elements of their career development.

> [Anonymised] was great when I moved from training to staff grade. They were my supervisor and didn't make me feel like a failure. We talk a couple of times a year, kind of guidance, which is helpful.
>
> Interview with Alexa, Staff Grade in Emergency Medicine, The General

Mentoring can be beneficial for both parties. A study from Morrison et al. (2014) demonstrated that mentees had a higher likelihood of promotion. Ghosh and Reio (2013) showed that mentor job satisfaction and organisational commitment improved. There is also a significant body of literature on mentoring in medicine and academic medicine in particular. However, "relatively little has been written about mentoring in emergency medicine" (Yeung *et al.*, 2010, p. 143), and what is available was limited to descriptive accounts of innovations or before and after assessments of confidence.

The literature on mentoring in healthcare provided helpful if paradoxical, findings. From medical students to senior trainees, nearly all trainees believed mentorship to be one of the most important things to help career development (Ricer *et al.*, 1995; Aagaard and Hauer, 2003; Levy *et al.*, 2004). However, only a minority accessed mentorship (Sambunjak *et al.*, 2006). Moreover, an overwhelming majority of academic physicians identified that a lack of mentorship was the most, or second-most, important factor that can hinder career progression (Jackson *et al.*, 2003).

Given these findings from the literature, it was surprising that more work trying to understand the barriers to accessing mentoring had not emerged. A recent review from an Australian research group examined the obstacles for female health academics and extracted data from 27 papers related to this group (Cross *et al.*, 2019). They found that gendered personal and relational dynamics, alongside organisational factors, were the main barriers to mentoring. Mentoring as a societal phenomenon has received limited attention from sociologists. One study of 12th graders in the US (students aged around 17 or 18 in their final year of compulsory education) found a paradox that is complementary to that identified in the literature review above:

> Informal mentors may simultaneously represent compensatory and complementary resources. Youths with many resources are more likely than are other young people to have mentors, but those with few resources are likely to benefit more from having a mentor—particularly a teacher mentor—in their lives.
> (Erickson *et al.*, 2009, p. 344)

This finding was consistent across different frames of reference, be it a feminist lens like the review discussed above (Cross *et al.*, 2019). A model for co-mentoring where each person can "occupy the role of teacher and learner, with the assumption being that both individuals have something to offer and gain in the relationship (McGuire and Reger, 2003, p. 55)." Or through the lens of black studies (Dixon-Reeves, 2003). What was clear across these paradigms was that those who would benefit most from mentoring have the least access to it. This reflects the Tudor Hart (1971, p. 405) inverse care law, one of medicines most significant contributions to our understanding of society, which stated simply that "the availability of good medical care tends to vary inversely with the need for it in the population served". Such a relationship exists across society, with water inequality (Yang *et al.*, 2013), employment inequality (Lawrence *et al.*, 2017) and education inequality (Mesa, 2007) following a similar pattern and making the existence of such a relationship between need and access in mentoring seem somewhat an inevitability.

Chapter summary

In this chapter, I have explored the retention strategies that emergency physicians in my study employed. LTFT working and portfolio careers can be considered under the umbrella of managing the working week. Rotas were vitally important for either of these strategies. Mentors and mentorship provided support and guidance for emergency physicians to manage their careers. This often involved showing the mentee how a LTFT or portfolio career could be enacted.

The working week can be challenging for emergency physicians. Shifts are hard work, and the working environment is challenging. Moreover, the working pattern can provide additional physiological and social stressors. To accommodate this, many

emergency physicians work LTFT. That can mean working fewer hours or working a similar number of hours but fewer in the emergency department. The need, or desire for this, was individualised, but my data supports recent policy recognising that shift patterns may need to change for many with increasing seniority.

Portfolio careers overlap with LTFT working in that both reduce the time spent in the emergency department's challenging environment. However, many with portfolio careers worked full-time hours but split their time across several endeavours. There was added value to this beyond reducing time spent in the emergency department.

Challenging rotas and working patterns were repeatedly discussed in the interviews with emergency physicians. However, a flexible and responsive rota can be helpful for retention. The two main ways to achieve this were annualisation and self-rostering. However, the importance of the person or people managing the rota cannot be underestimated.

Mentors and mentorship helped interview participants to navigate the challenges in their careers and showed how retention strategies can be implemented successfully.

The retention strategies discussed in this chapter complement the retention work discussed in the previous empirical chapters. Taken together, they demonstrate the effortful and contextualised nature of retention and add a level of detail and nuance to the understanding of the staffing problem in emergency medicine that can be gained from the literature.

Chapter 9: Discussion

Problems with staffing emergency departments, coupled with increasing demand and system-wide pressures resulting in exit-block and crowding in the department, affects the experience of everyone using the space. The impact of which has been mainly demonstrated in terms of measurable patient harms; this is clearly important but has been to the neglect of understanding the impact of working in a space that is struggling to function due to outside pressures. In this thesis I have considered how intentional policies surrounding retention (for example LTFT working) are enacted in practice, and how many unintentional and mundane practices sit alongside these policies to create the ongoing act of retention.

Gaps in the literature

This thesis has aimed to address a gap in the understanding of how emergency physicians build and maintain their careers so that they are sustainable. The underlying problem that led to the identification of this gap is one of retention; that is the "act of retaining", " the power of retaining", and "something retained" with retain meaning "to keep in possession or use" (Merriam-Webster, 2022c). This definition helps delineate the knowledge gap.

- Retention as an "act": the gap here was the lack of understanding about what emergency physicians do and what actions they take in the workplace to keep them working in emergency medicine.
- Retention as a "power": the gap here was in the attributes of an emergency department that keeps emergency physicians coming back to the workplace.
- Retention as something that has been done so that someone has been "retained": the gap here was less one of knowledge but of policy and policy implementation. Workforce data, while not perfect, gives a reasonable impression of the problem. However, the limited suggests about improving retention from the limited available literature is a clear gap.

Retention has multiple "almost synonymous" terms, with much of the literature surrounding these gaps utilising terms such as "turnover", "intention to leave", and

"organisational commitment". In one way or another, most of these studies address something around leaving the job. This makes sense when the problem is considered in terms of too many doctors leaving. However, almost inevitably, it has the effect of separating "worker", and "employer"—problems and potential solutions rarely consider the employee and the workplace together.

The broader literature can provide an understanding of the multitude of factors that can influence the turnover of staff or their intention to quit. Unfortunately, much of this understanding is superficial. It is possible to develop a long list of potential factors that may influence the rates at which workers leave their employing organisation. What is more difficult is deciphering which of these factors is in practice important. Teamwork is an excellent example of this; it is repeatedly cited as an essential factor for retention in studies in diverse settings (Mossholder *et al.*, 2005; Ellemers *et al.*, 2013) and was a common driver for retention from my interviews with emergency physicians. However, it was also listed as a positive of working in the emergency department by those who had left. That is to say that a loss of teamwork might negatively affect those working in emergency departments, but improving this aspect probably would not have influenced the decision to leave for those who have already left. The same can be said for many explanations or models that take a number of factors as principal drivers for exodus or retention.

I described this tendency to identify superficial push and pull factors in the literature review as one of decontextualisation. The second misguided tendency is the focus on leaving, be that individuals who have left or the reasons for leaving. This tendency is also in general decontextualised, but it reveals a different gap in the neglect of those who remain. The two tendencies in the literature highlight the relative lack of detailed contextual understanding about how emergency physicians (and workers in general) conduct their work in a way that allows them to do so for protracted periods.

Addressing the gap

I conducted an ethnographic study rich in context and focused on those who remain to address this. I had originally planned to conduct observations in two departments, one a major trauma centre, one not, reflecting the major dichotomous delineation of

emergency departments in the UK. I completed the first period of observation just as pandemic restrictions were being discussed. Plans for the second period of fieldwork were put on hold for two reasons.

Firstly, I returned to full-time clinical practice during the first wave of the pandemic. Secondly, when I was able to return to academia, access to emergency departments was restricted. The decision about what would need to happen for me to be able to complete the second period of fieldwork was far from simple. Myself and my PhD supervisors, in conjunction with the Lancaster research ethics committee, decided that the lifting of visitor restrictions was a reasonable point. When this decision was made in May 2021, it seemed that this might be a realistic possibility before the end of the fellowship facilitating this PhD. At the time of writing this, February 2022, the department where I worked clinically one day each week during the PhD now allows a single visitor for patients with additional care or support needs. However, the prospect of returning to the emergency department as an essentially public place remains distant. The prospect of more fieldwork remains, and while I am interested in seeing how retention is made in a different setting, I believe that this derivation from the plan allowed me to focus more intently on the, still not insignificant, volume of field notes collected instead of a questionable extraneous criteria for generalisation (Crabtree *et al.*, 2013).That is that the intensity of the observations and the depth of analysis was a better guide to the number of field sites than a possibly arbitrary number devised during the planning stage of the study. I return to the number of field sites and the impact of COVID in the Strengths and limitations section below.

I received ethical approval to move interviews online. I managed to recruit at the second site through pre-existing contacts and links made developing the study and then via recommendations from these individuals. While this removed the ability to invite people to interview based on shop-floor observations, it proved no less useful for it. The twenty-one interviews provided a wealth of data to complement the workplace observations. I also interviewed ten people who had left emergency medicine and ten people who work in roles that make them stakeholders in the retention problem in emergency medicine.

The interviews with emergency physicians are evident throughout the data. However, the other interviews warrant comment here. The interviews with those who had left emergency medicine are the least evident in the results section. Many of the strategies that these participants described were the same as those who remained. Moreover, the individual narratives behind the reasons for leaving were highly individualised. As a window into retention, this corpus of data is limited. Except to say, those who left recognised the value of, and in many cases utilised, retention strategies and retention work. However, the analysis that I performed was focused on retention. Returning to these transcripts with a different analytical lens may prove fruitful to further a different research question, such as why people leave.

The interviews with stakeholders influenced this study in a more nebulous manner than the interviews with emergency physicians in two main ways. First, they have acted as a form of distributed guide to the at times intangible policy landscape. Second, they have provided me with access to people who are both interested in this question and might be in a position to take concrete action as a result of it. When I started this PhD, the idea that it might directly influence policy, even in a small way, seemed somewhat farfetched. Now, as a result of the network I have built and connections I have made, the direct influence of policy is a realistic ambition. I expand on this in the policy and practice recommendations section below. So, while the data from these two sets of interviews are not necessarily highly visible, compared to the workplace observations and other interviews, they have had utility and will be valuable in secondary analyses addressing complementary research questions.

Contribution to existing literature on retention

In the scoping review I showed that the literature directly pertaining to retention in emergency medicine contains many factors that influence retention (or constructs almost synonymous to retention). However, this literature is lacking in depth and context. My study builds on this existing literature to add a necessary depth to the factors that influence retention. In particular, this thesis provides detail as to how factors identified in other studies function in context, for example teamwork (Estryn-Béhar *et al.*, 2011; James and Gerrard, 2017), education (Hall *et al.*, 1992; Murphy, 2014; James and Gerrard, 2017; Holmes, 2019) and portfolio careers (Fitzgerald *et al.*,

2017; Holmes, 2019). Research from outside of emergency medicine follows a similar pattern in lacking depth or context, but on a larger scale. My study is an example of what can be learned when research deliberately does not follow what Allen et al. (2014) called a "dominant analytical mindset". Referring to turnover research, Allen et al. (2014) described how the literature up to that point had utilised similar analytical and theoretical tools which had in turn stunted the development of understanding of turnover. Taken in this broader context this study adds to the small corpus of literature that has deviated from the dominant analytical mindset in both the business and management literature and the health professions literature.

Contribution to ethnographic work conducted in emergency departments

This thesis expands on the range of activities that can be studied in the emergency department, introduces the utility of ethnomethodologically informed ethnography to the emergency department, and reinforces the ethical and practical feasibility of the method. In the literature review I demonstrated some of the breadth of topics assessed using ethnographic methods from focus on particular delineations of work conducted there such as triage (Hillman, 2014) or resuscitation (Timmermans, 1999; Brummell *et al.*, 2016) to looking at a broader concept such as how patients move through an emergency department (Nugus *et al.*, 2014; Crowe *et al.*, 2019). This study is unique because it focuses on an abstract element of work in the emergency department. Other ethnographies have examined abstract phenomena that, while not directly observable, can be learned about through observation, such as safety (Liberati *et al.*, 2019). I have shown how ethnography can help develop a deeper understanding of constructs not directly observable by observing actions and listening to related talk.

A number of ethnographies in emergency departments sought not only to understand something but to in some way contribute to positive change (Nugus *et al.*, 2014; Crowe *et al.*, 2019). This study builds on this by explicitly seeking to contribute to policy change beyond the place of observation. I come on to the policy recommendations related to this study later in this chapter. This explicit aim towards change echoes some of the design-based ethnomethodologically-oriented research from outside of healthcare such as the study based in information system design by Crabtree et al. (2000). My study builds on such work to add to the evidence that ethnography can be employed to not

only develop deep understanding but to influence change at a local, system, and policy level.

A third contribution that this study adds to the disparate corpus of ethnographically-based studies conducted in the emergency department is a focus on the mundane. Other studies have focused on high acuity events such as CPR (Brummell *et al.*, 2016) or processes vital to the functioning of the department such as patient flow (Nugus *et al.*, 2014). In this thesis such events and processes are not absent, but they are not the focus. Instead by focusing on the detail of the space and the more banal conversations I was able to highlight the importance of the day-to-day for those working in the emergency department.

Contribution to theory

While this thesis did not explicitly aim to develop any specific theory, contributions to those utilised in the analysis can be made. Conceptualising the work that emergency physicians do as repair work allowed me to reimagine the uniform worn in the emergency department as workwear and establish how some of the properties of the object may contribute to retention. By linking repair work (Fürst, 2018; Schubert, 2019; Sormani *et al.*, 2019), materialities and retention I have shown how the relatively novel theoretical perspective of repair work can be extended to help develop understanding of elements of work not necessarily visible in the workplace.

In the section on The material barriers to quality care I extend the concept of "duct taping" taken from Graeber's (2018) account of different types of meaningless jobs to describe an element of the work place. The notion of temporarily fixing problems that could be permanently fixed, but are not, was evident in the emergency department. The term is not only helpful in describing the phenomenon; it also extends Graber's theoretical contribution on types of work to the workplace.

My conceptualisation of the dark humour I observed in the emergency department as contextual humour and my argument that much dark humour can be considered as such is a challenge to much of the prevailing literature on dark humour which often fails to consider the importance of context and often proposes an oversimplified binary around if or not a joke is professional. My argument adds further complexity to the

already developed humour literature (Fine, 1983; Craun and Bourke, 2014; Emmerson, 2017) and acts as an argument for future research to incorporate the importance of context.

By invoking Merleau-Ponty's concept of écart I show how the atmosphere of the emergency department can be considered as a showing concept to make sense of the sensory and social experience of the space. The intangibles of a workplace are an under-researched element, and this novel conceptualisation may prove useful in developing understanding of atmosphere in other contexts of other intangible elements of the workplace.

The concept of entrustment has developed significantly within health professions education since it was introduced by ten Cate in 2005. The typical use of the theory involves someone in a supervisor role rating entrustment of someone in a training role for a particular task. My use expands on this to introduce the idea that entrustment can involve multiple members of the team in a complex and contextual fashion. This in no way demeans the utility of entrustment in assessment and progression but adds an overlooked facet that can help guide research in areas where entrustment fails to function as expected.

Communities of practice have been demonstrated to be important for workplace learning in multiple settings. The literature base has developed from the unidimensional notion of progress from novice to expert, through the more complex idea of moving from peripheral to core participation with the community, to more recently being developed into a managerial tool to improve organisational effectiveness. My study adds another spoke to the potential benefits of viewing workplaces through the lens of communities of practice by suggesting that many of the features inherent to the community of practice are important for retention.

Retention: materiality, work, and strategy

The focus of the empirical work and the analysis has allowed me to address the gap in the literature. It has also helped me provide a detailed and contextual account of ways in which emergency physicians achieve retention in and around their workplace. I have

divided how retention is made into methods observable in the emergency department and retention strategies enacted away from the shop floor. The observable methods in the emergency department can again be divided into those related to objects and space, which I termed materialities of retention and those related to observable behaviours that I termed retention work. I will address each in turn, then return to retention strategies. For each form of retention work and strategy, it is clear that retention is not a single act. It is a continually reconfirmed practice. Or in different terms, it is a work-in-progress made visible by observing it in context.

How mundane materialities affect retention

The materialities of retention bring together factors related to retention, which, like the work in the emergency department in general, are embodied through objects and enacted in space. These factors are important because they are ignored in much of the literature related to retention. The idea that routine elements of work would influence the ability of an individual to do that labour day in, day out is, when put in these terms, self-evident. The findings of this chapter go beyond the self-evident to show how the mundane affects retention in concrete ways.

Some of the objects central to the material practice of emergency medicine have cultural and symbolic meanings. My data emphasised the more mundane objects and the ways in which, in particular, workwear and water bottles are used by emergency physicians through routine and unobtrusive actions to change the workday to make it more sustainable. This analysis builds on a body of literature that has started to define the importance of the material to healthcare. However, the focus has been away from the mundane. For example, an ethnography based in a London hospital during the filming of a television documentary noted the "centrality of the stethoscope, both for the students, and for the watching public" (Rice, 2010, p. 292). My data has a more specific focus. The observations show how an object, such as a water bottle, can be simultaneously an object of sustenance and a locus around which brief social interactions, which act as sustenance in a different way, can take place. These interactions, along with the act of using the object, can be considered in terms of rituals in that they are in many ways "taken-for-granted" and have a capacity for "reinforcing

roles, group membership, status, or group cohesion" (Waring and Bishop, 2010a, p. 1336).

Workwear has practical features that make work easier, something that is often overlooked in social sciences, which tend to focus on the role uniform plays in group formation and cohesion and the influence of power in the workplace. That is not to say these things are not important. But overlooking the practical and embodied nature of workwear has led to an under-appreciation of the utility of certain sections of social science literature—the example I draw on is repair work—that can broaden our understanding of how materialities can influence practice more broadly. "Scrubs" as an object has properties that fit well with the environment in which is it used; it is a practical solution for a challenging work environment. It is light in an often overly hot workplace. It tolerates washing at high temperatures and dries quickly, reflecting the reality of being soiled. These properties of scrubs allow it to function as workwear while also embodying properties of uniform by encouraging group cohesion and notions of togetherness amongst those wearing it.

The use of objects in space and the repurposing of space are linked through materialities but are distinct in observable terms. The movement through space is so routine in the work and working of the emergency department to make it almost invisible. Workers move between areas, from patient to computer, locate and relocate objects, seek out other workers, in continuous momentum that can at times seem chaotic. The more crowded the space becomes, the more chaotic this looks and feels. For example, I was trying to get from an office to the main department, and a logjam of patients on trolleys physically blocked the route, the cause for this was round a corner and not visible to me. I had the option of waiting but I had no way of knowing how long or taking a much longer diversion. Had I been in a hurry, rather than in my researcher role, this may have added to the sense of chaos. Such a reality necessitates actions to make work tolerable for both the short and long term. Emergency physicians repurpose space to facilitate this, moving temporarily to areas where the sensory burden is less.

The work environment is a risk to retention in emergency medicine and is held together by both literal and metaphorical duct taping. The emergency department must be

considered a place where people work around the clock, and proper attention paid to the space where this work is done. Failure to address this will continue to hamper ambitions towards a sustainable model of staffing emergency care.

The materialities I have explored reinforce retention as a continually reconfirmed practice mirroring the continuous nature of the challenges posed by the working environment.

Three forms of retention work

Retention work is the term I chose to describe the actions that emergency physicians do in the workplace that contributes to doing their work in a sustainable way.

By choosing the term retention *work* I should be clear that I do not mean to imply intentionality as might be presumed in certain scholarly fields. The observed actions described in the chapters on retention work are not implied to be done by the actor to facilitate their retention. They are done in general for other reasons, sometime multiple, and sometimes the reason is hidden to me as the researcher. I describe these actions as 'work' because of the labour they involve in the service of enhancing the quality and enjoyment of practicing EM. I do not mean to convey that participants had a clear intention to improve retention by these actions. Rather, retention is a consequence of this kind of work. Just as someone may go for a walk in the countryside for pleasure and it inadvertently is good for their health, the forms of retention work I describe is done for some other reason and I interpreted, through my analysis, that these actions could, in some way, be helpful for retention. I labour this point to make it clear that by choosing the term "retention work" I do not mean to imply intentionality. In Chapters 5, 6, and 7, I explored three forms of retention work in turn: humour, education, and community.

Humour is a cohesive device

Humour is commonplace in the emergency department workplace and takes many forms. The concept of "non-seriousness" (Morriss, 2015, p. 308) is helpful as it highlights how not all humour takes the form of jokes. The humour I observed was notably self-deprecating and, on occasion, slapstick. Humour functions as retention work in many ways. Fine (1983, p. 173) describes how humour can work as a "cohesive

device"; this links to notions of community. The humour was also sometimes dark, a feature which both demonstrated and built trust, again linking to Fine's description of humour as a cohesive device. Emergency physicians use humour to influence the atmosphere of the department and as a way of demonstrating the shared experience of those working there. Humour can have positives when done in terms of retention work, but emergency physicians recognise that it can have risks to professionalism and function as a superficial coping mechanism.

Education does valuing and is a cohesive device

Workplace education—that which takes place as part of day-to-day work—is routinised retention work in the emergency department. It influences retention by making emergency physicians feel valued and by contributing to positive elements of workplace culture. One way in which this is achieved is by prioritising education despite the unremitting service pressures. In this way, education is retention work for both the person identifiable as providing the learning and those notionally designated as in receipt. Education adds variety to the working day, a brief respite from the oppressive workload and working environment that many in the emergency department experience. Education also fosters entrustment and autonomy which once again has benefits for both the learner and educator which influence retention. Education also provides opportunities for interpersonal interactions between colleagues, which can help develop a sense of community; this is analogous to the notion of humour as a "cohesive device" (Fine, 1983, p. 173) discussed in the previous section.

Community develops through teamwork and interpersonal communication

Working in the context of a team is described as important by most of the participants in this study. The short-lived team that forms to deal with particular clinical situations may be necessary for a sense of competence. However, my analysis shows that the less defined team, the community, is particularly important for retention in the emergency department. The team, however conceptualised, is important for building belonging and in the formation of a community of practice within the emergency department. I use the term community to delineate from the dominant conceptualisation of team and reinforce this link with communities of practice. Such communities require effort to

build and maintain at both an individual and organisational level. However, much of the effort of the retention work of community is low-key and built over time.

Retention work: interaction between colleagues

Workplace humour can be seen to do many things. For example, it is important in the sequencing and ordering of conversation, in building and maintaining groups, as a method of demonstrating or undermining power, as a means of coping, the list is long (Glenn and Holt, 2013; Huber and Brown, 2017). By focusing on retention, I was able to notice that it can be considered as retention work; the same can be said for the other types of retention work discussed herein. Humour, education, and community all do many things and influence retention in different ways. But taken together, they can be viewed as interactions between colleagues in the workplace, interactions that are non-serious in nature, that prioritise learning, or that develop a broader feeling of team or community.

