

The impact of changing workforce patterns in emergency and urgent out-of-hours care on patient experience, staff practice and health system performance

Executive Summary for the National Institute for Health Research Service Delivery and Organisation programme

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Executive Summary

Background

The development of the health care workforce is considered to be an essential component of reforming health services so that care is better organised around the needs of patients. A key consideration is the mix of staff within a multi-disciplinary team that is needed to deliver health care, but there has been uncertainty about the impact of new ways of working that involve changing the mix of staff. Proposed benefits of an optimal skill mix include improving the cost effectiveness of service delivery, addressing skills shortages and improving patient outcomes by ensuring that people see staff with appropriate expertise.

Aims

By investigating examples of workforce change and skill mix in the context of emergency and urgent out-of-hours care, we aimed to describe, understand and compare the impact of these changes for patients, staff and health systems in different settings.

About this study

This study was designed to address a specific commissioning brief entitled 'Who cares? The impact of changing workforce patterns upon staff practice and patient care' (SDO/WK2A). Other calls for proposals within the Workforce Research Programme were commissioned to address the impact of workforce change on health outcomes and patient experiences (SDO/WK2B); the use of target ratios in workforce planning (SDO/WK2C) and the costs and outcomes of changing workforce patterns (SDO/WK2D).

We set out to make the examination of patient and staff experience of service delivery the central focus of the study. There was a requirement to 'map' patient experience within one or more organisational settings and for this we used health care case studies as the main research approach and systems dynamics modelling as the method by which we could capture the ways in which new workforce and skill mix arrangements were overlaid on different service delivery models and how these influenced patient pathways through urgent care in each setting. The study was not designed as a comparative evaluation of the effectiveness and cost effectiveness of different urgent care systems.

Eight case studies (six in England and two in Scotland for international comparison) were purposively selected to provide maximum variation in observable change in skill mix following assessment of data provided by primary care organisations, English Strategic Health Authorities and Scottish

Health Boards. Criteria for case study selection included evidence of recent or imminent planned change and geographical variation. Each case study had a Local Reference Group and a local case study leader who was the main link with the research team.

The following research methods were employed to address the research questions:

Assessment of local plans for skill mix change in out-of-hours care:

Local delivery plans for out-of-hours care were requested from all PCTs in England and Health Boards in Scotland in order to compile a baseline description of services and to identify recent or planned change. Telephone interviews with urgent care leads in English Strategic Health Authorities and Scottish Local Health Boards revealed localities where there was evident innovation and workforce development and areas where there had been little change and where little was planned.

A review of the literature: A structured review of literature was completed to identify key factors that shaped changing workforce patterns out-of-hours. Relevant evidence included policy documents as well as published research and these informed the picture of external drivers that shaped change in the case study sites.

Observation in out-of-hours settings: After 3-5 days orientation in each case study to describe local service arrangements and to develop a preliminary sketch of patient pathways through each system, non-participant observation in practice environments was undertaken to describe the different skill mix in each case study, to describe how staff work together and to observe examples of delegation and substitution.

Interviews with staff and senior executives: In-depth interviews were conducted with 160 staff across the eight case studies with direct experience of the changes under study. Participants were clinicians, team leaders and managers engaged in new or extended roles. We explored how everyday work had changed, how roles had developed and how staff had experienced the changes. In each interview we used influence diagram techniques to refine a qualitative system map of the local urgent care system from the perspective of the interviewee. In interviews with senior executives we explored the local drivers for change and the characteristics of local leadership.

Systems dynamics modelling: The fundamental principle of systems dynamics is that structure determines behaviour: in other words, the way that the separate components of any system relate to and affect each other determines the emergent behaviour of the system as a whole. Qualitative system maps were developed for each case study, depicting the patient journey from the point at which a decision is made to contact an urgent care service, through to a defined end-point (ranging from self-care advice through to admission to hospital). The maps were drawn up collaboratively by the site researchers and the modellers; an iterative process over the course of many months, as the maps were refined during successive interviews and local reference group meetings. A high level influence

diagram was developed to expound the issues facing decision-makers when planning workforce or system change in this context.

A questionnaire survey and follow up interviews of patient

experience: In four of the case studies we examined patient experience and satisfaction with service delivery across an entire care pathway under different workforce and skill mix arrangements. Patients invited to participate were selected based on the presenting problem (five clinical scenarios) so that as far as possible, observed differences in patient pathways reflected differences in care provision rather than differences between cases. Survey respondents were invited to take part in an interview with a researcher so that the team could learn about the 'whole story' of contact with an out of hours service from the patient perspective. Interviews explored what happened in the period leading up to the decision to contact an out-of-hours service; aspects of decision making; the staff the caller had contact with, how long the patient had to wait at each stage in their pathway and what aspects of the care received were most important to them.

