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Factors affecting the UK junior doctor workforce retention crisis: an integrative review

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ABSTRACT

Objectives To determine the factors contributing to the junior doctor workforce retention crisis in the UK using evidence collected directly from junior doctors, and to develop recommendations for changes to address the issue.

Design Integrative review.

Data sources Searches were conducted on Ovid Medline and HMIC to locate evidence published between January 2016 and April 2021. This was supplemented by publications from relevant national organisations.

Eligibility criteria English-language papers relating to UK junior doctor retention, well-being or satisfaction which contained data collected directly from junior doctors were included. Papers focusing solely on the pandemic, factors specific to one medical specialty, evaluation of interventions, or numerical data with no evidence relating to causation were excluded. Review papers were excluded.

Data extraction and synthesis Data were extracted and coded on NVivo by FKL, then thematic analysis was conducted.

Results 47 papers were included, consisting of academic (qualitative, quantitative, mixed and commentary) and grey literature. Key themes identified were working conditions, support and relationships, and learning and development, with an overarching theme of lack of flexibility. The outcomes of these factors are doctors not feeling valued, lacking autonomy, having a poor work–life balance, and providing compromised patient care. This results in need for a break from medical training.

Conclusion This review builds on findings of related literature regarding working environments, isolation, stigma, and desire for autonomy, and highlights additional issues around learning and training, flexibility, feeling valued, and patient care. It goes on to present recommendations for tackling poor retention of UK junior doctors, highlighting that the complex problem requires evidence-based solutions and a bottom-up approach in which junior doctors are regarded as core stakeholders during the planning of interventions.

Strengths and limitations of this study

- ► Review combines results of a large number of diverse sources of evidence.
- ► Data analysis was informed by the lead author's personal experience of working as a junior doctor.
- ► Exclusion of research specific to one specialty may have led to rejection of valuable evidence.
- ► Response rates to surveys in included papers were often low, risking response bias.
- ► Samples in some studies lacked diversity.

INTRODUCTION

Junior doctors (JDs)—qualified doctors in postgraduate training who have not yet reached consultant or general practitioner status—make up approximately half of the National Health Service (NHS) medical workforce.[1] England has the second lowest doctor-to-population ratio of all Organisation for Economic Cooperation and Development European Union countries, with a deficit of almost 50 000 doctors compared with the average ratio.[2] Loss of JDs is playing a major role in this workforce crisis, with 2019 data showing that only 35% of foundation doctors chose to immediately begin an NHS training post (a further reduction on previous years).[3] 14% opted to take a career break and 0.5%, equating to 23 doctors, left the medical profession entirely after two years of working as a doctor. Although 84% of doctors do begin an NHS training programme within three years of completing the foundation programme, the remaining 16% who do not enter training leave a significant gap which must be considered in medical workforce planning.[4] Some JDs will commence a training programme yet not complete it—latest figures show that one in ten JDs are considering leaving the NHS altogether.[5] The national medical staffing deficit would be even more significant if it were not for the large numbers of international medical graduates working in the NHS—currently approximately 30% of NHS doctors are from overseas.[6]

The JD workforce retention crisis is a national public health issue due to its implications for patient safety, NHS cost, and the future of UK healthcare. In addition, it is of utmost importance that poor employee well-being and mental health within the UK's

biggest employer is confronted. The NHS Constitution states that staff should be treated with respect, compassion and care because it is the right thing to do, and because it improves patient experience and outcomes.[7] Despite this, 2020 NHS survey data revealed that over 40% of trainee medics/dentists had felt unwell as a result of work-related stress in the preceding year, yet only a quarter felt that their employer took positive action on health and well-being.[5] Improvement of population health cannot be achieved with a burnt out and dissatisfied workforce, therefore improving workforce well-being is an essential aim for the NHS.[8]

Quantitative data from the NHS, General Medical Council (GMC) and UK Foundation Programme annual surveys indicate that issues impacting JD retention may include work–life balance, teaching and supervision quality, and workload.[3 5 9] Commentaries suggest that exhaustion affecting doctors' abilities to care for patients, lack of autonomy, and a perception of not feeling valued by one's organisation could also be playing a role.[10–12] Reviews related specifically to mental ill-health in doctors raise similar problems as well as issues such as isolation and the medical culture of invulnerability, whilst others highlight challenges particular to individual specialties such as psychiatry.[13–16] Data on increasing numbers of doctors choosing to work abroad suggest that frustrations and stress may lie with the NHS rather than the job itself, yet the lack of exit interviews for doctors leaving UK medicine means there is not routine information captured on reasons for doing so.[17 18] Research conducted with UK doctors in New Zealand suggests reasons include dissatisfaction with the NHS along with pull factors such as better quality of life, working conditions, and career opportunities abroad.[19 20] The pressing situation has been exacerbated by the pressures placed on the NHS by the COVID-19 pandemic. Unprecedented demands have resulted in disruption of training for most JDs, coupled with high rates of exhaustion, burnout, and mental health disorder.[9 21]