Interactions between colleagues have varying degrees of prominence in the different types of "medical work" described by Strauss et al. (1985) in their book the *Social Organisation of Medical Work*. Building on this "seminal work", Schubert (2019, p. 38), in their paper on repair work in anaesthesia, argues that important elements of work "become visible in the multitude of work that are not represented in formal job descriptions and organisational procedures". Retention work is one such important element. I would argue that the three major constituents of retention work described in this thesis—humour, education, and community—can be considered opportunities for meaningful human interaction that, in different terms, has a significant body of evidence across sociology, economics, and psychology to link with notions such as job satisfaction:

> Receiving affective support from colleagues and having good interpersonal relationships at work are positively associated with job satisfaction, job involvement, and organisational commitment, and negatively with employee stress and absenteeism.
> (Dur and Sol, 2010, p. 293)

The link with retention has also been made several times with measured turnover and lower turnover intention in workers who report better co-worker social support (Price and Mueller, 1981; Riordan and Griffeth, 1995; Mossholder *et al.*, 2005).

What this thesis adds is detail about how such "social support" is made in the context of the emergency department. Those working in the emergency department carve out opportunities to do retention work, adding education into what might otherwise be conceived as a supervisor giving instruction to a subordinate They use the behind-closed-doors nature of handover as an opportunity for humour not suitable for the public space which is the setting for much of the working day. Colleagues get to know each other over multiple short interactions spaced over extended periods of time. What is important—and the reason I choose the term retention *work*—is that each element requires both time and action. The day-to-day practice of retention does not just happen. It is dependent on the low-key efforts of those involved. As such, efforts to try and improve retention cannot simply request or mandate that workers engage in more of these behaviours. Such an approach would likely amount to "emotional labour" (Hochschild, 2012, p. 7) and be counterproductive. Instead, it is important for practitioners, managers, and policymakers to nurture—or at the very least not intentionally or inadvertently crush—the workplace peer support created by those who labour in the space.

This thesis strongly suggests that parts of routine work can benefit the sustainability of work in general. Other analyses have reinforced the importance of feeling like you can do your job well or belong to the team and feeling like you are being treated as a professional (West and Coia, 2019), to a range of measures linked to retention. This study shows how these elements are made and experienced—in a way that is

observable in the workplace—on a day-to-day basis and built on a foundation of interpersonal interaction.

As a continually reconfirmed practice, retention work shows how retention is made in part in the mundane day-to-day actions of workers. By making policy and practice recommendations later in this chapter, I demonstrate the importance of this insight for emergency medicine. This insight can be built upon, or challenged, in different settings—I expand on this in the recommendations for further research.

Retention strategies

The actions that I identified as retention work often do many things, with retention being just one of them. Retention strategies are also done for multiple reasons but are different to retention work in that they are often explicitly and primarily driven by the need for sustainable working. For example, the other parts of someone's portfolio career could be driven by an interest in that specific type of work. However, they were also explicitly rationalised as a strategy for retention. Indeed, the breadth and depth of literature on LTFT working and portfolio careers as a means towards positivity in work—however gauged—suggest that the importance of such strategies for emergency physicians should not be underestimated.

An alternative viewpoint for these strategies is that they merely limit the exposure to the working environment of the emergency department. The difficulties faced by working in this environment, inescapable in this thesis, provide this argument with a notion of legitimacy. The argument that working in the environment of the emergency department in the role of an emergency physician is not sustainable full time for many people does not, however, suggest that the retention strategies I have described help achieve sustainability only by reducing exposure to the challenging working environment. They do more than this and indeed from the perspective of the department they do more than merely encouraging the workers to stay.

Portfolio working and LTFT working seem simple solutions to the retention problem. However, they are difficult to navigate both at the level of career planning and in terms of implementation. Mentorship, often informal and from a more senior peer, is one way in which this is navigated. Mentorship is the terminology favoured by my interview

participants. Alongside this, other elements are playing their part, with role modelling being key. This is inherently intertwined with the more informal mentoring arrangements described by my interview participants. Emergency physicians seek out career mentoring from those that have, in some way, achieved something in their career that is desirable, be that portfolio or LTFT working.

Aim and objectives

In summary, my empirical findings and the discussion above relate to the aim and objectives in the following ways.

A deep understanding of retention in emergency medicine; how retention is made possible

In this thesis, I have shown various ways in which retention is made both in the workplace and at a more "strategic" level. The methods that I have described do not represent a comprehensive list of the approaches that are utilised and available to emergency physicians and emergency departments to foster sustainable working, they are the examples from the contexts that I have studied which were most evident in those specific contexts. Retention in emergency medicine is made possible by the combination of retention work and materialities, both visible in the workplace, and retention strategies which have the effect of limiting exposure to clinical labour in the emergency department.

Explore and identify factors influencing retention

The factors influencing retention identified in the literature are many. Most, however, are restricted in the influence they have. From the factors identified, any may be particularly important for a certain individual, but none dominate. This may go some way to explain the lack of academic studies assessing the influence of efforts to change a particular factor. Any marginal benefit would be difficult to assess using statistical tests due to small changes in measured, often proxy, outcomes, and relatively small population sizes. As such, these studies are either not conducted or fall prey to publication bias and are not published.

Factors that are enacted on a day-to-day basis in the workplace, such as teamwork, peer support, and a focus on education, are important in both the literature and my empirical findings. Flexible working and work-life balance are examples of factors not visible in the workplace observations but revealed in interviews that again have support in the academic literature.

Factors from the literature that negatively impact retention, such as excessive workloads and poor working conditions, are all too obvious in the workplace observations and are repeatedly cited as problems in outputs from RCEM and health policy charities such as the Health Foundation and the King's Fund. These problems show little sign of improvement and are most certainly likely to worsen.

However, the factors that facilitate retention were identified in this context of excessive workloads and poor working conditions. Efforts to support protective factors may be more fruitful than focusing exclusively on the negatives.

Situate descriptions of factors within current education and health policy contexts

The policy landscape is a moving target, something that I have reflected on in this ethnography. What is clear is that retention is an established priority across policy contexts. These same contexts also underappreciate, or entirely neglect, materialities. Education is more visible in policy. However, like its position in the academic literature, it has only passing references to retention. This is an opportunity as retention is a complementary argument for the value of education in healthcare and reinforcing this link in policy terms can help maintain and develop existing policy priorities relating to retention. Some elements of retention work, humour in particular, do not lend themselves to specific policies. However, when taken as a whole, retention work and strategies can be an argument for valuing the people who deliver emergency care. This valuing is not in terms of financial remuneration but by providing physical spaces sufficient to do the work of emergency care and social spaces sufficient to allow interpersonal connections between staff members to develop.

Alongside the realisation of the fluid nature of policy contexts, I have come to appreciate that meeting this research aim is as much about positioning myself in the

policy context as it is the writing around it. I will explain what I mean through this by way of an example. Early in the PhD, I presented the research plan at the Oxford Society of Emergency Medicine conference. On the same bill was the then president of RCEM, Taj Hassan. I spoke to Taj about the research plan, and he introduced me to the chair of the recently formed SWPC. During my email correspondence with Sunil Dasan, it became apparent that the committee required a trainee representative, a role that I took on. Without documenting a detailed history of my association with RCEM, this role led to being EMTA representative on the ATDG, ATDG representative to the HEE Enhancing Junior Doctors' Working Lives (EJDWL) programme and to chairing EMTA and sitting on RCEM council. My efforts to provide written accounts of the current education and health policy context are made more difficult by the pace of change. However, the ethnography and the ethnographer continue to be active in these spheres, and I feel that I have a degree of understanding and a small degree of influence.

Policy and practice recommendations

I have worked with a number of different teams and individuals to produce policy and practice recommendations based on the results of this study and work related to it. These look different in each setting in which they are presented, but common themes are:

- Problems with the working environment and day-to-day working conditions impacts the experience of work and therefore retention.
- Interpersonal interactions between colleagues build links to the workplace. This is built over time and creating time and space to support this could help retention. Threats to this can have unexpected and significant negative impacts.
- Valuing workers by prioritising education is important for retention.
- Flexibility is vital for career sustainability. This is currently achieved primarily through portfolio careers and LTFT working.

In November 2021, the UK Health and Social Care Select Committee announced an inquiry into the health and social care workforce entitled "recruitment, training and retention in health and social care" (UK Parliament, 2021). I contributed to the response

from the Academy of Medical Royal Colleges Trainee Doctor Group (ATDG, 2022), which in turn influenced the response from the wider Academy (AoMRC, 2022). I submitted a response as an individual based on the results of this study (see Appendix 11: Response to Health and Social Care Committee Inquiry). This response translates and summarises the study's findings to inform the inquiry of the impact that the current working environment is having on those working in emergency departments. The response also delineates how emergency physicians manage to make their careers sustainable by prioritising education, developing a community and utilising strategies such as LTFT working and portfolio careers.

I joined the EMTA committee as trainee representative to the SWPC in January 2019 and have had opportunity to input on and develop several documents. With the SWPC I contributed to a practical guide to sustainable working practices for clinical and non-clinical managers in emergency medicine (Dasan and Wilson, 2019), a guide to flexible working and good rota design (Hulbert and Galloway, 2019), a guide to returning to clinical practice after a break (McGregor *et al.*, 2019), a wellness compendium iBook (Hewitt and Kennedy, 2020), a guide to sustainable careers for advanced clinical practitioners (Case and Buxton, 2021), and a letter sent by the RCEM president to all members of parliament in January 2021 with an emergency department in their constituency and the chief executive officers of each trust around the retention problem faced by emergency departments.

With EMTA, I developed a charter outlining adequate rota and rest provisions which departments were encouraged to sign up to. This built on previous work by the committee focusing on rest (EMTA, 2018). While in no way binding, The Rest and Rota Charter (EMTA, 2020) encouraged dialogue, and, as of February 2022, there were 69 departments signed up.

As EMTA representative to the ATDG, one piece of work that I was able to influence is the update to the Gold Guide. This is the framework for delivering postgraduate medical training in the UK. One specific change revolves around time out-of-programme (OOP); this is where a trainee pauses their training for one-to-three years to gain experience outside of the training programme, as I have done with this PhD. The eighth

version of this guide limited the number of these OOPs to one (COPMeD, 2020). Consequently, removing a mechanism for flexibility in training. While the ninth edition has not yet been published, I have been reassured that our suggestion to remove this limit has been actioned (Mamelok, 2022).

Common themes can be identified across these documents that mirror the findings outlined in this thesis, albeit imperfectly. In particular, they stress the value of flexibility, the impact that rotas have on the working lives of emergency physicians, and the difficulty the current working environment poses to the experience of work and retention. These documents, and the work underlying them, occurred alongside this thesis. They influenced each other. In addition to the already actioned recommendations outlined above, several further are planned.

The HEE EJDWL programme was established in March 2016 and is a collaboration of all the UK's statutory educational bodies, the GMC, NHS Employers, the BMA, and the Academy of Medical Royal Colleges (AoMRC). I have been ATDG representative for the EJDWLs programme since March 2021. I have had the opportunity to help with oversight and input across several areas. Pertinent to this thesis is work around flexibility in training, particularly the increasing support for trainees to work LTFT and develop portfolio careers (Golash and Lunat, 2021). I will provide this group with a summary of findings from this PhD as further evidence to continue developing flexibility within healthcare training.

NHS employers produce a recruitment and retention bulletin (an email newsletter). They accept submission for sharing good practice. I will provide them with a paragraph-length summary of the thesis for the newsletter and offer to write a blog expanding on the themes.

I aim to publish the findings of this thesis in a medical journal. When this happens, I will work with the communications teams from the University and the and the study funders (RCEM, BMA Foundation, NIHR) to attempt to maximise exposure. This may involve a press release or correspondence directly to policymakers.

I will utilise links that I have established with researchers in the Republic of Ireland studying workforce problems there and with the Irish Emergency Medicine Trainees' Association to share the results of this study as I believe they will be useful.

My policy and practice recommendations

My policy recommendations reiterate the themes outlined at the start of this section. They support existing policy work but from a different angle, supported by my unique ethnographer-practitioner perspective. This perspective has also helped in work parallel to the thesis, recounted below, that has contributed to shifting the narrative around healthcare workforce retention in emergency medicine and beyond. It might be easier to gain traction with policy makers with novel recommendations, however it is clear from my data, and the research I cite, that the problem is not with the recommendations but with their implementation. However, a consistent message has value and for that reason I outline my recommendations below. These can be summarised as getting the basics of work and the work environment right, but I drill down into some specifics to define the particulars which are important for implementation.

The working environment is a threat to retention—it needs improving. This was highlighted in a report for the GMC that outlined the importance of the working environment for doctors wellbeing and retention (West and Coia, 2019) and has been a theme in outputs from emergency medicine focused organisations (Archer *et al.*, 2016; Bailey *et al.*, 2017; HEE *et al.*, 2017; Bailey *et al.*, 2018; EMTA, 2018; RCEM, 2018; EMTA, 2020; RCEM, 2020a; Bailey *et al.*, 2021) and the broader NHS (HEE *et al.*, 2017; NHS Employers, 2017, 2019; NHS England, 2021). Many things would have to change for the clinical space in the emergency department to improve. Crowding, exit-block, hospital-wide capacity problems, and difficulty accessing social care in the community are problems beyond the power of an individual department or even the specialty to resolve. Individual emergency departments can improve aspects that are within their control. Adequate break facilities, a changing room and a staff toilet, spaces for education and handover that are fit-for-purpose, are all achievable and would impact the workplace experience. This aligns with much of the literature related to the working environment, but has had specific attention in the form of campaigns again both

specific to emergency medicine (EMTA, 2018, 2020) and targeted at the broader NHS (NHS Confederation, 2017; National Institute for Health and Care Excellence, 2017; BMA, 2018; NHS Improvement and NHS England, 2019; NHS Confederation, 2021).

Interpersonal interactions between colleagues create links that help workers stay in a particular emergency department and the specialty. Spaces where this can occur, for example, handover, education, and the break room, must be protected. These interactions also happen as part of day-to-day work in the clinical space. The protection of such spaces is peripherally mentioned in many of the policy documents referred above, however their link to retention is not specified as explicitly. Incorporating retention as part of the argument for protecting these spaces may help persuade decision makers who are unmoved by the more common wellness argument.

Prioritising education is important for retention. Both the time and financial resources dedicated to education in healthcare should be increased. These should be reconceptualised; they are not just a cost. They are an investment in the current and future workforce and a means of improving retention by valuing the workforce. Arguments for prioritising education in healthcare come from many of the different stakeholders including universities (Medical Schools Council, 2021) and NHS agencies (HEE, 2017). Papers from within emergency medicine have started to link this with retention, but only for certain groups such as established consultants providing the clinical educator role (Terry *et al.*, 2021). The argument for retention can support the views of stakeholders and provide an additional argument in favour of prioritising education in emergency medicine and across healthcare more broadly.

Flexibility in terms of working patterns is achievable in emergency medicine. Departments that are struggling to implement self-rostering and annualisation, LTFT working, and portfolio careers should be offered support. Existing guidance from RCEM should be supported with funding to buy out time for clinicians and managers to develop flexibility locally. This could follow a similar arrangement to previous programmes piloted in emergency medicine (Clancy, 2019; Terry *et al.*, 2021).

Strengths and limitations

This study was based on a premise. Previous research focused on those who leave emergency medicine and why; therefore, that we had a good understanding of the causes of exodus. I still think it was right to focus on those who remain to develop understanding around retention. However, I now believe that my understanding of the drivers for exodus from emergency medicine is incomplete and superficial, reflecting the research tendencies in this area which mirrors that discussed in the literature review. The interviews I conducted with doctors who had left emergency medicine contain narratives around exodus, which could be revisited in light of this to try and add some depth to the understanding of why people leave emergency medicine.

The 11-week period for workplace observations at Site A was sufficient without being overly burdensome for the department or me. I had probably collected enough data for the findings herein by the 10-week point, but this was not apparent until I conducted the analysis. Based on the initial fieldwork and subsequent analysis, I believe that a much more focused, and therefore reduced, period of observation would have been sufficient at Site B. Had I anticipated this, I may have been able to organise several shorter periods of observation in a greater variety of departments. This would have caused more work in generating research approvals, which may have delayed the start of data collection, and as it turned out, COVID-19 prevented any further fieldwork beyond Site A. However, I still think this limitation warrants comment as it may be helpful should I have the opportunity to collect further data in the future or should this study inform work in other settings.

I hoped to complete fieldwork at two sites, but I only did fieldwork at one, which could lead to concerns about generalisability. Perhaps the greatest concern with this is that the site where I went was in some significant way atypical from other emergency departments. Clearly Site A was unique, there are no two emergency department the same. However, it does have certain characteristics that I have been able to describe through the thesis which help a reader understand if they can generalise my findings. Certain approaches beyond thick description might have aided the reader but are not possible. A de-anonymised account of is not possible for ethical reasons. Providing more

detail about the work done at Site A, such as number of trauma cases per year, four-hour target performance, or Care Quality Commission rating could have added more detail but risk de-anonymisation. Workforce data is not in general collected or available in a useful format in the NHS, so I could not obtain something like the retention rates for specific groups of staff at Site A which a reader could compare to other sites. A sub-set of generalisability is analytical generalisation and as my study aim was rooted in a problem not in a specific theory a valid argument can be made that the study was not grounded in theory. This threat to analytical generalisability is countered by analytical strengths such as a clearly described process and breadth of theory utilised. As generalisability is considered essentially subjective, even within more positivist orientations, (Kukull and Ganguli, 2012; Burchett *et al.*, 2020) and I have aimed to generate understanding rather than test a hypothesis, this subjective generalisability may be considered a weakness, or inherent to the methodology, but I do not think it invalidates the findings (Crabtree *et al.*, 2013).

Recording of fieldnotes is a potential weakness. I was limited to making written notes, often in a rushed and truncated fashion. Audio recordings may have allowed me to record more accurately the observations and informal talk that occurred in the workplace which may in turn reassure a reader of the validity of these fieldnotes. However, written field notes are the norm in ethnographic practice, an audio recorder may have altered the behaviour of those in the workplace, and expanding of the fieldnotes immediately after a period of observation allowed me to record reflections in a way that might not have been possible with audio-recorded field notes. Moreover, the interviews, which were audio recorded, support the field notes.

Related to the nature of the study as essentially exploratory is that I have had to make choices about what to include and what to exclude from the thesis. As a significant proportion of the analytical work happened during writing many of these are half developed themes which may, had they been fully developed, have proven more fruitful than those presented here. I will not know this unless I get the opportunity to revisit my data and analysis at a later point and present it in a different format.

Being an insider was both a strength and a limitation. I had to make myself notice things that previously blurred in the background, and while this yielded useful insights an outsider researcher may have gained different insights to those I was able to make. Outsider researchers can experience participants telling them what they think they want to hear, my role familiarity risks this phenomenon being even greater. However, ease and speed of access to both interview participants and the research site was facilitated by my status as an emergency physician and it allowed me to draw conclusion directly relevant to the policy domain in which I practice.

Further strengths of this thesis include the rigorous and published scoping review, the publication of the study protocol in advance of the study, a unique approach on an increasing recognised problem and being able to position myself to not only make policy recommendations but to try and influence their implementation.

Recommendations for further research

This thesis has identified several areas which would benefit from greater understanding. Here I will briefly reconstruct these gaps and offer a suggestion for how they might be addressed. This study was built on the premise that previous research has focused on leaving and the reasons for this, however as I discussed above this body of research also has limitations. Many of those I interviewed who had left emergency medicine reported much the same in terms of retention work and strategies as those who stayed, but still left. A re-examination of the interview transcripts seeking to identify why they left could challenge the prevailing notions around drivers for exodus, adding a much-needed level of depth to this body of literature.

As I have previously discussed, a materialities perspective is absent from the literature related to working in emergency care. One place where materialities have proven helpful is developing the body of ideas around “therapeutic landscapes” (Bell *et al.*, 2018, p. 123). I was not able to develop my analysis along these lines. The therapeutic landscapes literature rarely explores an acute healthcare setting and is not typically from the staff’s point of view. Examining the emergency department through this lens for all users of the space would develop the therapeutic landscapes literature and

encourage the development of ideas around the possibility that the physical space of the emergency department can be a positive for both patients and staff.

Previously recruitment to emergency medicine has struggled, but this has not been the case for several years now, with successful campaigns from the medical royal college and statutory educational bodies to improve the image and appeal of the specialty being posited as causative for this trend. Medical students and foundation doctors have also had increased exposure to the specialty. Whether initiatives to improve recruitment have had unplanned consequences on retention is a question that is difficult to address but, I would argue, warrants attention to inform any future alterations to how doctors are encouraged to consider, and be selected for, specialty training.

Other sectors with turnover or retention problems would benefit from developing a detailed contextual understanding of how retention is continually reconfirmed in their setting. Examples where this might prove helpful that are clearly aligned to the context of this thesis are emergency nursing and paramedicine. However, I would argue that a detailed contextual understanding would benefit any setting with a retention problem.

The policy recommendations I have outlined above, along with government policies, could individually or collectively be analysed in terms of impact. Particular examples are if the flexibility agenda from the statutory educational bodies has improved junior doctors working lives and if the changes to training in emergency medicine have impacted attrition.

Conclusion

This study has built on a body of literature that outlines the longstanding problems with staffing emergency care and identifies many factors that influence retention. The empirical data has added to this literature by clarifying which factors are visible in the workplace and those that emergency physicians state are important. In the emergency department, the retention factors that are observable are those which are done in the workplace—they are contextual actions—with prioritising education, teamwork/community and humour being evident in the context that I observed. Actions

primarily occurring out with the emergency department, which mainly reduces the worker's exposure to the particularly challenging working environment, include LTFT working and portfolio careers—both of which I term retention strategies. Informal mentorship supports emergency physicians to work in these ways both through the mentorship relationship and by acting as role models.

The role of the material nature of the emergency department, both objects and space, in the experience of working there and the ability of emergency physicians to work sustainably adds to developing literature on the materialities of healthcare. It also adds an acute and staff-focused perspective to research which has primarily focused on the non-acute setting and the experience of those using services. Emergency physicians find ways to work around the material challenges of the department. They use objects and space to create brief respites, retention strategies in miniature. By paying attention to the context where work takes place and to the more mundane, day-to-day aspects of work, I have shown that a more complete understanding of elements of that work—with retention being my chosen focus—can be developed.

