An investigation of the scale, scope and impact of skill mix change in primary care

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Scientific summary

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Background

Recent increases in workload pressures in general practice have led to many attempts to support GP services in England. Innovative use of technology to support patient care has increased, but attention has also focused on increasing skill mix in the general practice workforce and described in the *NHS Five Year Forward View* (published in 2014 and refreshed in 2017) and *General Practice Forward View* (published in 2016). Recommendations included a redesign of primary care services by developing multidisciplinary teams of highly skilled healthcare staff and creating a minimum of 5,000 additional roles. The policy intention is for these additional practitioners to operate as part of a general practice team. There is an apparent assumption that their presence will reduce GP workload and create additional capacity.

Objectives

Our study investigated evolving patterns of skill mix employment in general practice, examined how and why skill mix changes are implemented, explored practitioner and patient experiences of these changes, and estimated the overall impact on outcomes and costs associated with a broader spectrum of practitioner types. Our research questions were:

RQ1 **What is the scale and distribution of skill mix changes in primary care and how is skill mix change associated with outcomes and costs?**

i. How has the workforce changed and where has any change occurred?
ii. How are compositional changes to the workforce associated with later changes in a range of outcomes, including patient and practitioner satisfaction?
iii. How are workforce changes associated with later changes in costs and practice efficiency?

RQ2 **What motivations drive skill mix deployment at the practice level and what is delivered by the deployment of different practitioner types?**

i. What motivates practices to choose/not choose increased skill mix deployment?
ii. Which aspects of healthcare are undertaken by different practitioner types?

RQ3 **How do skill mix changes affect the experiences of employers, practitioners and patients?**

i. How are new ways of working being negotiated in general practices where skill mix changes have occurred?
ii. How is the implementation of change in skill mix associated with the achievement of organisational objectives at practice level?
iii. How does increased skill mix affect patients' experiences when accessing primary care services?

Methods

This research adopted a mixed-methods approach spread across three work packages (WP). WP1 was a quantitative analysis of national datasets (2015-2019) on workforce and other aspects of care quality and experience to capture the extent and impact of skill mix changes. WP2 was an online survey of practice managers (August-December 2019) at 1,261 GP practices (17% off all practices in England) about their motivations for employing non-GP practitioners. WP3 was a comparative case study (August-December 2019) of five GP practices in England to examine processes and working practices in a way that was sensitive to important differences in context. We conducted 38 interviews with practice staff, 27 observations (approximately 1620 minutes), focus groups with 29 members of the Patient Participation Groups and 125 patient surveys.

Results

Patterns of skill mix in England

We found a 2.84% increase in the reported full-time equivalent (FTE) per thousand patients across all practitioners. The overall full-time equivalent (FTE) of partner GPs declined, while the FTE of advanced nurses and newer roles such as clinical pharmacists and physician associates increased. Workforce composition showed variation across the English Regions.

Motivation driving skill mix changes

Our study found that while GPs reported difficulty recruiting GPs as a motivation for implementing skill mix change, practice managers reported their motivation as seeking to increase overall appointment availability, release GP time, and provide a better match between what patients need and what the team can deliver. Survey respondents also indicated that their ideal practice workforce would comprise over 70% of GPs and nurses with newer roles occupying less than 20% of the total workforce.

Earlier studies have demonstrated that skill mix change enables the transfer of tasks from GPs to others (*role substitution*). However, this is often part of increasing timely access, with the GP continuing to perform these tasks too (*role supplementation*) or enabling more systematic access to some patient groups (e.g. in care homes) – which could be viewed as service improvement.

Aspects of healthcare undertaken by different practitioners

Increasing multidisciplinarity in GP practices has been accompanied by the continuing development and enhancement of nursing roles. Many are now working at an advanced level and operating as autonomous decision-makers. Practitioners who were more frequently or more recently employed in GP practices, such as clinical pharmacists and paramedics, can work autonomously within their regulated scope of practice and arguably act as *substitutes* for GPs. The introduction of newer non-regulated roles (*innovation*) such as physician associates increases the diversity of skill mix but may require *delegation* of tasks. Furthermore, whilst additional practitioners provide opportunities to distribute work differently, decisions must now be made about which tasks to transfer from GPs to

non-GP practitioners and consideration given to supervision and transfer of responsibility. Greater diversity of practitioners makes it more challenging to accurately define practitioners' competencies and assign suitable work from the myriad problems presented by patients.

