

# Ensuring a general medicine workforce for the future

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ABSTRACT

The acute hospital system in the NHS is in crisis, with the rising demands of treating elderly comorbid patients and limited financial and workforce resources. An increase in the workforce trained in and delivering general medical services seven days per week has been proposed as a solution to this crisis. The current trainee and consultant workforce is unable to provide this increase because of imbalances between training and service delivery, the different demands of large and small hospitals and the need to simultaneously provide high-quality specialised services. The demographics of the NHS medical workforce are also changing, which will limit expansion. It is very unlikely that a generalist workforce can be achieved in less than 10 years without a clear governmental strategy and increased staffing levels, both of which seem unlikely at present.

**KEYWORDS:** Workforce, generalism, general internal medicine, flexible working

## Introduction

General medicine is at a crossroads. The number of elective and emergency hospital admissions continues to increase year on year against a background of diminishing bed numbers. The inpatient population is becoming older and has more and more comorbidities, but the pressure on beds demands a faster throughput.<sup>1</sup> The skills of the physician workforce have to be appropriate to meet the needs of these patients and general medicine is seen as a solution.<sup>2</sup> In this article I discuss where this workforce might come from and the potential barriers and solutions to it.

The term ‘general medicine’ is very hard to define and varies significantly according to individual and organisational perceptions. From a training perspective, the general medicine curriculum provides a basis for some clarity. Current training leading to a certificate of completed training (CCT) in general internal medicine (GIM) is defined by the demonstration of competencies – knowledge, skills and attributes – acquired in the emergency and elective settings across a wide range of specialties. Many medical registrars dual-certify in GIM and their specialty, and a similar proportion of consultants say that they practise GIM (Table 1). However, no trainees certify solely

in GIM, and what is perceived as GIM in clinical practice varies according to specialty and patterns of work. GIM therefore has an identity crisis.

## The GIM workforce: the two-thirds rule

Most consultants view their participation in the acute unselected take as forming the bulk of the GIM they practise. Of the 12,597 consultant physicians in the UK, around two-thirds (63%) contribute in some way, with ongoing care for general medical patients representing an important part of this contribution.<sup>3</sup> In a consultant survey about general medicine, 64% of respondents stated that they ‘practised general medicine’, which also varied substantially between specialties.<sup>4</sup> The survey results also showed that many consultants practising as specialists deem looking after the general medical needs of their inpatients and outpatients to be important, although the time and resources devoted to this aspect of practice is much harder to quantify.

The creation of acute medicine as a specialty has improved care delivered to patients presenting to emergency departments, medical assessment units and/or acute medical units. The acute medicine workforce has expanded rapidly, but is still insufficient to support general medical care outside the acute medical unit in most hospitals. An unintended effect of the creation of the acute medicine specialty is that some other specialties have dropped out of GIM rotas in many hospitals.

The specialties that contribute most to the take are acute medicine and geriatric medicine. Unsurprisingly, these are the most in-demand specialties in the NHS as reflected through the number of consultant posts advertised. In 2014, 217 acute medical posts and 202 geriatric medicine posts were advertised, although only 112 and 108, respectively, were actually appointed. This failure to fill posts is a result of insufficient output from the registrar grade and regional differences in supply. Solutions to this mismatch are discussed below.

Around 68% of registrars are dually training in GIM and their specialty (Table 2). Although some do not therefore train in GIM at all, certain specialties, such as rheumatology, are returning to general medicine. This return is partly a response to the issues raised by the ageing multimorbid population that they treat, but also has other advantages. Trainees that dually train have an increased choice of consultant appointments and are more attractive to employing organisations. However, the current registrar output (Table 2) does not match demand for most of the specialties (which are both oversupplied and

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**Table 1. Basic UK workforce figures for consultants in major specialities, 2014–15.** Figures are estimated from the 2013–14 RCP census (appointment data unavailable for haematology).<sup>3</sup>

