Retention of Doctors in Emergency Medicine: A Scoping Review Protocol

Question

The primary question of the review is: 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 tried to improve retention of doctors in emergency medicine?

Introduction

Emergency medicine has a staffing crisis.(1) There are not enough doctors to provide timely and high-quality care to people who present to the emergency department.(2) This is a complex picture involving several factors. Increasing demand both in terms of number of patients attending and the complexity of their problems. Historically emergency medicine was difficult to recruit to, though recent initiatives have improved this significantly, particularly in the UK.(3) The specialty is stressful, with managing risk, uncertainty, death, and life changing illness and injury the everyday of the emergency physician. All this is likely to have contributed to the retention problem that is the focus of this review protocol.

In the UK, recruitment to emergency medicine training programs is close to complete, with 91% of positions filled in 2017.(3) By the midpoint in training only around half of positions are still filled.(1) Trainees are leaving. This attrition is not fully understood, but research into some of the likely factors does exist. The last three surveys from the UK's Emergency Medicine Trainees' Association offer some insights. Trainees are working hard, they have difficult rosters with regular night shifts, out of hours work and weekend working. They also do not feel they are adequately remunerated for this work.(4–6)

Trainees make up a significant proportion of the emergency physician workforce, and they are the group that has been the most studied, but other groups merit inclusion here. The consultant workforce is key to the delivery of care and the running of the service. While trainees tend to be placed in departments for no longer than a year at a time, consultants are permanent. As such they provide stability and continuity. In addition, there is evidence that care delivered by more senior healthcare providers leads to better outcomes in the emergency department.(7,8)

But consultants too are leaving, and as with their trainee colleagues, the reasons for this exodus are not fully understood. Similar themes are found in the literature relating to the exodus of emergency medicine consultants – the working environment is stressful and the terms and conditions of employment are not perceived as favorable.(9)

The least-studied group of emergency physicians are those doctors who are not in training posts but have not completed training. The UK Royal College of Emergency Medicine (RCEM) uses

the term Staff and Associate Specialists (SAS grade) to describe this group and, therefore, this is the term that is used in this review, whilst acknowledging a multitude of terms have been used historically and geographically.

Staffing problems are not restricted to the physician workforce, nursing in the emergency department has problems with turnover and recruitment and there are early signs that new roles – designed to support the delivery of care in the emergency department (amongst other settings) – such as Physician Associates and Nurse Practitioner roles, are facing similar challenges.(10) The problem is reflected further in numerous other areas and specialties, with pediatrics,(11) general practice(12,13) and psychiatry(14,15) as prime examples.

The focus of this review is emergency physicians of all levels of seniority. This is for two principal reasons. The first is that this review is part of a broader programme of study aiming to understand retention of doctors in emergency medicine, with a view towards future efforts to improve retention being based on an understanding of what retention is. The second reason is that while the other areas of practice are equally as important, including them in the study, and therefore the review, would detract from the focus that is possible by targeting a single type of professional and scope of practice. It is envisioned that while the results of this study will not be directly applicable to other scopes of practice, much of the learning from it can be translated by those aiming to study staffing problems in other settings or professional groups, or for those aiming to implement changes to improve the retention problem in their setting.

This review will focus on retention, this is distinct from exodus from the specialty or attrition from training programs. Previous studies have focused on the reasons for leaving, as have efforts to try and remedy the staffing crisis. The concept of retention is often discussed in policy documents and research articles, but the focus is on exodus. As such the research relevant to retention is not easy to identify.

The objective of the review is to map the evidence to provide an overview of factors influencing, and efforts to improve, retention of doctors in emergency medicine. This aims to inform those, including the authors, who intend to study the phenomenon further and those who are in a position to change or influence policy at a local or strategic level. An initial search of MEDLINE, CINAHL and JBI Database of Systematic Reviews and Implementation Reports in November 2018 showed that no scoping reviews exist on the topic, and that none were currently underway. The Cochrane Database of Systematic Reviews and the PROSPERO database were searched revealing no systematic reviews on the topic.