Appendices

Appendix 1: Integrative literature review strategies and searches

Practice or Scholarly Field	**Resource Accessed** *Month and Year Accessed*	**Search Terms**
Business and Management	Business Source Complete *December 2018*	retention or attrition or turnover or intent to leave or intent to stay Sorted by relevance, first 200 titles reviewed
Human Resources	Emerald Insight *December 2018*	retention or attrition or turnover or intent to leave or intent to stay Sorted by relevance, first 200 titles reviewed
Health Professions Education	ERIC – Education Resources Information Center *March 2020* PubMed *March 2020* *Repeated May 2021*	(retention or attrition or turnover or intent to leave or intent to stay) and medical education Sorted by relevance, first 200 titles reviewed (retention or attrition or turnover or intent to leave or intent to stay) and medical education Sorted by relevance, first 200 titles reviewed
Behavioural Economics	EconLit *April 2019*	retention or attrition or turnover or intent to leave or intent to stay Sorted by relevance, first 200 titles reviewed

Psychology	PsycINFO	retention or attrition or turnover or intent to leave or intent to stay Sorted by relevance, first 200 titles reviewed
Sociology of Work and Sociology of Medical Work	SocIndex December 2018	retention or attrition or turnover or intent to leave or intent to stay Sorted by relevance, first 200 titles reviewed
Staff Retention in Healthcare	CINALH – Cumulative Index to Nursing and Allied Health *January 2017 and February 2019*	retention or attrition or turnover or intent to leave or intent to stay Sorted by relevance, first 200 titles reviewed
Staff Retention in Medicine	PubMed *January 2017 and February 2019*	medicine and (retention or attrition or turnover or intent to leave or intent to stay) Sorted by relevance, first 200 titles reviewed
Ethnographies of Emergency Departments	PubMed	ethnography emergency department

Appendix 2: Scoping review search strategies

EMBASE

	Search Term
1	exp physician/ or pediatrician/
2	(physician$ or doctor$ or trainee$ or foundation year or fy1 or fy2 or sho or shos or senior house officer$ or registrar$1 or staff grade or associate specialist$ or consultant$).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading word, candidate term word]
3	p?ediatrician$.mp.
4	(medical practitioner$ or clinician$).mp.
5	or/1-4
6	emergency health service/ or hospital emergency service
7	emergency medicine/ or pediatric emergency medicine/
8	(emergency medical services or emergency service or trauma center$ or trauma centre$).mp
9	(emergency medicine or pediatric emergency medicine).mp.
10	(emergency department$ or emergency room or casualty department$ or "A&E").mp.
11	"accident and emergency".mp.
12	emergency training program$.mp.
13	emergency medical care.mp.
14	or/6-13
15	5 and 14
16	emergency physician/
17	or/15-16
18	workforce/ or health care manpower/ or work schedule/ or work-life balance/ or workload/
19	burnout/ or exp job stress/
20	Career Choice/
21	career mobility/
22	(workforce or manpower or staffing or retention or work-life balance or turnover or leaving medicine or exiting or burnout).mp
23	(career adj4 (choice or mobility or progress$ or ladder or promotion or advancement or satisfaction)).mp
24	or/18-23
25	17 and 24

Cochrane

	Search Term
1	MeSH descriptor: [Physicians] this term only
2	MeSH descriptor: [Pediatricians] explode all trees
3	Physician* or doctor* or trainee* or “foundation year” or fy1 or fy2 or sho or shos or “senior house officer*” or registrar or registrars or “staff grade” or “associate specialist*” or consultant*
4	pediatrician* or paediatrician*
5	"medical practitioner*" or clinician*
6	#1 or #2 or #3 or #4 or #5
7	MeSH descriptor: [Emergency Medical Services] this term only
8	MeSH descriptor: [Emergency Service, Hospital] this term only
9	MeSH descriptor: [Trauma Centers] this term only
10	MeSH descriptor: [Emergency Medicine] this term only
11	MeSH descriptor: [Pediatric Emergency Medicine] this term only
12	“emergency medical services” or “emergency service” or “trauma center*” or “trauma centre*”
13	“emergency medicine” or “pediatric emergency medicine”
14	“emergency department*” or “emergency room” or “casualty department*” or "A&E"
15	"accident and emergency"
16	"emergency training program*"
17	"emergency medical care"
18	#7 or #8 or #9 or #10 or #11 or #12 or #13 or #14 or #15 or #16 or #17
19	#6 and #18
20	MeSH descriptor: [Personnel Loyalty] this term only
21	MeSH descriptor: [Work Schedule Tolerance] this term only
22	MeSH descriptor: [Work-Life Balance] this term only
23	MeSH descriptor: [Workload] this term only
24	MeSH descriptor: [Personnel Turnover] this term only
25	MeSH descriptor: [Burnout, Professional] this term only
26	MeSH descriptor: [Occupational Stress] explode all trees
27	MeSH descriptor: [Career Choice] this term only
28	MeSH descriptor: [Career Mobility] this term only
29	workforce or manpower or staffing or retention or “work-life balance” or turnover or “leaving medicine” or exiting or burnout
30	career near/4 (choice or mobility or progress* or ladder or promotion or advancement or satisfaction)
31	#20 or #21 or #22 or #23 or #24 or #25 or #26 or #27 or #28 or #29 or #30
32	#19 and #31

HMIC

	Search Term
1	medical staff/
2	exp Paediatricians/
3	(physician$ or doctor$ or trainee$ or foundation year or fy1 or fy2 or sho or shos or senior house officer$ or registrar$1 or staff grade or associate specialist$ or consultant$).mp. [mp=title, other title, abstract, heading words]
4	p?ediatrician$.mp
5	(medical practitioner$ or clinician$).mp.
6	or/1-5
7	emergency services/ or emergency hospitals
8	exp emergency health services/ or accident & emergency services/
9	trauma centres/
10	accident & emergency departments/
11	(emergency medical services or emergency service$ or trauma center$ or trauma centre$).mp.
12	(emergency medicine or pediatric emergency medicine).mp.
13	(emergency department$ or emergency room or casualty department$ or "A&E").mp.
14	“accident and emergency".mp.
15	emergency training program$.mp.
16	emergency medical care.mp.
17	or/7-16
18	6 and 17
19	workforce/ or working hours/ or night work/ or shift work/ or unsocial hours/ or staff turnover/ or working conditions/ or working environment/ or occupational stress/ (8095)
20	occupational choice/ or occupational mobility/
21	(workforce or manpower or staffing or retention or work-life balance or turnover or leaving medicine or exiting or burnout or working conditions or job enrichment or quality of work life or workload or work-related illness$).mp.
22	(career adj4 (choice or mobility or progress$ or ladder or promotion or advancement or satisfaction)).mp
23	((length or shift$) adj2 (work or working)).mp.
24	(working hours or unsocial hours).mp.
25	or/19-24
26	18 and 25

PsychINFO

	Search Term
1	exp physicians/
2	(physician$ or doctor$ or trainee$ or foundation year or fy1 or fy2 or sho or shos or senior house officer$ or registrar$1 or staff grade or associate specialist$ or consultant$).mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]
3	p?ediatrician$.mp.
4	medical practitioner$ or clinician$).mp.
5	or/1-4
6	emergency services/
7	(emergency medical services or emergency service or trauma center$ or trauma centre$).mp.
8	(emergency medicine or pediatric emergency medicine).mp.
9	(emergency department$ or emergency room or casualty department$ or "A&E").mp.
10	accident and emergency".mp.
11	emergency training program$.mp
12	emergency medical care.mp.
13	or/6-12
14	5 and 13
15	workforce/ or work-life balance/ or workload/ or employee turnover/ or exp working conditions/ or job enrichment/ or work rest cycles/ or work week length/ or workday shifts/ or person environment fit/ or "quality of work life"/ or workload/ or work related illnesses/
16	exp occupational stress/
17	career change/ or job satisfaction/ or occupational aspirations/ or occupational choice/
18	occupational mobility/
19	(workforce or manpower or staffing or retention or work-life balance or turnover or leaving medicine or exiting or burnout or working conditions or job enrichment or quality of work life or workload or work-related illness$).mp.
20	(career adj4 (choice or mobility or progress$ or ladder or promotion or advancement or satisfaction)).mp.
21	((length or shift$) adj2 (work or working)).mp.
22	or/15-21
23	14 and 22

Business Source Complete

S1	career choice or career decision or career selection or occupation or workforce or manpower or staffing or retention or work-life balance or turnover or leaving medicine or exiting or burnout or career mobility or career choice
S2	(physician or doctor or medical professional) OR paediatrician OR (medical practitioner or clinician) OR emergency physician
S3	emergency training program$ OR emergency medical care OR emergency health service OR hospital emergency services OR emergency medicine OR pediatric emergency medicine OR (emergency service or emergency medical services or trauma centre) OR (emergency department or emergency room or accident and emergency or accident & emergency or a&e or a & e)
S4	(emergency training program$ OR emergency medical care OR emergency health service OR hospital emergency services OR emergency medicine) AND (S1 AND S2 AND S3)

ProQuest Business Premium Collection

(pub(career choice OR career decision OR career selection OR occupation OR workforce OR manpower OR staffing OR retention OR work-life balance OR turnover OR leaving medicine OR exiting OR burnout OR career mobility OR career choice) OR ab(career choice OR career decision OR career selection OR occupation OR workforce OR manpower OR staffing OR retention OR work-life balance OR turnover OR leaving medicine OR exiting OR burnout OR career mobility OR career choice)) AND (pub(physician OR doctor OR medical professional OR paediatrician OR medical practitioner OR clinician OR emergency physician) OR ab(physician OR doctor OR medical professional OR paediatrician OR medical practitioner OR clinician OR emergency physician)) AND (pub(emergency training program OR emergency medical care OR emergency health service OR hospital emergency services OR emergency medicine OR pediatric emergency medicine OR emergency service OR emergency medical services OR trauma centre OR emergency department OR emergency room OR accident AND emergency OR accident emergency OR a e OR a e) OR ab(emergency training program OR emergency medical care OR emergency health service OR hospital emergency services OR emergency medicine OR pediatric emergency medicine OR emergency service OR emergency medical services OR trauma centre OR emergency department OR emergency room OR accident AND emergency OR accident emergency OR a e OR a e))

Emerald Insight

[Anywhere: retention] AND [Anywhere: doctors] AND [Anywhere: emergency medicine]

Appendix 3: Scoping review table of excluded papers

Author, Year Journal Origin	Title	Synopsis	Rationale for exclusion
Aiello and Mellor, 2019 J of Integrated Care UK (England)	Integrating health and care in the 21st century workforce	Describes a series of case studies demonstrating how NHS organisations have adopted integrated workforce models at scale.	The abstract did not specify the areas of practice. The paper did not contain specific example from emergency medicine.
Anwar, 1983 Ann Emerg Med USA	A longitudinal study of Residency trained emergency physicians	Questionnaire study of graduates of US emergency medicine training. Asked about background and demographic characteristics, current practice environment and position, income, clinical and academic responsibilities, career goals, commitment, and job satisfaction.	Focuses on practice demographics and, despite abstract stating the data is analysed with attention to long-term commitment to emergency medicine, a single question about career goals does not merit inclusion in the review.
Anwar and Hogan, 1979 JACEP USA	Residency-trained emergency physicians: where have all the flowers gone?	Questionnaire of newly residency trained emergency medicine physicians at the start of the specialty in the US.	Useful historical context, states some anticipated threats to retention but no specifics.
Aziz et al., 2018 J Coll Physicians Surg Pak Qatar	Female physicians suffer a higher burnout rate: A 10-year experience of the Qatar emergency medicine residency training programme	Questionnaire of emergency physicians who have recently finished training in Qatar focusing on burnout.	Asks reasons for leaving for those who have left, but nothing on retention or sustainability.
Bragard et al., 2015 BMC Res Notes Canada	Quality of work life of rural emergency department nurses and physicians: a pilot study	Questionnaire looking at quality of work life of emergency physicians and emergency department nurses in rural Canada. Pilot study.	Essentially a discussion of the methodological factors that the authors will need to attend to scale up from a pilot study to a larger one.
Branie, 2007 J of Health Org and Mgt UK	Part-time work and job sharing in health care: is the NHS a family-friendly employer?	Interviews and questionnaires of managers and workers doing part-time work and job shares.	Not specific to emergency medicine.
Chan et al., 2014 Hong Kong J. Emerg Med Hong Kong	Emergency physician job satisfaction in Hong Kong	Questionnaire of Hong Kong emergency physicians measuring job satisfaction and intent to leave.	Focus is on intent to leave current workplace not the specialty or profession.
Chen et al., 2017	A survey of the perception of well-being among	Measures self-rated wellness of emergency physicians in Taiwan.	Self-rated measure of intent to leave relates to workplace not profession.

Tzu Chi Medical Journal Taiwan	emergency physicians in Taiwan		
Doan-Wiggins et al., 1995 Acad Emerg Med USA	Practice satisfaction, occupational stress, and attrition of emergency physicians	Questionnaire sent to members of ABEM about self-rated job satisfaction, burnout and intention to quit.	Gives estimates for intent to leave and burnout but superficial and does not really address retention or sustainability.
Elder et al., 2020 Int Emerg Nurs Australia	The demoralisation of nurses and medical doctors working in the emergency department: A qualitative descriptive study	Descriptive qualitative interviews with 6 emergency physicians and 6 emergency department nurses. Thematic analysis of transcripts.	While there is a discussion about coping strategies, the focus is how they cope with the stressors rather than how they use them to facilitate career sustainability.
Flynn, 2013 Ann Emerg Med USA	Emergency care crisis in the United Kingdom and Ireland: Emergency physician exodus looms in wake of pay cuts, staffing shortages	News article summarising the staffing problem in the UK and. Ireland for an international audience.	News item, useful background only.
Gallery et al., 1992 Ann Emerg Med USA	A study of occupational stress and depression among emergency physicians	Questionnaire measuring multiple different psychological scales and intention to leave.	Gives baseline figures for a population but no interrogation for themes or correlation.
Ginde et al., 2010 Ann Emerg Med USA	Attrition from emergency medicine clinical practice in the United States	Measures rate of attrition from United States emergency medicine practice and destination of those leaving.	While rates of attrition are useful, they do not inform what drives retention.
Gregov et al., 2011 Croat Med J Croatia	Stress among Croatian physicians: comparison between physicians working in emergency medical service and health centers: pilot study.	Questionnaire about stress levels for those working in different conditions.	Mostly sampled general practitioners.
Kalynych et al., 2011 Acad Emerg Med USA	Application of margin in life theory to remediation and attrition rates among emergency medicine residents	Abstract for the Society of Academic Emergency Medicine 2011 Annual Meeting. Study aimed to correlate margin in life scores with attrition.	Conference abstract. Further searching identified doctoral dissertation on which the conference abstract was based which was included (Kalynych 2010).
Klasner, 2011 J Investig Med	Attrition rates of pediatric emergency medicine fellowship graduates	Survey elucidating the proportion of those who had completed a specific paediatric emergency	No data beyond estimated attrition rate.

USA		medicine fellowship who still practice paediatric emergency medicine.	
Krywko et al., 2018 Acad Emerg Med USA	Developing a formalized wellness and professional development continuing medical education program for emergency medicine physicians	Faculty are interested in wellness as part of professional development.	No direct link to retention.
Lall et al., 2017 Acad Emerg Med USA	Burnout in board certified emergency medicine physicians	Secondary analysis of the 2014 American Board of Emergency Medicine Longitudinal Survey of emergency physicians looking for factors associated with seriously considering leaving the specialty. Age and self-reported burnout associated with higher intention to quit, career satisfaction and a higher ratio of academic writing or administration time lower intention to quit.	Conference abstract only. Manuscript submitted for publication but not available in time to include in the scoping review.
Lee et al., 2013 Emerg Med J Taiwan	High risk of 'failure' among emergency physicians compared with other specialists: a nationwide cohort study	Cohort study comparing emergency physicians, surgeons and radiologists using national level data to examine rates of leaving the profession. Higher probability of emergency physicians leaving the profession compared with other specialties in Taiwan.	No data beyond estimated attrition rate.
Meurer et al., 2010 Acad Emerg Med USA	The incidence of emergency physician turnover: A prospective cohort study within the INSTINCT trial	Extracts turnover data for emergency physician from administrative data helped to facilitate the running of a clinical trial.	Conference abstract. Measures turnover only. Subsequent paper focuses on this from the context of recruiting to clinical trials.
O'Connor and O'Connor, 2015 Emerg Med Australas Ireland	EM training in Ireland: are we future proof?	Review of changes to specialist training in emergency medicine in Ireland and explore barriers to sustainable, rewarding careers in the speciality.	Conference abstract. Unable to obtain full report from the authors.
Phillips 2016 Emerg Med Australas Australia	A call for ACEM to act on gender inequity in our training programme: A male perspective.	Perspective of a male trainee on gender inequality in emergency medicine in Australia.	Fleeting mention of violence as a threat to retention only link to inclusion criteria.

Reiter et al. 2016 J Emerg Med USA	The emergency medicine workforce: profile and projections.	Discusses the current and projected emergency medicine workforce in the US context.	Neglects retention as a key aspect.
Schneider and Weigl, 2018 PLoS ONE Germany	Associations between psychosocial work factors and provider mental well-being in emergency departments: A systematic review.	Demonstrates links between certain work factors and well-being.	No direct link to retention or sustainability made in the paper.
Smith-Coggins et al., 2014 J Emerg Med USA	Night shifts in emergency medicine: the American Board of Emergency Medicine longitudinal study of emergency physicians.	Questionnaire looking at the impact of night shifts. Emergency physicians report that night shifts negatively impact their health.	Limited to a single question asking if nights shifts had caused them to think about leaving emergency medicine.
Thiemt, 2016 Emerg Med Australas Australia	A call for ACEM to act on gender inequity in our training programme: A female perspective.	Perspective of a female trainee on gender inequality in emergency medicine in Australia.	Alludes to factors related to retention but does not directly address any.
Thomas et al., 1991 Ann Emerg Med USA	Faculty attrition among three specialties.	Questionnaire. Sent to departmental chairs of emergency departments that had emergency medicine trainees and Cardiology and Orthopaedic chairs at the same hospital. Asked who left and what they went to do. Interviewed those who left to try and find out why. Rates of attrition similar across specialties.	Most who left a department didn't leave the specialty. Excluded as solely focused on rates of attrition.
Van der Goot et al., 2020 Med Ed Netherlands	Trainee-environment interactions that stimulate motivation: A rich pictures study	Qualitative interviews with 15 junior doctors using the rich pictures drawing method as a visual tool to capture the complexities of the working environment.	No emergency physicians.
van Schothorst et al., 2017 Eur J Emerg Med Netherlands	The role of emergency physicians in the institutionalization of emergency medicine.	Ethnography of looking at institutional work in emergency medicine in the Netherlands. Institutional work by emergency medicine physicians and other shapes the work domain.	Excluded as no direct link to retention in the article.
Vermare and Frappe, 2012 Ann Fr Med d'Ugence	Career cessation in emergency medicine Abandons de carrières en médecine d'urgence	Questionnaire. Sent to all emergency medicine physicians working in a region of France. 43 questionnaires returned.	Focus on leaving, nil on retention.

France		Between 2000 and 2010 10 of the 43 respondents left emergency medicine.	
Weigl and Schneider, 2017 Int Emerg Nurs Germany	Associations of work characteristics, employee strain and self-perceived quality of care in Emergency Departments: A cross-sectional study.	Questionnaire linking work characteristics with work strain.	Focus on doctors from specialties other than emergency medicine working in the emergency department, for example general practitioners or orthopaedic surgeons. No direct link to retention.
Weyman et al., 2019 Int J Workplace Heal Man UK	One-way pendulum? Staff retention in the NHS: determining the relative salience of recognised drivers of early exit	Focus group defining reasons for leaving the UKs NHS, large survey to rank these in terms of importance. Not clear than any emergency physicians are included in the sample.	Authors offered to review dataset to see if any emergency physicians conducted the survey but unable to at time of writing due to COVID-19.
Wiley et al., 2002 Pediatr Emerg Care USA	A comparison of pediatric emergency medicine and general emergency medicine physicians' practice patterns: Results from the Future of Pediatric Education II Survey of Sections Project	Questionnaire of emergency medicine and paediatric emergency medicine physicians.	One item was intention to leave but no other direct relevance.
Zun, 1996 Acad Emerg Med USA	Emergency physician terminations: doing it right	The paper focuses on dismissal of emergency physicians from a management perspective.	While it has some strategies to avoid getting to that point, dismissal in this context is from an employer, not from the profession.

Appendix 4: Scoping review—methodological details and study characteristics of included papers

Paper Details		Study Methods			
Author Year Journal Origin	Title	Data Collection Method/s Scales/questions	Population	Approach to Analysis	Major Limitations
Estryn-Behar 2011 Emerg Med J France	Emergency physicians accumulate more stress factors than other physicians-results from the French SESMAT study	Questionnaire. Online. Copenhagen Burnout Inventory. Intention to leave (ITL) the profession with a single question. Work-family conflict scale. Satisfaction with pay scale. Job satisfaction scale. Copenhagen Psychological Questionnaire (COPSOQ). Modified Nurses Early Exit (NEXT) questionnaire.	Physicians working in France on a salaried basis. Available on-line a promoted by 2 major associations of physicians. 3196 physicians completed the survey, 538 emergency physicians. The emergency physicians were matched to 1924 physicians by demographic characteristics from the total study population. Available March 28th of 2007 and April 30th of 2008.	Bivariate analyses, using Pearson's Chi-square test, to determine the association of predictors with burnout and ITL. Multivariate analyses of factors linked with burnout and ITL.	Self-reported measures. Single question assessing ITL. Response bias.
Feitosa-Filho et al. 2017 Rev Assoc Med Bras Brazil	Characteristics of training and motivation of physicians working in emergency medicine	Questionnaire. Medical students applied it to participants. Author developed. General characteristics of workplace and participating emergency physicians. Main reasons for working in emergency medicine. Degree of satisfaction. Main reasons they might leave.	Physicians working in emergency departments of medium to large hospitals in a large Brazilian city. 24 of 25 possible sites participated. 659 emergency physicians participated, approx. 75% of those eligible. Conducted January to March 2012.	Descriptive statistics - means and standard deviation or interquartile range and absolute values and percentages. Chi-square test was used for categorical variables and the Mann-Whitney and Kruskal-Wallis for continuous variables.	The authors interchange 'interview' and 'questionnaire'. Unvalidated questionnaire.
Fitzgerald et al. 2017 Emerg Med J UK	The psychological health and well-being of emergency medicine consultants in the UK	Interviews Conducted by the lead author (clinical psychologist). Semi-structured, flexible and non-directive, open questions covering: stressors and challenges at work, relation to psychological health, experiences of	Opportunistic sample of 18 emergency medicine consultants in southwest England. From 5 of 19 eligible sites. The 5 sites had 33 whole time equivalent emergency physicians. Between May and October 2013.	Interpretive phenomenological analysis (IPA). Involved multiple readings of transcripts focusing on the language used and semantic content, explanation, key words and phrases. Grouped into themes exemplified by specific quotations. Important contradictions highlighted. Three level validation. Fellow researcher checked themes were grounded	Selection bias on multiple levels. Consultants working full time only, geographically limited.

		coping in these circumstances and the implications of these experiences on their working career.		in the data, 2 psychologists checked consistency by analysing a sample transcript, 2 participants checked the analysis for representativeness.	
Goldberg et al. 1996 Acad Emerg Med USA	Burnout and Its Correlates in Emergency Physicians: Four Years' Experience with a Wellness Booth	Questionnaire Administered at a wellness booth at a conference. Maslach Burnout Inventory and a 79-item questionnaire related to demographics, practice characteristics, including intent to practice emergency medicine in the future, and health habits.	Opportunistic sample of 1272 emergency physicians attending an annual conference in the USA between 1992 to 1995.	Composite indicators generated from survey responses. Relationship between indicators and moderate/high burnout group and low burnout group compared with chi-squared test. Correlation of each independent variable with raw burnout score determined followed by stepwise logistic regression analysis to rank them. Intercorrelations between significant predictor variables in the multivariate analysis were then examined.	Statistical analysis does not control for multiple comparisons. Selection bias – attendees at a scientific conference who opt to attend the wellness both and complete the questionnaire likely to be different from the wider population of emergency physicians. Self-reported measures of attitudes at a single time point.
Hall et al 1992 Ann Emerg Med USA	Factors Associated with Career Longevity in Residency-Trained Emergency Physicians	Questionnaire. Postal. Personal demographics, training history, professional demographics, the instrument asked those who left emergency medicine to use a three-point scale to rate the importance of aspects of practice in making this decision.	United States emergency physicians who finished training between 1978 and 1982. 539 responses from a population of 858 emergency physicians. 62.8% response rate.	Chi-square and Fisher's exact t to test the differences between responders and non-responders. Fisher's exact t test was used if the number of expected responses in any given group was less than five. Actuarial-method life-table analysis was used to determine the survival rate of emergency physicians. Logistic regression was used to compare those who left emergency medicine with those who remained for personal and professional demographics.	Large number of variables applied to the small group who left risks non-existent correlations appearing by chance. Respondent bias. Limited to early career emergency medicine entering the profession though residency training.
Hall and Wakeman 1999 J Emerg Med USA	Residency-Trained Emergency Physicians: Their Demographics, Practice Evolution, and Attrition from Emergency Medicine	Questionnaire Postal. Updated version of Hall et al. 1992 above. Personal and professional demographics, practice patterns and duties, attrition rate, and reasons for leaving emergency medicine.	US emergency physicians who finished training between 1978 and 1988. 1638 responses from a population of 2874 emergency physicians. 58.3% response rate.	Chi-square and Fisher's exact t-test were used to test the differences between responders and non-responders. Summary statistics were used to evaluate the practice patterns of emergency physicians. Kaplan–Meier life table analysis was used to determine the survival rate of emergency physicians within emergency medicine. Logistic regression was used to compare those who left emergency medicine with those who remained for personal and professional	Ignores non-residency trained emergency physicianss. Unable to obtain mail lists for all residency programmes. Response bias. Large number of variables applied to the small group who left risks non-existent correlations appearing by chance.

