



The College of Emergency Medicine



Service Design and Delivery

Medical and Practitioner Staffing in Emergency Departments: Why it matters and how to do it properly

Summary

- Correct staffing is the key to delivering timely and high quality care in the ED
- Different departments will have different needs. There is no one-size-fits-all staffing model for EDs
- Intelligent staffing models for EDs will consider capacity and capability. They will also allow for rota patterns that are realistic and sustainable
- It is unlikely that any Emergency Department will be able to rely on one staff group to meet its staffing needs. Staffing models will involve the use of clinicians from a range of professional backgrounds, although all will have specific training in Emergency Medicine. A tiered approach to staffing is therefore necessary, with consideration of sustainability for each tier, along with resilience
- Staffing models based on permanent staff are safer and more cost effective
- Traditional staffing models are becoming increasingly difficult to sustain. Developing the future workforce requires a visionary and creative approach. There is great potential for innovation.

Scope

This document relates to medical and practitioner staffing in Emergency Departments in the UK and Republic of Ireland

Why does this matter?

Under-staffing in EDs results in:

- Longer waits for initial assessment, treatment and disposition
- Crowding
- Reduction in the quality of patient care
- Mistakes
- Poor patient experience
- Poor staff experience including adverse health effects
- Poor experience for doctors and other clinicians in training
- Difficulty retaining and recruiting ED staff
- Lost opportunities for system efficiency (care isn't delivered right-first-time)
- Cost arising from high staff turnover, locums, mistakes, and performance failure
- Failure to innovate, develop practice, or invest time in basic departmental management and quality improvement

Correct staffing in EDs results in:

- Safer care
- Improved quality
- Better performance
- Increased efficiency and patient flow

Current situation

- Acute staff shortages in EDs are harming patients, harming staff, and causing failure to meet key quality and safety standards
- EDs are chronically under-resourced. This is designed into the system as a result of the current funding mechanisms, including traditional and newer systems. Under-resourcing leads to under-staffing
- At the same time, Emergency Medicine workload has grown rapidly as demand has increased. Expectations have risen, and advanced models of care involve more front-loaded investigations and treatment, the burden for which has largely fallen on the ED.
- The so-called “out-of-hours” periods – evenings, nights, weekends, and bank holidays -are particularly demanding as other services in health and social care contract in the face of financial challenges.
- Waits and workload that are tolerated in EDs would not be tolerated in other high-acuity/high-risk environments within the NHS or in other industries. There is a culture of acceptance of inadequate ED staffing within government and Trusts.
- Additionally there has been little attention paid to sustainable staffing solutions and workforce planning in the UK, or in the Republic of Ireland. Rotas are frequently brutal, with a high proportion of working during “antisocial” periods, especially late nights, early mornings, or overnight. Again there is a culture of acceptance surrounding this.
- Chronic understaffing is a root cause of the current workforce crisis in EDs. Understaffed departments are stressful to work in, leading to problems with recruitment and retention, and development of a vicious circle.
- Staffing models are often based around what is available, rather than what is ideal. The risk is that managers and clinicians in the NHS (UK) and HSE (ROI) become desensitised to the existence and effect of chronic understaffing, thereby contributing to the propagation of inappropriate models.

