

Recruitment, retention and returning to General Practice: A rapid scoping review to inform the Greater Manchester Workforce Strategy

Authors: Claire Mitchell, Pauline Nelson, Sharon Spooner, Anne McBride and Damian Hodgson

June 2018

NIHR CLAHRC Greater Manchester

(The views expressed are those of the authors and not necessarily those of the NHS, the NIHR, or the Department of Health and Social Care)



This review should be referenced as follows:

Mitchell C, Nelson PA, Spooner S, McBride A, Hodgson D. Recruitment, retention and returning to General Practice: A rapid scoping review to inform the Greater Manchester Workforce Strategy. NIHR Collaboration for Leadership in Applied Health Research and Care (CLAHRC GM)

<https://www.clahrc-gm.nihr.ac.uk/media/Resources/OHC/Recruitment-retention-and-returning-to-General-Practice-A-rapid-scoping-review-to-inform-the-Greater-Manchester-Workforce-Strategy1.pdf>

Table of Contents

1. Introduction	3
2. Background	3
2.1 Literature review scoping methodology	5
Table 1: Search terms	5
3. 'Increasing the flow': recruitment of undergraduates to foundation programme doctors and non-UK trained GPs.....	6
3.1 Does gender influence recruitment?.....	7
3.2 Recruitment from abroad?	7
3.3 Have any strategies been shown to improve recruitment?	8
4. 'Plugging the gaps': retention of GPs below retirement age.....	10
5. 'Plugging the gaps': retention for GPs nearing retirement age	12
6. 'Plugging the gaps': GPs returning to work.....	13
7. Conclusions	14
8. Considerations for Greater Manchester (GM).....	15
9. References	16

1. Introduction

This broad scoping review of the literature on General Practitioner (GP) recruitment, retention and returning to work has been carried out to understand contextual factors and pressures affecting the GP workforce and underpin an evaluation in Greater Manchester (GM). The Greater Manchester Health and Social Care Partnership (GM HSCP) is seeking to re-design GM primary care and has engaged the National Institute for Health Research Collaboration for Leadership in Applied Health Research and Care Greater Manchester (NIHR CLAHRC GM) to identify key factors affecting the recruitment and retention of GPs in the region and strategies that may address associated challenges. It is hoped that the evaluation will assist GMHSCP with plans to enable sustainable provision of primary care services to address the needs of the GM population. This review describes the literature on this topic originating mainly from England and the UK, with some international studies where relevant. This report will use the Spooner, Fletcher, Anderson and Campbell (2018)¹ 'pipeline' analogy to frame the findings, where 'increasing the flow' relates to recruitment and 'plugging the gaps' relates to retention and return to work.

2. Background

General practice across England is facing unprecedented and well- documented pressures²⁻⁴ involving management of an ageing population that is living longer with a complex range of long-term, multiple conditions, as well as increasing patient expectations of what primary care can deliver.^{5,6} These issues are compounded by a drive to move the delivery of care from acute services to community settings,⁷ the demands of GP-led commissioning as well as reduced funding for primary care.⁸ General Practitioner numbers are falling⁹ and not keeping pace with workload demands,^{10,11} with fewer newly qualified doctors choosing to enter primary care¹² and GPs leaving the profession early.^{13,14}

The greater emphasis on delivering care in primary and community settings means a national need to increase the number of doctors training to be GPs. These numbers however continue to fall, with 1,340 less full time equivalent GPs from March 2016 to March 2018¹⁵, despite attempts to increase numbers being a longstanding government policy.^{9,16} As well as retiring early or leaving the profession, GPs are choosing to work less than full-time or working as salaried GPs.¹⁷ Being a GP partner and managing a practice has become less appealing, compounded by funding rules from 2004 bringing financial benefits to practices employing salaried GPs over partners. This has resulted in an increase in salaried GPs of over 400% in the last ten years.⁸ Areas with the fewest doctors tend to be those with the

highest deprivation and the greatest health inequalities.¹⁸ The number of GPs nearing retirement age is high with 22% of the workforce over the age of 55.^{14 18} In more deprived areas the over-55 workforce is much higher at 40%.¹⁹ The ninth GP Worklife survey (2018) found that 60% of GPs over the age of 50 intend to leave direct patient care within 5 years,²⁰ an issue which is likely to impact disproportionately on deprived areas¹⁹.

Nationally the issues of recruitment and retention in primary care were intended to be addressed via an increase in funding following the 2016 General Practice Forward View (GPFV).²¹ This plan aimed to address key recruitment and retention issues in an effort to double the growth of GPs through a number of strategies: incentivising training to be a GP; development of multi-disciplinary teams; support to manage workloads with integration of health and social care; improvements to infrastructure and care re-design such as local collaboratives to implement new ways of working. The introduction of 'non-medical' health professional roles into primary care is one initiative to transform the service²¹ and in particular to free up GP capacity.²² This is not without its own challenges (described in related work by CLAHRC GM²³) to ensure cohesive working where professional boundaries, work duplication and local needs should be considered.

