Appendix 1: Background to safe medical staffing

It is clear that addressing the challenges facing NHS hospitals today calls for a creative re-thinking of skillmix, training and team working. We recognise that in the future many of the tasks that are currently undertaken by doctors may increasingly be done in other ways and delivered by other staff groups. We also acknowledge that all healthcare providers have to strike a balance between financial probity and clinical expenditure: they are required to work within defined budgets. However, in considering the provision of adequate numbers of clinicians to provide a consistently safe and effective service to medical patients in hospitals, employers have been, and continue to be, constrained by a number of limiting factors other than cost.

In 1991 the New Deal for junior medical staff was introduced to gradually reduce the number of hours that doctors in training were permitted to work from 104 to 56 hours per week. At that time there did not appear to be major issues in appointing adequate numbers of medical staff to posts in hospitals. However when the number of hours was further reduced by the adoption of the European Working Time Regulations in 2009, and with the subsequent Sindicato de Médicos de Asistencia Pública (SiMAP) and Jaeger judgments of the European Court of Justice, accompanied by virtually simultaneous changes in the organisation of medical training and the rules for immigration, problems in staffing rapidly became evident.

The hours that an individual doctor can work

The European Working Time Regulations in 2009 reduced the average working week to 48 hours. The subsequent SiMAP and Jaeger judgments went on to determine that any time that doctors spent in their place of work at the disposal of their employer was active work, irrespective of whether they were awake or asleep. These decisions ended working arrangements where doctors were ‘resident on-call’, ie sleeping in the hospital while on-call, and led to the widespread introduction of shift working for medical staff. The Royal College of Physicians (RCP) commented on these issues in its parliamentary briefing of April 2012.[1]

The decision on 23 June 2016 that the UK should leave the European Union (EU) has potential implications for the future of the European Working Time Regulations,[2] but there

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are no clear plans for change and we therefore cannot ensure the safe medical staffing of our hospitals by increasing the hours that doctors can work.

Changes in medical staff training

In 2005 Modernising Medical Careers (MMC), the reorganisation of medical training in the UK, introduced stricter control of the numbers of training posts and also time-limited the training programmes, which effectively reduced the number of medical trainees employed in the NHS. The implementation of the *Shape of Training* report,[3] which recommends further reforms to the structure of postgraduate medical education and training across the UK, may make good some of the effects of MMC.

In October of 2016 it was decided that, from September 2018, the UK will train up to 1,500 more doctors every year.[4] Over time, this may make good some of the current shortfall in available medical staff, but these new students will not graduate until 2022 and they will require many years of subsequent training before they are able to contribute as senior decision makers.

Changes to immigration rules

British Medical Association data indicate that at present 40% of all hospital doctors, and 34% of all consultants working in the NHS, graduated outside the UK. Changes to the immigration regulations for doctors from countries that are not part of the EU now make it more difficult to recruit medical staff from international sources. The difficulties faced by oversees medical staff in obtaining Tier 2 visas in the majority of medical specialties, despite the known staff shortages, have prompted correspondence from both the RCP[5] and NHS Employers.[6] The medical royal colleges sponsor international medical graduates (IMGs) who are seeking short-term training in the UK through 2-year training fellowships arranged through the Medical Training Initiative (MTI). There are currently relatively few (approximately 250) overseas doctors working in the UK under this scheme. Recently, well justified requirements for increased fluency in English for EU doctors have in turn effectively limited their numbers. It will therefore be increasingly difficult for the safe medical staffing of our hospitals to be assured by recruiting doctors from outside the UK, unless the immigration rules regarding international non-EU doctors are changed. Such a change, however, may have limited effect because fewer overseas doctors now consider working in the NHS to be attractive option.[7,8]

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It seems evident that the combination of these policy changes has played a major part in significantly reducing the numbers of medical staff who are available to care for patients in hospitals.[9] These changes have also limit the possible responses of employers to medical understaffing. While the NHS might have coped with the impact of any one of these changes individually, the combination has proven to be very disruptive and has led to other changes in clinical practice that have further demoralised the medical workforce.

Other unintended consequences of change

The implementation of the European Working Time Regulations, particularly after the SiMAP and Jaeger judgments, transformed the working practices of hospital doctors of all grades and generally resulted in the breakdown of the traditional 'firm' system of medical practice. The impact of the loss of the benefits of a team working together on a regular basis cannot be overstated, both in terms of patient care and in terms of medical staff training and wellbeing. By dismantling the firm system when doctors' working hours were reduced, we 'may have thrown the baby out with the bathwater',[10] but the reintroduction of such a system of working will not be straightforward in changed circumstances.