Specialty	Consultants, n	Doing GIM, %	Mean PAs worked	% LTFT	Participation	Posts advertised, n	Consultant fill rate, %
Geriatric medicine	1,294	89	11.7	17	1.00	217	52
Gastroenterology	1,152	70	12.1	11	1.03	118	66
Cardiology	1,130	44	12.7	6	1.09	114	69
Respiratory medicine	1,097	82	12.1	11	1.03	104	69
Haematology	903	2	12.1	18	1.03	–	–
Endocrinology	798	84	11.9	11	1.02	47	81
Neurology	756	8	11.7	14	1.00	68	68
Dermatology	740	0	9.9	47	0.85	81	56
Rheumatology	732	38	11.2	21	0.96	50	84
Renal medicine	567	64	12.5	8	1.07	29	93
Palliative medicine	502	3	10.2	53	0.87	59	73
Acute medicine	495	100	11.6	8	0.99	202	53
Medical oncology	422	8	11.6	24	0.99	46	65

GIM = general internal medicine. PAs = programmed activities. LTFT = less than full-time training.

undersupplied), and there is a heavy reliance on some to continue to appoint consultants trained in GIM (Table 1).

### What model are we aiming for?

One of the biggest elephants in the room in terms of the NHS is the question of the workforce model needed to deliver patient care in the future. The potential models are many, but include variations upon or combinations of the following: more consultants delivering a specialty-supported acute medical unit in all hospitals,<sup>5</sup> more GPs providing more out-of-hospital care to reduce the need for hospital admissions, more non-medically trained healthcare personnel (eg nurse practitioners, physician associates) to reduce the need for more doctors, and more generalists to support an ageing population with comorbidities. All these models necessitate an expansion to the workforce and no one size fits all (Table 3). The barriers to achieving them are cost, recruitment and retention.

The *Shape of Training* review,<sup>6</sup> which was published in 2013, discussed the need for more generalist skills but did not specify which model should predominate – a significant flaw. Without a clear vision of the preferred system of care, there is a risk of attempting to cover all possible options and not achieving any of them. This lack of vision reflects the short-termism that blights much of NHS planning and, in view of the rapid electoral cycle and short lifespan of health ministers and NHS structures, it seems unlikely that this problem will be confronted.

### Specialty vs generalism

The benefits of specialty-delivered care for acute myocardial infarction, stroke, gastrointestinal bleeding, chronic obstructive pulmonary disease and renal failure, among many others,

have been demonstrated in terms of reduced morbidity and mortality.<sup>7</sup> The National Confidential Enquiry into Patient Outcome and Death (NCEPOD) reports abound recommending better care of such conditions and the need for early specialist involvement. In 2016, it is inconceivable that a patient with an ST segment elevation myocardial infarction would be managed on a general ward rather than a coronary care unit, but such changes in practice take considerable time and investment to prove and establish. Having sufficient gastroenterologists to provide gastrointestinal bleeding rotas 24 hours a day, 7 days a week everywhere and provide diagnostic endoscopy to improve cancer waiting times will take a similar length of time (and resources) to achieve.

Specialty medicine is seen as far more professionally prestigious than is GIM. The public struggle to understand what a physician is. Academic posts in internal medicine are few and far between and both medical students and junior doctors are likely to aspire to specialty practice rather than ordinary generalism.

Inpatients are older and have more comorbidities than 10 years ago, and this fact has been used to promote the argument that more generalists are needed. Whether this demand could be met by training more acute physicians and geriatricians is unclear. Both specialties show the benefits of training in the management of many disorders. The success of comprehensive geriatric assessment for elderly frail patients is well proven – is this specialist process generalism at its purest? Furthermore, patients tend not to have a single condition: a patient on the respiratory ward could also have diabetes, Parkinson's and heart failure. Therefore we need to ensure that our specialists are also generalists.

Tables 1 and 2 show that workforce planning isn't working, and that the ratio of trainees to consultants is variable. The listed specialties are helping to make up the shortfall in acute

**Table 2. Basic UK workforce figures for medical registrars in major specialties, 2014–15.** Figures are estimated from the 2013–14 RCP census<sup>3</sup> and the Joint Royal Colleges of Physicians Training Board (it does not run medical oncology selection).