A systematic review by Peckham, Marchand and Peckham carried out pre-GPFV in 2016^{24 25} to examine the existing evidence on GP recruitment and retentions explored the main dimensions involved. The present follow-up scoping review builds on the work of Peckham and colleagues and importantly differs in three main ways by: 1) focusing on the more recent evidence available following publication of the GPFV;²¹ 2) including evidence related to undergraduate recruitment and return to work and 3) looking specifically at the GM context to help inform the regional workforce strategy. This review has identified three key challenges within the GP workforce across England, that we will describe using the pipeline analogy:¹

- I. Recruitment: from undergraduates to foundation programme doctors and non-UK trained GPs 'increasing the flow'
- II. Retention: GPs nearing retirement age and those below retirement age 'plugging the gaps'
- III. Return to work: GPs who have been out of clinical practice 'plugging the gaps'

The next section describes the approach taken to reviewing the literature on GP recruitment, retirement, retention and returning to work.

2.1 Literature review scoping methodology

Medical and social science databases (Medline/PubMed; PsycINFO; PROSPERO; ASSIA; CINAHL; Cochrane Library; Scopus; HMIC; AMED; Web of Science; Embase) and the grey literature (governmental, policy and health-related charity sources) were searched from 2010 (to capture the more recent literature relevant to the current GP workforce crisis) to the present. We carried out a structured search strategy (see Table 1 for search terms). The reference lists of retrieved papers were also hand searched as were key texts suggested by the research team whose expertise included general practice, workforce, health services and organisational research. We screened for relevance which enabled us to retrieve approximately 50 papers (including qualitative and quantitative studies) looking at the recruitment or retention of GPs. Included papers were mainly from England and the UK, with some from Europe, USA and Australia where inclusion was warranted because content was directly relevant to the English GP workforce context.

Table 1: Search terms

General search terms:	Combined with specific search terms:
General practitioner/GP General practice Primary care workforce Primary care doctor/practitioner/lead/physician Doctor Family doctor/practitioner/physician	Recruitment Recruitment strategies Retirement/early/planning Quitting Returning to work Retention

Just over a third of the included studies were empirical studies; just under a third were policy and grey literature. The final third were secondary data analyses and reviews. The literature gives a comprehensive overview of the statistics and data around recruitment, retention and return to work, with many studies offering insight and narrative from interviews and surveys. While a number of potential strategies and solutions were proposed, few evaluations of effectiveness could be identified.

3. 'Increasing the flow': recruitment of undergraduates to foundation programme doctors and non-UK trained GPs

The numbers of UK medical graduates choosing general practice remains low and was found to be decreasing in this recent national survey.¹⁶ The scarcity of studies examining recruitment strategies from the 2016 systematic reviews^{25 26} remain the same in 2018. Primarily, concern for recruitment centres around the fact that medical students are less likely than before to choose general practice as a first career with complex reasons underpinning this, including which medical school they attend.²⁷ There are many influences on medical undergraduates and a positive clinical placement experience can influence specialty.²⁸ Recent reports by the Royal College of General Practitioners (RCGP) and Health Education England (HEE) have identified that medical students report hearing a general denigration of GP work from other medical specialties during their undergraduate education when on placement. Reports published since the 2016 review indicate that up to 70% of medical students reported hearing derogatory comments about general practice or GPs during their clinical placements and 37% in medical school.²⁹ Primary care is reportedly described as 'lower status' despite the fact that 90% of patient interactions occur in primary care.³⁰ One study found evidence that such negative comments influenced career choice, leading the authors to propose a zero tolerance policy on undermining general practice in medical schools.³¹ The RCGP college leaders suggest that there needs to be better collaboration across the medical profession to protect all professions from denigration.²⁹

Since the Peckham et al. (2016) review²⁵ more work has been carried out to explore the complex reasons for poor recruitment of GPs. One study exploring junior doctors (foundation stage one) attitudes to a career in general practice gathered data from several small focus groups.³² Thematic analysis found four main issues: on the one hand, better quality of life and job satisfaction were identified as positive attributes associated with general practice when compared to other medical specialities; on the other the future of the GP profession (including perceptions of lack of training, poor pay and increased workload), and the lack of respect associated with being a GP were identified as key concerns.³² These findings were supported by another study looking at broader medical career choices, suggesting the need for a greater focus on how perceptions are formed in both medical school and medical working environments and also backed up by a survey of doctors about to become GPs.^{28 33} Interestingly much of the literature and the research questions focus on the reasons why general practice is *not* being chosen, however there may be merit in considering why general practice *is* a choice for some and how this can inform national strategies to recruit pro-actively.³⁴