The problem of retaining JDs in the NHS is complex and therefore system-level changes are required to tackle it.[22] This requires an evidence-based approach which recognises and acts on data gathered directly from JDs, rather than a top-down process. Current recommendations and guidance regarding JD retention and well-being produced by prominent organisations do not fully use the extensive body of research on the experiences of JDs.[12–27] Most involve limited, short-term workforce consultation and partial literature reviews, such as the Health Education England (HEE) document 'Junior Doctors' Morale', which is based on a brief listening exercise and review of six papers.[28] Although actions have been taken over recent years, such as introduction of the European Working Time Directive, exception reporting, and processes to enable changing specialties, these are insufficient changes which do not recognise the complexity of the issue.[29–31]

There is an array of primary data on the challenges faced by JDs and what they value and need in their jobs, however there is no existing research summarising all this information into one document that can be used by key bodies making recommendations for policy and practice changes to impact JD workforce retention. This paper aims to fill the gap in the form of an integrative review of this literature.

METHODS

An integrative review methodology was chosen for this research because it allows for the synthesis of information from diverse data sources.[32] Provisional searching for literature on the subject revealed that useful data comprised of academic publications (qualitative, quantitative, and mixed research; commentaries) and grey literature (reports). The review methodology follows the five stages described by Whittemore and Knafl.[33]

Problem identification

The problem being targeted by this review is poor retention of JDs in the UK. Retention issues include career breaks, working abroad and leaving the medical profession permanently. The aims are to determine the causative factors contributing to the JD workforce retention crisis, using evidence collected directly from JDs at various stages of training and in different clinical specialties, and to develop recommendations for changes to UK healthcare policy and practice which address the issue.

Literature search

A comprehensive literature search was conducted on Ovid Medline and Healthcare Management Information Consortium for the period January 2016–April 2021 using the search terms described in box 1. Advice on the search was obtained from an academic liaison librarian. The year 2016 was chosen as the start date because this is when JD contract reforms took place in England, during which JD working practices were altered.

Additional evidence was located via citation searching and by reviewing publications of relevant national bodies (HEE, GMC, British Medical Association (BMA),

Box 1 Search strategy

(junior doctor* or trainee doctor* or postgraduate doctor* or F1 or F2 or foundation doctor* or foundation year doctor* or specialty train* or young* doctor*)
And
(retention or break or career break or career choice* or leave or time out or quit or change* or intention* or plan* or training or wellbeing or well-being or stress* or burnout or mental health or morale)
And
(experience* or view* or attitude* choice* or factor* or priorit* or value* or motivat* or attract* or barrier* or challeng* or influence* or interview* or survey* or focus group*)
And
(UK or United Kingdom or England or Wales or Scotland or Northern Ireland or NHS or National Health Service)

Table 1 Inclusion and exclusion criteria for literature search

Inclusion criteria	Exclusion criteria
English language	Focuses on only the specific challenges experienced by one specialty and does not include evidence relevant to all junior doctors
Published no earlier than 2016	Does not include any evidence obtained directly from junior doctors
Focuses on doctors in the UK, with at least some evidence pertaining specifically to junior doctors	Focuses primarily on consultants or medical students
Focuses on workforce retention and/or well-being and/or job satisfaction	Focuses entirely on COVID-19 pandemic
	Intervention evaluation in which the only evidence from junior doctors relates to direct impact of intervention
	Considers specialty choice but not overall medical workforce retention
	Contains solely numerical data, for example, rates of retention or burnout, with no primary evidence relating to possible causes
	Review papers

Academy of Medical Royal Colleges). Inclusion and exclusion criteria are detailed in table 1 . Screening of title/abstracts and full texts for inclusion was carried out by FKL, with a random 10% sample reviewed by DC at each stage and discrepancies in opinion discussed.

