



The state of physicianly training in the UK

Report 1 2017

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1. Foreword

The royal colleges of physicians have recently published a number of documents highlighting their concern that the NHS is being underfunded, underdoctored and overstretched and the challenges of being a junior doctor in the current climate: overall morale is at an all-time low.¹⁻³ Hospital activity is increasing and the demands that result from service pressures are thought to be eroding the training experience and affecting patient safety.⁴

This report must be seen as a development in an ongoing process to try to improve postgraduate medical education and training over the past 20 years. This process has involved the royal colleges of physicians, the Postgraduate Medical Education and Training Board (PMETB) and the General Medical Council (GMC), as well as the work of the postgraduate deans. With this in mind, we have tried to objectively review the current state of the quality of physicianly training that is provided within the UK. This report aims to evaluate the current quality of training across the medical specialties and, crucially, to provide an evidence-based benchmark for future comparisons.

Data from six key quality datasets across 29 physicianly specialties and three sub-specialties in the UK have been analysed by specialty and region. The key quality datasets are: GMC national training survey data; annual review of competence progression (ARCP) outcomes; Membership of the Royal Colleges of Physicians of the United Kingdom (MRCPUK) exam outcomes; royal colleges of physicians higher specialty trainee (HST) workforce census / new consultant (post-certificate of completion of training (CCT)) survey data; penultimate year assessment (PYA) / external adviser reports; and monitoring visit reports. Data from these sources have been used to inform the judgements made in this report.

The data have been mapped against the GMC's themes for standards of postgraduate medical education and training, and some recommendations and actions are provided based on the findings. This report highlights particular areas of concerns around quality management, together with areas of noteworthy practice that can be applied across specialty training programmes and regions.

We hope that this report will help to further improve the quality of postgraduate medical training and start to develop a framework for meaningful comparisons in the future.

Dr Mumtaz Patel

Clinical lead for quality management, JRCPTB

Professor David Black

Medical director, JRCPTB

2. Executive summary

The main findings from the analysis of the six key datasets are summarised below. Overall, we identified four major themes that affect the quality of training in the physicianly specialties in the UK:

- > rota gaps in the acute medical specialties that affect workload
- > an imbalance of the service delivery of general internal medicine that affects the specialty training experience
- > smaller specialties' issues with curriculum delivery and sustainability
- > single specialty issues, such as meeting particular curricular requirements and commissioning.

The first two themes affect the majority of the acute medical specialties and have a significant negative impact on many of the GMC's themes and standards of medical education and training. These first two themes also have the potential to impact on patient safety. The latter two themes affect a smaller number of specialties that have more specific issues, and they mainly impact on the learning environment and curriculum delivery, but these themes are nevertheless significant and are triangulated from a number of data sources.

While many of the challenges described in this report fall within the remit of Health Education England (HEE) / local education and training boards (LETBs), NHS Education for Scotland (NES), Wales deanery and Northern Ireland Medical and Dental Training Agency (NIMDTA) to address, the Joint Royal Colleges of Physicians Training Board (JRCPTB) will continue to undertake a programme of work to measure and enhance the quality of training. This programme includes:

- > providing the regulator, HEE/LETBs/NES/NIMDTA, Wales deanery, specialist advisory committees (SACs) and heads of schools with accurate and comparative data on the processes and outcomes of trainee physicians
- > delivering the Shape of Training⁵ by August 2019, to improve the training experience in internal medicine and to help fill rota gaps
- > fully supporting the active use of equality and diversity (E&D) data to improve the training experience for all trainees
- > implementing the general (internal) medicine (G(IM) registrar quality criteria project to improve the support and training experience for the hard-pressed medical registrar
- > working with SACs and the GMC on specialty-specific questions (SSQs) and mapping these to the GMC's themes to enable more useful comparison between specialties
- > standardising and streamlining the collection and reporting of key quality datasets
- > developing a quality dashboard with key quality indicators that are identified from this report and aligned with the GMC's themes, to provide a robust quality assurance framework.