Key findings

In relation to the main research questions, the findings were as follows

Factors that influenced workforce change in the case studies:

Government policy relating to emergency and urgent care together with aspects of regulation had clearly influenced local planning, but the way in which localities responded to policy was mediated by senior management style and the characteristics of local urgent care networks. We developed a typology of networks, characterised as 'executive', 'administrative', 'professional' and 'administrative' to explain this. The diversity of drivers (including local management, geography and previous history) was very complex in the out-of-hours arena and quite unstable at the time of the study in England as PCTs took over responsibility for commissioning services and faced restructuring themselves. Economic considerations and an anticipated shortage of medical resource once GPs were allowed to opt out of 24 hr responsibility for out-of-hours care were the main local drivers for change.

Access and integration in urgent care systems: We identified three main structural differences between the urgent care systems in the case studies based on the system maps. First, patient flows were more complex in systems that had evolved over time than in those subjected to strategic redesign. Complexity could indicate greater patient choice, but it may also indicate reduced efficiency and the potential for confusion amongst the public about the services that are available and how to use them. Second, initial telephone access was more streamlined in some case sites than others, especially in the Scottish sites where NHS 24 was the first point of contact. Third, there was wide variety in how face to face treatment was organised in different localities: in the types of settings, the extent to which services were co-located and how home visits were delivered. The different

mix of skills in each case study were embedded within these structural differences.

The examples of workforce and skill mix change: A wide range of new roles were observed for nurses and allied health professionals. Although there were differences in how these were deployed in each case study, the majority were examples of non-medical professionals substituting for GPs in telephone triage and assessment; out-of-hours home visiting; face to face consultations with patients in treatment centres; prescribing medicines and admitting patients directly to hospital in an emergency. In the main, these were extended scope of practice activities and were delegated substitutes for GP inputs rather than adding to the range of services provided by the care team. With the exception of telephone triage and assessment which was wholly delegated to others in some case studies, GPs continued to carry out their usual practice alongside other staff, but focused on more complex cases. Support staff substituted for nurses in call handling and prioritisation and there were examples of horizontal substitution whereby receptionists, health care assistants and drivers worked flexibly and interchanged roles to respond to demand.

The impact on staff practice: Developing the skill mix had led to reported service improvements. These included making the urgent care service more responsive, and establishing new referral of patients between non-medical professionals to best meet patients' needs without referral to a doctor. Co-locating staff did not guarantee interdisciplinary collaboration, however. Many staff worked across different provider organisations and found a lack of integrated governance systems meant that they needed to be familiar with different policies and procedures. Access to patient information to inform decision making was limited. To some extent therefore, organisational and technical obstacles were holding back realising the full potential of skill mix. Local plans for developing skill mix were often beset by recruitment and retention challenges.

It is not unusual in out-of-hours care for staff not to know the outcome for individual patients, but for staff in new or extended roles this feedback was important for self assessment of the appropriateness of their decision making. Planned, professional conversations about the care of individual patients and event auditing were valued but there was scope to develop more systematic approaches to learning, including through case review.

Training and education to support skill mix was often provided in house, but because of financial constraints this was sometimes limited to mandatory training. Staff skilled in minor injury management required training in minor illness management and vice versa to be fully effective in treatment centres. Staff described exceptional personal efforts to manage their own learning and training provided by GPs was highly valued. Clinical leadership by nurses and AHPs was developing but there were few consultant level staff and a need to develop career pathways in urgent care.

The impact for patients: We did not find that the number of staff patients had contact with had an impact on overall satisfaction with care. Almost all respondents were satisfied or very satisfied with care provided by different

types of staff encountered. More respondents were very satisfied with contact with a nurse on the telephone than with a doctor, and this may reflect better training in triage techniques and telephone communication. Patients did not always know the roles of staff that had treated them and a third underestimated the number of staff they had contact with during their episode of care.

Callers were kept informed about what would happen next; had enough time to discuss their problem; felt things were explained in a way they could understand; that staff had listened to what they had to say; thought their problem had been resolved and agreed that contact with the service had been worthwhile. Most were better able to understand their health problem and to cope with it and felt reassured after contact with the service. However, one half had repeated their story to different members of staff, but most agreed that information was passed onto the next member of staff at each stage. Rates of re-consultation about the same problem were similar across the clinical condition groups and the case studies, but those who were less satisfied with the overall service were more likely to re-consult.

Satisfaction with urgent care was not influenced so much by the precise details of service and staff configuration but by adherence to more generic service standards (professionalism of staff, communication, having good access by telephone and signage and parking at treatment centres and hospitals; short waiting times and being kept informed of waiting times).

Impact for health systems: A high level influence diagram that could be applied to all the case studies was developed to show some of the implications of system design decisions. A number of feedback loops were identified that showed the central importance of workload management in the system to avoid difficulties in retention and recruitment of staff (associated with stress and reduced staff satisfaction); to avoid incorrect triage of calls with consequences for missing serious cases, thereby increasing the volume of genuine clinical need causing additional workload through further calls to the hub or patient self referrals to the emergency department or to 999 services. This suggests that in urgent care, new workforce and skill mix patterns most likely to have enduring success are those which deliberately focus on effective demand management. We observed that where one organisation employed the majority of staff working in the system, the system was able to 'flex up' to meet demand more effectively.

