A clinical analysis of the emergency medicine workforce crisis

Workforce crises in medicine can be devastating for a specialty, patients and professionals. Emergency medicine and general practice are currently affected but other acute specialties are showing early signs and symptoms of the condition. While symptomatic treatments are helpful, recognition and treatment of the causes is critical.

Emergency medicine crosses the boundaries of primary and secondary care, extending from minor injury management to critical care. It has interested and excited health-care professionals, policy makers and the public since its inception almost 50 years ago. While emergency medicine is growing and flourishing around the world the last decade has seen the accumulation of workforce problems within the UK, such that a crisis point was reached in 2013.

The causal factors for the crisis lie within the specialty, the contractual arrangements for health-care staff, the provision of urgent and emergency care in the UK, politically led initiatives and societal expectations. Individual perspectives dictate the weighting of these factors, but all interplay to explain the current position.

The remedies for the crisis fall into treating the symptoms and causes, and implementing preventative measures. The treatment will not rely on one agency alone, but will require a multidisciplinary partnership between the speciality, patients, employers, commissioners and health boards, the wider NHS and government.

The malaise affecting emergency medicine

Presentation

The condition has an insidious onset and has been characterized by a widespread general malaise. Symptoms and signs (*Table 1*) progress unless treated, resulting in an increased spiral of pressure and workload, amplifying the symptoms such that a crisis is inevitable. If a crisis ensues individual harm and service collapse may occur unless urgent resuscitative measures are instituted, followed by long-term treatment and preventative measures to reduce the risk of relapse.

Table 1. Signs and symptoms of a workforce crisis

Symptoms	Signs
Stress	Vacancy rate
Burnout	Attrition from training programmes
Unhappiness	Overseas migration of consultants
Depression	Adverse survey reports
Self esteem	Increased locum spend
Low job satisfaction	Decreased performance measures

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Aetiology and contributory factors

Guly (2005) noted that the first three decades of emergency medicine in the UK were characterized by a small speciality, with its founding fathers drawn from a variety of backgrounds. Over this period and subsequent years the specialty has developed a pivotal role in the emergency and urgent care system within the NHS. The specialty has expanded its role to include observation medicine, ambulatory care, prehospital care and developed a large role in rule-out strategies for common presentations including low risk chest pain, pulmonary embolism, deep venous thrombosis and lone acute sudden headache among others.

The development of new roles and responsibilities to fill perceived deficiencies in other services or to embrace new technologies has developed in an uncoordinated way, with marked geographical variations, such that it is difficult to gain consensus on what constitutes a core emergency medicine service. Further changes in service configuration, technologies and workforce may be portrayed as an exciting rapidly evolving speciality or as a speciality still seeking a clear role definition.

A training programme was developed to allow acquisition of missing competences, depending on background, using secondments to allied specialties during senior registrar training. The last two decades have seen a rapid expansion of training posts to supply the demand for consultant appointments in all emergency departments and then the development of large multi-consultant departments. The numbers of high quality applicants for higher training posts consistently exceeded vacancies up until 2007. In the decade preceding 2007 large numbers of non-standard posts, such as clinical fellows, were established. These posts provided valuable experience and service delivery by doctors capable of working on a registrar rota until a registrar vacancy became available.

In 2007 specialist training was radically restructured by Modernising Medical Careers (Department of Health,

2004). Acute Care Common Stem (ACCS), a new core training programme, was established for emergency medicine, intensive care medicine, anaesthesia and acute medicine. ACCS was the only entry route into emergency medicine, while it was only a small contributor to the mainstream training programmes for the other specialities. A small group of doctors were appointed to run-through training programmes, with many more on 1-year fixed term training appointments. The number of run-through training posts was constrained by unpredictable future vacancies at higher training levels, availability of anaesthesia posts for the second year of training and a difficulty identifying future needs through manpower planning. The difficulties relating to matching core training posts to future vacancies within a system where the overwhelming majority of posts were occupied meant that run-through training was abandoned after 1 year. This new training programme gave the opportunity for doctors to switch to any of the ACCS parent specialties at any time during core training.