				demographics.	
James and Gerrard 2017 Emerg Med J UK	Emergency medicine: what keeps me, what might lose me? A narrative study of consultant views in Wales	Semi-structured interviews. Conduced by lead author - intercalating 4th year medical student. Narrative interviews covering what attracted them to the career, barriers they have encountered, if they had considered leaving, and what keeps them there.	10 consultants from 7 Welsh emergency departments spread across the country. Conducted between February and2 April 2015.	Interviews voice recorded and professionally transcribed. Analysis utilised an approach from applied policy analysis - familiarisation, identifying a thematic framework, indexing, charting and mapping, and interpretation.	Explored the views of 10 emergency physicians in a specific geography, may not translate to other emergency departments or emergency physicians. Selection bias.
Kalynych 2010 UNF Graduate Theses and Dissertations. USA	The Application of Margin in Life Theory in Regard to Attrition and Remediation Among Emergency Medicine Residents	Questionnaire Handed out at training days. Margin in life (psychological theory of adult development) scale (MILS-EM) compared with intention to leave and remediation. EM modification of a validated instrument.	273 responses from 452 emergency medicine residents enrolled in 10 different training programmes across 9 south-eastern states of the United States.	MILS-EM and intention to leave emergency medicine, medicine broadly or chance training programme analysed with Frequency Statistics, t-test and Wilcoxon Mann Whitney. Other null hypothesis addressed in the thesis have their analytical plans described.	Geographically limited convenience sample. Respondent bias. Self-reported measure of intention to leave may not correlate with actual attrition. Distributed by superiors – risk of coercion.
Lloyd et al. 1998 Acad Emerg Med Canada	Predictive Validity of the Emergency Physician and Global Job Satisfaction Instruments	Questionnaire Postal. Current job status. Demographics. Emergency Physician Job Satisfaction (EPJS) and Global Job Satisfaction (GJS) instruments. 14 'reasons for leaving' for those who have left.	232 fulltime Canadian emergency physicians who participated in an earlier study were eligible. 209 responded. Response rate of 93.7%.	Descriptive statistics of attrition rate. Demographics and income of those who continue in emergency medicine and those who have left compared with Chi-square test. EPJS and GJS analysed using one-way ANOVA with Scheffe's test. Descriptive statistics applied to reasons for leaving.	Small and fixed sample limited by participation in a previous study. Missing data. Test properties, particularly of EPJS, poor.
Pflipsen et al. 2019 Ir J Med Sci Ireland	Why our doctors are leaving Irish emergency medicine training	Questionnaire. Free text question asking emergency physicians to reflect on their experience of emergency medicine training in Ireland.	Sent to all 43 emergency physicians who had left the Irish emergency medicine training scheme from 2011 to 2016. Conducted in February 2016. 30 respondents. 71% response rate.	Analytical approach not documented.	None presented by the authors. Small sample, wording of question not presented. No analytical framework for qualitative data.
Takakuwa et al. 2013 Acad Med USA	A National Survey of Academic Emergency Medicine Leaders on the Physician Workforce and Institutional Workforce and Aging Policies	Questionnaire. Online survey instrument. Demographics of respondent and emergency physicians in their programme including age, how out-of-hours shifts are staffed, the policies, practices	Sent to 146 identified emergency medicine leaders. 78 responses. Response rate 53%. Distributed October 2009.	Univariate descriptive statistics for closed question, along with standard deviations for continuous data. Thematic analysis of open questions. Bivariate comparisons by age, gender, or years as an emergency medicine leader with chi-square or	Low response rate of mostly white men over 55. Unvalidated survey requesting large amounts of data. Only sampled from academic emergency departments.

		and attitudes towards emergency physicians in the last decade of their career.		Fisher exact test for categorical data.	
Xu et al. 1994 Acad Emerg Med USA	Emergency Medicine Career Change: Associations with Performances in Medical School and in the First Postgraduate Year and with Indebtedness	Cohort Study. Routinely collected data. Final year students career intention. Physicians current specialty from the American Medical Association Masterfile. Assessment scores from medical school and specialty training. Education dept from the College registrar's office.	Doctors graduating from one United States medical school from 1978 to 1987. Compared: those who choose emergency medicine and stay, those who move into emergency medicine, and those who leave. Complete career choice data for 1943 graduates. 34 had planned on emergency medicine careers. 75 graduates practicing emergency medicine.	Specialty preference and actual specialty cross tabulated. Categorical variables were compared using nonparametric tests. Continuous variable analysed using ANOVA F-tests. Post hoc Duncan tests were performed for analyses with significant F-test results.	Results from a small proportion of graduates from a single United States medical school. Statistical analysis does not control for multiple comparisons. Assumes reliability of routinely collected data.
Xu and Veloski Acad Med 19916th USA	Factors Influencing Physicians' Decisions to Remain in Emergency Medicine	Questionnaire. Distribution method unclear. Rate on a scale how much 23 different factors influenced them to stay in emergency medicine.	Sent to 53 graduates of one United States medical school from 1981-1990 who stated emergency medicine as their career preference. Thirty-six responses (response rate 68%).	Mean scores of self-devised scale (0 = no influence, 1 = minor positive influence, 4 = major positive influence).	Presentation as brief communication means detail is lacking. Small sample. No rationale for choice of scale or questions.

Appendix 5: Statement for submission with a thesis impacted by the COVID-19 pandemic for PGR Students

Statement for Submission with a Thesis
Impacted by the COVID-19 Pandemic for PGR Students

The purpose of this form is to capture the impact of the pandemic on your research. We recommend you submit this form with your thesis to be sent to your examiners for consideration.			
Student Name	Daniel Darbyshire	ID No.	32330128
Department	Medical School	Faculty	FHM
Research type eg Laboratory, field, desk	Field	FT/PT	FT

1. Stage of study when pandemic began (March 2020) e.g. were you planning your project, in the middle of data collection, writing up

I initially planned for two periods of fieldwork. In March 2020, I was coming to the end of the first period.

The second period was planned to start directly after the first. I had a meeting schedule with two key "gatekeepers" on the 20th of March 2020 to go through the logistics of starting.

The study also comprised interviews with four groups. I had completed these face-to-face with the majority of those from the first site. I had done none from the second site. I had also completed a small number with stakeholders and doctors who had left emergency medicine.

2. In what way did the pandemic affect your work? This might be both **personal** including additional caring responsibilities or your own health and wellbeing, or **practical** that you were unable to continue data collection, unable to access labs or office for essential reasons etc

I returned to full-time clinical practice in the emergency department for the first wave. We had a meeting at the trust where I was worked clinically on the 19th of March 2020 to discuss contingency planning for the registrar level rota. That day I did my last interview with a clinician from the first site.

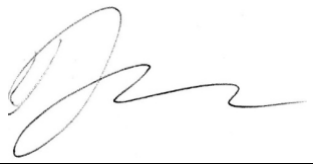
I worked clinically until the birth of my son on the 23rd of July 2020. After which, I had a month of leave before returning to work on this thesis. I also had seven weeks of shared parental leave from the 7th of June to the 23rd of July 2021.

My wife and I could not obtain help with childcare for a year. After this, childcare was occasionally cancelled due to suspected or confirmed COVID-19.

During the final two weeks of writing the thesis, my wife and I contracted COVID-19, which had implications for childcare and impacted the time available to work.

My confirmation panel was planned for the 5th of June and was postponed. It eventually took place on the 7th of October 2020.

3. How did you try to address the impact of the pandemic on your thesis? You may have had to access alternative data, change aims and objectives, collected less data etc
Access to the second site was delayed by the first wave of the pandemic and by my return to clinical practice. Discussion between myself, my supervisors, the university research ethics committee, and the site led to a decision about when fieldwork at this site might be possible. We decided that the lifting of visitor restrictions in the emergency department would indicate that fieldwork would be safe and acceptable to all parties. However, this did not occur during the timeframe of the thesis. I received approval to conduct interviews via video-conferencing software on the 10th of August 2020. I still managed to recruit at the second site despite not completing fieldwork there. The move to video-conferencing seemed to make recruitment and conducting the interviews easier for the stakeholder and doctors who had left emergency medicine groups.
4. Are there any other comments you would like to make?
Despite the many challenges, I have been well supported by my supervisors and by the clinical teams I worked with during the pandemic. Alongside clinical work, during the first wave of the pandemic, I worked with colleagues on research synthesis and dissemination related to COVID-19. This has led to a steady stream of research outputs, but more importantly, a collaboration with a group of peers that has been very helpful for trying to navigate a clinical-academic career path.

Student signature		**Date**	28th March 2022
Primary supervisor signature		**Date**	28 March 2022

Appendix 6: Poster advertising the study

Note that the trust badge has been removed from the top right of the image.

Appendix 7: Interview consent form

Lancaster University

Consent Form

Where have all the doctors gone? An ethnographic study to explore the critical retention problem in Emergency Medicine

We are asking if you would like to take part in a research project trying to understand what allows doctors to stay in practice in emergency medicine at a time when many leave. Before you consent to participating in the study we ask that you read the participant information sheet and mark each box below with your initials if you agree. If you have any questions or queries before signing the consent form please speak to the principal investigator, Daniel Darbyshire.

Please initial each statement

1. I confirm that I have read the information sheet and fully understand what is expected of me within this study
2. I confirm that I have had the opportunity to ask any questions and to have them answered.
3. I understand that my interview will be audio recorded and then made into an anonymised written transcript.
4. I understand that audio recordings will be kept until the thesis has been examined
5. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, without my medical care or legal rights being affected.
6. I understand that once my data have been anonymised and incorporated into themes it might not be possible for it to be withdrawn, though every attempt will be made to extract my data, up to the point of publication.
7. I understand that the information from my interview will be pooled with other participants' responses, anonymised and may be published.
8. I consent to information and quotations from my interview being used in reports, conferences and training events.
9. I understand that the researcher will discuss data with their supervisor as needed.
10. I understand that any information I give will remain confidential and anonymous unless it is thought that there is a risk of harm to myself or others, in which case the principal investigator may need to share this information with their research supervisor.
11. I consent to Lancaster University keeping written transcriptions of the interview for 10 years after the study has finished.
12. I consent to take part in the above study.

Name of Participant_____ **Signature**_____ **Date** _____

Name of Researcher _____**Signature** _____**Date** _____

Version 1.0 22-Feb-19

Appendix 8: Participant information leaflet

Lancaster University

Participant Information Sheet

Where have all the doctors gone? An ethnographic study to explore the critical retention problem in Emergency Medicine

My name is Daniel Darbyshire and I am conducting this research as a student in the PhD programme at Lancaster University, Lancaster, United Kingdom.

What is the study about?
The purpose of this study is to try and understand why some doctors stay in emergency medicine when so many are leaving.

Why have I been approached?
You have been approached because the study requires information from people who have experience of working as a doctor in emergency medicine or you have in a relevant role with an organisation with an interest in retention of doctors in emergency medicine.

Do I have to take part?
No. It's completely up to you to decide whether or not you take part.

What will I be asked to do if I take part?
If you decide you would like to take part, you would be interviewed by myself. I expect the interview to last around an hour. During the interview we will explore a series of issues relating to retention of doctors in emergency medicine with a particular focus on your experience and thoughts.

Will my data be Identifiable?
The data management procedures I use will ensure your anonymity. The data collected for this study will be stored securely and only the researchers conducting this study and a professional transcriber, who will have signed a confidentiality agreement, will have access to this data:

- Recording of interviews will be destroyed once assessment of the thesis has been completed. The recording will be encrypted, password protected and stored on a secure, password protected, university computer.
- The files on the computer will be encrypted (that is no-one other than the researcher will be able to access them) and the computer itself password protected.
- The typed version of your interview will be made anonymous by removing any identifying information including your name. Anonymised direct quotations from your interview may be used in the reports or publications from the study, so your name will not be attached to them.
- All your personal data will be confidential and will be kept separately from your interview responses.

There are some limits to confidentiality: if what is said in the interview makes me think that you, or someone else, is at significant risk of harm, I will have to break confidentiality and speak to a member of staff about this. If possible, I will tell you if I have to do this.

Version 1.0 22-Feb-19

You may think that anonymity is impossible or undesirable for you, perhaps because you hold a high-profile role in a national organisation. If you would like to take part in an non-anonymised fashion that is possible.

What about data protection?
Lancaster University will be the data controller for any personal information collected as part of this study. Under the GDPR you have certain rights when personal data is collected about you. You have the right to access any personal data held about you, to object to the processing of your personal information, to rectify personal data if it is inaccurate, the right to have data about you erased and, depending on the circumstances, the right to data portability. Please be aware that many of these rights are not absolute and only apply in certain circumstances. If you would like to know more about your rights in relation to your personal data, please speak to the researcher on your particular study.

What will happen to the results?
The results will be summarised and reported in a dissertation and will be submitted for publication in an academic or professional journal.

Are there any risks?
There are no risks anticipated with participating in this study. However, if you experience any distress following participation you are encouraged to inform the researcher and contact the resources provided at the end of this sheet.

Are there any benefits to taking part?
Although you may find participating interesting, there are no direct benefits in taking part.

Who has reviewed the project?
This study has been reviewed and approved by the Faculty of Health and Medicine Research Ethics Committee at Lancaster University.

Where can I obtain further information about the study if I need it?
If you have any questions about the study, please contact the main researcher:
Dr. Daniel Darbyshire
d.darbyshire@lancaster.ac.uk

Supervisors
Dr Dawn Goodwin
Tel: +44 (0)1524 592756
Email: d.s.goodwin@lancaster.ac.uk

Dr Liz Brewster
Tel: +44 (0)1524 595018
Email: e.brewster@lancaster.ac.uk

Complaints
If you wish to make a complaint or raise concerns about any aspect of this study and do not want to speak to the researcher, you can contact:

Professor Jo Knight Tel: (01524) 594800
Chair in Applied Data Science and Head of Research, Lancaster Medical School
Email: jo.knight@lancaster.ac.uk
Lancaster University
Lancaster
LA1 4YG

If you wish to speak to someone outside of the Medical School's Doctorate Programme, you may also contact:

Professor Roger Pickup Tel: +44 (0)1524 593746
Associate Dean for Research Email: r.pickup@lancaster.ac.uk
Faculty of Health and Medicine
(Division of Biomedical and Life Sciences)
Lancaster University
Lancaster
LA1 4YG

Thank you for taking the time to read this information sheet.

Resources in the event of distress

Should you feel distressed either as a result of taking part, or in the future, the following resources may be of assistance:

BMA Wellbeing Support Services

Offer confidential counselling and peer support services to doctors and medical students. The helpline and counselling is available 24/7 and be accessed by calling 0330 123 1245
More information about the service can be obtained from:

- https://www.bma.org.uk/advice/work-life-support/your-wellbeing/counselling-and-peer-support
- 020 7383 6739
- wellbeingsupport@bma.org.uk

Tea and Empathy

A Facebook based online support network for doctors. The public group can be viewed by anyone but access to the private group can be obtained by emailing the administrator. You can post questions and ask for support openly or anonymously. The best way to find it is to Google 'Tea and Empathy'.

Local Support

Remember if you are a trainee or junior doctor you can speak to your education supervisor or training programme director for support. You can access occupational health support both locally or through the lead employer. If you are not a junior doctor then you can ask your line manager for support. And don't forget your GP.

Lead employer occupational health details for trainees:

- https://sharedservices.sthk.nhs.uk/health-work-and-wellbeing/health-services-offered/
- Email: Well.being@sthk.nhs.uk
- Telephone: 0151 290 4070

Site A occupational health details:

- Website redacted
- Telephone via switchboard: redacted

Site B occupational health details:

- Website redacted
- Telephone: redacted
- Email: redacted

Appendix 9: Research approvals

Lancaster University

Applicant: Daniel Darbyshire
Supervisor: Dawn Goodwin and Liz Brewster
Department: Health Research
FHMREC Reference: FHMREC18

15 April 2019

Dear Daniel

Re: Where have all the doctors gone? An ethnographic study to explore the critical retention problem in Emergency Medicine

Thank you for submitting your research ethics application for the above project for review by the **Faculty of Health and Medicine Research Ethics Committee (FHMREC)**. The application was recommended for approval by FHMREC, and on behalf of the Chair of the Committee, I can confirm that approval has been granted for this research project.

As principal investigator your responsibilities include:

- ensuring that (where applicable) all the necessary legal and regulatory requirements in order to conduct the research are met, and the necessary licenses and approvals have been obtained;
- reporting any ethics-related issues that occur during the course of the research or arising from the research to the Research Ethics Officer at the email address below (e.g. unforeseen ethical issues, complaints about the conduct of the research, adverse reactions such as extreme distress);
- submitting details of proposed substantive amendments to the protocol to the Research Ethics Officer for approval.

Please contact me if you have any queries or require further information.

Tel:- 01542 593987
Email:- fhmresearchsupport@lancaster.ac.uk

Yours sincerely,

R·E·Case

Becky Case
Research Ethics Officer, Secretary to FHMREC.

Ymchwil Iechyd a Gofal Cymru
Health and Care Research Wales

NHS
Health Research Authority

Dr Daniel Darbyshire
Room B33
Furness College
Lancaster University
LA1 4YW

Email: hra.approval@nhs.net
HCRW.approvals@wales.nhs.uk

11 November 2019

Dear Dr Darbyshire

HRA and Health and Care Research Wales (HCRW) Approval Letter

Study title:	**Where have all the doctors gone? An ethnographic study to explore the critical retention problem in Emergency Medicine**
IRAS project ID:	**256306**
Protocol number:	**FHMREC18158**

I am pleased to confirm that **HRA and Health and Care Research Wales (HCRW) Approval** has been given for the above referenced study, on the basis described in the application form, protocol, supporting documentation and any clarifications received. You should not expect to receive anything further relating to this application.

Please now work with participating NHS organisations to confirm capacity and capability, in line with the instructions provided in the "Information to support study set up" section towards the end of this letter.

How should I work with participating NHS/HSC organisations in Northern Ireland and Scotland?
HRA and HCRW Approval does not apply to NHS/HSC organisations within Northern Ireland and Scotland.

If you indicated in your IRAS form that you do have participating organisations in either of these devolved administrations, the final document set and the study wide governance report (including this letter) have been sent to the coordinating centre of each participating nation. The relevant national coordinating function/s will contact you as appropriate.

Please see IRAS Help for information on working with NHS/HSC organisations in Northern Ireland and Scotland.

How should I work with participating non-NHS organisations?
HRA and HCRW Approval does not apply to non-NHS organisations. You should work with your non-NHS organisations to obtain local agreement in accordance with their procedures.

What are my notification responsibilities during the study?

The *"After HRA Approval – guidance for sponsors and investigators"* document on the HRA website gives detailed guidance on reporting expectations for studies with HRA and HCRW Approval, including:

- Registration of Research
- Notifying amendments
- Notifying the end of the study

The HRA website also provides guidance on these topics and is updated in the light of changes in reporting expectations or procedures.

Who should I contact for further information?
Please do not hesitate to contact me for assistance with this application. My contact details are below.

Your IRAS project ID is **256306**. Please quote this on all correspondence.

Yours sincerely,

Kevin Ahmed
HRA Approvals Manager

Telephone: 0207 104 8171
Email: hra.approval@nhs.net

Copy to: *Becky Gordon*

List of Documents

The final document set assessed and approved by HRA and HCRW Approval is listed below.

Document	*Version*	*Date*
Copies of advertisement materials for research participants [Poster]	1.0	03 March 2019
Evidence of Sponsor insurance or indemnity (non NHS Sponsors only) [Insurance]		18 April 2019
HRA Statement of Activities [N/A]	1.0	17 April 2019
Interview schedules or topic guides for participants [N/A]	1.0	04 March 2019
IRAS Application Form [IRAS_Form_10062019]		10 June 2019
Letter from funder [BMA Kathleen Harper Award]		18 June 2018
Letter from sponsor [Sponsorship letter]		18 April 2019
Letters of invitation to participant [Appendix 1.8a Email Interview Invite - field site v1.0]	1.0	04 March 2019
Other [Appendix 1.7b consent form - not anonymous v1.1]	1.0	04 March 2019
Other [Appendix 1.8b Email Interview Invite - stake holder v1.0]	1.0	12 February 2019
Other [Appendix 1.3 CV of Doctoral Supervisor L Brewster]	1.0	12 February 2019
Other [Appendix 1.4 CV of Doctoral Supervisor R Isba]	1.0	13 February 2019
Other [Appendix 1.5 CV of Doctoral Supervisor R Body]	1.0	17 April 2019
Other [Appendix 2.8 Funding Letter - RCEM_NIHR Young Investigator Award]	1.0	20 February 2019
Other [Appendix 2.7b Terms and Conditions - BMA Foundation]	1.0	18 June 2018
Other [Appendix 2.8 Funding Letter - RCEM_NIHR Young Investigator Award]	1.0	19 February 2019
Other [PN Insurance]	1.0	18 April 2019
Other [Appendix 1.10 Certificate of Participation v1.0]	1.0	
Participant consent form	1.1	02 March 2019
Participant information sheet (PIS)	1.1	02 April 2019
Research protocol or project proposal [Protocol for Retention in EM Study]	1.1	02 April 2019
Organisation Information Document	1.0	11 November 2019
Schedule of Events or SoECAT [SoECAT]	1.0	26 April 2019
Summary CV for Chief Investigator (CI)		11 February 2019
Summary CV for student		11 February 2019
Summary CV for supervisor (student research)		04 March 2019

Appendix 10: Research approval amendments

Applicant: Daniel Darbyshire
Supervisor: Dawn Goodwin, Liz Brewster
Department: LMS
FHMREC Reference: FHMREC19133 (amendment to FHMREC18058)

15 July 2020

Re: FHMREC19133 (amendment to FHMREC18058)
Where have all the doctors gone? An ethnographic study to explore the critical retention problem in Emergency Medicine

Dear Daniel,

Thank you for submitting your research ethics amendment application for the above project for review by the **Faculty of Health and Medicine Research Ethics Committee (FHMREC)**. The application was recommended for approval by FHMREC, and on behalf of the Chair of the Committee, I can confirm that approval has been granted for the amendment to this research project.

As principal investigator your responsibilities include:

- ensuring that (where applicable) all the necessary legal and regulatory requirements in order to conduct the research are met, and the necessary licenses and approvals have been obtained;
- reporting any ethics-related issues that occur during the course of the research or arising from the research to the Research Ethics Officer at the email address below (e.g. unforeseen ethical issues, complaints about the conduct of the research, adverse reactions such as extreme distress);
- submitting details of proposed substantive amendments to the protocol to the Research Ethics Officer for approval.

Please contact me if you have any queries or require further information.

Email:-fhmresearchsupport@lancaster.ac.uk

Yours sincerely,

Dr. Elisabeth Suri-Payer,
Interim Research Ethics Officer, Secretary to FHMREC.