The loss of natural continuity of patient care has increased the numbers of transfers of care, with associated challenges to patient safety. The introduction of the Hospital at Night (H@N) process, in an attempt to provide adequate out-of-hours medical staffing with a reduced number of doctors, has had a disproportionate impact on medical services and on trainees in medical specialities because they dominate the membership of these teams.[11] In particular, it must be recognised that the advancing age and increasing poly-morbidity of the population has increased the workload of medical staff as colleagues from surgical specialties look to them for assistance in managing the growing number of complex patients with multiple medical comorbidities.

Overall, the issues and changes that we describe have resulted in hospital medicine in general becoming an increasingly unappealing medical career, especially when it involves acute medical care.[12] The post of medical registrar has become particularly unattractive, and this has been reflected in a consequent decline in recruitment.[13–16] When higher specialist trainees or newly appointed consultants are surveyed, they consistently say that if they were offered their training period again, 40–50% would not train in general medicine.[17]

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Data from the last three consultant censuses demonstrate that gaps in trainees' rotas now occur so frequently as to cause significant problems in patient safety.[18] Additionally, 10% of the consultants who responded in the census reported being regularly asked to 'act down' to fill gaps in their junior staff rotas, with clear implications for their other work. This might reasonably be considered to be an example of what Edwards *et al*[19] termed the 'dissonance between what doctors might have reasonably expected the job to be and how it now is', which is a cause of increasing job dissatisfaction and falling consultant recruitment rates.

It is not clear whether or not we have the correct numbers of trainees or consultants to provide the future workforce that is required by the NHS, but due to variable and often low fill rates, simply increasing the number of training or career posts alone is unlikely to be productive unless something is done to make these posts, and a career in a medical specialty involving acute medical care, a more attractive option to doctors who have many other careers, both within and without medicine, open to them.

The efficiency of the system

Given the huge variety of hospitals that are involved in the care of medical patients, there can clearly be no single 'one size fits all' solution to safe medical staffing. However, it is evident that a hospital that is well designed and avoids inefficient ways of working will function more satisfactorily with a smaller workforce when compared with a poorly designed hospital that has an inefficiently run service. Organisations should therefore continuously strive to improve their efficiency and effectiveness as a matter of principle, and clinical staff should engage with and lead such endeavours.

Shortfalls in staffing induce inefficiency. We have previously noted that problems with the recruitment of medical registrars have resulted in there being gaps in the registrar on-call rotas of many hospitals. These gaps are filled most often by: asking those registrars who remain to perform extra duties, often to the detriment of their specialty training; engaging short-term locums; and asking more junior staff to 'act up' or by asking consultants to 'act down'. When such events occur rarely, there is usually sufficient goodwill for staff to be flexible and to provide temporary solutions. However, when such events are common, the frequently repeated demands for medical staff to work additional hours or to act outside their usual roles are fatiguing and demoralising. This situation reduces the *esprit de corps* of the medical teams. The combination of understaffing, a lack of continuity of team

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membership and teams being staffed by clinicians of an inappropriate grade, all conspire to promote inefficiency and to reduce patient safety. In this situation, teams will take longer to asses, review and care for their patients.

Similar problems occur when there are gaps in the on-call rotas of more junior doctors, but at least here there is the possibility of making good the shortfall in staffing by recruiting into these roles healthcare professionals other than doctors who have equivalent clinical competences.

In all of these considerations, we must never forget our primary responsibility and acknowledge that – whatever the circumstances and inefficiencies – we must have basic staffing levels that provide the safe care that patients deserve.

'External' referrals from non-medical areas for medical input

Medical teams have always responded to requests for assistance with providing care for the medical problems of non-medical patients as part of their role in an integrated hospital service.

Following the implementation of the European Working Time Regulations, with the consequent reduction in the numbers of medical or alternative staff being available for patient care out-of-hours, there has been an assertion that most problems that arise in hospital inpatients are medical in nature and are not necessarily best responded to by clinicians of the primary speciality that is caring for the patient.[20] While this change may well have clinical merits, its implementation has not been accompanied by an appropriate increase in the Tier 2 staffing of medical departments that is required to deliver it. It has, however, supported the practice of surgical higher trainees becoming non-resident when on-call.[11] This increase in the medical workload, both during the working day and out-of-hours, should not be underestimated and needs to be accurately assessed and planned for.

There have been some noteworthy initiatives in medically delivered perioperative care, notably for older patients with frailty.[21,22] However, such initiatives remain limited and often provide routine care that is delivered during the working day with no additional resources being committed to out-of-hours care.

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An international perspective

We have tried to be realistic in our estimates of the staff needed to provide safe, timely and effective medical care in our hospitals, and our recommendations might be put into perspective by considering the medical workforce of other similar European countries. For example, for every 10 doctors working in the UK, there are approximately 11 in France, 12 in the Netherlands and 14 in Italy and Germany.[23]

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