Data evaluation

This review included papers with a range of research designs, as well as commentaries and grey literature, thus precluding the use of a simple scoring system.[33] The 2018 Mixed Methods Appraisal Tool was therefore used to evaluate the quality of primary research.[34] The scoring system was not used to exclude studies, but to critique their methodological quality. Quality assessment was undertaken by FKL with a 10% sample checked by DC. Any apparent quality issues found when reviewing sources were noted and considered when analysing data and drawing conclusions. This is explored in the Results and Discussion sections.

Data analysis

The initial stage of analysis was data reduction, in which the sources were first divided into subgroups based on the evidence type (qualitative studies, quantitative studies, mixed studies, commentaries, grey literature).[33] Data from each source, including original data and author's interpretation if this was entirely based on original data, were then extracted and coded by FKL using NVivo QRS International (a qualitative data management software). Initial display of data derived from individual sources revealed that codes within each of the five subgroups were overlapping to the extent that it was not appropriate to analyse them individually. For this reason, data comparison involved visualising networks of codes from all sources simultaneously and conducting inductive thematic analysis.[35] Codes from non-peer-reviewed subgroups (commentaries and grey literature) were only used if they also appeared in one of the other subgroups. Patterns in subthemes were identified by FKL in order to develop overarching themes. Finally, these themes were developed into a conceptual framework by finding intervening factors and building a logical chain of evidence. This was verified with primary source data and revised by FKL and DC until it provided an overview of the reviewed data in its entirety.

Presentation

A Preferred Reporting Items for Systematic Reviews and Meta-Analyses flow chart illustrates the literature search and study selection process (figure 1). Analytical findings are presented visually in figure 2 and described within text in the Results and Discussion sections.

Patient and public involvement

Patients or the public were not involved in the design, conduct, reporting, or dissemination plans of our research.

RESULTS

Study characteristics

47 papers were included in the review. These are summarised in online supplemental appendix 1. The most common type of evidence was qualitative research (n=17). Similar amounts of mixed (n=11), quantitative (n=8) and grey (n=7) literature were included. Commentaries made up a smaller proportion of the included papers (n=4). The most common research methods were interviews and surveys. There was a relatively even distribution of publication dates for the papers spanning the years 2016–2020, with no relevant papers found from 2021. Sample sizes varied greatly, ranging from 16 to over 75 000. Participants in the majority of papers were JDs of any training grade or specialty, with a smaller number of papers focusing solely on foundation doctors. There were no quality issues requiring exclusion of a paper. Research was generally of high quality, with the main issues of response rate and imbalanced samples discussed in the limitations section of the review. Some papers lacked