Subject: [External] IRAS 256306. Amendment
Date: Monday, 10 August 2020 at 07:40:30 British Summer Time
From: New IRAS Dev
To: Darbyshire, Daniel

IRAS Project ID: 256306
Sponsor amendment reference: Amendment 1

Thank you for submitting your study amendment. In accordance with the outcome of your completed amendment tool, this amendment requires no further regulatory review. Please now share this amendment with your UK research sites, in accordance with the instructions in your completed amendment tool.

For studies with more than one UK research site, your amendment will now be automatically shared with the R&D offices of any NHS/HSC research sites in Scotland and Northern Ireland, but you should share the amendment by email directly with those Research team/s.

For all NHS research sites in England and Wales, please now share this amendment by email directly with those sites, including both the R&D offices and research teams.

Do not reply to this email as this is an unmonitored address and replies to this email cannot be responded to or read.

Appendix 11: Response to Health and Social Care Committee Inquiry

HEALTH AND SOCIAL CARE COMMITTEE INQUIRY

WORKFORCE: RECRUITMENT, TRAINING AND RETENTION IN HEALTH AND SOCIAL CARE

Response from:

Dr Daniel Darbyshire, Lancaster University Medical School

Researcher Studying Sustainable Careers in Emergency Care

ABOUT THE AUTHOR

I have several roles which have informed this response. I am a senior trainee in emergency medicine based in the northwest of England. I have previously been trainee representative to the Royal College of Emergency Medicine's (RCEM) Sustainable Working Practices Committee, and I am currently chair of the Emergency Medicine Trainees' Association and represent emergency medicine trainees at RCEM Council and on the Academy of Medical Royal Colleges Trainee Doctors Group. Each of these organisations have prepared a separate response to this inquiry.

This response is based on my currently research, which is currently being written up for submission for my doctoral thesis, on retention of doctors in emergency medicine. This research focuses on one particular group where the problems that this inquiry seeks to address are particularly acute, I believe the results may be of use to the enquiry in general.

ABOUT THE RESEARCH

The development of the research was funded by the BMA Foundation Kathleen Harper Award and the RCEM/NIHR Young Researcher Award. The study was funded through an NIHR Doctoral Fellowship.

The host institute in Lancaster University.

The study involved 3 months of workplace observation and interviews with emergency physicians, policy makers, and people who had left the practice of emergency medicine.

The aim of the study was to gain a deep understanding of retention in emergency medicine; to elucidate how retention is made possible. The objectives were to:

- understand in detail the day-to-day lived experience of emergency medicine doctors to identify and explore factors influencing retention.
- situate these descriptions within the current educational and health policy contexts.

- advance the debate and make policy and practice recommendations based on a detailed understanding of retention of medical staff in emergency medicine.

Workplace observations took place from January to March 2020 with interviews occurring from February 2020 to January 2021.

Greater detail on the methods of the study can be found in the open access protocol.

This empirical work supports the results of a scoping review on retention of doctors in emergency medicine also available open access.

Summary

The emergency department is a challenging working environment which is having an impact on staff retention.

Prioritising education is one way that emergency physicians try to make their careers sustainable, making them feel valued and supporting entrustment, autonomy, and competence.

Developing a community within the emergency department happens over time and through low-key interactions. This is important for building trust and patient safety as well as retention.

Less-than-full-time working, and portfolio careers are the two main retention strategies that emergency physicians employ.

Intelligent rotas administered with compassion are vital for those working in emergency medicine.

Role models demonstrating, and mentors supporting, sustainable careers are important.

1. Working Environment

The working environment experienced by those working in emergency departments is a threat to staff retention. In the context of a built environment that is, in many places, outdated and not fit for purpose is the experience of working in a crowded emergency department. The impact of crowding on patient outcomes and experience has rightly received significant attention, what this study adds is that it is having a detrimental impact on those who work in it, including clinicians who are reducing the number of hours they work in the emergency department with some leaving entirely.

Poor quality spaces for completing work that supports the delivery of emergency care also impacts the experience of working in the emergency department. Offices are neglected, lack windows, and have insufficient desks, chairs, and computers. They are not always clean. In essence they are neglected which has the effect of devaluing the workforce.

A similar neglect can be seen in the poor quality, or complete lack of, essential services for delivering health care 24/7 in modern Britain. Staff are given nowhere to park and encouraged to use public

transport or cycle, but transport links are poor and facilities to shower, change, and store belongings are limited or absent entirely. Staff working night shifts do not have access to hot food, and in some places nowhere to buy food or drink or any description. Staff break rooms are too small, poorly furnished, and like other spaces, neglected.

Essential clinical equipment, including IT in clinical areas, is used constantly and as such not well maintained. Often equipment, such as desktop PCs, is not designed for such intense use. Therefore, broken equipment is a routine experience of working in an emergency department, this slows the pace at which emergency physicians are able to work which in turn erodes job satisfaction.

2. Education

Emergency physicians of all levels engage in educational activities during a clinical shift. This is vital for supervision, patient safety, and the development of a learning culture. It is also vital for staff retention. Prioritising education, whether in the clinical environment or classroom, makes learners feel valued. It also has the effect of adding variety to the workday for those providing the education. Education supports the development of entrustment and autonomy, both vital for developing clinical competence and increasing seniority and a sustainable career.

3. Community

Emergency physicians consistently rate working in the context of the team in the emergency department as vital for retention. This is a large team and may be helpfully considered as a community. Links between individuals that build this community are developed slowly, over time, and through low-key interactions such as brief conversations and humour. Such linkages build trust which in turn helps with the delivery of safe and effective care by facilitating communication and removing barriers to challenging error. Efforts to build community and develop teams need to be locally tailored to be successful, but all require time, effort, and resources. The benefit of building a community within an emergency department in terms of staff retention can be used as a convincing argument to advocate for resources.

4. Retention Strategies

Emergency physicians utilise a number of strategies to try and make their career sustainable. Of these less-than-full-time working and portfolio careers are the two most used. Both have the effect of limiting the number of hours an emergency physician spends in the emergency department in a working week, a clear response to the challenging working environment.

A fulltime working week for many emergency physicians can be up to 48 hours, with many doing additional administrative, research, or educational tasks on top on this. For many this is unsustainable

and in part explains the increased prevalence of less-than-full-time working. As well as limiting the number of hours an emergency physician works this increases the time available for recovery and increases flexibility. For trainees this has been facilitated by the flexibility agenda of the statutory educational bodies, with the less-than-full-time pilot in England being a particular example. Previously trainees required approval based on a limited number of circumstances to work less-than-full-time, the pilot allowed trainees to choose to do so for any reason. The analysis of the pilot supports the benefits of less-than-full-time working for career sustainability, and the pilot has now been rolled out to several other specialties.

Some trainees work less-than-full-time to provide time for a portfolio career. Portfolio careers are particularly common, and important for, the consultant workforce. Additional roles in leadership, research, and education provide variety in the working week, allow for the development of additional skills, and are vital for career sustainability.

Well managed rotas, including self-rostering solutions, administered with compassion are important for those wishing to work less-than-full-time or have portfolio careers but they are also important for those who do not utile these strategies. Despite clear guidance on the importance of rest and rotas from the Emergency Medicine Trainees' Association and on how to deliver them from RCEM's Sustainable Working Practice Committee many departments still fail to provide rota which meet the needs of their doctors. This can lead to exhaustion and disillusionment which in turn impact retention.

Mentoring, both formal and informal, along with role models, are vital to support emergency physicians to develop and maintain sustainable careers utilising the strategies outlined above and to respond to the changing workplace and healthcare economy.

Glossary and abbreviations

ALS – Advanced Life Support. Course focused on resuscitating the seriously ill patient.

AoMRC – Academy of Medical Royal Colleges. Coordinating body for specialty colleges and faculties in the UK and Ireland.

ATDG – Academy Trainee Doctors' Group. Group comprising representatives and chairs of all trainee groups associated with specialty colleges and faculties. Part of the AoMRC.

ATLS – Advanced Trauma Life Support. Course focused on resuscitating the seriously injured patient.

BMA – British Medical Association. Registered trade union for doctors in the UK.

COPMeD – Conference of Postgraduate Medical Deans. Provides a forum for the leads for postgraduate training in the NHS to discuss issues and share best practice.

Core Trainee – In emergency medicine, this is the first three years of specialty training. It involves training in the emergency department and placements in anaesthesia, acute medicine, intensive care, and paediatric emergency medicine. The years are often abbreviated to CT1 to 3.

CPR – Cardiopulmonary Resuscitation. Described on page 79.

DGH – District General Hospital. More detail in footnote 26 above.

ECG – Electrocardiogram. Heart tracing.

EDT – Educational Development Time. Introduced in the 2021 emergency medicine training curriculum. Increased the time trainees have for work other than seeing patients in the emergency department to help them meet curricular requirements. Discussed in the section on LTFT working above.

EJDWL – Enhancing Junior Doctors' Working Lives. HEE programme established in March 2016. A collaboration of all the UK's statutory educational bodies, the GMC, NHS Employers, the BMA, and the AoMRC. Has progressed LTFT training and flexibility in medical training.

EMTA – Emergency Medicine Trainees' Association.

ETA – Estimated Time of Arrival.

F1/F2/FY1/FY2 – Foundation Year 1 and 2. More detail in footnote 1 above.

FAST – Focussed Assessment with Sonography for Trauma. A scan of the abdomen looking for blood. Sonography is another name for the practice of ultrasound scanning. Part of POCUS in emergency medicine.

GMC – General Medical Council. Public body that regulates doctors in the UK.

HEE – Health Education England. The statutory education body for healthcare education in England. It is an executive non-departmental public body of the Department of Health and Social Care. It provides leadership and coordination around training of the health workforce in England.

HRA – Health Research Authority. Manages and coordinates ethical approval for research conducted in the NHS.

ICM – Intensive Care Medicine. Medical specialty that deals with seriously ill patients, i.e., those who have a life-threatening condition. Also called critical care medicine.

LTFT – Less Than Full Time. Refers to working hours. For doctors in the UK, full-time is between 40 and 48 hours per week. LTFT is generally either at 80%, 70%, 60% or 50% of full time equivalent for trainees.

MMC – Modernising Medical Careers. A programme for postgraduate medical training in the UK that was introduced in 2005. The Tooke report (see footnote 9 above) investigated its failings.

MTC – Major trauma centre. More detail in footnote 26 above.

NHS – National Health Service. The publicly funded health system in England and one of four NHS systems in the UK.

NHS Employers – Represents NHS organisations as employers. They negotiate contracts and terms and conditions on behalf of the government and produce best practice guidelines related to employment matters.

NIHR – National Institute for Health Research. Government agency that funds research into health and social care.

OOP – Out of Programme. Where a trainee pauses their training for one-to-three years to gain experience outside of the training programme. Common OOPs include research, education, leadership, and management.

POCUS – Point of Care Ultrasound. Ultrasound is a type of medical imaging that does not involve radiation. POCUS refers to using it at the bedside rather than in the radiology department to help with diagnoses or procedures.

PPE – Personal Protective Equipment.

RAT – Rapid Assessment and Treatment. An area of some emergency departments. More detail in footnote 29 above

RCEM – The Royal College of Emergency Medicine. Independent professional association for the specialty. Sets standards for training, administers examinations and awards Fellowship of the Royal College of Emergency Medicine required for consultant practice.

REC – Research Ethics Committee.

SPA – Supporting Professional Activities. Non-clinical work done by consultants, More detail in 36 above.

ST1-ST6 – Specialty Training year 1 to 6. Used as shorthand to designate the seniority of a trainee. In emergency medicine, ST1 to 3 are sometime referred to as CT1 to 3. Sometimes ST4 to 6 are referred to as HST, Higher Specialty Trainee, 4 to 6.

SWPC – Sustainable Working Practices Committee. A committee of RCEM. More detail in footnote 12 above.

References

Aagaard, E.M. & Hauer, K.E. (2003) A cross-sectional descriptive study of mentoring relationships formed by medical students. *Journal of General Internal Medicine*, 18(4), 298–302.

Abbott, P. & Meerabeau, L. (1998) *The sociology of the caring professions*. 2nd edn. New York, NY: Routledge.

Allen, D. (2004) Ethnomethodological insights into insider–outsider relationships in nursing ethnographies of healthcare settings. *Nursing Inquiry*, 11(1), 14–24.

Allen, D.G. et al. (2014) Analytical mindsets in turnover research. *Journal of Organizational Behavior*, 35(S1), S61–S86.

Allen, J.A. & Mueller, S.L. (2013) The revolving door: a closer look at major factors in volunteers' intention to quit. *Journal of Community Psychology*, 41(2), 139–155.

Andrew, N. et al. (2009) Developing professional identity in nursing academics: the role of communities of practice. *Nurse Education Today*, 29(6), 607–611.

Anselmi, L. et al. (2017) Arrival by ambulance explains variation in mortality by time of admission: retrospective study of admissions to hospital following emergency department attendance in England. *BMJ Quality & Safety*, 26(8), 613–621.

Anyangwe, S.C.E. & Mtonga, C. (2007) Inequities in the global health workforce: the greatest impediment to health in Sub-Saharan Africa. *International Journal of Environmental Research and Public Health*, 4(2), 93–100.

AoMRC (2022) *Workforce: recruitment, training and retention in health and social care inquiry—Academy of Medical Royal Colleges response*. London, UK: Academy of Medical Royal Colleges. Available at: https://www.aomrc.org.uk/wp-content/uploads/2022/01/AoMRC_HSC_inquiry_response_0122.pdf [Accessed: 14 February 2022].

Archer, K. et al. (2016) *EMTA trainee survey 2015*. London, UK: Emergency Medicine Trainees' Association. Available at: http://www.emtraineesassociation.co.uk/emta-surveys.html# [Accessed: 4 February 2019].

Åstedt-Kurki, P. & Liukkonen, A. (1994) Humour in nursing care. *Journal of Advanced Nursing*, 20(1), 183–188.

ATDG (2022) *Workforce: recruitment, training and retention in health and social care inquiry—Academy Trainee Doctors' Group response*. London, UK: Academy of Medical Royal Colleges. Available at: https://www.aomrc.org.uk/wp-content/uploads/2022/01/ATDG_HSC_inquiry_response_0122.pdf [Accessed: 14 February 2022].

Atkinson, P. (1995) *Medical talk and medical work*. London, UK: SAGE.

Atkinson, V. et al. (2018) Endemic unprofessional behaviour in health care: the mandate for a change in approach. *Medical Journal of Australia*, 209(9), 380–381.

Ayaß, R. (2020) Doing waiting: an ethnomethodological analysis. *Journal of Contemporary Ethnography*, 49(4), 419–455.

Azeez, S.A. (2017) Human resource management practices and employee retention: a review of literature. *Journal of Economics, Management and Trade*, 18(2), 1–10.

Bailey, J. et al. (2017) *EMTA survey 2016*. London, UK: Emergency Medicine Trainees' Association. Available at: http://www.emtraineesassociation.co.uk/emta-surveys.html# [Accessed: 4 February 2019].

Bailey, J. et al. (2018) *EMTA survey 2017*. London, UK: Emergency Medicine Trainees' Association. Available at: http://www.emtraineesassociation.co.uk/emta-surveys.html# [Accessed: 4 February 2019].

Bailey, J. et al. (2021) *EMTA survey 2020*. London, UK: Emergency Medicine Trainees' Association. Available at: https://www.emtraineesassociation.co.uk/emta-surveys [Accessed: 12 October 2021].

Bailliard, A.L. et al. (2018) The inescapable corporeality of occupation: integrating Merleau-Ponty into the study of occupation. *Journal of Occupational Science*, 25(2), 222–233.

Beagan, B. (2001) Micro inequities and everyday inequalities: 'race,' gender, sexuality and class in medical school. *The Canadian Journal of Sociology*, 26(4), 583–610.

Bell, S.L. et al. (2018) From therapeutic landscapes to healthy spaces, places and practices: a scoping review. *Social Science & Medicine*, 196, 123–130.

Bergmark, U. et al. (2018) Why become a teacher? Student teachers' perceptions of the teaching profession and motives for career choice. *European Journal of Teacher Education*, 41(3), 266–281. Routledge.

Bjerregaard, K. et al. (2017) The shared experience of caring: a study of care-workers' motivations and identifications at work. *Ageing & Society*, 37(1), 113–138.

BMA (2018) *BMA fatigue and facilities charter*. London, UK: British Medical Association. Available at: https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwithJin5_X5AhWSUcAKHRbnD9cQFnoECAoQAQ&url=https%3A%2F%2Fwww.bma.org.uk%2Fmedia%2F1076%2Fbma-fatigue-and-facilities-charter_july2018.pdf&usg=AOvVaw3GkxwDBltNKh8Fw7W0Z_NI [Accessed: 1 October 2019].

BMA & NHS Employers (2018) *Good rostering guide*. London, UK: British Medical Association. Available at: https://www.bma.org.uk/media/1979/bma-nhse-good-rostering-guidance-may2018.pdf#page=17 [Accessed: 12 May 2021].

Booker, M.J. et al. (2019) Ambulance use for 'primary care' problems: an ethnographic study of seeking and providing help in a UK ambulance service. *BMJ Open*, 9(10), e033037. British Medical Journal Publishing Group.

Boyle, A. (2016) *Consultant sign-off*. London, UK: Royal College of Emergency Medicine. Available at: https://www.rcem.ac.uk/docs/Consultants%20Sign%20off/Consultant%20Sign%20Off_June%202016.pdf [Accessed: 10 February 2021].

Boyle, A. & Todd, C. (2003) Incidence and prevalence of domestic violence in a UK emergency department. *Emergency Medicine Journal*, 20(5), 438–442.

Braun, V. et al. (2019) Thematic analysis. In: Liamputtong, P. (ed.) *Handbook of research methods in health social sciences*. [Online]. Singapore: Springer Singapore. Available at: doi:10.1007/978-981-10-5251-4_103 [Accessed: 18 September 2019].

Braun, V. & Clarke, V. (2013) *Successful qualitative research: a practical guide for beginners*. London, UK: SAGE.

Braun, V. & Clarke, V. (2019) Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health*, 11(4), 589–597.

Brewer, J.D. (2004) Imagining The Sociological Imagination: the biographical context of a sociological classic. *The British Journal of Sociology*, 55(3), 317–333.

Brinkmann, S. & Kvale, S. (2014) *InterViews*. 3rd edn. London, UK: SAGE Publications.

Britnell, M. (2019) *Human: solving the global workforce crisis in health care*. Available at: https://www.nuffieldtrust.org.uk/news-item/human-solving-the-global-workforce-crisis-in-health-care [Accessed: 10 June 2019].

Brook, J. et al. (2019) Characteristics of successful interventions to reduce turnover and increase retention of early career nurses: a systematic review. *International Journal of Nursing Studies*, 91, 47–59.

Brown, B. et al. (2008) The habitus of hygiene: discourses of cleanliness and infection control in nursing work. *Social Science & Medicine*, 67(7), 1047–1055.

Brownlie, J. & Spandler, H. (2018) Materialities of mundane care and the art of holding one's own. *Sociology of Health & Illness*, 40(2), 256–269.

Brummell, S.P. et al. (2016) Cardiopulmonary resuscitation decisions in the emergency department: an ethnography of tacit knowledge in practice. *Social Science & Medicine*, 156, 47–54.

Bucerius, S.M. (2013) Becoming a "trusted outsider": gender, ethnicity, and inequality in ethnographic research. *Journal of Contemporary Ethnography*, 42(6), 690–721.

Burchett, H.E.D. et al. (2020) When assessing generalisability, focusing on differences in population or setting alone is insufficient. *Trials*, 21(1), 286.

Burns, K. (2011) ‘Career preference’, ‘transients’ and ‘converts’: a study of social workers’ retention in child protection and welfare. *The British Journal of Social Work*, 41(3), 520–538.

Calman, K. (2001) A study of storytelling, humour and learning in medicine. *Clinical Medicine*, 1(3), 227–229.

Cambridge English Dictionary (2022) Definition of ‘exodus’. *Cambridge English Dictionary*. Available at: https://dictionary.cambridge.org/dictionary/english/exodus [Accessed: 21 February 2022].

Campbell, J. et al. (2013) *A universal truth: no health without a workforce*. Geneva, Switzerland: Global Health Workforce Alliance and World Health Organization. Available at: https://www.who.int/workforcealliance/knowledge/resources/GHWA-a_universal_truth_report.pdf [Accessed: 10 June 2019].

Care Quality Commission (2021) *Urgent and emergency care survey 2020 – type 1 services*. Available at: https://www.cqc.org.uk/cqc_survey/4 [Accessed: 2 March 2022].

Carter, S.M. & Little, M. (2007) Justifying knowledge, justifying method, taking action: epistemologies, methodologies, and methods in qualitative research. *Qualitative Health Research*, 17(10), 1316–1328.

Case, M. & Buxton, D. (2021) *RCEM emergency care ACP sustainable careers*. London, UK: Royal College of Emergency Medicine. Available at: https://res.cloudinary.com/studio-republic/images/v1635436301/RCEM_EC_ACP_Sustainable_Careers_V3/RCEM_EC_ACP_Sustainable_Careers_V3.pdf?_i=AA [Accessed: 15 February 2022].

Castle, N.G. & Engberg, J. (2005) Staff turnover and quality of care in nursing homes. *Medical Care*, 43(6), 616–626.

Castro Lopes, S. et al. (2017) A rapid review of the rate of attrition from the health workforce. *Human Resources for Health*, 15(1), 21.

ten Cate, O. (2005) Entrustability of professional activities and competency-based training. *Medical Education*, 39(12), 1176–1177.

ten Cate, O. (2020) When I say … entrustability. *Medical Education*, 54(2), 103–104.

Chambers, J.A. & Pilbrow, W.J. (1988) Ultrasound in abdominal trauma: an alternative to peritoneal lavage. *Emergency Medicine Journal*, 5(1), 26–33.

Chandler, L. & Fry, A. (2009) Can communities of practice make a meaningful contribution to sustainable service improvement in health and social care? *Journal of Integrated Care*, 17(2), 41–48.

Chapman, S.J. et al. (2014) Can doctors be trained in a 48 hour working week? *British Medical Journal*, (349), g7323.

Charmaz, K. (2014) *Constructing Grounded Theory*. 2nd ed. London, UK: SAGE.

Cheek, J. & Rudge, T. (1994) The panopticon re-visited?: an exploration of the social and political dimensions of contemporary health care and nursing practice. *International Journal of Nursing Studies*, 31(6), 583–591.

Chiller, P. & Crisp, B.R. (2012) Professional supervision: a workforce retention strategy for social work? *Australian Social Work*, 65(2), 232–242. Routledge.

Chimhutu, V. et al. (2016) The inescapable question of fairness in pay-for-performance bonus distribution: a qualitative study of health workers' experiences in Tanzania. *Globalization and Health*, 12(1), 77.

Chou, L.-P. et al. (2014) Job stress and burnout in hospital employees: comparisons of different medical professions in a regional hospital in Taiwan. *BMJ Open*, 4(2), e004185.

Christopher, S. (2015) An introduction to black humour as a coping mechanism for student paramedics. *Journal of Paramedic Practice*, 7(12), 610–617.

Clancy, M. (2018) *Interim evaluation of the emergency medicine trainees LTFT pilot 2017-18*. Health Education England. Available at: https://www.hee.nhs.uk/sites/default/files/documents/Interim-Evaluation-of-EM-Trainees-LTFT-Pilot-2018-19.pdf [Accessed: 28 May 2019].