New ways of working

Our research confirmed earlier studies that GPs are willing to transfer tasks. Interprofessional competition and the protection of occupational jurisdiction were not a feature of the case study sites. There appeared to be an acceptance of the need for an increased skill mix (in the absence of being able to recruit GPs) and limited reference to a strategy of GP *substitution*. Instead, discussions were about the extra work involved in operationalising skill mix change.

Our comparative case studies yielded detailed knowledge of processes GP practices had put in place to develop new ways of working and gathered the experiences of practice staff and patients in navigating their new systems. In our case study sites, GP practices engaged in *categorisation* (of practitioners' competencies and patient's problem) to inform appropriate '*matching'* of problem with practitioner and *flexibility* and *adaptability* (in terms of organisational *flexibility* to support practitioners work and respond to patients' needs). Practices categorised practitioners according to a combination of qualifications, training, upskilling, specialisation and/or past experiences rather than solely by job title. Categorisation took the form of a competency framework, skill mix matrix or internal directory. Receptionists used the matrix to match patients' problems with what practitioners could provide. However, in cases where the problem(s) that patients described to receptionists proved different to the problem as described to or explored by a practitioner during the consultation, the selected practitioner may not be able to independently deal with the problem(s). The potential for imperfect matching required practices, patients, and staff to operate flexibly in the short term to accommodate any mismatch. Patient education/communication and availability of GP supervision for newer roles were vital in ensuring patient acceptance of skill mix change.

Patient experiences

A large majority of patients surveyed (82% of 125) believed that their appointment had been useful and that they had seen the right practitioner to deal with their problem(s). However, focus group participants raised concerns about the burden of patient 'work' required to understand and access unfamiliar appointment booking processes and develop relationships with newer practitioners. Patients felt that the introduction of newer roles and new triage systems were not communicated effectively, and concerns were raised about how some patients, for example, older adults, infrequent attendees, and vulnerable groups, could navigate the new system. Concerns were also raised about the lack of information about newer practitioners and their capabilities. However, since appointments with non-GP practitioners were typically longer than those with GPs, these were seen as more 'holistic' and patients were reassured by the availability of advice from a GP, which helped improve their trust in and acceptance of the newer roles.

Outcomes/impacts

We conducted a multi-output cross-sectional assessment of associations between different employment levels of different types of practitioners (workforce composition) and various outcome indicators, followed by a scenario analysis modelling potential changes that may be associated with marginal changes in workforce composition. Because of the numbers of employed staff in less-prevalent roles, for analysis and reporting purposes, most outcomes were analysed in relation to full-time equivalent (FTE) per thousand patients for GPs, nurses, and a 'direct patient care' group that includes clinical pharmacists, physiotherapists, paramedics, and physician associates.

Access to doctor and nurse appointments

We found that a higher FTE of GPs or nurses per 1000 patients in a practice was associated with a lower reported time since patients saw a GP or a nurse. A higher FTE of nurses per 1000 patients was associated with a longer reported time since seeing a GP – this suggests that there is at least some degree of substitutability between these two groups.

Patient satisfaction with making an appointment

A higher FTE of GPs per 1000 patients is associated with relatively higher patient satisfaction with their experience of making an appointment and overall satisfaction. A higher FTE of both nurses and other direct patient care practitioners was associated with a lower satisfaction of making an appointment, whilst a higher FTE of other direct patient care professionals was associated with a relatively lower overall satisfaction. A higher FTE of nurses per 1000 patients was not associated with any difference in overall satisfaction.

Clinical quality

A higher FTE per 1000 patients of GPs, nurses and other direct patient care practitioners were all associated with higher levels of total Quality and Outcomes Framework (QOF) performance, with the highest level associated with a higher FTE of GPs per 1000 patients.