Applicability of the findings

Evidence in this study was drawn from eight UK urgent care systems, selected as exemplars of having introduced skill mix change, rather than as 'typical' systems. Case study boundaries were similarly circumscribed in relation to the inclusion of national (NHS Direct / NHS 24) and regional services (ambulance and emergency departments) and case study descriptions addressed aspects of access to care and service integration.

Detailed descriptions are intended to enable readers to judge the extent to which the settings and the findings relate to their own context.

Conclusions

The need for person centred services that are responsive and which can safely and effectively differentiate potentially life threatening problems from those that are less urgent have been longstanding priorities in UK urgent care policy. A new contract that allowed GPs to opt out of their 24 hour responsibility for patients accelerated local initiatives to develop skill mix in urgent care. Our task was to understand 'who cares for patients' and the impact of changing workforce patterns and skill mix at different levels. We found a multi-disciplinary approach to delivering urgent care in each case study in which non-medical professionals were frequently substituting for general practitioners, though GPs remained a vital part of the service. There were many examples of bespoke roles with locally inspired titles and functions which responded to the needs of local services.

Strategic approaches to system redesign had produced less complex pathways for patients and more effective management of the first point of contact with the system. In the context of skill mix, this was important in ensuring that patients were routed to an appropriate member of staff. For patients, overall satisfaction with the service was not directly related to the number of staff they had contact with during an episode of care or to local skill mix but to more generic qualities of service provision such as the quality of communication (including how to access services) and length of waiting time. The cost effectiveness of new skill mix models is therefore a priority for further research.

Main recommendations for policy:

1. There is a need to reduce the confusion that members of the public have about how to make contact with urgent health services, especially out-of-hours. Proposals for a new 'three digit number' for non-emergency health care have potential to greatly improve this for people who are uncertain what to do. Currently there are multiple access points, which improve choice but do not automatically redirect patients to the right service for their needs.
2. The public need to understand what types of staff they will have contact with in urgent care and what they can expect from them. Because callers are unclear about this, they may make assumptions about the level of experience staff have and their competencies. There may be scope to make this clearer in public information nationally and locally.
3. We observed systems which had different approaches to initial triage and assessment, undertaken by different types of staff with different levels of experience and training. Decision support systems for non-medical staff were not in use in every case study. Given the

importance of initial triage in determining both the level of urgency (a question of safety) and the appropriate service or staff member to meet the patients' needs (a question of efficiency), policy makers should consider requiring other call handling services to introduce active decision support systems already approved for use in the NHS for prioritisation, assessment and triage.

4. Non-medical health professionals are making a key contribution to the delivery of urgent care. Their perspectives need to be taken into account in policy development.
5. Given the scale of education and training needed to sustain the current the urgent care workforce, consideration should be given to effective ways of delivering this and ensuring that localities are able to sustain investment in staff development despite the need for cost containment overall.
6. Progress towards integrating information systems in urgent care is needed to enable better use of NHS data for performance monitoring and reporting; to enable patient information to be available to support staff making clinical decisions and to be able to track the pathways of individual patients across the system. There were similar challenges across the case studies, suggesting that local resources alone may be insufficient to improve this greatly.
7. Urgent Care Commissioning in England and leadership roles in England and Scotland have grown rapidly as specialist areas of management practice. We heard from Local Reference Groups that primary care organisations would welcome 'master class' opportunities and networking with others in similar roles. Focus could usefully include strategies for change and system redesign and analysing and using NHS data for performance management.

Main recommendations for practice:

1. Given that many patients are not sure which type of staff they have had contact with, staff should endeavour to explain what their role is and what this means to patients.
2. Reducing the number of times someone has to tell their story and reducing waiting times may improve patients' experience of urgent care.
3. Simplified system maps may be helpful for the public and new staff to understand how the local system works.
4. Clinical leadership, particularly in the non-medical professions is needed along with career pathways in urgent care. This should be the subject of local and national discussion.
5. Where services are co-located (for example GP out-of-hours and emergency department minor illness and injury) there is often further

scope to use the staff resource more flexibly to reduce patient waiting times.

6. Strategies for promoting learning in practice need to be strengthened. GPs make an important contribution but this is unlikely to be sustainable or sufficiently comprehensive for non-medical professionals.
7. In our models, effective management of demand and workload was particularly important. Staff needed to have sufficient time and resources to treat patients and have access to patient information.

Main recommendations for research:

Future research should focus on:

1. Investigating the effectiveness and cost effectiveness of skill mix as an 'active ingredient' of health care delivery, with potential consequences for patient outcomes. Although comparative studies, especially trials, are difficult to execute (and costly) there is little evidence to show what the costs and consequences are of substituting a mix of health professionals for doctors in this setting.
2. The development of NHS data systems to support data analysis that can inform system improvement and can enable quantitative systems dynamics modelling of the kind we had proposed to do in this study.
3. The development and evaluation of effective strategies for professional learning in everyday practice.

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The management of the SDO programme has now transferred to the National Institute for Health Research Evaluations, Trials and Studies Coordinating Centre (NETSCC) based at the University of Southampton. Although NETSCC, SDO has conducted the editorial review of this document, we had no involvement in the commissioning, and therefore may not be able to comment on the background of this document. Should you have any queries please contact sdo@southampton.ac.uk.