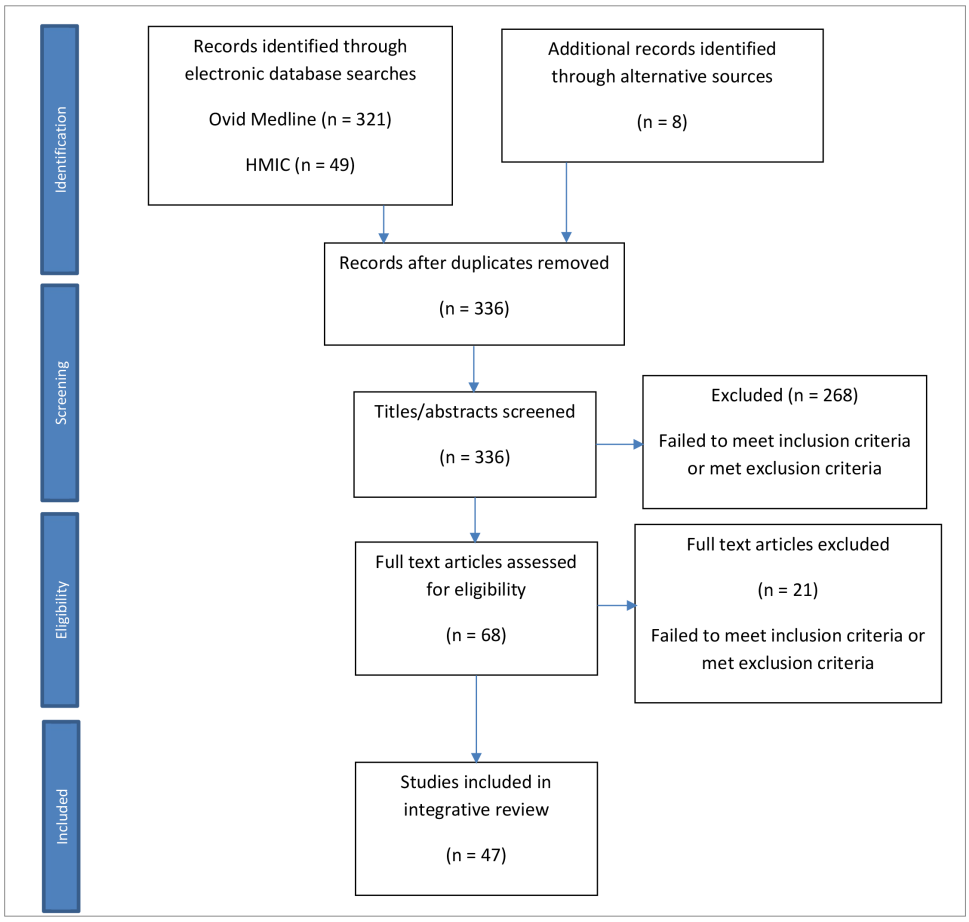

Figure 1 Preferred Reporting Items for Systematic Reviews and Meta-Analyses flow diagram for literature search.

transparency in the description of their methodological approach and/or analysis.[34]

Figure 2 is a visual representation of identified themes and their relationships. There are three key thematic groups of factors causing dissatisfaction among JDs with their working lives: working conditions, support and relationships, and learning and development. Across these, there is an overarching theme of lack of flexibility. The consequences of these issues are that JDs do not feel valued, they lack autonomy, they have a poor work–life balance, and they are concerned about compromised patient care. This ultimately results in need for a break.

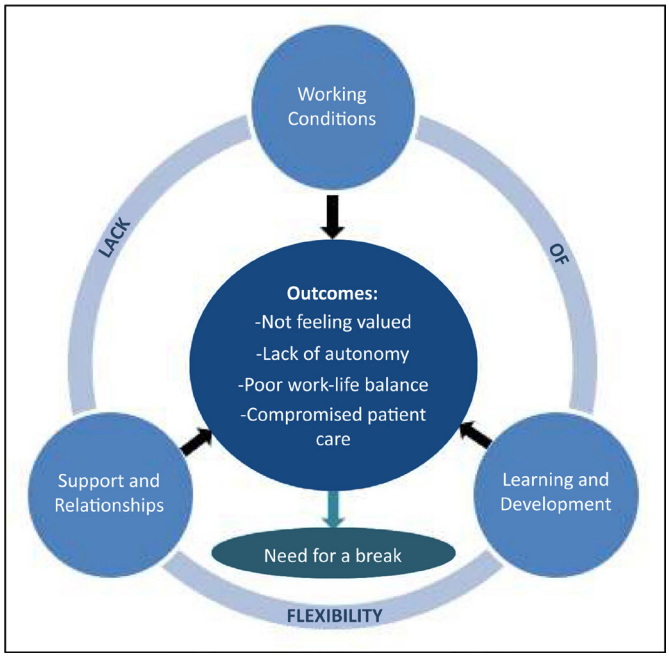

Figure 2 Framework identifying key themes.

All themes were identified in a large proportion of the reviewed literature, with no pattern of particular themes within certain subgroups. Poor mental health, well-being and morale were additional topics that were frequently identified in the reviewed literature. They have not been listed as a theme because they are outcomes of professional discontent which are closely related to poor retention, whereas causative factors for workforce retention issues are the subject of this review. Quantitative aspects of the data were not considered because this review aims to summarise all issues contributing to poor JD retention rather than quantify or rank them.

The themes and subthemes identified in the literature relating to JD workforce retention are described below. Examples of quotations supporting findings are shown in table 2, with a more extensive collection located in online supplemental appendix 2.

Table 2 Examples of quotations supporting findings

Theme	Quotation (reference)
Working conditions	The … responses highlighted … that incessant bleeps and lack of cross cover can sometimes make it impossible to take proper breaks.[38]
Support and relationships	UK trainees' satisfaction in relation to their training programme was positively and significantly affected by the level of clinical supervision …, which is the explaining variable showing the strongest effect …[50]
Learning and development	Most trainees agreed that there were several factors limiting learning opportunities, including time pressures, large volume of patients, frequent interruptions, lack of follow-up of cases …[55]
Lack of flexibility	The most popular scenario [to encourage direct entry to specialty following foundation training] was for trainees to have more control over their geographical location, jointly following by the ability to secure leave to get married and to take time out of training programme activities.[3]
Outcomes	There was also a sense of loss of autonomy, with participants feeling a sense of self-sacrifice and 'helplessness'. One even described 'Feeling like some greater power is in control of your life the whole way through'.[39]

Theme 1: Working conditions

Workload[11 36–55]: High workload, exacerbated by rota gaps and excess administrative work, detracts from learning and building relationships and is believed to be unsustainable.