3.1. Does gender influence recruitment?

The Peckham et al., (2016) review reports that previously women may have been influenced by different factors to men when choosing their medical career, however beyond suggesting that both men and women now value a balanced lifestyle the impact of gender is not explored further.²⁵ Since that review additional information from the UK Medical Education Database has examined the characteristics of those who do choose to be a GP and whether this has the potential to develop strategies to improve GP recruitment.³⁵ Over half of all new medical students are female, with higher proportions of females choosing general practice.³⁶ Those most likely to apply to GP training were non-white females whose secondary level education was in the UK. These individual factors could be considered as potential targets for recruitment strategies as well as promoting this career to those outside of this demographic.³⁵ Although part-time working can still be seen as likely to affect career progression, there are now more women opting for general practice as it is seen as more family friendly, with flexible day-time hours.³⁷ Work looking at doctors' career paths has found that female doctors who drop out of hospital specialties such as paediatrics, due to working hours and other carer responsibilities, tend to then choose general practice.³⁸ Recruitment strategies must also highlight the vast number of roles associated with general practice and GPs should not be portrayed as one homogenous group.³⁹ Gender is consequently an important factor in recruitment, which could lead to a need for even more doctors to meet the demand for flexible, part-time, salaried work.⁴⁰

3.2. Recruitment from abroad?

A large percentage of non-UK qualified GPs are employed in the United Kingdom, 21.1% of the total number of GPs. The areas that employ the most non-UK trained GPs are in Greater London and many in the East of England, with some in the North West and North East.¹⁹ The areas with these higher proportions of non-UK trained GPs have more deprived populations; the GPs there tend to be older and more likely to work full time, with fewer resources and lower pay than their UK qualified colleagues.¹⁹ New visa requirements following the exit from the European union are likely to restrict the ability of both European and non-European qualified doctors to work in England¹⁹ with disproportionate consequences for deprived areas. Awareness of this at the highest levels of government⁴¹ has led to a lifting of the cap on doctors' visas for non-EU doctors wanting to work in the UK.⁴² The GPFV²¹ international GP recruitment plan has been expanded^{43 44} but as yet it is too early for evidence to accrue around the long-term benefits of these types of recruitment strategies. This may be a useful short-term solution, as there is considered to be a time lag

in training sufficient UK doctors but longer-term monitoring of the benefits of this approach should be evaluated, which is why there is a need for local recruitment within England. The recruitment of GPs from outside of the UK was not part of the 10 point plan⁴⁵ and was not considered in the Peckham et al. (2016) review.²⁵ Verma et al. (2016)²⁶ looked at studies carried out in the USA and Australia where doctors taking posts in rural or underserved areas did not have restrictions on their working visas. This reported varying results but the studies did not offer comparison groups so limited conclusions could be drawn.

3.3. Have any strategies been shown to improve recruitment?

A systematic review of strategies to recruit and retain GPs in rural areas in other countries reported a weak evidence base and only included quantitative studies with no qualitative evidence.²⁶ These studies were mostly carried out in the USA, Canada and Australia, particularly in rural locations but there are still some useful pointers to be gained from this research; mainly that training in under-served areas may be more likely to lead to doctors practising in those locations.⁴⁶ This strategy of placements in under-served areas has been taken forward more recently in the 2015 UK 10 Point Plan⁴⁵ to address immediate issues relating to the workforce. A study looking at GP recruitment in the UK also suggested that additional time spent in general practice as both undergraduate and postgraduate could improve recruitment³¹ but this has not yet been evaluated. A survey of those about to become GPs did suggest quality of GP experience in training influenced their choice of career.³³ We know from Peckham et al. (2016) that studies suggesting longer GP placements can improve knowledge about general practice but don't necessarily translate to increased recruitment.⁴⁷

A collaboration between an NHS primary care organisation (PCO), Enfield CCG and University College London, to look at whether the closer connection between a health provider and academic institution would improve access to primary care, deliver service improvements and increase the number of GPs choosing to work in the area has been evaluated.⁴⁸ Project costs were found to be high and financial sustainability was a problem but there were improvements in recruitment of GPs to under-served areas; the authors report other similar collaborative ways of working have not been financially sustainable.⁴⁹⁻⁵¹

Strategies to improve GP placement experience such as adequate remuneration,³⁰ or GP involvement in undergraduate medical student selection and clinical teaching to counteract negative attitudes²⁸ may have long term impact but these have not yet been evaluated. It may be too soon for some potential strategies to be evaluated such as medical schools

engaging in outreach to primary and secondary schools to promote a positive understanding of general practice.³¹ This may also be the case with initiatives such as the writing competition run by GP Online and the RCGP to encourage more GPs and to spread a positive message about the profession.⁵²

The RCGP has also suggested a need for collaboration between all medical professional bodies to ensure respect between all specialties of medicine and to ensure this best practice is clear to those working with medical students.³⁰ There are GP societies in all UK medical schools supported by RCGP and pro-active social media communities and training through GP-led initiatives such as 'Next Generation GP', an initiative to inspire the next generation of GP leaders. While based on the research findings from surveys and qualitative interviews, these strategies have yet to be evaluated.