In 2000 *The NHS Plan* stated that by 2004 'long waits in accident and emergency departments will be ended' and that the average waiting time will be under 75 minutes (Department of Health, 2000). The context at this time was of many patients waiting in excess of 12 hours for a bed after a decision to admit, and even more waiting over 4 hours before seeing a doctor. Within the profession there was a view that the target set out was aspirational and would be difficult to achieve. However, achieved it was, although in 2013 and 2014 the emergency care standard of 95% of patients admitted, transferred or discharged within 4 hours has not been met in England for over 52 consecutive weeks (NHS England, 2014). The sickest patients continue to be seen immediately and patients with less severe illness and injury do not endure the very long waits previously endured. However, the emphasis on achieving the standard has contributed to a reduction in practical skills undertaken in the emergency department and has introduced an overwhelming pressure to produce a plan for patients rapidly. The emphasis on identifying the exit route for a patient can detract from the training experience unless strategies are in place to ensure that the necessary training interactions ameliorate this.

The intensity of the work for doctors, nurses and other workers within the emergency department surpasses many health-care settings. The workload is incessant and occurs round the clock. There has been a shift of the pattern of patient arrivals to the out of hours period within type 1 emergency departments (Health and Social Care Information Centre, 2013). The total number of patients attending emergency departments rises year on year. The headline figure of a 12% increase in attendances at type 1 emergency departments over the past 10 years disguises the fact that many low acuity emergency department attendances have been displaced to minor injuries units, urgent care centres and walk in centres and replaced by high acuity patients who are elderly or have multiple comorbidities. In the last year the 1.7% rise in attendances in England translates to 250 000 patients, or the equivalent of four new medium-sized emergency departments. There have been no new emergency departments built and these extra patients have been squeezed into a reduced number of existing emergency departments.

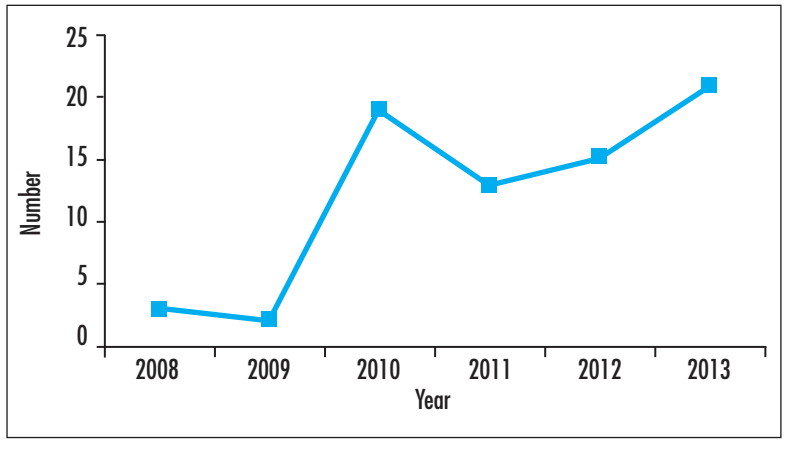
In 2006 the immigration rules governing overseas doctors working and training in the UK changed, such that the group of doctors from outside Europe that had supported the delivery of many NHS services were no longer able to compete equally for posts (Home Office, 2006). This ready supply of able and committed doctors was turned off before there was an adequate supply of home-grown doctors to fill the necessary posts.

In the last decade there has been an acceleration of trainees and consultants leaving the UK to train or work in Australia and New Zealand, with a smaller number leaving to work in the Gulf (*Figure 1*). A number of reasons have been reported, including much higher salaries, work–life balance, better training and the climate. In addition doctors report that they are able to use the full range of their skills in systems not as tightly constrained by time pressures.