Specialty	Total (n)	Doing GIM (%)	% LTFT	ST3 posts (n)	ST3 fill rate round 1 (%)
Geriatric medicine	570	96%	11%	171	86%
Gastroenterology	567	96%	5%	133	93%
Cardiology	729	74%	2%	148	99%
Respiratory medicine	624	98%	8%	140	77%
Haematology	484	0%	11%	70	100%
Endocrinology	428	96%	7%	86	83%
Neurology	293	0%	10%	46	91%
Dermatology	206	0%	8%	42	98%
Rheumatology	262	58%	16%	68	66%
Renal medicine	379	87%	7%	90	52%
Palliative medicine	222	0%	29%	40	98%
Acute medicine	325	100%	7%	116	52%
Medical oncology	222	0%	10%	–	–

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and geriatric medicine consultant posts, but whether this setup is sustainable remains to be seen.

### Large hospitals vs small hospitals

The dilemma of specialty vs generalism is most exemplified in small district or community hospitals (both rural and in cities) that do not have enough doctors in each specialty to support specialist-delivered care and rely on all consultant physicians contributing to the take. Many consultants find this work rewarding and would like to see such a model replicated in larger hospitals. However, the poor image of GIM and absence of GIM training in some specialties reduces the pool of doctors available.

Recruitment to smaller hospitals, especially those in rural areas, is also a major issue. The decision-making processes that make a doctor choose a particular career in a particular location are unclear. The main driver to determining the final destination of hospital doctors is where they trained. Around 86% of doctors stay in the region in which they trained (or an adjacent region). Gender and generational differences are also important.

### Service vs training

The NHS relies on trainees to deliver most urgent in-hospital care. Although this system has many advantages (I very much support an apprentice model for training), the reduction in hours worked by trainees has inevitably led to a reduction in training time, which has been felt both at core medical trainee level and for medical registrars, who feel that their specialty training has been particularly reduced.<sup>8</sup> The reliance on core medical trainees for service and its impact on training were shown in a survey in 2013, which resulted in the introduction of new quality standards to ensure that training was seen as a priority by hospitals.

However, the NHS needs to provide safe, effective care for its patients and the conflict of service and training will not go away in the foreseeable future without either more funding, trainees (neither of which are likely to be forthcoming), training time or new models of service delivery involving non-medically-trained staff.

According to the results of the general medicine survey of consultants in 2014, most consultants think that trainees need to spend 40% of their GIM training time in the take setting, 40% tending to the general medical needs of inpatients and 20% with outpatients.<sup>4</sup> Medical registrars currently spend around 40% of all their training time (specialty and GIM) in the take setting.<sup>8</sup> Clearly the balance is wrong, but to correct it will take time and support from the rest of the workforce to protect registrar training time.

To move from a trainee-delivered to a consultant-delivered service in hospitals will necessitate a radical change from the current situation. Assuming that roughly 50% of trainee time needs to move from service to training (accepting that the line is blurred) will alone demand around 4,500 more trained physicians based on the current NHS model. By using other healthcare professionals to support trainees and trained doctors, this expansion could probably be reduced to 2,500–3,000.

The use of such other groups of healthcare professionals is superficially attractive but will again, take time to achieve. The success of physician associates (non-medical allied health professionals specifically trained to support medical teams and deliver defined medical care) makes them a potential solution without the need to deplete the nursing workforce, and many new training programmes are starting up around the UK. The current output from physician associate programmes in the UK is 80 per year, which is set to increase to 700 in 2017–18. Despite this expansion, it seems unlikely that a sufficient workforce will be in place before 2025.

**Table 3. Advantages and disadvantages of workforce models.**

Workforce model	Advantages	Disadvantages
Acute medicine and specialty expansion	<p>Good evidence of effective improvement of quality of care</p> <p>Favoured by most of the current consultant workforce</p> <p>Facilitates delivery of community specialist care</p> <p>Present in many large hospitals</p>	<p>Long lead-in time, especially for expansion of acute medicine workforce</p> <p>Loss of generalist skills could prolong admission for complex patients if they have several consults</p> <p>High cost</p> <p>Skill gap for acute medicine and geriatric medicine</p>
GP expansion	<p>Reduction in hospital admission</p> <p>Provides care closer to home</p> <p>Closer integration with social care</p>	<p>GP workforce in crisis, making sufficient recruitment unlikely</p> <p>Evidence for reduction in admissions poor</p> <p>High cost</p>
Other healthcare worker expansion	<p>Reduced workforce costs</p> <p>Improved continuity of care</p> <p>Expansion of training schemes already underway</p>	<p>Model unproven in UK</p> <p>Concerns about effects on training capacity</p> <p>Public fear of 'doctors on the cheap'</p>
Hospital generalist expansion	<p>Flexible workforce</p> <p>Reduced referral</p> <p>Closer working with community</p>	<p>Reduction in specialist workforce</p> <p>Possible reduction in quality of care</p> <p>Costs and effectiveness unclear</p>