4. 'Plugging the gaps': retention of GPs below retirement age

Even before retirement age, GPs leave the profession, fail to return after parental leave or choose to practice outside of the UK for a wide range of reasons. Research has been carried out on the reasons why so many GPs are leaving the profession well below retirement age and why this figure is rising with 13.5% of GPs under the age of fifty planning to leave direct patient care in the next five years.²⁰ Existing studies report a complex range of factors influencing GPs' decisions, including: organisational change, clash of values, increasing workload, negative portrayal in the media, workplace issues and lack of support⁵³. An alternative research approach involved a qualitative 'netnography' study where the range of comments made by GPs in a widely read online publication also found similar complexity of factors underpinned their views on changes to health policy.⁵⁴ While these comments related to the expected concerns around workload demands, other factors also came into play such as their perceived value as a profession, feelings of autonomy over their work and perceived lack of support from leaders. There is some suggestion from the research that the lack of funding for UK general practice may make working abroad more appealing.^{6 55} Other work indicates that problems with retention of doctors within high-income countries may be attributable to a new generation of doctors who have experience of limited resources in their own health service but perceive other countries as better resourced and able to satisfy their preference for a better work and life balance.¹⁷

GP workload is critical^{39 56} and a comprehensive evaluation of the effectiveness of the 10 High Impact Action plan to increase capacity in GP practices by reducing workload and spreading the best innovations has yet to be completed.⁵⁷ A review by the RCGP found that GPs reported difficulty finding time to implement the actions due to immediate workload pressures and felt that stronger supporting evidence was needed for some of the 10 actions. Changes to day to day GP workload by using administrative staff for various tasks such as correspondence, prescriptions and other tasks showed promise in some of the vanguard sites. Other actions such as reception staff, websites and other professionals directing patients to the most appropriate professional when a GP isn't needed (active signposting), developing the team, supporting self-care (where patients manage common conditions such as colds without needing GP time) and social prescribing (patients who may need support for social isolation or anxiety through community organisations) also showed positive signs to increasing capacity and were broadly welcomed by GPs. Clearly further evaluation of all of these actions is needed, some are being widely advocated such as social prescribing but the evidence remains weak.⁵⁸ The actions not appearing to have an impact on workload were new consultation types, reducing 'did not attends' and personal productivity with GPs

showing some resistance to these. GP surveys continue to highlight excessive workloads with more female doctors reporting this impacts on care.³⁹ One study using qualitative interviews with GPs showed some promising findings around their strategies to cope with workload. This study found GPs were actively engaging in managing workload using innovative local strategies and showed resilience in dealing with the increasing demands of general practice while still calling for increased investment and recruitment.⁵⁹ There are signs that finances are now being committed in response to these concerns with NHS England introducing a £10m regional fund to offer additional support for newly qualified GPs, those within the first five years of practice or those seriously considering leaving.⁶⁰

There are no studies that have evaluated any strategies to reduce the numbers of GP leaving the profession below retirement age although there are indications of why they may be leaving from survey and qualitative interview studies. These studies have suggested several strategies that may help such as slowing the pace of administrative change to protect face-to-face patient contact.⁶¹ There are also suggestions around maintaining the individual's job interest by enabling GPs to develop a portfolio career or a sub-specialisation, echoing qualitative findings that job satisfaction is more important than income to GPs.^{24 33} A qualitative study looking specifically at why people leave the profession early and what might retain them found that GPs benefitted from clarified roles and expectations within general practice, wishing to feel valued and listened to when planning healthcare delivery and be more supported with risk management and maintaining patient contact.⁶² Interestingly a survey asking about the next five years indicates many GPs wishing to work as a partner within a GP organisation or as a portfolio GP.³⁹ However, GP partner vacancies remain high with locums being hired to cover long-term employment vacancies.³⁹ None of these suggested strategies have to our knowledge so far been evaluated but they offer insight into the reasons for leaving the profession much earlier than expected.

5. 'Plugging the gaps': retention for GPs nearing retirement age

The high proportion of experienced GPs who are nearing retirement age and intending to retire early will impact greatly on the workforce. We found that many of the reasons for leaving the profession before retirement age were similar to the reasons found in survey and qualitative interview studies of older GPs. There was no evidence that any studies had evaluated the effectiveness of strategies to reduce retirement numbers in this population since the review in 2016²⁵.

The ninth national GP Worklife Survey (2018)²⁰ found that for 60% of those aged over 50 years, there was a considerable or high likelihood of leaving direct patient care. This much earlier pattern of retirement indicates a cultural shift from the 1980s when GPs indicated that their likely retirement would be after 65 years of age.⁶³ The most likely factors reported to encourage later retirement were reduced hours and administrative duties as well as protected pension rights rather than purely financial incentives.⁶³ The factors affecting job satisfaction for GPs are reported as work pressures, too much stress, too high a workload.⁶⁴ ⁶⁵ This is not purely a UK problem as a study of reasons for early retirement in the Netherlands also found that workload reduction was the most important factor in retirement decisions.⁶⁶ A qualitative study carried out in England of GPs aged 50-60 years also highlighted other reasons for early retirement. One of the key messages reported by GPs was the feeling of doing an (almost) 'undoable' job, pessimism about the future of general practice as well as being financially able to retire.¹⁴ In 2016 following changes to pension taxes, there was evidence that GPs were being financially penalised by continuing to pay into the NHS pension system. The more GPs paid in, the higher the rates of tax became. This change meant GPs were forced to take early retirement to avoid these financial penalties.⁶⁷ Many GPs found it was in their interest to draw down their pension early, have a '24-hour retirement', then continue to work.