As the workforce problems have increased the patients that would have been seen by the missing doctors have still been seen. This workload has been taken up by the remaining members of the team and locum staff. The pressure to deal with the queue of patients in a timely manner has resulted in a loss of direct training activity, such that training has gone from being a core function in the emergency department to being a discretionary activity.

Staff grade and associate specialists remain an important component of the emergency medicine workforce. Failure to invest in their training, allowing time to participate in clinical governance and service development and maintaining career-long sensible working patterns results in demotivation and loss of this valuable part of the team. Localities investing in these aspects have been able to reverse this trend.

Figure 1. Migration of consultants from the UK. College of Emergency Medicine, 2014, unpublished data.



Treatments

Hospitals have been treating the symptoms of the crisis by using an increasing number of locum doctors to fill rota gaps. This is an expensive solution, with many trusts spending between one quarter and one half of their total budget for emergency department medical staff on locums. The mismatch between locum availability and demand has resulted in competition between hospitals to recruit staff and resulting increased costs.

The Emergency Medicine Workforce Implementation Group is a group co-chaired by the College of Emergency Medicine and Health Education England, with wide-ranging representation from other groups. It arose from the emergency medicine taskforce, which was constituted to develop a strategy for resolving the workforce crisis.

The workforce strategies are divided into increasing the medical workforce and broadening the workforce.

Increasing the medical workforce

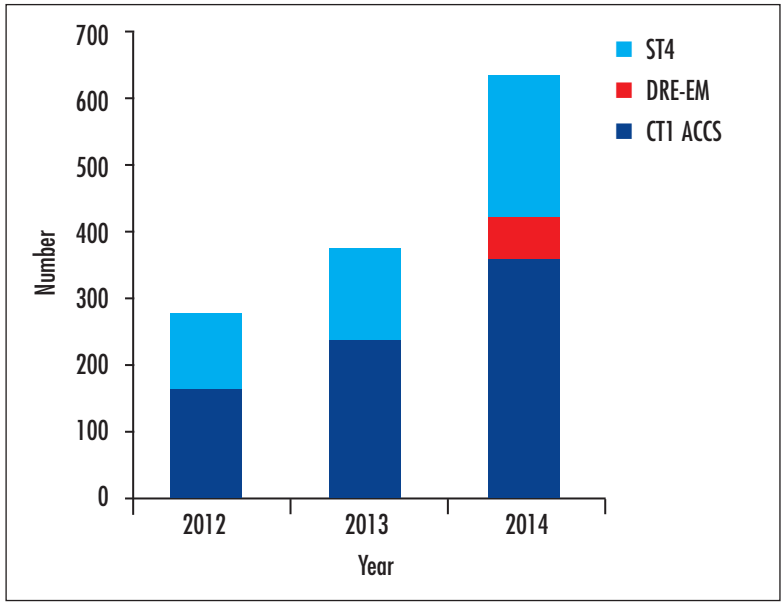
The number of entry points into training has been increased (*Figure 2*) with ACCS year one appointments increasing from 166 in 2012 to 359 in 2014. These have been funded either locally or as part of a scheme to centrally fund 75 extra ACCS posts for 3 years. Over 99% of these posts were filled in 2014. The continuation of full recruitment is vital, such that College of Emergency Medicine has developed a set of materials for use in careers fairs and is exploring how best to support emergency medicine student groups across the UK.

The entry points for emergency medicine training have been opened up with the approval by the General Medical Council of the Defined Route of Entry into Emergency Medicine (DRE-EM) programme. This programme has two elements, one recruiting doctors who have successfully completed core surgical training and the other recognizing prior experience for entry to the programme. Both elements give entry into the third year of training with required additional training in ACCS specialities being delivered before progress to the fourth year of training. In 2014, the first year of this programme, 61 doctors have been recruited.