Clancy, M. (2019) *The Less Than Full Time (LTFT(3)) working in emergency medicine pilot final report*. London, UK: Royal College of Emergency Medicine. Available at: https://www.rcem.ac.uk/docs/Training/LTFT_pilot_FINAL_REPORT-for_website.pdf [Accessed: 11 October 2019].

Clarke, R.T. et al. (2014) UK doctors' views on the implementation of the European working time directive as applied to medical practice: a qualitative analysis. *BMJ Open*, 4(2), e004390.

Clarke, V. & Braun, V. (2016) Thematic analysis. In: Lyons, E. & Coyle, A. (eds.) *Analysing qualitative data in psychology*. 2nd edn. London, UK: SAGE.

Cleland, J. et al. (2020) 'Should I stay or should I go now?': A qualitative study of why UK doctors retire. *Medical Education*, 54(9), 821–831.

Cleland, J.A. et al. (2017) What do UK medical students value most in their careers? A discrete choice experiment. *Medical Education*, 51(8), 839–851.

Cohen, G. et al. (2016) Does turnover intention matter? Evaluating the usefulness of turnover intention rate as a predictor of actual turnover rate. *Review of Public Personnel Administration*, 36(3), 240–263.

Coiera, E. (2012) The science of interruption. *BMJ Quality & Safety*, 21(5), 357–360.

Cole, E. et al. (2016) The impact of a pan-regional inclusive trauma system on quality of care. *Annals of Surgery*, 264(1), 188–194.

Cook, M. (1977) Gaze and mutual gaze in social encounters: how long—and when—we look others" in the eye" is one of the main signals in nonverbal communication. *American Scientist*, 65(3), 328–333.

COPMeD (2020) *Gold guide 8th edition*. London, UK: Conference of Postgraduate Medical Deans of the United Kingdom. Available at: https://www.copmed.org.uk/gold-guide-8th-edition/ [Accessed: 28 April 2021].

Cosgrave, C. et al. (2018) An explanation of turnover intention among early-career nursing and allied health professionals working in rural and remote Australia - findings from a grounded theory study. *Rural and Remote Health*, 18(3). Scopus.

Cottey, L. et al. (2020) Need for recovery amongst emergency physicians in the UK and Ireland: a cross-sectional survey. *BMJ Open*, 10(11), e041485.

Crabtree, A. et al. (2000) Ethnomethodologically informed ethnography and information system design. *Journal of the American Society for Information Science*, 51(7), 666–682.

Crabtree, A. et al. (2011) The temporal order of work. In: Rouncefield, M. & Tolmie, P. (eds.) *Ethnomethodology at Work*. Burlington, VT: Routledge.

Crabtree, A. et al. (2013) *"How many bloody examples do you want?" Fieldwork and generalisation*. In: Bertelsen, O.W. et al. (eds.), 2013. Proceedings of the 13th European Conference on Computer Supported Cooperative Work, 21-25 September 2013, Paphos, Cyprus. Available at: doi:10.1007/978-1-4471-5346-7_1

Craun, S.W. & Bourke, M.L. (2014) The use of humor to cope with secondary traumatic stress. *Journal of Child Sexual Abuse*, 23(7), 840–852.

Cross, M. et al. (2019) Benefits, barriers and enablers of mentoring female health academics: an integrative review. *PLOS ONE*, 14(4), e0215319.

Crowe, S. et al. (2019) How can operational research and ethnography help to fix your emergency department? *Journal of the Royal Society of Medicine*, 112(10), 415–419. SAGE Publications.

Curran, V. & Rourke, J. (2004) The role of medical education in the recruitment and retention of rural physicians. *Medical Teacher*, 26(3), 265–272.

Cutchin, M.P. (1997a) Community and self: concepts for rural physician integration and retention. *Social Science & Medicine*, 44(11), 1661–1674.

Cutchin, M.P. (1997b) Physician retention in rural communities: the perspective of experiential place integration. *Health & Place*, 3(1), 25–41.

Daisley, S. (2019) *The NHS privatisation conspiracy*. Available at: https://blogs.spectator.co.uk/2019/06/the-nhs-privatisation-conspiracy/ [Accessed: 13 August 2019].

Darbyshire, D. et al. (2019a) Systematic review of interventions to encourage careers in academic medicine. *Medical Teacher*, 41(1), 61–67.

Darbyshire, D. et al. (2019b) Trainee and supervisor experience of the Academic Foundation Programme. *The Journal of the Royal College of Physicians of Edinburgh*, 49(1), 43–51.

Darbyshire, D. et al. (2020a) Retention of doctors in emergency medicine: a scoping review protocol. *JBI Evidence Synthesis*, 18(1), 154–162.

Darbyshire, D. et al. (2020b) 'Where have all the doctors gone?' A protocol for an ethnographic study of the retention problem in emergency medicine in the UK. *BMJ Open*, 10(11), e038229.

Darbyshire, D. et al. (2021) Retention of doctors in emergency medicine: a scoping review of the academic literature. *Emergency Medicine Journal*, 38(9), 663–672.

Dasan, S. (2018) *EMPOWER: a guide to engage and retain your established EM staff*. London, UK: Royal College of Emergency Medicine. Available at: https://www.rcem.ac.uk/docs/Workforce/Engage%20and%20Retain%20Sept%202018.pdf [Accessed: 20 August 2019].

Dasan, S. & Wilson, R. (2019) *EM-POWER: a practical guide for EM clinical and non clinical managers*. London, UK: Royal College of Emergency Medicine. Available at: https://res.cloudinary.com/studio-republic/images/v1635703115/EM-POWER_Guide_EM_Clinical_NonClinical_Managers_2019/EM-POWER_Guide_EM_Clinical_NonClinical_Managers_2019.pdf?_i=AA [Accessed: 15 February 2022].

Davidson, M.C.G. et al. (2010) How much does labour turnover cost? *International Journal of Contemporary Hospitality Management*. [Accessed: 14 August 2019].

Davies, C.A. (2002) *Reflexive ethnography: a guide to researching selves and others*. 1st rev edn. London, UK: Taylor & Francis Routledge.

Davis, M.S. (1979) Sociology through humor. *Symbolic Interaction*, 2(1), 105–110.

De Vos, A. & Van de Heijden, B.I.J.M. (2015) *Handbook of research on sustainable careers*. Cheltenham, UK: Edward Elgar Publishing.

Dellenborg, L. et al. (2019) Factors that may promote the learning of person-centred care: an ethnographic study of an implementation programme for healthcare professionals in a medical emergency ward in Sweden. *Advances in Health Sciences Education*, 24(2), 353–381.

Department of Health (2004) *Modernising medical careers: the next steps*. London, UK: Department of Health. Available at: https://webarchive.nationalarchives.gov.uk/+/http://www.dh.gov.uk/en/Publicationsan

dstatistics/Publications/PublicationsPolicyAndGuidance/DH_4079530?PageOperation=email [Accessed: 14 June 2019].

DiFonzo, N. (2008) *The watercooler effect: an indispensable guide to understanding and harnessing the power of rumors*. New York, NY: Penguin.

Dixon-Reeves, R. (2003) Mentoring as a precursor to incorporation: an assessment of the mentoring experience of recently minted Ph.D.s. *Journal of Black Studies*, 34(1), 12–27.

Doronina, O. et al. (2017) A systematic review on the effectiveness of interventions to improve hand hygiene compliance of nurses in the hospital setting. *Journal of Nursing Scholarship*, 49(2), 143–152.

Dunne, S. et al. (2008) Discussing the role of the business school. *Ephemera: Theory and Politics in Organization*, 8(3), 271.

Dur, R. & Sol, J. (2010) Social interaction, co-worker altruism, and incentives. *Games and Economic Behavior*, 69(2), 293–301.

Durkheim, E. (1982) *The rules of sociological method* Lukes, S. (ed.). 1st American edn. New York, NY: Free Press.

Dutheil, F. et al. (2012) JOBSTRESS study: comparison of heart rate variability in emergency physicians working a 24-hour shift or a 14-hour night shift—a randomized trial. *International Journal of Cardiology*, 158(2), 322–325.

Dyer, A.H. et al. (2018) 'Acopia' and 'inability to cope' remain unhelpful and pejorative labels for complexity in older adults presenting to the acute hospital. *Age and Ageing*, 47(3), 488–488.

Dykes, L. (2019) *Clinical fellow information centre*. Available at: http://www.mountainmedicine.co.uk/Mountain_Medicine_Bangor/Clinical_Fellow_Posts.html [Accessed: 17 June 2019].

Eckleberry-Hunt, J. et al. (2018) The problems with burnout research. *Academic Medicine*, 93(3), 367.

Ellemers, N. et al. (2013) Feeling included and valued: how perceived respect affects positive team identity and willingness to invest in the team. *British Journal of Management*, 24(1), 21–37.

Elliott, P.R.C. (1972) *The sociology of the professions*. London, UK: Macmillan.

Emergency Medicine News Website (2020) *About the publication*. Available at: https://journals.lww.com/em-news/Pages/aboutthepublication.aspx [Accessed: 29 July 2021].

Emerson, R.M. et al. (2011) *Writing ethnographic fieldnotes*. 2nd edn. Chicago, IL: University of Chicago Press.

Emmerson, P. (2017) Thinking laughter beyond humour: atmospheric refrains and ethical indeterminacies in spaces of care. *Environment and Planning A: Economy and Space*, 49(9), 2082–2098.

EMTA (2018) *Rest campaign resources*. Available at: https://www.emtraineesassociation.co.uk/rest-campaign-resources [Accessed: 15 February 2022].

EMTA (2020) *Rest and rota charter*. Available at: https://www.emtraineesassociation.co.uk/rest-rota-charter [Accessed: 27 April 2021].

Erickson, L.D. et al. (2009) Informal mentors and education: complementary or compensatory resources? *Sociology of Education*, 82(4), 344–367.

Estryn-Béhar, M. et al. (2007) The impact of social work environment, teamwork characteristics, burnout, and personal factors upon intent to leave among European nurses. *Medical Care*, 45(10), 939–950. Lippincott Williams & Wilkins.

Estryn-Béhar, M. et al. (2011) Emergency physicians accumulate more stress factors than other physicians-results from the French SESMAT study. *Emergency Medicine Journal*, 28(5), 397–410.

Evans, D. (2012) Beyond the throwaway society: ordinary domestic practice and a sociological approach to household food waste. *Sociology*, 46(1), 41–56.

Feitosa-Filho, G.S. et al. (2017) Characteristics of training and motivation of physicians working in emergency medicine. *Revista da Associacao Medica Brasileira*, 63(2), 112–117.

Feldman, D.C. & Ng, T.W.H. (2007) Careers: mobility, embeddedness, and success. *Journal of Management*, 33(3), 350–377.

Feltblower, S. & Hassan, T. (2013) *Team working*. London, UK: Royal College of Emergency Medicine. Available at: https://www.rcem.ac.uk/docs/Safety/82i.%20Team-working.pdf [Accessed: 3 June 2020].

Fernet, C. et al. (2017) Motivational pathways of occupational and organizational turnover intention among newly registered nurses in Canada. *Nursing Outlook*, 65(4), 444–454.

Fetterman, D.M. (1998) *Ethnography: step by step*. 2nd edn. Thousand Oaks, CA: Sage Publications.

Fine, G.A. (1983) Sociological approaches to the study of humor. In: McGhee, P.E. & Goldstein, J.H. (eds.) *Handbook of Humor Research: Volume 1: Basic Issues*. [Online]. New York, NY: Springer. Available at: doi:10.1007/978-1-4612-5572-7_8 [Accessed: 14 September 2020].

Fitzgerald, K. et al. (2017) The psychological health and well-being of emergency medicine consultants in the UK. *Emergency Medicine Journal*, 34(7), 430–435.

Forrier, A. et al. (2009) Career mobility at the intersection between agent and structure: a conceptual model. *Journal of Occupational and Organizational Psychology*, 82(4), 739–759.

Fox, A.T. et al. (2003) Medical slang in British hospitals. *Ethics & Behavior*, 13(2), 173–189.

Fox, K. (2014) *Watching the English: the hidden rules of English behavior*. Revised edn. London, UK: Hodder & Stoughton.

Francis, D.J. & Hester, S. (2004) *An invitation to ethnomethodology: language, society and interaction*. London, UK: SAGE Publications.

Frank, F.D. et al. (2004) The race for talent: retaining and engaging workers in the 21st century. *Human Resource Planning*, 27(3).

Freeman, R.B. (1978) Job satisfaction as an economic variable. *American Economic Review*, 68(2), 135–141.

Freire-Serén, M.J. (2002) On the relationship between human capital accumulation and economic growth. *Applied Economics Letters*, 9(12), 805–808. Routledge.

Fürst, M.F. (2018) 'A Good Enough Fix': Repair and Maintenance in Librarians' Digitization Practice. In: Strebel, I. et al. (eds.) *Repair Work Ethnographies*. [Online]. Singapore: Springer. Available at: doi:10.1007/978-981-13-2110-8_3

Garfinkel, H. (1967) *Studies in ethnomethodology*. Englewood Cliffs, NJ: Prentice-Hall.

Garfinkel, H. (1974) The origins of the term ethnomethodology. In: Turner, R. (ed.) *Ethnomethodology*. Baltimore, MD: Penguin Books.

Garfinkel, H. & Sacks, H. (1970) On formal structures of practical action. In: McKinney, J.C. & Tiryakian, E.A. (eds.) *Theoretical sociology; perspectives and developments*. New York, NY: Appleton-Century-Crofts.

Geelhoed, G.C. & Geelhoed, E.A. (2008) Positive impact of increased number of emergency consultants. *Archives of Disease in Childhood*, 93(1), 62–64.

Geertz, C. (1973) *The interpretation of cultures: selected essays*. New York, NY: Basic Books.

Geertz, C. (2008) Thick description: toward an interpretive theory of culture. In: Oakes, T. & Price, P.L. (eds.) *The Cultural Geography Reader*. London, UK: Routledge.

Gerring, J. (2011) How good is good enough? A multidimensional, best-possible standard for research design. *Political Research Quarterly*, 64(3), 625–636.

Ghodsee, K. (2016) *From notes to narrative: writing ethnographies that everyone can read*. Chicago, IL: University of Chicago Press.

Ghosh, R. & Reio, T.G. (2013) Career benefits associated with mentoring for mentors: a meta-analysis. *Journal of Vocational Behavior*, 83(1), 106–116.

Gillet, N. et al. (2013) The mediating role of organizational justice in the relationship between transformational leadership and nurses' quality of work life: a cross-sectional questionnaire survey. *International Journal of Nursing Studies*, 50(10), 1359–1367.

Gillingham, P. (2009) *The use of assessment tools in child protection: an ethnomethodological study*. PhD Thesis. Melbourne, Victoria: The University of Melbourne. Available at: http://minerva-access.unimelb.edu.au/handle/11343/35144 [Accessed: 19 August 2021].

Gillingham, P. & Humphreys, C. (2010) Child protection practitioners and decision-making tools: observations and reflections from the front line. *The British Journal of Social Work*, 40(8), 2598–2616.

Gitte, R. et al. (2019) Working out availability, unavailability and awayness in social face-to-face encounters: The case of dementia. *Discourse Studies*, 21(3), 258–279.

Glaser, B.G. & Strauss, A.L. (1967) *The discovery of grounded theory: strategies for qualitative research*. New Brunswick, NJ: Transaction Publishers.

Glass, C. (2018) Making ergonomic rotas, for EMTA Conference. Cardiff, Wales.

Glenn, P.J. & Holt, E. (2013) *Studies of laughter in interaction*. London, UK: Bloomsbury Academic.

GMC (2015) *Good medical practice*. [Online]. Manchester, UK: General Medical Council. Available at: https://www.gmc-uk.org/ethical-guidance/ethical-guidance-for-doctors/good-medical-practice [Accessed: 27 January 2021].

GMC (2017) *Training environments 2017: key findings from the national training surveys*. Manchester, UK: General Medical Council. Available at: https://www.gmc-uk.org/-/media/documents/NTS_Report_20173.pdf_72689147.pdf [Accessed: 17 June 2019].

GMC (2019) *National training survey 2019: initial findings report*. Manchester, UK: General Medical Council. Available at: https://www.gmc-uk.org/-/media/national-training-surveys-initial-findings-report-20190705_2.pdf?la=en [Accessed: 11 October 2019].

GMC (2021) *National training survey 2021: results*. Manchester, UK: General Medical Council. Available at: https://www.gmc-uk.org/about/what-we-do-and-why/data-and-research/national-training-surveys-reports [Accessed: 28 January 2022].

Golash, V. & Lunat, R. (2021) *Enhancing junior doctors' working lives: annual progress report 2021*. London: Health Education England. Available at: https://www.hee.nhs.uk/sites/default/files/documents/EJDWL%202021%20Progress%20Report.pdf [Accessed: 27 October 2021].

Gold, M. & Fraser, J. (2002) Managing self-management: successful transitions to portfolio careers. *Work, Employment and Society*, 16(4), 579–597.

Gold, R.L. (1958) Roles in sociological field observations. *Social Forces*, 36, 217.

Goldberg, R. et al. (1996) Burnout and its correlates in emergency physicians: four years' experience with a wellness booth. *Academic Emergency Medicine*, 3(12), 1156–1164.

Goodacre, S. et al. (2005) The health care burden of acute chest pain. *Heart*, 91(2), 229–230.

Goodpaster, K.P.S. et al. (2012) Teachers' perceptions of rural STEM teaching: implications for rural teacher retention. *The Rural Educator*, 33(3). [Accessed: 23 August 2019].

Goodson, L. & Vassar, M. (2011) An overview of ethnography in healthcare and medical education research. *Journal of Educational Evaluation for Health Professions*, 8. [Accessed: 4 March 2019].

Goodwin, C. (1981) *Conversational organization: interaction between speakers and hearers*. New York, NY: Academic Press.

Graeber, D. (2018) *Bullshit jobs: a theory*. London, UK: Allen Lane.

Graff, L. et al. (2002) Measuring and improving quality in emergency medicine. *Academic Emergency Medicine*, 9(11), 1091–1107.

Graham, D. et al. (2020) Open kitchens: customers' influence on chefs' working practices. *Journal of Hospitality and Tourism Management*, 45, 27–36.

Greaves, F. et al. (2013) Harnessing the cloud of patient experience: using social media to detect poor quality healthcare. *BMJ Quality & Safety*, 22(3), 251–255.

Green, R.S. et al. (2020) The champagne tap: time to pop the cork? *Academic Emergency Medicine*, 27(11), 1194–1198.

Greenhalgh, T. & Papoutsi, C. (2018) Studying complexity in health services research: desperately seeking an overdue paradigm shift. *BMC Medicine*, 16(1), 95.

Griffin (2017) *iTalk Premium*. Nashville, TN: Griffin.

Guly, H. (2005) *A history of accident and emergency medicine, 1948-2004*. [Online]. Hampshire, UK: Palgrave Macmillan. Available at: doi:10.1057/9780230000742 [Accessed: 8 October 2021].

Hackman, J.R. & Lawler, E.E. (1971) Employee reactions to job characteristics. *Journal of Applied Psychology*, 55(3), 259.

Hager, M.A. & Brundey, J.L. (2004) *Volunteer management practices and retention of volunteers*. Washington, DC: The Urban Institute. Available at: http://webarchive.urban.org/UploadedPDF/411005_VolunteerManagement.pdf [Accessed: 4 May 2020].

Hall, K.N. et al. (1992) Factors associated with career longevity in residency-trained emergency physicians. *Annals of Emergency Medicine*, 21(3), 291–297.

Hall, K.N. & Wakeman, M.A. (1999) Residency-trained emergency physicians: their demographics, practice evolution, and attrition from emergency medicine. *The Journal of Emergency Medicine*, 17(1), 7–15.

Halliday, L. et al. (2017) Grit and burnout in UK doctors: a cross-sectional study across specialties and stages of training. *Postgraduate Medical Journal*, 93(1101), 389–394.

Hancock, J.I. et al. (2013) Meta-analytic review of employee turnover as a predictor of firm performance. *Journal of Management*, 39(3), 573–603.

Hand, L.C. & Catlaw, T.J. (2019) Accomplishing the public encounter: a case for ethnomethodology in public administration research. *Perspectives on Public Management and Governance*, 2(2), 125–137.

Handy, C.B. (1990) *The age of unreason*. London, UK: Arrow Books.

Hannerz, U. (2003) Being there... and there... and there! reflections on multi-site ethnography. *Ethnography*, 4(2), 201–216.

Härgestam, M. et al. (2013) Communication in interdisciplinary teams: exploring closed-loop communication during in situ trauma team training. *BMJ Open*, 3(10), e003525.

Harms, B. & Knobloch, N. (2005) Preservice teachers' motivation and leadership behaviors related to career choice. *Career and Technical Education Research*, 30(2), 101–124.

Hartle, A. et al. (2014) Can doctors be trained in a 48 hour working week? *British Medical Journal*, 349, g7323.

Hartswood, M. et al. (2011) Documents. In: Rouncefield, M. & Tolmie, P. (eds.) *Ethnomethodology at work*. London, UK: Routledge.

Hass, L. (2008) *Merleau-Ponty's philosophy*. Bloomington, IN: Indiana University Press.

Hassan, T.B. et al. (2013) *The drive for quality*. College of Emergency Medicine. Available at: https://www.google.com/search?q=quality+in+emergency+medicne&rlz=1C5CHFA_enGB833GB833&oq=quality+in+emergency+medicne&aqs=chrome..69i57j0j35i39j69i61j69i60l2.4029j0j9&sourceid=chrome&ie=UTF-8 [Accessed: 14 June 2019].

Hausknecht, J.P. & Trevor, C.O. (2011) Collective turnover at the group, unit, and organizational levels: evidence, issues, and implications. *Journal of Management*, 37(1), 352–388.

ten Have, P. (2004) *Understanding qualitative research and ethnomethodology*. [Online]. London, UK: SAGE Publications Ltd. Available at: doi:10.4135/9780857020192 [Accessed: 10 November 2020].

Hayes, L.J. et al. (2006) Nurse turnover: a literature review. *International Journal of Nursing Studies*, 43(2), 237–263.

Hayhurst, A. et al. (2005) Work environmental factors and retention of nurses. *Journal of Nursing Care Quality*, 20(3), 283–288.

Health and Safety Executive (2006) *Managing shiftwork*. [Online]. Sudbury, UK: HSE Books. Available at: https://www.hse.gov.uk/humanfactors/topics/good-practice-guidelines.htm [Accessed: 16 March 2022].

Heath, C. et al. (2018) Exchanging implements: the micro-materialities of multidisciplinary work in the operating theatre. *Sociology of Health & Illness*, 40(2), 297–313.

HEE (2013) *Emergency medicine: background to HEE proposals to address workforce shortages*. Health Education England. Available at: https://www.hee.nhs.uk/our-work/emergency-medicine [Accessed: 6 February 2019].

HEE (2017) *HEE strategic framework 2014-2029*. London, UK: Health Education England. Available at: https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjUgPL9g_b5AhVREsAKHSdCDNQQFnoECCUQAQ&url=https%3A%2F%2Fwww.hee.nhs.uk%2Fsites%2Fdefault%2Ffiles%2Fdocuments%2FHEE%2520strategic%2520framework%25202017_1.pdf&usg=AOvVaw2OFPw0Ij5SmPkI8HxvQ70d

HEE et al. (2017) *Securing the future workforce for emergency department in England*. NHS Improvement. Available at: https://improvement.nhs.uk/documents/1826/Emergency_department_workforce_plan_-_111017_Final.3.pdf [Accessed: 28 May 2019].