Working hours[28 38–41 43–45 47–49 51 53 54 56–62]: Hours are long, antisocial, and often worked beyond due to staff shortages and excess workload. Lack of regular routine due to shift patterns is problematic. Essential tasks, such as completion of the ePortfolio (online training record used by JDs to log evidence of competencies), are often done outside working hours. Proposed 2016 JD contract changes threatened increased antisocial hours and reduced remuneration, which caused uncertainty about future career plans (following industrial action and negotiations, the BMA agreed a deal with the NHS and Department of Health and Social Care with less negative implications for hours and pay than that originally put forward).

Breaks[36 38–40 43 48 54]: There is often insufficient time during shifts to eat, drink, use the toilet, and rest. If taken, breaks are disrupted frequently due to lack of cross-cover. There can be reluctance to take breaks because they may result in delays for patients or increased work for colleagues.

Rotas[28 39 40 42–44 47 48 51–53 58 63]: Rotas are often distributed at late notice or last minute changes are made meaning it is difficult to plan life outside of work. Gaps in rotas are common and managed inappropriately, resulting in JDs being pressured to work additional hours or having to work above their grade. It can be difficult to obtain annual or study leave at the desired time, including for major events such as the funeral of a family member or one's own wedding.

Facilities[28 36 38 40 43 44 47 49 52 54 60 63–67]: There is insufficient space for learning and engaging with one's team. Break rooms for during and after shifts are not consistently present and can require payment. Information technology systems and Wi-Fi are problematic and there are often not enough computers. Additional problems include lack of canteens, water fountains, parking, and accommodation.

Theme 2: Support and relationships

Supervision[28 37 40 42 43 45 47 49–51 55 59 68 69]: There is little continuity with formal supervision. Supervisors can be disconnected from a trainee's day-to-day work, meaning feedback, including recognition of good work and constructive criticism, is limited and non-specific. Supervisors can be perceived not to care about or be interested in the trainee.

Support from peers, seniors and management[28 36 37 39–45 47–50 54 59 60 67 69–75]: Peer support is reduced due to frequent rotation of specialty and location. Readily accessible and approachable senior support is not always available. This can lead to overwhelming situations involving excess responsibility which can damage confidence. Debriefs and mentoring regarding career progression from seniors are uncommon. Managers are not visible or involved with frontline staff and there is not noticeable action in response to concerns raised by JDs.

Well-being support[40 47 48 56 75 76]: It can be unclear where to access support for well-being and mental health. Support units can feel too close to the workplace and associated disciplinary processes therefore be perceived as a form of surveillance or punishment. The cultural medical identity of coping results in belief that asking for help is a sign of professional failure or clinical incompetence, leading to stigma. This can delay or prevent seeking support and taking sick leave.

Team connection[36 40 42–45 48 55 58 62 63 73 74 77]: Team relationships are affected by lack of stability in specialty and location. Hierarchies within the medical team and wider multidisciplinary team can also create barriers to cohesive working. Lack of integration can result in isolation and loneliness. International medical graduates can find these problems intensified. The loss of the previous firm structure (the traditional medical apprenticeship system in which groups of doctors of varying seniorities worked together regularly as a team; discontinued as a result of increased rotations for JDs during training) is begrudged due to its apparent advantages for team working over the current system.

Bullying and discrimination[37 40–45 48 51 54 59 68 73 74 76 78 79]: Characteristics/situations subject to discrimination in the workplace include gender, ethnicity, part-time working, mental health problems, sick leave, maternity leave, and having children. Derogatory attitudes to some medical specialties can result in feelings of judgement if desires to pursue these specialties are voiced. There can be a blame culture regarding errors at work. This contributes to lack of openness due to fear that raising issues may reflect negatively on the reporter. This can be worsened by high profile cases of litigation against doctors such as the Bawa-Garba case.[80]

Theme 3: Learning and development

Learning opportunities[3 11 28 36 39–41 43–45 47–49 51 52 54 55 58 59 62]: There is a conflict between service provision and training in the workplace, with high workloads resulting in little bedside teaching, feedback, or debriefing. Formal teaching may not be protected and therefore interrupted by bleeps and general work pressures.