How to staff an Emergency Department

- 1) Maximise the productivity of the most scarce and expensive part of the ED workforce: doctors and practitioners. This means optimising nursing, administrative, and infrastructural support
 - a. Getting the supporting workforce right is one of the keys to operating an efficient department. Many tasks in an ED can be performed by admin staff, porters, and nursing assistants, freeing up the registered nurses and doctors to care for patients and use their advanced skills where they are most needed
 - b. Rapid access to investigations and support from other specialities amplifies the effectiveness of the ED workforce
 - c. Reduce wasted time caused by inefficient systems.
- 2) Work out what capability is required, based on the model of care desired within the ED.
- 3) Patterns of demand in emergency care systems are, to a large extent, predictable. Every ED – working with partners in ambulance trusts and other specialties – should have a robust understanding of the seasonal, weekly and daily variation in ED activity.
- 4) Analyse the case mix
- 5) Carefully consider how you want to construct the workforce based on (2) – (4)
 - a. Use capacity calculations that allow for variation. If you staff to mean demand your ED will be understaffed 50% of the time, and your staff will spend most of their time catching up
 - b. A tiered approach, based on sustainable working patterns for each group of staff, is probably best. Consider pooling rotas to maximise sustainable out-of-hours capacity
 - c. Devise innovative solutions to handle predictably busy periods, or to support out of hours working. Attract regular flexible staff to work in your department. Locums may be a cost effective solution for specific problems if used wisely
 - d. Consider the balance of likely performance, quality, safety, and cost
 - e. Consider your staffing quotas at each tier and whether to recruit with a safety margin to deal with the high turnaround experienced by many departments, rather than using vacancies as a way of achieving cost savings
- 6) Consider how to make working in ED sustainable, rewarding, and enjoyable. An ED with a happy, healthy, professionally satisfied, and rested workforce is safer, and more cost effective, than the alternative.
- 7) Don't forget that the offer of flexible working patterns can be a valuable recruitment and retention tool.
- 8) Pay attention to the situation now, and also plan ahead. It takes years to build a workforce, much less to break it. Make your direction of travel a positive one
- 9) Invest in staff, particularly in staff who might wish to train as practitioners, long term medical staff who aren't in training programs, and the senior medical workforce. These groups form the backbone of a long-term workforce.

Staffing Emergency Departments

There is no-one-size-fits-all model of staffing for EDs. Staffing is a function of

- 1) Capacity
- 2) Capability
- 3) Sustainable working
- 4) Resilience

Capacity

Required capacity can be calculated on the basis of predicted demand. Demand needs to be considered in terms of volume, case mix, and segregated work (streams). Capacity calculations need to consider

- 1) The pattern of demand. Overall ED demand is surprisingly predictable at a macro-level. However there is considerable variation within this, some of which is predictable (seasonality, day of week, planned events) and some of which is unpredictable (hour-by-hour variation)
 - a. Staffing to average demand leads to system failure. EDs should be staffed to meet variation in demand, aiming to cope with normal demand variation at least equivalent to the upper quartile of demand (the ideal is to use queuing theory to develop staffing models)
 - b. It is perfectly acceptable to plan to use flexible staffing models to cope with seasonal variation in demand, or to support staffing during known high-pressure periods (typically evening and weekends). Using staff who are induced, trusted, and familiar with local systems is preferential to using more ad-hoc locums.
- 2) "Carve-out" due to geography, streaming, or task allocation (e.g. dedicated roles such as trauma team leader, or dedicated areas such as paediatric areas). This sort of carve-out increases staffing requirements.
- 3) "Carve-out" due to capability (e.g. clinicians who are not able to practice in the resuscitation room). This sort of carve-out reduces flexibility and resilience in the face of some types of demand.
- 4) Step changes required in staffing when departmental configuration changes
- 5) The effect of supervision and training. Creating tomorrow's workforce is today's work
- 6) The effect of turnover (most departments exchange their junior medical workforce 2-3 times per year)
- 7) The effect of seniority / experience (more senior clinicians are generally more efficient, whilst more junior clinicians generate additional work for senior colleagues)
- 8) Locums are generally less efficient, and less safe, than permanent members of staff

Productivity

There is a natural desire to specify the productivity of different groups of clinicians. *The best estimate of local productivity is local data.*

- Tier 1 clinicians, or clinicians with enhanced supervision requirements (e.g.) doctors in difficulty, may have minimal or even negative productivity due to the senior input required on cases they see
- A nurse practitioner working in minors, and seeing mostly minor injury, would generally be expected to see between 2-3 patients per hour. The variables to consider include whether they undertake their own treatments, the case mix seen, and whether X-rays are requested early in the ED process (e.g. at initial assessment)
- Extended Scope Practitioners (ESPs) may see fewer patients per hour than ENPs if they are predominantly seeing patients with soft tissue injuries and also offering extended advice or soft tissue treatments
- Tier 2 foundation doctors are generally thought to see about one patient per hour, perhaps slightly more on minors although this depends on the case mix seen.
- A consultant supervising a department may see no new patients, in order to maximise their efficacy in the command and control role, and to avoid potentially disadvantaging patients they do see through interruptions and multitasking.
- The productivity of the remaining groups will vary between about 0.5 and 3 patients per hour, depending on such variables as experience, professional development, case mix, the effectiveness of efforts to maximise workforce efficiency, the requirement to move between physical areas, procedures undertaken and supervisory demands
- Some patients may consume the time of multiple doctors for periods of time (e.g. complex resuscitation, procedural sedation, training and supervision)
- Calculations often ignore handover and break times