There is no evidence that strategies have been evaluated to reduce early retirement although recommendations from surveys and interview studies indicate a need to consider reductions to workload, improved change management skills, greater consideration of the health and well-being of GPs as well as improving wider morale and confidence in general practice.¹⁴ However, 'GP Career Plus', is a new strategy being implemented as a pilot project for twelve months in 10 areas nationally to offer flexibility and support to GPs who are about to leave general practice; this scheme will be evaluated in 2018.⁶⁸ The idea of 'GP Career Plus' is to increase clinical capacity by offering clinical support, carrying out a specific and limited clinical role, as well as offering more strategic leadership, mentoring and training.

6. 'Plugging the gaps': GPs returning to work

Although the 2016 review focussed on recruitment and retention, this follow-up review additionally considered the evidence around return to work. There are indications that a lack of support may have a particular impact on female doctors, returning to work after having children. We know that 65% of doctors entering GP training are female and 40% of the women who leave practice each year are under the age of 40.⁶⁹ It is therefore important to consider whether there is sufficient support or incentive for women returning to work after maternity leave. There is some evidence that parenthood, for both male and female doctors, has a major influence when considering career choices and working in general practice is generally perceived as family friendly.⁷⁰ Whether or not GPs are having families there is a growing demand for better work-life balance with an increased trend for both men and women to work part-time and be salaried.⁷¹ It may be that any ill-health or caring responsibility could lead to individuals leaving the profession. Any extended period of time away from practice requires appraisal and re-validation which can be an additional difficulty when returning to work and this varies between organisations.⁷²

There are several strategies being implemented with the aim of improving retention and return to work of GPs, for both those nearing retirement age and those who are younger. One research study evaluated two specific strategies, one 'Retainer' scheme aiming to preserve the skills of doctors by supporting them to reduce clinical commitment and workload (mainly for carer or health reasons) without a complete career break, the other 'Induction and Refresher' scheme aiming to reintroduce GPs to practice following career breaks and as an entry for EU doctors.⁷³ The evaluation found that the subsequent GP working years of people involved in these programmes resulted in good value for money. However, analysis of the numbers by the British Medical Association indicates a slow uptake⁷⁴ of the 'Retainer scheme' with more GPs quitting the profession than are on the scheme⁷⁵ resulting in calls for increased promotion of these types of retention initiatives.

7. Conclusions

The number of policy documents, reports and editorials related to general practice in England is extensive and the challenges and concerns relating to the workforce are well-documented including those of the impact of workforce demographic changes. Surprisingly the number of research studies evaluating strategies to improve recruitment, retention and return to the GP workforce is low. Moreover, these strategies require robust evaluation to improve the evidence-base around GP workforce challenges. This review has found:

- A range of factors is leading to the decreasing number of GP recruits (e.g. perceptions of general practice as an unpopular medical career choice, a negative portrayal of general practice in medical schools and in society generally and a perception of less potential for career progression);
- A number of strategies to improve early orientation towards GP recruitment has been suggested, (e.g. improved funding for clinical placements, encouragement of respect between medical professionals, inspiring GP role models and leaders, improving the public image of general practice through outreach work in schools and with the public);
- A range of factors is leading to GPs to leave the profession, including an unmanageable workload with poor support and constant organisational change, a perception that the profession not valued, a perceived lack of autonomy and support. Additionally, changes to work visas and regulatory requirements may affect GPs from abroad which may change according to government policies;
- Strategies to improve retention relate to trying to increase capacity and reduce workload, encourage variation in working life through portfolio careers and sub-specialisms as well as greater support for those wishing to change their clinical workload

8. Considerations for Greater Manchester (GM)

This report will inform an evaluation which is seeking to describe the GP demographic in the GM region and identify key factors affecting the recruitment and retention of GPs here and strategies that may address associated challenges. It is important to consider how the factors identified in this report apply to the GM context. One particularly pertinent issue is that related to workload, as this is a key reported factor in the retention of GPs.

GM's public health economy indicates some particular challenges that are likely to have an impact on workloads in primary care:

- Significant health inequalities and deprivation both within the GM region and when compared to the rest of England⁷⁶
- An increasing population across all age ranges as well as an increase in the older age range⁷⁷
- Life expectancy is lower than the average in England with poorer levels of good quality health and higher levels of long-term conditions and disability when compared to the rest of England⁷⁶
- Devolution of health care budgets and GP locality based integrated care⁷⁶

The GM HSCP have launched a 5-year plan to improve long-term health outcomes for everyone living in GM.⁷⁷ The plan envisages that primary care will drive the transformation of community based care across organisational boundaries with integrated, multi-disciplinary teams led by GPs. In this changing environment, strategies that could improve retention by trying to increase capacity and reduce workload become particularly salient.