Development opportunities[11 28 39–41 43 44 47 51–54 58 60 66 67 71]: There is little time or support for personal and professional development during work. Taking a break from training provides an opportunity to experience different specialties, improve one's curriculum vitae, attend conferences, travel and work abroad, and pursue wider qualifications and interests such as teaching, management or research. Formal career guidance is considered inadequate and there is concern regarding future career prospects due to a perceived shortage of senior posts.

Training programme arrangements[3 28 37–45 48 51 52 54 58–61 63 65–69 71 74 79]: Application to specialty training during F2 is too early—at this stage insufficient experience has been gained in different specialties and there is often uncertainty over specialty choice. There may have been inadequate time to develop a competitive application. It is thought to be difficult to change specialty once a training programme is commenced.

Assessment during training is unsatisfactory. The ePortfolio appears to be a tick-box exercise, and the Annual Review of Competency Progression values clerical rather than clinical ability and fails to differentiate between trainees. Compulsory examinations are onerous and high financial costs must be met by the individual. Study must often be done outside of working hours which contributes to fatigue and stress.

Training is characterised by frequent rotations in specialty and location which can lead to a sense of disconnect and lack of continuity. Inductions for placements are often too generic and do not focus on essential clinical aspects of the new job such as computer systems and meeting colleagues. Location of jobs is subject to much uncertainty during training. Deaneries are large and therefore long commutes are common. JDs may choose to take breaks in order to to remain in a chosen location, often for personal reasons such as marriage or children. Movement and unfamiliarity can lead to lack of support during stressful periods. If a doctor's partner also works in medicine, the likelihood of separation can be heightened.

Theme 4: Lack of flexibility

Lack of flexibility is an overarching theme relevant to all three main themes: working hours, location, training structure and rotas are just several aspects of the job which are subject to rigidity, with little opportunity for JDs to tailor their work to suit them. This has a secondary effect on ability to obtain support and develop relationships. Opportunities for time out of training, working less than full-time, switching specialty and deferring training are desired.[3 11 36 39 41 42 44 45 49 51 52 54 58 61 71 77]

Theme 5: Outcomes

Not feeling valued[28 36 39–45 48 49 51 52 54 55 58 59 61 62 66 68 69 73 77 78]: There is a sense that JDs are not valued as people or professionals by managers or the government. Working tirelessly with no appreciation or recognition of good work leads to feelings of worthlessness, despite medicine being a highly specialised career. The negative presentation of the medical profession by the media can add to this. Salaries may not fairly represent workload or responsibility, and doctors can feel they are being taken advantage of, especially compared with jobs abroad or within other professions.

Lack of autonomy[11 36 39 41 43 44 48 52 54 58 62]: There is desire for increased control over work and its impacts on life outside of work, including annual leave, workload, learning, rotas, living location, and future careers. Clinical autonomy may also be deficient, with minimal opportunity to make key decisions about patient care despite extensive medical education. This can result in a sense of helplessness due to high work demands but limited control.

Poor work–life balance[3 36 38 39 41–45 48 49 51 52 54 58 59 61 66 76 79]: Sleep, exercise, hobbies and health needs can all suffer due to factors above such as working hours and examination preparation. Reduced time spent socialising can lead to concerns about letting friends and family down and missing out on valuable support. Conflict can occur between work and personal life, such as being a good doctor and a good parent. Problems may be heightened by the fact that this is often a life stage of significant events, such as buying a house or starting a family.

Compromised patient care[36 39 41 44–46 48 53 54]: Many of the themes identified result in a feeling that it is impossible to build necessary doctor–patient relationships, empathise, and do one's job effectively, resulting in patients not receiving an adequate standard of care. This can lead to stress and guilt, along with frustration and concern about the damaged state of the NHS and the impacts of restructuring and inadequate funding.

Need for a break[39 44 52 54]: The ultimate outcome is desire for a break in training, medicine, or employment. A break allows an opportunity to get off the conveyor belt of education and training and regain control. The culture of taking a break after F2 has now become a social norm, to the extent that those considering immediate progression

to specialty training may feel they are missing out on an opportunity.