Productivity also needs to be considered alongside cost, the likely quality of care delivered, whether clinicians are rotating or permanent (the latter don't require inducing, and form a pool with "memory" and knowledge of local systems), and the need to maintain resilience and balance

Ways to improve the efficiency of your workforce: examples

- 1) Develop a culture built around team work, and collaboration with other parts of the system
- 2) Retain and develop your workforce
- 3) Achieve clear command and control of the ED, with good handovers, allocation, communications, and proactive supervision
- 4) Develop well designed clinical and administrative processes
- 5) Introduce senior decision making as early as possible
- 6) Delegate tasks to appropriate members of the team – for example, the following tasks are not best undertaken by clinicians in short supply:
 - a. Calling and moving patients
 - b. Undressing patients
 - c. Preparing / turning over bed spaces
 - d. Undertaking and recording basic observations
 - e. Undertaking ECGs and blood tests
 - f. Clerical roles (e.g. copying notes)
 - g. Answering telephones
 - h. Contacting people, and waiting for them to respond
 - i. Moving specimens and request forms (e.g. radiology requests)
 - j. Chaperoning other colleagues
- 7) Deliver well designed and maintained working environments
- 8) Provide adequate rest facilities with appropriate breaks and opportunity for refreshment
- 9) Provide well functioning informatics (both IT, and access to information such as guidelines) with sufficient access points
- 10) Deliver well functioning communications (e.g. systems for contacting people)

Capability

A capable system does what it is supposed to do. This mandates provision of the right number of staff with the right skills. We propose a simple system to underpin analysis

Tier	What it means	Example
1	Require complete supervision. All patients must be signed off before admission or discharge	F1 doctors, trainee practitioners
2	Require access to advice or direct supervision, or practice independently but with limited scope (L)	ENPs, ANPs / ACPs, PAs, ESPs, F2 doctors, CT1-2 doctors, some primary care clinicians
3	More senior / experienced clinicians, requiring less direct supervision. Generally fewer limitations in scope of practice	CT3 in EM, junior Speciality Doctors, some ANPs / ACPs and PAs, some primary care clinicians
4	Senior clinicians able to supervise a department alone with remote support, possess some extended skills. Full scope of practice	CT4 and above, senior Speciality Doctors
5	Senior clinicians with accredited advanced qualifications in EM/ full set of extended skills	Consultants in EM

- A “clinician” refers to a doctor, nurse, or other professional making diagnostic and treatment decisions for patients
- A “practitioner” generally refers to a nurse, physiotherapist, paramedic or other “non-medical” professional with additional training enabling them to practice as a clinician within a healthcare environment
 - Brief guidance regarding nurse practitioners, ACPs, and PAs, is available on the CEM website. Note the term Advanced Care Practitioner is being increasingly used to describe practitioners from a variety of non-medical backgrounds practising at a high level, and with an extended scope.
- A “senior decision-maker” would include clinicians from Tier 4 and 5, and sometimes Tier 2 and 3 (specific circumstances will apply). The implication is that a senior decision maker is unlikely to need more senior advice, but also that they tend to be more decisive, use fewer tests, and make key decisions around investigations, treatment and disposition at the point of first contact the patient

The system above encourages innovation within the workforce. What matters is the capability of the individual clinician, rather than the badge. CEM actively supports the development of a balanced multi-professional workforce to provide emergency care.

Required capability varies:

- All EDs require a Tier 4 or 5 doctor, immediately available, at all times
- Larger departments will require several Tier 4 or 5 doctors on duty to manage the supervisory workload, to see the sickest and most complex patients, and to undertake dedicated tasks such as rapid assessment
- Larger departments may be able to develop specific areas led predominantly by Tier 2 or Tier 3 clinicians (e.g. nurse-led minor injuries services, primary care streams)

Available capability varies

- There are currently shortages in most skilled staffing groups, along with restrictions on trainee numbers. This can drive inappropriate decision making around staffing models
- A “pooled” approach using available senior doctors from inpatient specialities may be required to provide Tier 4 cover in some circumstances. This is not a recommended approach, but it is acknowledged that it may be necessary in some circumstances, particularly smaller, rural and geographically isolated EDs.