This review will use the Joanna Briggs Institute methodology for scoping reviews.(16,17)

Inclusion Criteria

Participants

This scoping review will consider all papers in academic journal or policy documents relating to doctors of all levels. This will include those who have completed all their training to practice

independently (Consultants in the UK, Attendings in the US), trainees (specialty trainee and core trainee in the UK as of 2018, registrar and senior house officer (SHO) historically) and those who do not fit in either of these groups (Staff Grade and Associate Specialists in the UK).

It will not include nurses, nurse practitioners, allied health practitioners, physician associates, or healthcare students.

Concept

This study will examine studies related to retention. This term lacks a consistent definition and as such a broad inclusion strategy will be used. The authors' conception of retention relates to a person staying in a job – in this case as an emergency medicine doctor – and becoming more experienced as a consultant or SAS doctor, or progressing through a training program. The search will likely identify many studies related to exodus from practice and attrition from training. Studies relating solely to these concepts will not be mapped, but, given the nature of the literature, they will be reviewed and if they contain information related directly to retention, they will be included.

Context

The review will focus on the practice of emergency medicine within the emergency department. Using the UK's National Health Service (NHS) definition, this will focus solely on type 1 emergency departments - "a consultant led 24 hour service with full resuscitation facilities and designated accommodation for the reception of accident and emergency patients" as opposed to single specialty emergency departments (dental or ophthalmic for example) or minor injury unit or walk-in centers.(18)

Types of studies

As this review aims to understand the concept of retention, qualitative and descriptive reports along with grey literature will especially important. Interventions targeting retention are likely to be case-reports or cohort studies. As such, all study types will be eligible for inclusion, including expert opinion and editorials. We have no reason to limit the date of the search.

Search Strategy

Reflecting the anticipated importance of the grey literature in delineating the scope of the literature, the initial limited search was conducted on MEDLINE Complete, via the ESCOhost platform, and from the RCEM website.

For MEDLINE the articles in the initial search were reviewed to identify text words in the title and abstract, as well as index (MESH) terms to describe the articles. These key terms were used to inform the development of the formalized search strategy and will be tailored for each database with the help of a medical librarian. The proposed search strategy for MEDLINE is detailed in Appendix 1.

The sources to be searched for academic literature include MEDLINE Complete, PubMed, EMBASE, CINAHL, SCOPUS and the British Medical Journal collection. In addition, business and management journals will be accessed by searching Business Source Complete, ProQuest Business Database and Emerald Business and Management Journals.

The reference lists for all included studied will be searched.

The search for grey literature is more complex. The initial search of the RCEM website for terms including “retention”, “staffing” and “exodus” yielded an incomplete list of documents. Several key policy documents known to the authors were not found. As such, the search was repeated using Google, by adding the terms to the RCEM website domain. This approach was far more successful. However, of greatest utility was reviewing each document for key references. As such the following protocol for each of the key sources of grey literature will be followed.

1. Search for key terms on the source website.
2. Search for key terms on Google using the website domain and key terms as search terms.
3. Hand searching of each relevant document for further sources.
4. Each stage may reveal new terms leading to a reiteration of the search.

It is likely that new sources for grey literature will be identified using this approach. When this occurs, these new sources will be searched using the methods described for the known sources. The initial sources for grey literature are: The Royal College of Emergency Medicine; The Health Foundation; NHS Innovation; Health Education England; The British Medical Association; European Society for Emergency Medicine; American College of Emergency Physicians; and the Australian College of Emergency Medicine.

This targeted searching will be supplemented by searches of grey literature databases and consultation with experts. These steps, combined with the first step described above, represent a systematic and reproducible strategy for searching the grey literature, adapted from that described by Godin et al.(19)

The grey literature databases to be accessed are: HMIC (Health Management Information Centre); NICE Evidence Search; OpenGrey; and TRIP Medical Database.