DISCUSSION

Findings in context

This integrative review brings together the results from 47 sources of evidence to develop greater understanding of the challenges faced by JDs in the UK which may cause them to delay training, leave the country, or seek an alternative career. The findings show that issues relate to working conditions, support and relationships, learning and development, and lack of flexibility. These factors cause JDs to feel that they are not valued, lack autonomy, have poor work–life balance, and that patient care is compromised. This leads to a need to take a break from the JD training pathway. Although for many this means a break from the NHS, many JDs remain in NHS employment in a service appointment.[3] This suggests that there are aspects specific to medical training which doctors want to escape. Research into the reasons behind the preference for service posts is recommended.

The themes identified in this review corroborate and add to those in recent literature. Poor working conditions are a key topic in work on mental health disorders in JDs and medical students.[13 81] Issues relating to isolation, lack of support in the workplace, and stigma feature prominently in numerous publications relating to NHS staff well-being.[13 23 24 27 81 82] Lack of autonomy has been identified as a cause of dissatisfaction and poor well-being for doctors, with a recent paper highlighting the value of supported autonomy in transforming challenging experiences into positive learning opportunities during the COVID-19 FiY1 post (the interim foundation year post created during the COVID-19 pandemic to enable final year medical students to graduate early and commence work in the NHS under provisional GMC registration).[13 27 82] HEE's report on the foundation programme highlights problems with the structure of medical training and opportunities for learning and professional development, and emphasises the importance of increasing flexibility within training.[24] West *et al*'s 2017 paper demonstrates how a culture of compassionate leadership, involving team work, inclusion and support, can mirror NHS staff's core values and result in improved satisfaction and well-being.[83] Occupational theory shows that roles with high workload and demand also require high resources, such as control and support, to prevent impaired well-being and burnout.[84] This review confirms that findings in the above reports, many of which relate to a broad group of NHS professionals, are highly relevant to JDs. It expands on learning and development by considering problems with all stages of the training pathway and broadening inflexibility issues to include those relating to the work environment as well as training structure. It goes beyond literature on working conditions to emphasise the negative impact of poor work–life balance. It also identifies themes that are missing or overshadowed in current literature, such as JDs not feeling valued as professionals and feeling unable to care for patients safely.

Strengths and limitations of research

This review has combined the results of a large number of diverse sources of evidence in order to produce a comprehensive summary of factors affecting JD workforce retention. The evidence consists of data from JDs at all stages of training and a variety of clinical specialties. Data analysis was informed by personal reflections of experiences of FKL working as an NHS foundation doctor and taking a career break, and the experiences of medical friends and colleagues. This review goes beyond existing reports to provide recommendations based entirely on evidence collected from JDs.

The first limitation is that the literature search only used two databases, which could have biased the literature identified. The second potential limitation is that exclusion of papers focusing on challenges specific to one specialty may have led to rejection of valuable evidence which also included themes relevant to all JDs, and would have allowed for factors relevant to individual specialties to be highlighted.

The other limitations of this research relate predominantly to the limitations of the included literature. Much of the evidence was based on questionnaires and surveys for which response rates varied between 25% and 95%. There is a risk of response bias with low response rates, for example, dissatisfied doctors may have been more likely to respond. Another issue, particularly found in the in-depth qualitative research, was lack of diversity within samples (typically gender imbalance, with women outnumbering men). In addition, most papers did not provide detailed participant characteristics such as ethnicity and country of graduation, so contribution of inclusive views towards the findings and recommendations could not be fully assessed. Finally, although inclusion criteria specified papers published after the JD contract negotiations, data collection for some papers took place around the time of the negotiations. This could have affected participant responses, although aside from contract-specific content, there were no major differences in themes between the older and more recent papers.

Recommendations

Changes to the working and training environments of NHS JDs should be prioritised within policy and organisational contexts to support recovery of the NHS and the mental health of its employees following the height of the COVID-19 crisis, and to ensure a sustainable medical workforce. The themes identified have purposefully not been ranked: they are all equally important and interlinked aspects of a complex system and should be addressed together. Patient safety is of paramount importance and must not be compromised by changes made, acknowledging that insufficient progress in workforce well-being will also impede patient care.[7] Ultimately, the focus of changes should be on making JDs feel like valued professionals who have control over

Table 3 Recommendations

Key principles:

1. Increase flexibility in all aspects of work and training, ensuring junior doctors are treated as individuals rather than faceless workers.
2. Consider context when planning changes—one size will not fit all.
3. Work in partnership with junior doctors when planning, implementing, and evaluating changes, using a bottom-up approach.