Notes about staffing tiers

Tier 1

Tier 1 clinicians should not be considered part of the workforce when considering capacity. They may generate more, rather than less, work for more senior clinicians

Tier 2

Tier 2(L) clinicians with limitations on their scope of practice may need to be considered separately from Tier 2 clinicians with few or no limitations when constructing rotas. For instance nurse and physiotherapy practitioners whose practice is restricted to minor injuries might not be usefully included on lines within a rolling rota design that includes night cover.

Tier 2 and 3

The distinction between Tier 2 and Tier 3 is a soft judgement based on experience, skill set, and local case mix.

Tier 3 and tier 4 (“Middle Grades”)

The critical difference between these two tiers is that tier 4 doctors may be expected to be in charge of a department without a consultant being on site.

Middle Grade doctors should have completed at least four years full time postgraduate training (or its equivalent gained on a part-time or flexible basis), at least two of which will be in a specialty training program or as a fixed term appointment in relevant specialties. Relevant specialties include emergency medicine, acute or general medicine, general practice, anaesthesia, intensive care, core surgical training, general surgery or orthopaedic surgery.

Where ACPs are acting on Tier 3 then equivalence in training should be considered.

These clinicians should

- Have at least 6 months (tier 3) or 12 months (tier 4), full time (or equivalent part-

- time/flexible) experience of working in a consultant-led Emergency Department; or have demonstrable, equivalent experience and competencies
- Hold current provider status in at least one (tier 3) or two (tier 4) of the following advanced life- support courses: ALS, ATLS, APLS or other recognised, equivalent courses
 - Have evidence of current and ongoing CPD and annual appraisal

Desirable for tier 4: Should hold a relevant postgraduate qualification/diploma in an appropriate specialty e.g. MCEM

The College acknowledges that it will not always be possible to recruit clinicians who meet these requirements, particularly locums required at short notice. EDs should ensure that systems and processes are in place to minimise risk.

Tier 4

It is the responsibility of the ED management team to ensure that doctors undertaking supervision of a department are capable of doing so safely when there is no on-site consultant immediately available. The “bar” will depend on local circumstances including case mix, accessibility of other support on site, and expected demand.

Doctors undertaking a tier 4 role should be capable of managing acutely presenting patients at the higher end of the acuity spectrum, should be able to communicate clearly and manage a department within a multi-professional team, and should be aware of their own limitations.

The CEM position is that ACPs, physician associates, and equivalent practitioners should **not** be undertaking Tier 4 roles at this time.

Locums

CEM recommends that locum doctors acting in middle grade roles should be carefully screened. There should be evidence of a CV check, and evidence of appraisal / ongoing professional development should be sought. Locum doctors should have a departmental induction

Good practice regarding locums is available on the CEM website

Sustainable working, and sustainable staffing

There are significant concerns around sustainable working in Emergency Departments.

Sustainable working requires attention to

- Workload, and work intensity, when on duty
- Working patterns and rotas
- A balanced mix of patient-facing and non-patient facing activity, particularly for senior clinicians
- Professional development
- Physiological and physical limitations of staff (e.g. age, chronic illness or disability)
- Compensation for late night / overnight working

CEM guidance on sustainable working is available on the website

Rotas for individual tiers can be combined provided attention is paid to skill-mix. For instance Tier 3 and 4 rotas can be combined during the daytime. Combining Tier 4 and 5 is possible to support night cover but has considerable drawbacks (such as resilience) and is not recommended as a long-term option. Sustainable working results in certain minimum requirements for staffing tiers.