Prescribing

Given clinical pharmacists' role in monitoring and influencing prescribing, we analysed their FTE separately from other direct patient care practitioners. We found that a higher FTE of clinical pharmacists per 1000 patients was associated with relatively higher prescribing quality (as indicated by the percentage of broad to narrow antibiotics prescribed), with no change associated with higher FTE of GPs, nurses, or other direct patient care practitioners. In terms of prescribing volume, we found that a higher FTE of GPs per 1000 patients was not associated with any difference in the number of items prescribed per weighted population. A higher FTE of clinical pharmacists per 1000 patients was not associated with any difference in cost per item in terms of prescribing costs.

Hospital utilisation

A higher FTE of GPs or nurses per 1000 population was associated with a relatively lower rate of A&E attendances, but a higher FTE of other direct patient care practitioners per 1000 patients was associated with a relatively higher rate of A&E attendances.

GP job satisfaction

We found that a higher FTE of GPs per 1000 patients was associated with higher overall GP job satisfaction, but a higher FTE of nurses and other direct patient care practitioners was associated with slightly lower overall GP satisfaction. In terms of hours of work, higher FTE of GPs per 1000 patients was associated with slightly lower GP hours of work, whilst higher FTE of both nurses and other direct patient care practitioners and GP hours of work has a negative and then positive relationship (U shaped), suggesting that GPs' working hours increased when other staff are employed at relatively low and high levels.

Costs for GP-based prescribing

Higher FTE of GPs, nurses and other direct patient care practitioners were associated with higher costs, suggesting that employing other practitioners as substitutes for GPs will not reduce overall prescribing costs.

Conclusions

Our study confirms that although the total general practice workforce is increasing slightly, the rising number of salaried GP FTE is not fully compensating for a decline in partner GP FTE. While there are regional differences in the detail, the overall national trajectory is towards an increasingly diverse workforce driven in part by a continuing shortfall in GPs but in part motivated by a desire to redistribute work by matching practitioner competencies to patient needs and by perceived cost-effectiveness. Practices have adapted appointment systems and adopted a more multidisciplinary approach, with practice managers more closely involved in *skill management*. Moreover, practices have recognised and responded to increased requirements for monitoring and supervising less-experienced practitioners and improved communication within the practice team. Some have improved communication with patients. The modelling used in this study has shown a mixed pattern of cross-sectional and longitudinal associations between workforce composition and across datasets reporting patient experience, GP job satisfaction and hours of work and outcomes indicative of healthcare quality and costs.

Implications for healthcare

Our study suggests that rather than attempting to achieve an 'optimal' skill mix, GP practices need to engage in ongoing management of the skills of their workforce, as the value that different practitioners add to the workforce will change over time as well as varying depending upon the precise needs of local populations. Hence there is a need for ongoing training within practices once newer practitioners are employed. This may have implications for those employed to work across practices within primary care networks (PCNs). In particular, practices will need to put in place structures and processes which ensure that peripatetic staff moving between practices which may adopt different working patterns, have opportunities to be sufficiently integrated into each practice to work effectively. Cross-network meetings may help harmonise staff and roles' expectations, and this should be prioritised. Our study also suggests that the relationship between GP job satisfaction and the skill mix of their practice is complex. It is not clear that increasing skill mix will increase GPs job satisfaction and enhance recruitment and retention.

Recommendations for research (in order of priority)

1. Understanding changes in outcomes and costs (e.g., quality, hospital referrals, and patient satisfaction) over time as newer practitioners settle into practice and develop their skills.
2. Close monitoring of implementation of skill mix change via primary care networks to elucidate factors that support integrating newer practitioners into GP practices and to monitor the impact on outcomes.
3. Developing appropriate career pathways for newly qualified GPs in primary care to become more experienced and eventually capable of taking on supervisory roles and other responsibilities.
4. Tracking GP satisfaction over time.
5. Exploring ways to accommodate caseload preferences in GP settings.
6. Comparing the impact of the Additional Roles Reimbursement Schemes with more direct investment in practices.
7. Identifying ways to improve categorisation of patients' problems and the impact of using artificial intelligence (AI) as part of this process.

8. Identifying mechanisms that help practitioners retain their identities while working in a multi-disciplinary setting.

Study registration

Not relevant for this study.

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