9. References

1. Spooner S, Fletcher E, Anderson C, et al. The GP workforce pipeline: increasing the flow and plugging the leaks. *British Journal of General Practice* 2018;68(670):245-46. doi: 10.3399/bjgp18X696125
2. Wass V, Gregory S. Not 'just' a GP: a call for action. *British Journal of General Practice* 2017;67(657):148-49. doi: 10.3399/bjgp17X689953
3. Madan A, Manek N, Gregory S. General practice: the heart of the NHS. *British Journal of General Practice* 2017;67(657):150-51. doi: 10.3399/bjgp17X689965
4. Marshall M. A Precious Jewel - The Role of General Practice in the English NHS. *New England Journal of Medicine* 2015;372(10):893-97. doi: 10.1056/NEJMp1411429
5. Baird B, Charles A, Honeyman M, et al. Understanding pressures in general practice: King's Fund London 2016.
6. Roland M, Everington S. Tackling the crisis in general practice. *Bmj-British Medical Journal* 2016;352 doi: 10.1136/bmj.i942
7. Foot C, Sonola L, Bennett L, et al. Managing quality in community health care services 2014.
https://www.kingsfund.org.uk/sites/default/files/field/field_publication_file/managing-quality-in-community-health-care-services.pdf.
8. Centre for Workforce Intelligence. In-depth review of the general practitioner workforce. 2014.
9. Health Education England (HEE) Commission on GP workforce. Securing the future GP workforce - delivering the mandate on GP expansion. 2014.
<https://www.hee.nhs.uk/sites/default/files/documents/GP-Taskforce-report.pdf>.
10. Hobbs FDR, Bankhead C, Mukhtar T, et al. Clinical workload in UK primary care: a retrospective analysis of 100 million consultations in England, 2007-14. *Lancet* 2016;387(10035):2323-30. doi: 10.1016/s0140-6736(16)00620-6
11. NHS Digital. [Available from: <https://data.gov.uk/publisher/nhs-digital> accessed 23rd November 2017.
12. UK Foundation Programme. Foundation School Recruitment Stats and Facts. 2017; (Foundation School 2017_Recruitment_Stats_and_Facts.pdf). (accessed February 14th 2018).
13. Fletcher E, Abel GA, Anderson R, et al. Quitting patient care and career break intentions among general practitioners in South West England: findings of a census survey of general practitioners. *Bmj Open* 2017;7(4) doi: 10.1136/bmjopen-2017-015853

14. Sansom A, Calitri R, Carter M, et al. Understanding quit decisions in primary care: a qualitative study of older GPs. *Bmj Open* 2016;6(2):e010592-e92. doi: 10.1136/bmjopen-2015-010592
15. Bostock N. GP Online, 2018.
16. Lambert TW, Smith F, Goldacre MJ. Career specialty choices of UK medical graduates of 2015 compared with earlier cohorts: questionnaire surveys. *Postgrad Med J* 2018 doi: 10.1136/postgradmedj-2017-135309
17. Humphries N, Crowe S, Brugha R. Failing to retain a new generation of doctors: qualitative insights from a high-income country. *Bmc Health Serv Res* 2018;18(1):144-44. doi: 10.1186/s12913-018-2927-y
18. Goddard M, Gravelle H, Hole A, et al. Where did all the GPs go? Increasing supply and geographical equity in England and Scotland. *Journal of Health Services Research & Policy* 2010;15(1):28-35. doi: 10.1258/jhsrp.2009.009003
19. Esmail A, Panagioti M, Kontopantelis E. The potential impact of Brexit and immigration policies on the GP workforce in England: a cross-sectional observational study of GP qualification region and the characteristics of the areas and population they served in September 2016. *Bmc Medicine* 2017;15 doi: 10.1186/s12916-017-0953-y
20. Gibson J, Sutton M, Spooner S, et al. Ninth National GP Worklife Survey 2017 2018. (accessed 13th June 2018).
21. NHS England. *General Practice Forward View*. 2016; 2017(23rd November). <https://www.england.nhs.uk/wp-content/uploads/2016/04/gpfv.pdf>.
22. Primary Care Workforce Commission. The future of primary care: creating teams for tomorrow. London: Primary Care Workforce Commission 2015
23. Nelson P, Martindale A-M, McBride A, et al. Skill-mix change and the general practice workforce challenge: British Journal of General Practice, 2018.
24. Marchand C, Peckham S. Addressing the crisis of GP recruitment and retention: a systematic review. *British Journal of General Practice* 2017;67(657):E227-E37. doi: 10.3399/bjgp17X689929
25. Peckham S, Marchand C, Peckham A. General practitioner recruitment and retention: an evidence synthesis. Final report. 2016. (accessed 10 May 2018).
26. Verma P, Ford JA, Stuart A, et al. A systematic review of strategies to recruit and retain primary care doctors. *Bmc Health Serv Res* 2016;16 doi: 10.1186/s12913-016-1370-1
27. Svirko E, Goldacre MJ, Lambert T. Career choices of the United Kingdom medical graduates of 2005, 2008 and 2009: Questionnaire surveys. *Medical Teacher* 2013;35(5):365-75. doi: 10.3109/0142159x.2012.746450