### What affects how many doctors are needed?

Let us assume that the elephant has been spotted, that the desired model of care delivery is clear and that cost is a secondary issue. The next biggest issues are participation, recruitment and retention. Participation is a term that defines how much work an average member of a workforce contributes. It corrects for part-time (or, more correctly, less-than-full-time) working, flexible working and variable working hours, and is a corollary of full-time equivalents. Given that young consultants and female consultants are more likely to work part-time, participation is lower in specialties with a predominantly female and young workforce. Specialties that rely on consultants working longer than average hours also have

a higher participation. Participation estimates based on the RCP consultant census are shown in Table 1.

The factors affecting recruitment and retention are similar. The rewards of any occupation need to appeal to people entering the workforce and deter those who might otherwise leave. The RCP report, *The medical registrar: Empowering the unsung heroes of patient care*,<sup>9</sup> explored the factors affecting whether a trainee enters the medical registrar grade, which thus defines how many consultants will be recruited. The factors were workload, teamwork, training and flexibility. Pay did not seem to be an incentive, although as I write this article, the NHS junior doctors contract negotiations have stalled and industrial action is likely. The influence of removal of pay therefore cannot be underestimated.

There is also no doubt that gender and generational differences have roles in recruitment to specialties that contribute to GIM (Tables 1 and 2). Flexibility and improved work–life balance are important drivers for generation Y – those born in the early 1990s – and many female trainees (not to discount a substantial number of male trainees) tend to choose specialties that facilitate rather than obstruct family life. The high application ratios for dermatology and other outpatient-based specialties demonstrate this tendency clearly.

Loss of the workforce during training is disastrous for two reasons. Not only does a depleted trainee group lead to a reduced pool from which consultants can be drawn, but also the vacancies created increase the workload for those who remain and impair teamworking, thereby making the job less attractive. This vicious circle is worsened by the increased costs of locum posts for hospitals, leading to the need for cost savings elsewhere, which also have a negative effect on working conditions.

The workforce we need is ageing like the population that it serves, and issues related to the time of potential retirement also need to be considered. As doctors near the end of their careers, pension provision, workload and health affect decisions about whether to continue working and in what way. Recent changes to the NHS pension have moved the retirement age from 60 to 67–8 for those younger than 50 in 2015, which will result in younger consultants working longer in the NHS but could also lead to an early loss of many older consultants if working conditions worsen. Already, there are predictions of substantial losses from the primary care workforce, which could be mirrored in the hospital workforce. If we plan to increase the workforce, therefore, we need to ensure that we keep pace with losses and changes in participation.

### Timing

Training a physician is a long, expensive process that takes an average of 10 years from graduation. Thus, expansion of the medical workforce will take a long time to achieve and will necessitate changes in medical school numbers and foundation places, core medical training places and higher medical training numbers. This expansion will have added costs and will be in direct competition with other groups of doctors. The Royal College of General Practitioners has called for 10,000 more GPs by 2020,<sup>10</sup> and the secretary of state has committed to 5,000. Both are completely unachievable in that timeframe, but it is important to remember that we cannot increase one part of the workforce in isolation.

## Conclusions

The creation of a generalist workforce for hospitals will necessitate a commitment from the government as to the model to be worked towards and a realisation that this process will take 10 years at least to achieve. To provide a safe seven-day service with high-quality of training at least 4,500 doctors more doctors are needed, and while the model of generalism is attractive, the evidence for its effectiveness is lacking. The current model needs many more consultants in and contributing to acute medicine and geriatric medicine to work well, but such an increase in consultants could be the simplest solution to current patient needs. The use of other healthcare professionals to support the consultant and trainee workforce is attractive but will similarly take time to achieve. The NHS needs to become a more flexible place to work to ensure that jobs are attractive and sustainable for a workforce that is increasingly working flexibly. Without this, whatever model is envisaged will fail.

It is possible to plan and train a workforce more equipped to care for our changing population, but it will take clear vision, funding and time. ■

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