HEE (2021) *Specialty recruitment: round 1 - acceptance and fill rate*. Available at: https://www.hee.nhs.uk/our-work/medical-recruitment/specialty-recruitment-round-1-acceptance-fill-rate [Accessed: 17 February 2022].

Hennigh, L. (1981) The anthropologist as key informant. In: Messerschmidt, D.A. (ed.) *Anthropologists at home in North America: methods and issues in the study of one's own society*. Cambridge, MA: Cambridge University Press.

Henry-Noel, N. et al. (2019) Mentorship in medicine and other health professions. *Journal of Cancer Education*, 34(4), 629–637.

Hewitt, S. & Kennedy, U. (2019) *EM-POWER: a wellness compendium for EM*. London, UK: The Royal College of Emergency Medicine. Available at: https://www.rcem.ac.uk/docs/Sustainable%20Working/0.%20Wellness%20Compendium%20(Apr%202019).pdf [Accessed: 11 October 2019].

Hewitt, S. & Kennedy, U. (2020) *The wellness compendium ibook*. 1st ed. [Online]. London, UK: Apple Books. Available at: https://books.apple.com/gb/book/rcem-wellness-comendium/id1484639161 [Accessed: 15 February 2022].

Heyworth, J. et al. (2011) *Emergency medicine operational handbook: the way ahead*. London, UK: The College of Emergency Medicine. Available at: https://www.rcem.ac.uk/docs/Policy/The%20Way%20Ahead_Final%20Dec%202011.pdf [Accessed: 6 February 2019].

Higginson, I. (2014) *SPA activity exemplar*. London, UK: College of Emergency Medicine. Available at: https://rcem.ac.uk/wp-content/uploads/2021/11/SPA_Activity_and_Duration_Exemplar.pdf [Accessed: 15 March 2022].

Hillman, A. (2014) 'Why must I wait?' The performance of legitimacy in a hospital emergency department. *Sociology of Health & Illness*, 36(4), 485–499.

Hochschild, A.R. (2012) *The managed heart: commercialization of human feeling*. 3rd edn. Berkeley, CA: University of California Press.

Hoff, T. et al. (2019) Satisfaction, burnout, and turnover among nurse practitioners and physician assistants: a review of the empirical literature. *Medical Care Research and Review*, 76(1), 3–31.

Holmes, J.L. (2019) Sustaining a long career in emergency medicine: issues for emergency physicians of all ages. *Emergency Medicine Australasia*, 31(6), 1112–1114.

Holt, E. (2013) "There's many a true word said in jest": seriousness and nonseriousness in interaction. In: Glenn, P.J. & Holt, E. (eds.) *Studies of laughter in interaction*. London, UK: Bloomsbury Academic.

Hope, L. (2019) *Opportunities for emergency medicine less than full time training: a pilot project*. London, UK: Health Education England. Available at: https://www.hee.nhs.uk/sites/default/files/documents/Opportunities%20for%20Emergency%20Medicine%20Less%20Than%20Full%20Time%20Training%20A%20Pilot%20Project_December_2019.pdf [Accessed: 28 April 2021].

Horton, R. (2013) Offline: is global health neocolonialist? *The Lancet*, 382(9906), 1690.

House, J. (2009) Calling time on doctors' working hours. *The Lancet*, 373(9680), 2011–2012.

Howlett, M. et al. (2015) Burnout in emergency department healthcare professionals is associated with coping style: a cross-sectional survey. *Emergency Medicine Journal*, 32(9), 722–727.

Huber, G. & Brown, A.D. (2017) Identity work, humour and disciplinary power. *Organization Studies*, 38(8), 1107–1126.

Hulbert, D. & Galloway, R. (2019) *EM-POWER: a practical guide to flexible working and good EM rota design*. London, UK: Royal College of Emergency Medicine. Available at: https://www.rcem.ac.uk/docs/Sustainable%20Working/EM-POWER_A%20practical%20guide%20to%20flexible%20working%20and%20good%20EM%20rota%20design%20FINAL.pdf [Accessed: 3 January 2019].

Humphrey, S.E. et al. (2007) Integrating motivational, social, and contextual work design features: a meta-analytic summary and theoretical extension of the work design literature. *The Journal of Applied Psychology*, 92(5), 1332–1356.

Humphreys, M. & Watson, T.J. (2009) Ethnographic practices: from 'writing-up ethnographic research' to 'writing ethnography'. *Organizational Ethnography*, 40–55.

Idelji-Tehrani, S. & Al-Jawad, M. (2018) Exploring gendered leadership stereotypes in a shared leadership model in healthcare: a case study. *Medical Humanities*, 45(4), 388–398.

Jackson, S.E. et al. (1991) Some differences make a difference: individual dissimilarity and group heterogeneity as correlates of recruitment, promotions, and turnover. *Journal of Applied Psychology*, 76(5), 675–689. American Psychological Association.

Jackson, V.A. et al. (2003) "Having the right chemistry": a qualitative study of mentoring in academic medicine. *Academic Medicine*, 78(3), 328–334.

Jafar, A.J.N. (2018) What is positionality and should it be expressed in quantitative studies? *Emergency Medicine Journal*, 35(5), 323–324.

James, F. & Gerrard, F. (2017) Emergency medicine: what keeps me, what might lose me? A narrative study of consultant views in Wales. *Emergency Medicine Journal*, 34(7), 436–440.

Jawahar, I.M. & Stone, T.H. (2011) Fairness perceptions and satisfaction with components of pay satisfaction. *Journal of Managerial Psychology*, 26(4), 297–312.

Joseph, N. & Alex, N. (1972) The uniform: a sociological perspective. *American Journal of Sociology*, 77(4), 719–730.

Jourdain, G. & Chênevert, D. (2010) Job demands–resources, burnout and intention to leave the nursing profession: a questionnaire survey. *International Journal of Nursing Studies*, 47(6), 709–722.

Joy, T. et al. (2014) *The attractiveness of a career in emergency medicine: a survey of UK trainees*. College of Emergency Medicine. Available at:

http://www.emtraineesassociation.co.uk/emta-surveys.html# [Accessed: 5 February 2019].

Kalynych, C.J. (2010) *The application of margin in life theory in regard to attrition and remediation among emergency medicine residents*. Doctoral Dissertation. USA: University of North Florida. Available at: https://digitalcommons.unf.edu/etd/238 [Accessed: 1 April 2020].

Kaminakis, K. et al. (2019) Hospitality servicescape effects on customer-employee interactions: a multilevel study. *Tourism Management*, 72, 130–144.

Karro, J. et al. (2005) Patient perceptions of privacy infringements in an emergency department. *Emergency Medicine Australasia*, 17(2), 117–123.

Keep Our NHS Public (2019) No to Trump trade deal: 5 things you can do. *Keep Our NHS Public*. Available at: https://keepournhspublic.com/no-to-trump-5-things/ [Accessed: 13 August 2019].

Kendon, A. (1990) *Conducting interaction: patterns of behavior in focused encounters*. Cambridge, UK: Cambridge University Press.

Kim, H. & Stoner, M. (2008) Burnout and turnover intention among social workers: effects of role stress, job autonomy and social support. *Administration in Social Work*, 32(3), 5–25.

Kirk, K. et al. (2021) "I don't have any emotions": An ethnography of emotional labour and feeling rules in the emergency department. *Journal of Advanced Nursing*, 77(4), 1956–1967.

Kitagawa, F. et al. (2022) Anchoring talent to regions: the role of universities in graduate retention through employment and entrepreneurship. *Regional Studies*, 56(6), 1001–1014. Routledge.

Kmietowicz, Z. (2018) A&E attendances in England are growing twice as fast as population. *British Medical Journal*, 362, k3921.

Kukull, W.A. & Ganguli, M. (2012) Generalizability: The trees, the forest, and the low-hanging fruit. *Neurology*, 78(23), 1886–1891.

Lara-Millán, A. (2014) Public emergency room overcrowding in the era of mass imprisonment. *American Sociological Review*, 79(5), 866–887.

Larsson, C. et al. (2003) Sexual and gender-related harassment in medical education and research training: results from a Swedish survey. *Medical Education*, 37(1), 39–50.

Larsson, R. et al. (2007) Building motivational capital through career concept and culture fit: the strategic value of developing motivation and retention. *Career Development International*, 12(4), 361–381.

Latchem-Hastings, J. (2020) Gatekeepers in ethnography. In: Atkinson, P. et al. (eds.) *SAGE research methods foundations*. [Online]. London, UK: SAGE Publications Ltd. Available at: doi:10.4135/9781526421036835217 [Accessed: 6 September 2020].

Lave, J. & Wenger, E. (1991) *Situated learning: legitimate peripheral participation*. Cambridge, UK: Cambridge University Press.

Lawrence, M. et al. (2017) *Managing automation: employment, inequality and ethics in the digital age*. London, UK: Institute for Public Policy Research. Available at: https://www.ippr.org/publications/managing-automation [Accessed: 29 March 2022].

Lee, M.L. et al. (2016) High risk of near-crash driving events following night-shift work. *Proceedings of the National Academy of Sciences*, 113(1), 176–181.

Lennon, M.J. et al. (2020) Understanding the professional satisfaction of hospital trainees in Australia. *Medical Education*, 54(5), 419–426.

Leslie, M. et al. (2014) Applying ethnography to the study of context in healthcare quality and safety. *BMJ Quality & Safety*, 23(2), 99–105.

Leveck, M.L. & Jones, C.B. (1996) The nursing practice environment, staff retention, and quality of care. *Research in Nursing & Health*, 19(4), 331–343.

Levy, B.D. et al. (2004) An initiative in mentoring to promote residents' and faculty members' careers. *Academic Medicine*, 79(9), 845–850.

Li, L.C. et al. (2009) Evolution of Wenger's concept of community of practice. *Implementation Science*, 4(1), 11.

Liberati, E.G. et al. (2019) How to be a very safe maternity unit: an ethnographic study. *Social Science & Medicine*, 223, 64–72.

Lin, I.Y. & Kwantes, C.T. (2015) Potential job facilitation benefits of "water cooler" conversations: the importance of social interactions in the workplace. *The Journal of Psychology*, 149(3), 239–262.

Lloyd, S. et al. (1998) Predictive validity of the emergency physician and global job satisfaction instruments. *Academic Emergency Medicine*, 5(3), 234–241.

Loveman, G.W. (1998) Employee satisfaction, customer loyalty, and financial performance: an empirical examination of the service profit chain in retail banking. *Journal of Service Research*, 1(1), 18–31.

Low, J. (2019) A pragmatic definition of the concept of theoretical saturation. *Sociological Focus*, 52(2), 131–139.

Lu, A.C.C. & Gursoy, D. (2016) Impact of job burnout on satisfaction and turnover intention: do generational differences matter? *Journal of Hospitality & Tourism Research*, 40(2), 210–235.

Lucas, G.H. et al. (1990) An empirical test of the job satisfaction-turnover relationship: assessing the role of job performance for retail managers. *Journal of the Academy of Marketing Science*, 18(3), 199–208.

Luff, P. et al. (2000) *Workplace studies: recovering work practice and informing system design*. Cambridge, UK: Cambridge University Press.

Madsen, S.R. et al. (2005) Readiness for organizational change: do organizational commitment and social relationships in the workplace make a difference? *Human Resource Development Quarterly*, 16(2), 213–234.

Madsen, S.R. et al. (2006) Influential factors in individual readiness for change. *Journal of Business & Management*, 12(2).

Malterud, K. et al. (2016) Sample size in qualitative interview studies: guided by information power. *Qualitative Health Research*, 26(13), 1753–1760.

Mamelok, J. (2022) *Email to Daniel Darbyshire (emta@rcem.ac.uk) RE: GG9*.

Marchand, C. & Peckham, S. (2017) Addressing the crisis of GP recruitment and retention: a systematic review. *British Journal of General Practice*, 67(657), e227–e237.

Marcus, G.E. (1995) Ethnography in/of the world system: the emergence of multi-sited ethnography. *Annual Review of Anthropology*, 24(1), 95–117.

May, T. & Perry, B. (2017) *Reflexivity: the essential guide*. London, UK: SAGE.

May, V. (2011) Self, belonging and social change. *Sociology*, 45(3), 363–378.

Mbemba, G. et al. (2013) Interventions for supporting nurse retention in rural and remote areas: an umbrella review. *Human Resources for Health*, 11(1), 44.

McGain, F. et al. (2017) Financial and environmental costs of reusable and single-use anaesthetic equipment. *British Journal of Anaesthesia*, 118(6), 862–869.

McGregor, L. et al. (2019) *EM-POWER: returning to clinical practice, skills maintenance, future professional and personal development*. London, UK: Royal College of Emergency Medicine. Available at: https://rcem.ac.uk/wp-content/uploads/2021/10/EMPOWER_Returning_to_EM_Clinical_Practice.pdf [Accessed: 15 February 2022].

McGuire, G.M. & Reger, J. (2003) Feminist co-mentoring: a model for academic professional development. *NWSA Journal*, 15(1), 54–72.

McHill, A.W. et al. (2014) Impact of circadian misalignment on energy metabolism during simulated nightshift work. *Proceedings of the National Academy of Sciences*, 111(48), 17302–17307.

Mead, M. (1943) *Coming of age in Samoa: a study of adolescence and sex in primitive societies*. 1st rev edn. London, UK: Penguin Books.

Medical Schools Council (2021) *The expansion of medical student numbers in the United Kingdom*. London, UK: Medical Schools Council. Available at: https://www.medschools.ac.uk/media/2899/the-expansion-of-medical-student-numbers-in-the-united-kingdom-msc-position-paper-october-2021.pdf [Accessed: 12 November 2021].

Mehlmann-Wicks, J. (2020) *Junior doctor contract in England*. Available at: https://www.bma.org.uk/pay-and-contracts/contracts/junior-doctor-contract/junior-doctor-contract-in-england [Accessed: 7 May 2021].

Mehta, M. et al. (2014) Review paper–study on employee retention and commitment. *International Journal of Advance Research in Computer Science and Management Studies*, 2(2), 154–164.

Merriam-Webster (2020) Definition of 'locum tenens'. *Merriam-Webster*. Available at: https://www.merriam-webster.com/dictionary/locum+tenens [Accessed: 11 August 2020].

Merriam-Webster (2022a) Definition of 'annualized'. *Merriam-Webster*. Available at: https://www.merriam-webster.com/dictionary/annualized [Accessed: 16 March 2022].

Merriam-Webster (2022b) Definition of 'mentor'. *Merriam-Webster*. Available at: https://www.merriam-webster.com/dictionary/mentor [Accessed: 16 March 2022].

Merriam-Webster (2022c) Definition of 'retain'. *Merriam-Webster*. Available at: https://www.merriam-webster.com/dictionary/retain [Accessed: 28 April 2020].

Merriam-Webster (2022d) Definition of 'retention'. *Merriam-Webster*. Available at: https://www.merriam-webster.com/dictionary/retention [Accessed: 21 February 2022].

Mesa, E.P. (2007) Measuring education inequality in the Philippines. *Philippine Review of Economics*, 44(2).

Michaels, C.E. & Spector, P.E. (1982) Causes of employee turnover: a test of the Mobley, Griffeth, Hand, and Meglino model. *Journal of Applied Psychology*, 67(1), 53–59.

Microsoft (2020) *OneNote for Mac*. Redmont, WA: Microsoft.

Miller, D. (2005) *Materiality*. Durham, NC: Duke University Press.

Mills, C.W. (1940) Situated actions and vocabularies of motive. *American Sociological Review*, 5(6), 904–913.

Mills, C.W. (2000) *The sociological imagination*. 1st rev edn. Oxford, UK: Oxford University Press.

Mol, A. (2002) *The body multiple*. Durham, NC: Duke University Press.

Mondada, L. (2012) Conversation analysis and institutional interaction. In: Chapelle, C.A. (ed.) *The encyclopedia of applied linguistics*. [Online]. American Cancer Society. Available at: doi:10.1002/9781405198431.wbeal0202 [Accessed: 9 March 2021].

Mor Barak, M.E. et al. (2001) Antecedents to retention and turnover among child welfare, social work, and other human service employees: what can we learn from past research? A review and metanalysis. *Social Service Review*, 75(4), 625–661.

Morrison, L.J. et al. (2014) Impact of a formal mentoring program on academic promotion of department of medicine faculty: a comparative study. *Medical Teacher*, 36(7), 608–614.

Morriss, L. (2015) Accomplishing social work identity through non-seriousness: an ethnomethodological approach. *Qualitative Social Work*, 14(3), 307–320.

Moseley, A. et al. (2008) The retention of the older nursing workforce: a literature review exploring factors that influence the retention and turnover of older nurses. *Contemporary Nurse*, 30(1), 46–56.

Mossholder, K.W. et al. (2005) A relational perspective on turnover: examining structural, attitudinal, and behavioral predictors. *Academy of Management Journal*, 48(4), 607–618.

Mowday, R.T. et al. (1978) *The measurement of organizational commitment.* Oregon University Eugene Graduate School of Management and Business.

Muir, K.J. et al. (2022) "You have to ask yourself when you've had enough": An ethnography of multi-level nurse burnout cultural impacts in the emergency department. *SSM - Qualitative Research in Health*, 2, 100111.

Munn, Z. et al. (2018) Systematic review or scoping review? Guidance for authors when choosing between a systematic or scoping review approach. *BMC Medical Research Methodology*, 18(1), 143.

Murphy, J.F.A. (2014) Medical staff retention. *Irish Medical Journal*, 107(1).

National Health Service Act (1946) Available at: https://www.legislation.gov.uk/ukpga/Geo6/9-10/81/contents/enacted [Accessed: 24 March 2022].

National Institute for Health and Care Excellence (2017) *Healthy workplaces: improving employee mental and physical health and wellbeing*. Manchester, UK: National Institute for Health and Social Care. Available at: https://www.nice.org.uk/guidance/qs147 [Accessed: 28 August 2020].

Navari, M. (2019) *TSC recommendations for SPA time for EM trainees*. London, UK: Royal College of Emergency Medicine. Available at: https://www.rcem.ac.uk/docs/Training/TSC_position_statement_on_SPA_time_for_EM_trainees.pdf [Accessed: 29 October 2020].

Navari, M. (2020) *Final progression survey data 2018-2019 for RCEM Council*. London, UK: Royal College of Emergency Medicine.

Navari, M. (2021a) *Training Standards Committee (TSC) interim recommendations on Educational Development Time*. London, UK: Royal College of Emergency Medicine. Available at: https://www.rcem.ac.uk/docs/Training/Educational%20Development%20Time%20-%20TSC%20Recommendations%20Feb%202021.pdf [Accessed: 28 January 2022].

Navari, M. (2021b) *TSC recommendations on Educational Development Time (EDT) revised 17/5/2021*. London, UK: Royal College of Emergency Medicine. Available at: https://res.cloudinary.com/studio-republic/images/v1635624255/Educational_Dev_Time_recommendations_MAY_2021/Educational_Dev_Time_recommendations_MAY_2021.pdf?_i=AA [Accessed: 28 January 2022].

Nayeri, N.D. & Aghajani, M. (2010) Patients' privacy and satisfaction in the emergency department: a descriptive analytical study. *Nursing Ethics*, 17(2), 167–177.

Neyland, D. (2009) Mundane terror and the threat of everyday objects. In: Aas, K.F. et al. (eds.) *Technologies of InSecurity: the surveillance of everyday life*. Abington, UK: Routledge-Cavendish.

Ng, T.W.H. & Feldman, D.C. (2009) Re-examining the relationship between age and voluntary turnover. *Journal of Vocational Behavior*, 74(3), 283–294.

NHS Confederation (2017) *Look after current staff to secure the future NHS workforce, says Ian Cumming*. Available at: http://www.nhsconfed.org/news/2017/06/confed17 ian cumming [Accessed: 27 August 2020].

NHS Confederation (2021) *Welfare facilities for healthcare staff*. Leeds, UK: NHS Employers. Available at: https://www.nhsemployers.org/sites/default/files/2021-09/HSWPG%20Welfare%20facilitied%20report%20v3.pdf [Accessed: 3 January 2022].

NHS Data Dictionary (2018) *Accident and emergency department type*. Available at: https://www.datadictionary.nhs.uk/data_dictionary/attributes/a/acc/accident_and_emergency_department_type_de.asp [Accessed: 5 February 2019].

NHS Digital (2021) *Hospital Accident & Emergency Activity 2020-21*. Available at: https://digital.nhs.uk/data-and-information/publications/statistical/hospital-accident--emergency-activity/2020-21 [Accessed: 2 March 2022].

NHS Emergency Care Intensive Support Team (2011) *Effective approaches in urgent and emergency care*. Leeds, UK: NHS Interim Management and Support. Available at: https://www.england.nhs.uk/wp-content/uploads/2013/08/prior-acute-hosp.pdf [Accessed: 17 February 2022].

NHS Employers (2017) *Improving staff retention: a guide for employers*. London, UK: NHS Employers. Available at: http://www.nhsemployers.org/case studies and

resources/2017/09/improving staff retention a guide for employers [Accessed: 5 February 2019].

NHS Employers (2019) *Improving staff retention: a guide for employers*. London, UK: NHS Employers. Available at: http://www.nhsemployers.org/case studies and resources/2017/09/improving staff retention a guide for employers [Accessed: 28 May 2019].

NHS England (2021) *We are the NHS: people plan 2020/21 - action for us all*. London, UK: NHS England. Available at: https://www.england.nhs.uk/wp-content/uploads/2020/07/We-Are-The-NHS-Action-For-All-Of-Us-FINAL-March-21.pdf [Accessed: 18 February 2022].

NHS Improvement & NHS England (2019) *Retaining our people*. 17. London, UK: NHS England. Available at: https://improvement.nhs.uk/documents/2070/Retaining_Our_People_vf.pdf

Nuffield Trust (2019) *NHS reform timeline*. Available at: https://www.nuffieldtrust.org.uk/health-and-social-care-explained/nhs-reform-timeline/ [Accessed: 13 August 2019].

Nugus, P. et al. (2014) The emergency department "carousel": an ethnographically-derived model of the dynamics of patient flow. *International Emergency Nursing*, 22(1), 3–9.

Nugus, P. & Forero, R. (2011) Understanding interdepartmental and organizational work in the emergency department: An ethnographic approach. *International Emergency Nursing*, 19(2), 69–74.

Olive, P. (2017) Classificatory multiplicity: intimate partner violence diagnosis in emergency department consultations. *Journal of Clinical Nursing*, 26(15–16), 2229–2243.

Oliver, D. (2008) 'Acopia' and 'social admission' are not diagnoses: why older people deserve better. *Journal of the Royal Society of Medicine*, 101(4), 168–174.

Oliver, D. (2019) The NHS doesn't need more "restructuring". *British Medical Journal*, 366, l4451.

Oliver, D. (2020) Staff hydration matters more than keeping up appearances. *British Medical Journal*, 368. [Accessed: 6 July 2020].

Olsen, J.C. & Sabin, B.R. (2003) Emergency department patient perceptions of privacy and confidentiality. *The Journal of Emergency Medicine*, 25(3), 329–333.

O'Reilly, K. (2008) *Key concepts in ethnography*. Thousand Oaks, CA: SAGE.

Pang, T. et al. (2002) Brain drain and health professionals: a global problem needs global solutions. *British Medical Journal*, 324(7336), 499–500.

Pathiraja, F. & Wilson, M.-C. (2011) The rise and rise of the portfolio career. *BMJ*, 342, d149.

Pearlin, L.I. & Schooler, C. (1978) The structure of coping. *Journal of Health and Social Behavior*, 19(1), 2–21.

Pels, D. et al. (2002) The Status of the object. *Theory, Culture & Society*, 19(5–6), 1–21.