Feedback from trainees was that uncertainty of progression and inability to plan for more than 3 years were disincentives for training in emergency medicine. As a result all new recruits to the emergency medicine programme and those currently training have been offered the opportunity to convert to run-through training, with no further reapplication process required between core and higher training. Currently 87% of trainees in programme across the UK have opted for run-through training (personal communication, Health Education Yorkshire and Humber, 2014). The number of higher trainees currently in post will be lower as some will be undertaking out of programme periods between years 3 and 4 of the programme.

The College and Health Education England have collaborated to recruit doctors from overseas on a 4-year 'work, learn and return' programme. The programme involves a bespoke induction and training package, aimed at rapid assimilation into the emergency department workforce, training to either membership or fellowship level and returning to their home country with the skills to be leaders in emergency medicine. Recruitment is ongoing with a target number of 50 doctors recruited in 2014.

Figure 2. Annual recruitment to emergency medicine training posts. ST4 is the entry point to higher training (registrar), CT1 ACCS is the entry point into core training, DRE-EM is the defined route of entry into emergency medicine programme. From Health Education England, April 2014, personal communication.



Broadening the workforce

Using the skills of other professionals to substitute for some of the roles traditionally performed by doctors allows doctors to undertake the roles that require their particular skills and for doctors in training to focus on activity that allows them to fulfil their training needs as well as delivering an important service role. There are a number of established professional groups and others being developed to produce a multidisciplinary workforce. These roles will not replace the senior medical workforce, nor will they be the panacea for the workforce crisis. They will, however, be part of the solution.

Nurses and advanced practitioners

Nurses have developed these roles within emergency departments for decades, starting two decades ago with emergency nurse practitioners, usually seeing a defined workload relating to minor injury and less commonly minor illness. Other roles have been used, such as chest pain nurses and stroke nurses. The problems caused by a lack of a national agreed curriculum, training programme and a process to accredit skills such that they are transferable between employers have not been resolved.

More recently the development of advanced practitioner roles have extended the scope of nurses in medical roles. Advanced practitioners undertake Masters level study alongside an apprenticeship-style acquisition of clinical skills. In some areas of practice they may work at the level of a middle grade doctor (e.g. neonatology), but in most emergency department settings they are working at the level of a core trainee, seeing undifferentiated majors patients under the supervision of more senior doctors. Advanced practitioners are able to prescribe, order radiographs, undertake procedures and refer or discharge patients. Advanced practitioners are usually drawn from the emergency department nursing workforce, often denuding that group of talented, committed nurses to work in a medical role.

Physician associates

Other groups offer a new workforce to the emergency department. The role of physician associate has been established in the USA for over 40 years, with over 95 000 working physician associates. The role is spreading internationally, including the UK. A physician associate is a new health-care professional who, while not a doctor, works to a medical model. Training is to degree level, undertaking a 3-year course with integrated clinical placements. They are dependent practitioners, working within agreed guidelines, working under the supervision of a senior doctor (consultant or registrar level).

Physician associates are able to take histories, examine patients, develop differential diagnoses, analyse test results, develop management plans and refer patients as required. Owing to the lack of an appropriate statutory framework they are not allowed to prescribe. The Royal College of Physicians has recently formed a Faculty of Physician Associates such that progress to overcome this may be made. There are currently 200 physician associates working in the UK, across a range of settings. Currently UK universities are producing physician associates at a rate of 35/year, although this is set to rise rapidly over the next 5–10 years. While there is great potential for this workforce in the emergency department, they will not be part of any rapidly implemented solution to the growing demands and current crisis (J Parle, personal communication, 2014).

Paramedics

Paramedics may be able to add to the emergency department workforce. The demand for paramedics in other areas of the urgent care workforce, particularly with the planned move to increase assessment and treatment in a patient's home without transfer to hospital, means that their skills are more likely to continue to be needed in other areas of the urgent and emergency care system.