28. Spooner S, Pearson E, Gibson J, et al. How do workplaces, working practices and colleagues affect UK doctors' career decisions? A qualitative study of junior doctors' career decision making in the UK. *Bmj Open* 2017;7(10) doi: 10.1136/bmjopen-2017-018462
29. Royal College of General Practitioners and Medical Schools Council. Destination GP. 2017.
30. Wass V, Gregory S, Petty-Saphon K. By choice—not by chance: supporting medical students towards future careers in general practice. London: Health Education England and the Medical Schools Council, 2016.
31. Alberti H, Banner K, Collingwood H, et al. 'Just a GP': a mixed method study of undermining of general practice as a career choice in the UK. *Bmj Open* 2017;7(11):e018520.
32. Merrett A, Jones D, Sein K, et al. Attitudes of newly qualified doctors towards a career in general practice: a qualitative focus group study. *British Journal of General Practice* 2017;67(657):E253-E59. doi: 10.3399/bjgp17X690221
33. Dale J, Russell R, Scott E, et al. Factors influencing career intentions on completion of general practice vocational training in England: a cross-sectional study. *Bmj Open* 2017;7(8) doi: 10.1136/bmjopen-2017-017143
34. Spooner S. Unfashionable tales: narratives about what is (still) great in NHS general practice. *British Journal of General Practice* 2016;66(643):E136-E42. doi: 10.3399/bjgp16X683401
35. Gale TCE, Lambe PJ, Roberts MJ. Factors associated with junior doctors' decisions to apply for general practice training programmes in the UK: secondary analysis of data from the UKMED project. *Bmc Medicine* 2017;15 doi: 10.1186/s12916-017-0982-6
36. Elston M. Women and medicine: the future. London: Royal College of Physicians, 2009.
37. Crompton R, Lyonette C. Women's Career Success and Work-life Adaptations in the Accountancy and Medical Professions in Britain. *Gender Work and Organization* 2011;18(2):231-54. doi: 10.1111/j.1468-0432.2009.00511.x
38. Lambert T, Goldacre M. Trends in doctors' early career choices for general practice in the UK: longitudinal questionnaire surveys. *The British journal of general practice : the journal of the Royal College of General Practitioners* 2011;61(588):e397-403. doi: 10.3399/bjgp11X583173
39. British Medical Association. British Medical Association Survey of GPs in England Full Report. *BMA-Survey-of-GPs-in-England-Final-reportpdf* 2017.
40. General Medical Council. The State of Medical Education and Practice in the UK Report: Report, 2012.
41. Baker C. NHS staff from overseas: statistics. *House of Commons Library, London* 2017

42. Rimmer A. Home Office scraps cap on doctors' visas: British Medical Journal Publishing Group, 2018.
43. Rimmer A. NHS expands overseas GP recruitment drive despite slow progress so far. *Bmj-British Medical Journal* 2017;358 doi: 10.1136/bmj.j3968
44. NHS England General Practice Workforce Programme Team. Expansion of the GP international recruitment programme. 2017.
45. Snow-Miller R. Building the workforce—the new deal for general practice: NHS England, Health Education England, British Medical Association and Royal College of General Practitioners. Available at <https://www.england.nhs.uk/commissioning/wpcontent/uploads/sites/12/2015/01/building-the-workforce-new-deal-gp.pdf> [Accessed 10 August 2016], 2015.
46. Crampton PES, McLachlan JC, Illing JC. A systematic literature review of undergraduate clinical placements in underserved areas. *Medical Education* 2013;47(10):969-78. doi: 10.1111/medu.12215
47. Illing J, van Zwanenberg T, Cunningham WF, et al. Preregistration house officers in general practice: review of evidence. *British Medical Journal* 2003;326(7397):1019-22. doi: 10.1136/bmj.326.7397.1019
48. Jones MM, Bashir N, Purushotham N, et al. Universities and primary care organisations working together to recruit GPs: a qualitative evaluation of the Enfield clinical teaching fellow programme. *BJGP Open* 2018;bjgpopen18X101361.
49. Bregazzi R, Harrison J. Committing to partnership. *Education for Primary Care* 2002;13(1):42-47.
50. Thompson K, Ahmed H, Butler CC, et al. The Academic Fellows Scheme in South Wales (UK): a response to the inverse care law. *Education for Primary Care* 2015;26(3):197-200.
51. Hull SA, Tissier J, Moser K, et al. Lessons from the London Initiative Zone Educational Incentives funding: associations between practice characteristics, funding and courses undertaken. *British Journal of General Practice* 2000;50(452):183-87.
52. Bower E. Enter the GP online and RCGP Choosing General Practice writing competition 2017 [Available from: <https://www.gponline.com/enter-gponline-rcgp-choosing-general-practice-writing-competition/article/1447012>.
53. Dayan M, Arora S, Rosen R, et al. Is general practice in crisis. *London: The Nuffield Council* 2014
54. Elvey R, Voorhees J, Bailey S, et al. GPs' views of health policy changes: a qualitative 'netnography' study of UK general practice online magazine commentary. *British Journal of General Practice* 2018 doi: 10.3399/bjgp18X696161