Experts will be identified through the course of the search by screening documents for content experts and contacting them directly.

The documents identified from the expanded search of RCEM were reviewed for key search terms. These will be utilised in the grey literature search and added to the search for academic literature. The key terms identified so far are: retention, retaining (retain*), "sustainable career*", workforce, staffing. Depending on the context, terms relating to emergency medicine may need to be added to narrow the search.

For both the academic and grey literature the reviewers will contact authors for further information if required. English language papers will be included.

Study Selection

Academic Literature

This review will use a two-stage screening process as a large number of studies, many of which are likely to be irrelevant, are anticipated. The first stage will involve review of titles and removal or articles that are clearly irrelevant (such as articles on urinary retention). This will be followed by screening of abstracts to identify papers that might be relevant to the study question.

The next stage, review of full papers, will again have two stages. After reading of each paper further irrelevant articles will be removed from the study. The remaining articles will have relevance to the study question and will be put forward for data extraction.

Each stage of this process will be completed by two reviewers independently with disagreement resolved initially by consensus, then by the addition of a third reviewer and finally by discussion among the whole research team if needed.

Grey Literature

The iterative nature of the grey literature search is likely to lead to a simpler study selection process. It is anticipated that identified documents will be reviewed and irrelevant documents discarded. The lead author will complete the initial search and compile a list of studies for consideration. This will be reviewed independently by two reviewers with disagreement resolved as above.

Data Extraction

Data will be extracted using the draft data extraction tool listed Appendix II. This was developed from the JBI data extraction tool, following pilot extraction performed on the documents identified during the pilot searches described above.

Each included paper will have data extraction performed by one author and reviewed by a second. Disagreement will be resolved initially by consensus, if this doesn't resolve the disagreement the extraction will be reviewed by all the authors and a consensus reached.

The data extraction of the grey literature will be further reviewed by a Patient and Public Involvement Member of the study’s steering group. They will sense check the data extraction by comparing it against the original documentation.

The draft data extraction tool will be modified as required throughout the course of the review, as described in the JBI Reviewer's manual. These modifications will be documented in the full scoping review report.

Presentation of results

The results will be mapped at different categorical levels. We will create a visual representation of the identified factors influencing retention in emergency medicine, tabulate the interventions in suitable categories, identify key papers for policy makers and researchers and provide a narrative summary of the findings including identifying key gaps in the literature. The planned presentation of results is likely to evolve as the study progresses, the final presentation will be justified in the full scoping review report.

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Conflict of interest

The authors declare no conflicts of interest.

Appendices

Appendix I – Proposed Medline Search Strategy

Database: Ovid MEDLINE(R) and Epub Ahead of Print, In-Process & Other Non-Indexed Citations and Daily <1946 to March 11, 2019>	
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. [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]
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$.mp
13	emergency medical care.mp.
14	or/6-13
15	5 and 14
16	workforce/ or health workforce/ or personnel loyalty/ or work schedule tolerance/ or work-life balance/ or workload/ or personnel turnover/
17	burnout, psychological/ or burnout, professional/
18	Career Choice/
19	career mobility/
20	(workforce or manpower or staffing or retention or work-life balance of turnover or leaving medicine or exiting or burnout).mp.
21	(career adj4 (choice or mobility or progress$ or ladder or promotion or advancement or satisfaction)).mp.
22	or/16-21
23	15 and 22

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196 Appendix II – data extraction tool

First Author Year Origin Type (e.g. research, opinion)	Population e.g. trainees or consultants Include number	Methods e.g. interview or survey Include key strengths or weakness	Key findings relevant to retention. Include page number if direct quotation.
Author A 2019 UK Research	Example population of XYZ number of trainees	One-to-one interviews with clear methods	Finding one Finding two "direct quote to support" page 8 Finding three

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