Pharmacists

Pharmacists have potential to add to the workforce. This is unlikely to be in the area of managing minor illness independently within an emergency department, using a community pharmacy model. Other roles, relating to prescribing, medicines reconciliation, recognition of adverse drug reactions and toxicology, are more likely to improve quality and allow more effective use of medical time.

Prevention

Considerable time, effort and money has been spent increasing the medical and non-medical workforce within emergency medicine. However, the importance of strategies to keep this workforce cannot be overstated. Attrition of the workforce will mean that this work has been wasted. The key to this is ensuring that trainees are well supported, well trained, have a work–life balance similar to other trainees and work in high quality environments. Terms and conditions of service for trainees and career grade staff must recognize differences between specialties.

The College is involved in discussions relating to how the emergency care standard (4-hour target) can be improved to both ensure timely care but also to drive quality and work in the shared interests of patients and professionals.

The physical environment is important. Our patients are seen and our staff frequently work in crowded, poor environments, no longer suited to the modern practice of emergency medicine. They notice the contrast to other islands of tranquillity within the acute hospital and wider health economy. Making the emergency department an environment conducive to providing high quality health care is critical.

Doctors in training must feel valued and work in a service that has training as a core activity. Training and supervision cannot be seen as a byproduct of service delivery, but inextricably intertwined. Time for training must be identified, protected and funded for trainees and trainers.

The contracts of employment for staff working at high intensity and in predominantly unsocial hours should have this recognized, and mechanisms be put in place to compensate such that terms of service are equitable rather than equal.

The relationship between emergency medicine and all of the other players in the urgent and emergency care network needs clear definition with all partners taking an appropriate role in sharing the load of this work, particularly in the out of hours period.

Generalisability

Emergency medicine is starting to emerge from its workforce crisis, although much remains to be done to provide a sustained long-term recovery without relapses. Other specialties have had similar crises previously and others will no doubt follow. General practice and acute medicine have significant problems currently that could spiral into a crisis. Applying a medical model to the crisis, con-

sidering presenting symptoms, aetiology and causal factors, treatments and preventative actions is useful. The power of a multidisciplinary team including health policy makers, statutory bodies, colleges, education providers, employers and the workforce working together to deliver change in a rapid timeframe has been demonstrated within emergency medicine. **BJHM**

KEY POINTS

- Workforce problems can present insidiously and rapidly progress to crisis point.
- Symptoms and signs are initially non-specific but if ignored can result in collapse.
- Rapid resuscitative measures are more likely to be effective if they are coordinated and involve the wider team.
- Efforts to increase the medical workforce have yielded results quickly.
- Broadening the professions contributing to the workforce is important but will not be rapid.
- Acceptance of responsibility by all involved for rehabilitation and secondary prevention is vital.
- The progress to date will be wasted if attrition from the specialty is not attenuated or reversed.

Conflict of interest: Dr R Brown co-chairs the Emergency Medicine Workforce Implementation Group. Dr K Reynard represents the College of Emergency Medicine on the Emergency Medicine Implementation Group and is a Vice President of the College.

Department of Health (2000) *The NHS Plan. A Plan for Investment. A Plan for Reform.* Department of Health, London

Department of Health (2004) *Modernising medical careers—The next steps: the future shape of foundation, specialist and general practice training programmes.* Department of Health, London

Guly H (2005) *A History of Accident and Emergency Medicine, 1948-2004.* Palgrave Macmillan, Basingstoke

Health and Social Care Information Centre (2014) Focus on Accident and Emergency December 2013. www.hscic.gov.uk/catalogue/PUB13040/acci-emer-focu-on-2013-rep-V2.pdf (accessed 1 September 2014)

Home Office (2006) *A Points Based System. Making Migration Work for Britain.* Home Office, London

NHS England (2014) Weekly A&E Sitrep. www.england.nhs.uk/statistics/statistical-work-areas/ae-waiting-times-and-activity/weekly-ae-sitreps-2014-15/ (accessed 1 September 2014)