55. Davies E. Tackling the crisis in General Practice abolishing unnecessary bureaucracy in general practice. *Bmj-British Medical Journal* 2016;352 doi: 10.1136/bmj.i1330
56. British Medical Association Health Policy and Economic Research Unit. BMA quarterly tracker survey An extract of responses from GPs. 2014. (accessed 15th February 2018).
57. Royal College of General Practitioners. Spotlight on the 10 High Impact Actions. 2018. (accessed May 9th 2018).
58. Bickerdike L, Booth A, Wilson PM, et al. Social prescribing: less rhetoric and more reality. A systematic review of the evidence. *Bmj Open* 2017;7(4) doi: 10.1136/bmjopen-2016-013384
59. Fisher RFR, Croxson CHD, Ashdown HF, et al. GP views on strategies to cope with increasing workload: a qualitative interview study. *British Journal of General Practice* 2017;67(655):E148-E56. doi: 10.3399/bjgp17X688861
60. NHS England. NHS England announces new £10 million fund to help retain GPs. <https://www.england.nhs.uk/2018/05/nhs-england-announces-new-10-million-fund-to-help-retain-gps/>, 2018.
61. Doran N, Fox F, Rodham K, et al. Lost to the NHS: a mixed methods study of why GPs leave practice early in England. *British Journal of General Practice* 2016;66(643):E128-E35. doi: 10.3399/bjgp16X683425
62. Sansom A, Terry R, Fletcher E, et al. Why do GPs leave direct patient care and what might help to retain them? A qualitative study of GPs in South West England. *Bmj Open* 2018;8(1):e019849.
63. Luce A, van Zwanenberg T, Firth-Cozens J, et al. What might encourage later retirement among general practitioners? *Journal of management in medicine* 2002;16(4-5):303-10. doi: 10.1108/02689230210445112
64. Hobbs F, Bankhead C, Mukhtar T. on behalf of the National Institute for Health Research School for Primary Care Research. Clinical workload in UK primary care: a retrospective analysis of 100 million consultations in England, 2007–14. *Lancet* 2016;387(10035):2323-30.
65. Sibbald B, Bojke C, Gravelle H. National survey of job satisfaction and retirement intentions among general practitioners in England. *Bmj* 2003;326(7379):22.
66. Van Greuningen M, Heiligers PJM, Van der Velden LFJ. Motives for early retirement of self-employed GPs in the Netherlands: a comparison of two time periods. *Bmc Health Serv Res* 2012;12 doi: 10.1186/1472-6963-12-467
67. Lind S. GPs retiring early due to pension pot limits, says NHS England official. *Pulse online* 2016.

68. NHS England, RCGP, BMA, et al. GP Career Plus 2017 [Available from: <https://www.england.nhs.uk/gp/gp/v/workforce/retaining-the-current-medical-workforce/gp-career-plus/> accessed 14th February 2018.
69. The Health and Social Care Information Centre. NHS Staff 2002-2012. 2012.
70. Lambert TW, Smith F, Goldacre MJ. Combining parenthood with a medical career: questionnaire survey of the UK medical graduates of 2002 covering some influences and experiences. *Bmj Open* 2017;7(8) doi: 10.1136/bmjopen-2017-016822
71. Smith F, Lambert TW, Goldacre MJ. Factors influencing junior doctors' choices of future specialty: trends over time and demographics based on results from UK national surveys. *Journal of the Royal Society of Medicine* 2015;108(10):396-405. doi: 10.1177/0141076815599674
72. Tazzyman A, Ferguson J, Hillier C, et al. The implementation of medical revalidation: an assessment using normalisation process theory. *Bmc Health Services Research* 2017;17 doi: 10.1186/s12913-017-2710-5
73. Harris M, Morison J, Main P. GP induction and refresher and retainer schemes: are they cost-effective? *British Journal of General Practice* 2014;64(618):46-47. doi: 10.3399/bjgp14X676582
74. British Medical Association. The general practice forward view: two years on. 2018. (accessed 18th June 2018).
75. Cook J. Uptake of GP retainer scheme dwarfed by numbers quitting NHS each month: GPonline.com, 2018.
76. Greater Manchester Health and Social Care Partnership. The Greater Manchester Population Health Plan 2017-2021. 2017.
77. Greater Manchester Combined Authority. Taking charge of our health and social care in Greater Manchester. <http://www.gmhealthandsocialcaredevo.org.uk/assets/GM-Strategic-Plan-Final.pdf>, 2015.