Perkins, G.D. & Cooke, M.W. (2012) Variability in cardiac arrest survival: the NHS ambulance service quality indicators. *Emergency Medicine Journal*, 29(1), 3–5.

Perreira, T.A. et al. (2018) The employee retention triad in health care: exploring relationships amongst organisational justice, affective commitment and turnover intention. *Journal of Clinical Nursing*, 27(7–8), e1451–e1461.

Peters, M. et al. (2020) Chapter 11: Scoping Reviews. In: Aromataris, E. & Munn, Z. (eds.) *JBI Manual for Evidence Synthesis*. [Online]. JBI. Available at: doi:10.46658/JBIMES-20-12 [Accessed: 19 August 2020].

Petersen, A.M. et al. (2011) Quantitative and empirical demonstration of the Matthew effect in a study of career longevity. *Proceedings of the National Academy of Sciences*, 108(1), 18–23.

Pflipsen, J. et al. (2019) Why our doctors are leaving Irish emergency medicine training. *Irish Journal of Medical Science*, 188(4), 1397–1399.

Phillips, J.J. & Connell, A.O. (2004) *Managing employee retention*. [Online]. Routledge. Available at: doi:10.4324/9780080510873 [Accessed: 5 February 2019].

Pink, S. et al. (2014) The safe hand: gels, water, gloves and the materiality of tactile knowing. *Journal of Material Culture*, 19(4), 425–442.

Pink, S. & Morgan, J. (2013) Short-term ethnography: intense routes to knowing. *Symbolic Interaction*, 36(3), 351–361.

Pope, R. (2019) Organizational silence in the NHS: 'hear no, see no, speak no'. *Journal of Change Management*, 19(1), 45–66.

Prentice, R. (2012) *Bodies in formation: an ethnography of anatomy and surgery education*. Durham, NC: Duke University Press.

Price, J.L. & Mueller, C.W. (1981) A causal model of turnover for nurses. *Academy of Management Journal*, 24(3), 543–565.

QSR (2018) *nVivo 12 Mac*. Doncaster, Australia: QSR International.

QSR (2019) *nVivo Transcription*. Doncaster, Australia: QSR International.

Randall, D. et al. (2001) Ethnography, ethnomethodology and interaction analysis. *Ethnographic Studies*, 6(1), 31–44.

Randall, D. et al. (2021) Ethnography, CSCW and ethnomethodology. *Computer Supported Cooperative Work*, 30(2), 189–214.

Randall, D. & Rouncefield, M. (2011) Plans and planning: conceptual confusions and empirical investigations. In: Rouncefield, M. & Tolmie, P. (eds.) *Ethnomethodology at work*. London, UK: Routledge.

Ranmuthugala, G. et al. (2011) How and why are communities of practice established in the healthcare sector? A systematic review of the literature. *BMC Health Services Research*, 11(1), 273.

Rawls, A. (2003) Harold Garfinkel. In: Ritzer, G. (ed.) *The Blackwell companion to major contemporary social theorists*. [Online]. John Wiley & Sons. Available at: doi:10.1002/9780470999912.ch6

RCEM (2013) *Reports & toolkits - the safety toolkit*. Available at: https://www.rcem.ac.uk/RCEM/ForProfessionals/Safety/Safety_Resources1/Reports___Toolkits_.aspx?WebsiteKey=b3d6bb2a-abba-44ed-b758-467776a958cd&hkey=667ab6fa-11b6-48d5-be49-49a24a24531a&New_ContentCollectionOrganizerCommon=4 [Accessed: 28 September 2020].

RCEM (2018) *RCEM Vision 2020: fixing emergency department staffing, systems and support to deliver excellent patient centred care*. London, UK: The Royal College of Emergency Medicine. Available at: https://www.rcem.ac.uk/docs/Policy/RCEM%20Vision%202020.pdf [Accessed: 28 August 2020].

RCEM (2019) *Careers in emergency medicine*. Available at: https://rcem.ac.uk/careers-in-em/ [Accessed: 18 February 2022].

RCEM (2020a) *RCEM Cares*. Available at: https://www.rcem.ac.uk/RCEM/Quality_Policy/Policy/RCEM_CARES/RCEM/Quality-Policy/Policy/RCEM_CARES.aspx [Accessed: 28 August 2020].

RCEM (2020b) *The case for a radical shake up of the Emergency Care system in England before winter*. London, UK: The Royal College of Emergency Medicine. Available at: https://www.rcem.ac.uk/docs/Policy/200721_Position_Statement_the_case_for_radical_shake_up_EC_system_in_England_before_winter.pdf [Accessed: 17 August 2020].

Real, H.J. (2013) *The reception of Jonathan Swift in Europe*. London, UK: Bloomsbury Publishing.

Reynard, K. & Brown, R. (2014) A clinical analysis of the emergency medicine workforce crisis. *British Journal of Hospital Medicine*, 75(11), 612–616.

Rice, T. (2010) 'The hallmark of a doctor': the stethoscope and the making of medical identity. *Journal of Material Culture*, 15(3), 287–301.

Ricer, R.E. et al. (1995) Mentoring for medical students interested in family practice. *Family Medicine*, 27(6), 360–365.

Rimmer, A. (2017) Orthopaedic trainees launch anti-bullying programme. *British Medical Journal*, 356, j398.

Riordan, C.M. & Griffeth, R.W. (1995) The opportunity for friendship in the workplace: An underexplored construct. *Journal of Business and Psychology*, 10(2), 141–154.

Robinson, O.C. (2014) Sampling in interview-based qualitative research: a theoretical and practical guide. *Qualitative Research in Psychology*, 11(1), 25–41.

Rosenau, A.M. et al. (2015) The growing evidence of the value of emergency care. *Academic Emergency Medicine*, 22(2), 224–226.

Rossano, F. (2012) Gaze in conversation. In: Sidnell, J. & Stivers, T. (eds.) *The handbook of conversation analysis*. [Online]. Chichester, UK: John Wiley & Sons. Available at: doi:10.1002/9781118325001.ch15

Rotenstein, L.S. et al. (2018) Prevalence of burnout among physicians: a systematic review. *Journal of the American Medical Association*, 320(11), 1131–1150.

Rouhani, S.A. et al. (2018) Addressing the immediate need for emergency providers in resource-limited settings: the model of a six-month emergency medicine curriculum in Haiti. *International Journal of Emergency Medicine*, 11(22).

Rouncefield, M. (2011) Fieldwork, ethnography and ethnomethodology. *LSCITS Socio-Technical Systems Engineering Handbook*, 44–48.

Rouncefield, M. & Tolmie, P. (eds.) (2011) *Ethnomethodology at work*. Burlington, VT: Routledge.

Rourke, J. (2010) How can medical schools contribute to the education, recruitment and retention of rural physicians in their region? *Bulletin of the World Health Organization*, 88, 395–396.

Rowe, A. & Regehr, C. (2010) Whatever gets you through today: an examination of cynical humor among emergency service professionals. *Journal of Loss and Trauma*, 15(5), 448–464.

Rubenstein, A.L. et al. (2018) Surveying the forest: a meta-analysis, moderator investigation, and future-oriented discussion of the antecedents of voluntary employee turnover. *Personnel Psychology*, 71(1), 23–65.

Ryan, C. et al. (2018) Recruitment and retention of trainee physicians: a retrospective analysis of the motivations and influences on career choice of trainee physicians. *QJM: An International Journal of Medicine*, 111(5), 313–318.

Sakr, M. & Wardrope, J. (2000) Casualty, accident and emergency, or emergency medicine, the evolution. *Emergency Medicine Journal*, 17(5), 314–319.

Sambunjak, D. et al. (2006) Mentoring in academic medicine: a systematic review. *Journal of the American Medical Association*, 296(9), 1103–1115.

Sandberg, J. (2000) Understanding human competence at work: an interpretative approach. *Academy of Management Journal*, 43(1), 9–25.

Scavone, F. (2021) *Doctors and the European working time directive*. Available at: https://www.bma.org.uk/pay-and-contracts/working-hours/european-working-time-directive-ewtd/doctors-and-the-european-working-time-directive [Accessed: 7 May 2021].

Schegloff, E.A. (2001) Getting serious: joke → serious 'no'. *Journal of Pragmatics*, 33(12), 1947–1955.

Schloss, E.P. et al. (2009) Some hidden costs of faculty turnover in clinical departments in one academic medical center. *Academic Medicine*, 84(1), 32.

Schooley, B. et al. (2016) Comparing burnout across emergency physicians, nurses, technicians, and health information technicians working for the same organization. *Medicine*, 95(10), e2856.

Schubert, C. (2019) Repair work as inquiry and improvisation: the curious case of medical practice. In: Strebel, I. et al. (eds.) *Repair work ethnographies*. London, UK: Springer.

Seim, J. (2020) *Bandage, sort, and hustle*. Oakland, CA: University of California Press.

Sharrock, W. & Randall, D. (2004) Ethnography, ethnomethodology and the problem of generalisation in design. *European Journal of Information Systems*, 13(3), 186–194.

Shearer, B. et al. (2012) What stops hospital clinical staff from following protocols? An analysis of the incidence and factors behind the failure of bedside clinical staff to activate the rapid response system in a multi-campus Australian metropolitan healthcare service. *BMJ Quality & Safety*, 21(7), 569–575.

Shem, S. (1978) *House of God*. New York, NY: Richard Marek Publishers.

Shove, E. & Warde, A. (2002) Inconspicuous consumption: the sociology of consumption, lifestyles and the environment. In: Dunlap, R.E. et al. (eds.) *Sociological theory and the environment: classical foundations, contemporary insights*. Lanham, MD: Rowman and Littlefield.

Sibbald, B. et al. (2003) National survey of job satisfaction and retirement intentions among general practitioners in England. *BMJ*, 326(7379), 22.

Silverman, D. (2015) *Interpreting qualitative data*. 5th edn. London, UK: SAGE.

Simons, S.S. (2017) ER goddess: same team, people! Same team! *Emergency Medicine News*, 39(7), 1.

Simpkin, A.L. et al. (2019) Assessment of job satisfaction and feeling valued in academic medicine. *JAMA Internal Medicine*, 179(7), 992–994.

Skaalvik, E.M. & Skaalvik, S. (2014) Teacher self-efficacy and perceived autonomy: relations with teacher engagement, job satisfaction, and emotional exhaustion. *Psychological Reports*, 114(1), 68–77.

Skinner, J. (2013) *The interview: an ethnographic approach*. London, UK: Taylor & Francis.

Smethem, L. (2007) Retention and intention in teaching careers: will the new generation stay? *Teachers and Teaching*, 13(5), 465–480. Routledge.

Smith, E. et al. (2017a) *Initial assessment of emergency department patients*. London, UK: Royal College of Emergency Medicine. Available at: https://rcem.ac.uk/wp-content/uploads/2021/10/SDDC_Intial_Assessment_Feb2017.pdf [Accessed: 22 March 2022].

Smith, E. & Dasan, S. (2018) A system under pressure. *British Journal of Hospital Medicine (London)*, 79(9), 495–499.

Smith, E. & RCEM Service Design and Configuration Committee (2018) *RCEM workforce recommendations 2018: consultant staffing in emergency departments in the UK*. The Royal College of Emergency Medicine. Available at: https://www.rcem.ac.uk/docs/Workforce/RCEM%20Workforce%20Recommendations%202018%20-%20Consultant%20Staffing.pdf [Accessed: 6 February 2019].

Smith, J. et al. (2017b) An emergency medicine research priority setting partnership to establish the top 10 research priorities in emergency medicine. *Emergency Medicine Journal*, 34(7), 454–456.

Smith, J. et al. (2020) Evolution of methodology and reporting of emergency medicine quantitative research over a 20-year period. *Emergency Medicine Journal*. [Accessed: 5 May 2020].

Smith-Coggins, R. et al. (2014) Night shifts in emergency medicine: the American board of emergency medicine longitudinal study of emergency physicians. *The Journal of Emergency Medicine*, 47(3), 372–378.

Sokol, D.K. (2012) No laughing matter. *British Medical Journal*, 344.

Sopanah, A. et al. (2013) Beyond ceremony: the impact of local wisdom on public participation in local government budgeting. *Journal of Applied Management Accounting Research*, 11(1), 65.

Sormani, P. et al. (2019) Introduction: when things break down. In: Strebel, I. et al. (eds.) *Repair Work Ethnographies*. London, UK: Palgrave Macmillan.

Spector, P.E. (1986) Perceived control by employees: a meta-analysis of studies concerning autonomy and participation at work. *Human Relations*, 39(11), 1005–1016.

Staubmann, H. (2021) C. Wright Mills' The Sociological Imagination and the construction of Talcott Parsons as a conservative grand theorist. *The American Sociologist*, 52(1), 178–193.

Steffen, V. (1997) Life stories and shared experience. *Social Science & Medicine*, 45(1), 99–111.

Strauss, A. et al. (1985) *Social organization of medical work*. Chicago, IL: University of Chicago Press.

Struminger, B. et al. (2017) Building virtual communities of practice for health. *The Lancet*, 390(10095), 632–634.

Sutcliffe, K.M. & Weick, K.E. (2019) Mindful organising and resilient health care. In: CRC Press *Resilient health care*. CRC Press.

Svensson, R. (1996) The interplay between doctors and nurses—a negotiated order perspective. *Sociology of Health & Illness*, 18(3), 379–398.

Takakuwa, K.M. et al. (2013) A national survey of academic emergency medicine leaders on the physician workforce and institutional workforce and aging policies. *Academic Medicine*, 88(2), 269–275.

Takase, M. et al. (2015) Investigating the adequacy of the competence-turnover intention model: how does nursing competence affect nurses' turnover intention? *Journal of Clinical Nursing*, 24(5–6), 805–816.

Templer, A.J. & Cawsey, T.F. (1999) Rethinking career development in an era of portfolio careers. *Career Development International*, 4(2), 70–76. MCB UP Ltd.

Terry, D. et al. (2021) *Clinical educators in emergency departments*. Leeds, UK: Health Education England. Available at: https://rcem.ac.uk/clinical-educators-in-emergency-departments/ [Accessed: 28 March 2022].

Terry, G. (2016) Doing thematic analysis. In: Lyons, E. & Coyle, A. (eds.) *Analysing qualitative data in psychology*. 2nd edn. London, UK: SAGE.

The King's Fund (2014) *What's going on in A&E?* London, UK: The King's Fund. Available at: https://www.kingsfund.org.uk/projects/urgent-emergency-care/urgentand-emergency-care-mythbusters [Accessed: 5 February 2019].

Theodoli, C. (2018) Live at the ED: the science of gallows humour. *St Mungo's*. Available at: https://stmungos-ed.com/blog/gallowshumour [Accessed: 27 January 2021].

Thornton, J. (2020) How hierarchical communication "rules" hamper doctor training and patient care. *British Medical Journal*, 370, m2999.

Thornton, R.J. & Skalnik, P. (2006) *The early writings of Bronislaw Malinowski*. Cambridge, UK: Cambridge University Press.

Timmermans, S. (1999) *Sudden death and the myth of CPR*. Philadelphia, PA: Temple University Press.

Tooke, J. (2008) Aspiring to excellence. Findings and final recommendations of the independent inquiry into Modernising Medical Careers. *http://www.asit.org/assets/documents/MMC_FINAL_REPORT_REVD_4jan.pdf*.

Torraco, R.J. (2005) Writing integrative literature reviews: guidelines and examples. *Human Resource Development Review*, 4(3), 356–367.

Tudor Hart, J. (1971) The inverse care law. *The Lancet*, 297(7696), 405–412.

Twigg, J. (2000) Carework as a form of bodywork. *Ageing and Society*, 20(4), 389–411.

Tzeng, H.-M. (2002) The influence of nurses' working motivation and job satisfaction on intention to quit: an empirical investigation in Taiwan. *International Journal of Nursing Studies*, 39(8), 867–878.

UK Parliament (2021) *MPs to examine how to end staff drain from NHS and social care to tackle workforce crisis*. Available at: https://committees.parliament.uk/work/1647/workforce-recruitment-training-and-retention-in-health-and-social-care/news/159154/mps-to-examine-how-to-end-staff-drain-from-nhs-and-social-care-to-tackle-workforce-crisis/ [Accessed: 14 January 2022].

Varpio, L. et al. (2017) Shedding the cobra effect: problematising thematic emergence, triangulation, saturation and member checking. *Medical Education*, 51(1), 40–50.

Vaughan, P. et al. (2007) A sociology of reuse: deconstructing the milk bottle. *Sociologia Ruralis*, 47(2), 120–134.

Verougstraete, D. & Idrissi, S.H. (2020) The impact of burn-out on emergency physicians and emergency medicine residents: a systematic review. *Acta Clinica Belgica*, 75(1), 57–79. Taylor & Francis.

Vertegaal, R. et al. (1997) Catching the eye: management of joint attention in cooperative work. *ACM SIGCHI Bulletin*, 29(4), 87–92.

Vosk, A. & Milofsky, C. (2002a) The sociology of emergency medicine. *Emergency Medicine News*, 24(2), 3.

Vosk, A. & Milofsky, C. (2002b) The sociology of emergency medicine: gatekeeping, protocols, and consultants. *Emergency Medicine News*, 24(3), 4.

Vosk, A. & Milofsky, C. (2002c) The sociology of emergency medicine: power, authority, and control. *Emergency Medicine News*, 24(4).

Waldman, J.D. et al. (2010) The shocking cost of turnover in health care. *Health Care Management Review*, 35(3), 206.

Wan, Y.K.P. & Chan, S.H.J. (2013) Casino employees' perceptions of their quality of work life. *International Journal of Hospitality Management*, 34, 348–358.

Waring, J.J. & Bishop, S. (2010a) Lean healthcare: rhetoric, ritual and resistance. *Social Science & Medicine*, 71(7), 1332–1340.

Waring, J.J. & Bishop, S. (2010b) "Water cooler" learning: knowledge sharing at the clinical "backstage" and its contribution to patient safety. *Journal of Health Organization and Management*, 24(4), 325–342.

Watlington, E. et al. (2010) The high cost of leaving: an analysis of the cost of teacher turnover. *Journal of Education Finance*, 36(1), 22–37. JSTOR.

Watson, J.L. (1977) *Between two cultures: migrants and minorities in Britain*. Oxford, UK: Blackwell.

Webster, C. (2002) *The National Health Service: a political history*. 2nd edn. Oxford, UK: Oxford University Press.

Weick, K.E. (1987) Organizational Culture as a Source of High Reliability. *California Management Review*, 29(2), 112–127. SAGE Publications Inc.

Weisberg, J. (1994) Measuring workers' burnout and intention to leave. *International Journal of Manpower*, 15(1), 4–14.

Wenger, E. (1998) *Communities of practice: learning, meaning, and identity*. New York, NY: Cambridge University Press.

Wenger, E. et al. (2002) *Cultivating communities of practice: a guide to managing knowledge*. Boston, MA: Harvard Business Press.

Wenger, E. (2011) *Communities of practice: a brief introduction*.

Wenger, E.C. & Snyder, W.M. (2000) Communities of practice: the organizational frontier. *Harvard Business Review*, 78(1), 139–146.

West, C.P. et al. (2016) Interventions to prevent and reduce physician burnout: a systematic review and meta-analysis. *The Lancet*, 388(10057), 2272–2281.

West, M. et al. (2015) *Leadership and leadership development in healthcare: the evidence base*. London, UK: Faculty of Medical Leadership and Management. Available at: https://scholar.google.com/scholar_lookup?title=Leadership+and+Leadership+Development+in+Health+Care:+The+Evidence+Base&author=MA+West&author=K+Armit&author=L+Loewenthal&author=R+Eckert&author=T+West&publication_year=2015& [Accessed: 21 June 2019].

West, M. et al. (2020) *The courage of compassion: supporting nurses and midwives to deliver high-quality care*. London, UK: The King's Fund. Available at:

https://www.kingsfund.org.uk/publications/courage-compassion-supporting-nurses-midwives

West, M. & Coia, D. (2019) *Caring for doctors, caring for patients*. Manchester, UK: General Medical Council. Available at: https://www.gmc-uk.org/-/media/documents/caring-for-doctors-caring-for-patients_pdf-80706341.pdf [Accessed: 3 January 2019].

Wheatley, D. (2017) Autonomy in paid work and employee subjective well-being. *Work and Occupations*, 44(3), 296–328.

White, A.L. et al. (2010) Impact of senior clinical review on patient disposition from the emergency department. *Emergency Medicine Journal*, 27(4), 262–265.

White, G.E. (2000) Sexual harassment during medical training: the perceptions of medical students at a university medical school in Australia. *Medical Education*, 34(12), 980–986.

White, R. et al. (2017) *NHS Ambulance Services*. National Audit Office: London, UK. Available at: https://www.nao.org.uk/wp-content/uploads/2017/01/NHS-Ambulance-Services.pdf [Accessed: 18 January 2021].

White, S. (2006) Unsettling reflections: the reflexive practitioner as '"trickster"' in interprofessional work. In: White, S. et al. (eds.) *Critical reflection in health and social care*. Berkshire, UK: McGraw-Hill Education.

Williams, G.C. & Deci, E.L. (1998) The importance of supporting autonomy in medical education. *Annals of Internal Medicine*, 129(4), 303–308.

Wilson, V. & Pirrie, A. (1999) Developing professional competence: lessons from the emergency room. *Studies in Higher Education*, 24(2), 211–224.

Wolff, H.A. et al. (1934) The psychology of humor. *The Journal of Abnormal and Social Psychology*, 28(4), 341–365.

World Health Organization (2018) *Burnout*. Available at: https://icd.who.int/browse11/l-m/en#/http://id.who.int/icd/entity/129180281 [Accessed: 12 August 2020].

Worth, J. & Van den Brande, J. (2020) *Teacher autonomy: how does it relate to job satisfaction and retention?* Slough, UK: National Foundation for Educational Research. Available at: https://eric.ed.gov/?id=ED604418 [Accessed: 8 March 2021].

Xiao, Y. et al. (2021) Person-environment fit and medical professionals' job satisfaction, turnover intention, and professional efficacy: a cross-sectional study in Shanghai. *PloS One*, 16(4), e0250693.

Xu, G. et al. (1994) Emergency medicine career change: associations with performances in medical school and in the first postgraduate year and with indebtedness. *Academic Emergency Medicine*, 1(5), 443–447.

Xu, G. & Veloski, J.J. (1991) A comparison of Jefferson Medical College graduates who chose emergency medicine with those who chose other specialties. *Academic medicine*, 66(6), 366–368.

Yang, H. et al. (2013) Water safety and inequality in access to drinking-water between rich and poor households. *Environmental Science & Technology*, 47(3), 1222–1230.

Yeoh, C. et al. (2018) Real-time locating systems and the effects on efficiency of anesthesiologists. *Journal of Clinical Anesthesia and Pain Management*, 2(1), 37–40.

Yeung, M. et al. (2010) Mentoring in emergency medicine: the art and the evidence. *Canadian Journal of Emergency Medicine*, 12(2), 143–149.

Young, A. (1981) When rational men fall sick: an inquiry into some assumptions made by medical anthropologists. *Culture, Medicine and Psychiatry*, 5(4), 317–335.

Zaniboni, S. et al. (2013) Differential effects of task variety and skill variety on burnout and turnover intentions for older and younger workers. *European Journal of Work and Organizational Psychology*, 22(3), 306–317.

Zheng, B. et al. (2020) Decision fatigue in the emergency department: how does emergency physician decision making change over an eight-hour shift? *The American Journal of Emergency Medicine*, 38(12), 2506–2510.

Zun, L. et al. (1988) Emergency physician stress and morbidity. *The American Journal of Emergency Medicine*, 6(4), 370–374.