- A rota with four Tier 3 or 4 clinicians on duty each weekend day (including overnight), needs to have at least sixteen such clinicians taking part.
- Night rotas for Tier 4 might be possible with as few as eight clinicians in the short term, but only become sustainable when there are twelve on the rota
- A minimum of twelve Tier 5 clinicians are needed to provide sustainable combined evening and weekend working if late shifts routinely go beyond 2200. This figure is increased in larger departments to sixteen+
- A minimum of twenty five consultants are needed on a rota to provide full and sustainable 24/7 shop-floor cover
- There is a difference between being on-call and being rota'd on the shop floor. The role of the on-call consultant is not to provide an additional pair of hands to help meet predictable demand. Guidance is available on the website

Sustainable working leads to more effective working. Tired or burned-out staff are less safe, less efficient, and less effective. Sustainable working is also the key to building an emergency medicine workforce for the future.

Longitudinal workforce planning

Many emergency physicians are concerned how they will work in Emergency Departments as they get older, and in particular how they will cope with intense, late and overnight working. This problem will be amplified by recent changes to pensions and retirement age. Constructing sustainable working for an ageing workforce, whilst ensuring development within the consultant role into the third and fourth decades of consultant life, are key considerations for workforce planning. In the absence of national agreement on fair terms and conditions for clinicians in EM, local agreements are the only realistic way forward.

Smart thinking

Alongside sustainable working consider sustainable staffing. This means paying attention to recruitment and retention.

Retention is the first part of recruitment. Permanent workforces are safer and more efficient than using locums or relying on staff to internally cover gaps and vacancies. Consider how to keep your staff happy and fulfilled. This is partly about how you set up the workforce in general:

- Enough staff of the right skill-mix, doing work they enjoy
- Develop a culture that genuinely values staff (rather than paying lip service to the concept)
- Provide a reasonable and healthy working environment
- Offer terms and conditions that recognise the intensity and demands of ED shift work
- Invest in professional development

Using strategies such as targeted work in trauma centres, pre-hospital services, ambulatory care, sports and minor injuries services, medical education, etc. to build up the numbers of senior staff available to work the out-of-hours elements of your rota is useful to the organisation and also a means of supporting sustainable working. It should be remembered that such staff form an integrated part of the ED workforce and that they contribute to the general ED work. It is impractical to have individuals working in silos within most EDs, Treating them conceptually as separately funded entities belonging to "parent" services will be unsuccessful.

Resilience

Planned events such as training days, or unplanned events such as sickness, place strain on tight rotas. When combined with staffing models that do not provide capacity to meet variation in demand, or defence in depth for key tiers (especially Tier 4 and 5), the effect can be critical.

Staffing models need to build resilience in. This contributes towards sustainable working

Recommendations for action and research from others

Further research is needed into

- Staffing models for Emergency Departments of different sizes
- The relationship between appropriate staffing and patient safety
- Decision making density and interruptions within Emergency Departments
- The combined effects of age, time of day, and shift patterns on safe decision making in clinicians
- Recruitment and retention in acute specialities

Action is needed to build an emergency medicine workforce fit to meet the demands of the future. This includes attracting people into Emergency Medicine, and then retaining them. This comes down to providing professionally satisfying workplaces, sustainable working patterns, attractive terms and conditions, and professional development.

Further information

Centre for Workforce Intelligence: How can the workforce be used to address the challenges facing Emergency Departments: <http://www.cfw.org.uk/publications/how-can-the-workforce-be-used-to-address-the-challenges-facing-emergency-departments/@@publication-detail>

College of Emergency Medicine: How to achieve safe, sustainable care in our Emergency Departments: [http://secure.collemergencymed.ac.uk/Shop-Floor/ProfessionalStandards/Quality in the Emergency Department](http://secure.collemergencymed.ac.uk/Shop-Floor/ProfessionalStandards/Quality%20in%20the%20Emergency%20Department)

Demand and capacity planning in the ED: how to do it: <http://emj.bmj.com/content/28/2/128.abstract>

Abbreviations used in this document

Emergency Department (ED)
Emergency Medicine (EM)
Emergency Nurse Practitioner (ENP)
Advanced Nurse Practitioner (ANP)
Advanced Care Practitioner (ACP)
Extended Scope Physiotherapist (ESP)
Physicians Associate (PA)

Authorship

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The College of Emergency
Medicine

7-9 Bream's Buildings

London

EC4A 1DT

Tel: +44 (0)20 7404 1999

Fax: +44 (0)20 7067 1267