Theme	Recommendation	National bodies which support recommendations
Working conditions	Reduce workload to ensure sufficient time is available for training, development and breaks during working hours, and it is possible to leave work on time.	GMC, BMA[27 86]
	Include time for mandatory activities (eg, ePortfolio completion, examination preparation) within rotas.	HEE[24 25]
	Evaluate exception reporting process to ensure junior doctors are confident reporting and reports are used to guide change.	GMC[27]
	Allow all junior doctors the option to work less than full time.	HEE, GMC[24 25 87]
	Improve rota management by distributing safe rotas with no gaps at least 6 weeks in advance of a placement and improving processes for taking annual, study and sick leave.	GMC, HEE, BMA[27 28 86]
	Improve facilities in the workplace.	HEE, GMC[23 27]
Support and relationships	Change the current supervision system to ensure supervisors have enough contact with trainees to provide meaningful feedback, including recognition of good work.	GMC[27]
	Increase availability of senior clinical support for junior doctors and make debriefs following challenging situations routine.	HEE[23]
	Ensure managers are visible and work closely with junior doctors on retention and wider issues.	GMC[27]
	Improve accessibility, availability and acceptability of formal and informal well-being support.	HEE, BMA[23 86]
	Make changes which help junior doctors integrate into medical and multidisciplinary teams.	HEE, GMC[25 27]
	Prioritise eradication of bullying, discrimination and stigma within the NHS.	GMC[27]
Learning and development	Ensure service work supports training requirements and is complemented by regular, formalised, protected teaching.	AOMRC[88]
	Facilitate development activities such as participation in research, leadership and teaching within training programmes.	GMC[27]
	Ensure career guidance is available to all junior doctors.	HEE[24]
	Continue to increase flexibility of medical training, including application timing, deferral options, transfer between specialties, and placement locations.	HEE, GMC[25 28 87]
	Improve induction processes, ensuring they are comprehensive and take place at the beginning of every new placement.	AOMRC[88]
	Change the rotation system so that doctors have more stability and choice in their placement locations and specialties.	HEE, GMC[23 27 28]
	Modify assessment processes for junior doctors so that they evaluate clinical aptitude and preparation is not required during rest time.	GMC[27]

AOMRC, Academy of Medical Royal Colleges; BMA, British Medical Association; GMC, General Medical Council; HEE, Health Education England; NHS, National Health Service.

their work and sufficient time off so that they are able to care for patients to the standard they aspire to.

Recommendations, developed based on the findings of the review, are presented in table 3. Column 3 indicates relevant national organisations which have produced broader recommendations, for example relating to all NHS staff, that support these. Implementation of recommendations should be context specific, noting that at a local level some interventions are likely to be more (or less) relevant, and that some may have already been at least partially introduced. Due to the methodology of this review, it is not appropriate to prioritise certain recommendations above others. However, this could be a useful exercise at a local organisational level and could be guided by use of relevant sections of the NHS Wellbeing Framework Diagnostic Tool (noting that this is not aimed specifically at JDs).[85] As this research is based on data collected from JDs, recommendations do not incorporate opinions of other stakeholders. Delivering solutions will require involvement of stakeholders from the entire healthcare system including policymakers, hospital managers, and patients. Further research involving data from these groups may be required to plan viable changes and implementation strategies. Additional recommendations for future research include research considering factors affecting retention of doctors in particular specialties, and reviews evaluating workforce retention of JDs in other high-income countries.

A suggested first step for national and local organisations responsible for improving JD retention and well-being is to engage a group of JDs of varying specialties and levels of seniority to work alongside. These groups of policymakers/managers and doctors should initially focus on instigating rapid changes to make the medical training pathway more personalised and flexible, considering features which make non-training NHS posts, medical positions abroad, and non-medical careers more appealing than current NHS medical training programmes. Development and promotion of accessible options which allow JDs to accommodate their professional and personal interests alongside their work will be an important starting point in tackling the UK JD retention crisis.

CONCLUSIONS

The results of 47 pieces of evidence have been combined to determine the factors that are contributing to the JD workforce retention crisis in the UK, and recommendations have been made based on these findings. Working as a JD is an innately stressful job. To an extent this cannot be avoided: high levels of responsibility, ambiguity, and emotion are inescapable. Yet, there are changes that can and should be made to provide JDs with the best possible environment within which to deal with the intrinsic stresses of their profession. These changes must acknowledge the complexity of the situation and be based on evidence collected directly from JDs.

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