3. The state of physicianly training in the UK

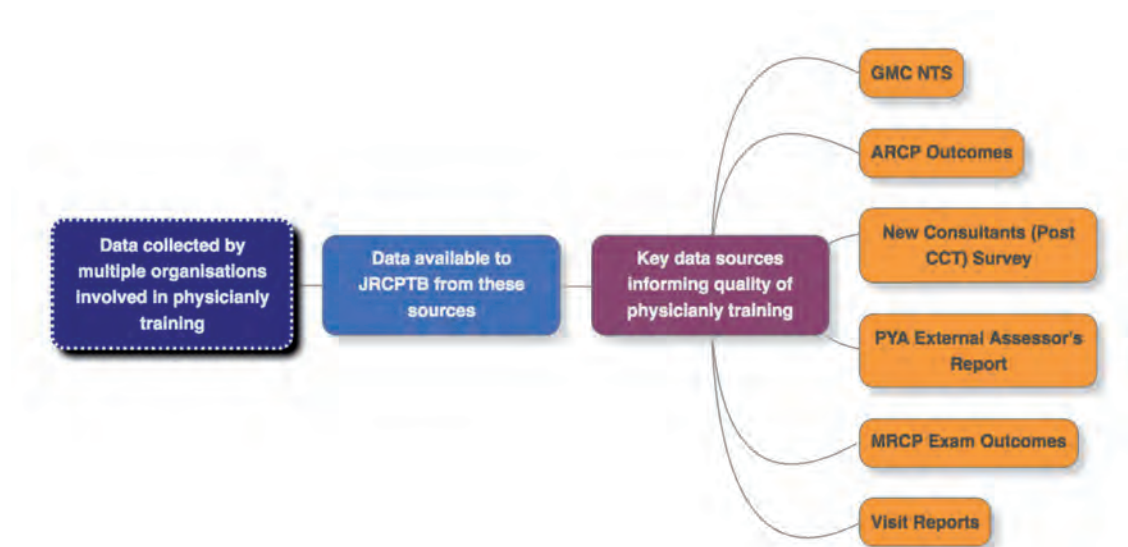
3.1 Introduction

The JRCPTB improves patient care by setting and maintaining standards for the highest quality of physicianly training in the UK on behalf of the Royal College of Physicians of London, the Royal College of Physicians of Edinburgh and the Royal College of Physicians and Surgeons of Glasgow. The key roles of the JRCPTB include curriculum design and implementation, the recruitment and certification of trainees and supporting the GMC in quality management.

The JRCPTB commissioned a project in 2016 to look at the quality data around the postgraduate medical education of physicians and to identify a core data source to inform the state of physicianly training and the development of further quality measures.⁶

A quality management audit was undertaken, involving key internal and external stakeholders. This audit revealed 62 data sources that were available to the JRCPTB to inform the quality management process. These data sources are collected by various organisations that are involved in physicianly training (Fig 1).

Fig 1. Outcome of the quality management audit – key data sources⁶



ARCP, annual review of competence progression; CCT, certification of completion of training; GMC, General Medical Council; JRCPTB, Joint Royal Colleges of Physicians Training Board; MRCP, membership of the royal colleges of physicians; NTS, national training survey; PYA, penultimate year assessment.

3.2 Data

Six key data sources were consistently mentioned: the GMC national training survey (NTS), ARCP outcomes data, MRCP(UK) exam outcomes data, the new consultants / post-CCT survey, penultimate year assessment (PYA) external assessor (EA) reports and monitoring visit reports.

Data from each of these six sources were analysed to identify core data to inform the state of physicianly training. Data classification (including assigning data into categories with common characteristics) ensures the consistent description and comparison of data over time and between different sources, and this was used to make the data easy to use and to make analysing the data scalable.

Data were collated into manageable topics, which were then classified into six themes: one global theme to give a high-level picture of the state of physicianly training and five themes that were matched to the GMC's themes for standards of medical education and training and promoting excellence. This classification enabled a detailed analysis of various components of the quality of training.⁷

Data within each theme were ranked as being of high, medium or low importance, to allow flexibility of analysis. The key quality indicators were identified from each of the six data sources. The potential benefits and challenges of each dataset are highlighted in Table 1.

The first three data sources (GMC NTS, ARCP outcomes and MRCP exam results) produce quantitative (hard) data, which are collected regularly with good completion/datasets that are comparable year on year to enable good trend data analysis between deaneries and specialties. There are some limitations, particularly data relating to smaller specialties and also the SSQs that provide a good source of data but are variable between specialties and hence difficult to compare.

The latter three data sources (the new consultants (post-CCT) survey, PYA EA reports and monitoring visit reports) are more likely to have incomplete datasets and lack a unified method of data collection and reporting. Many of these sources (especially the monitoring visit reports) provide more qualitative data that, while they can be very helpful, are difficult to compare unless a standardised method of reporting is used.

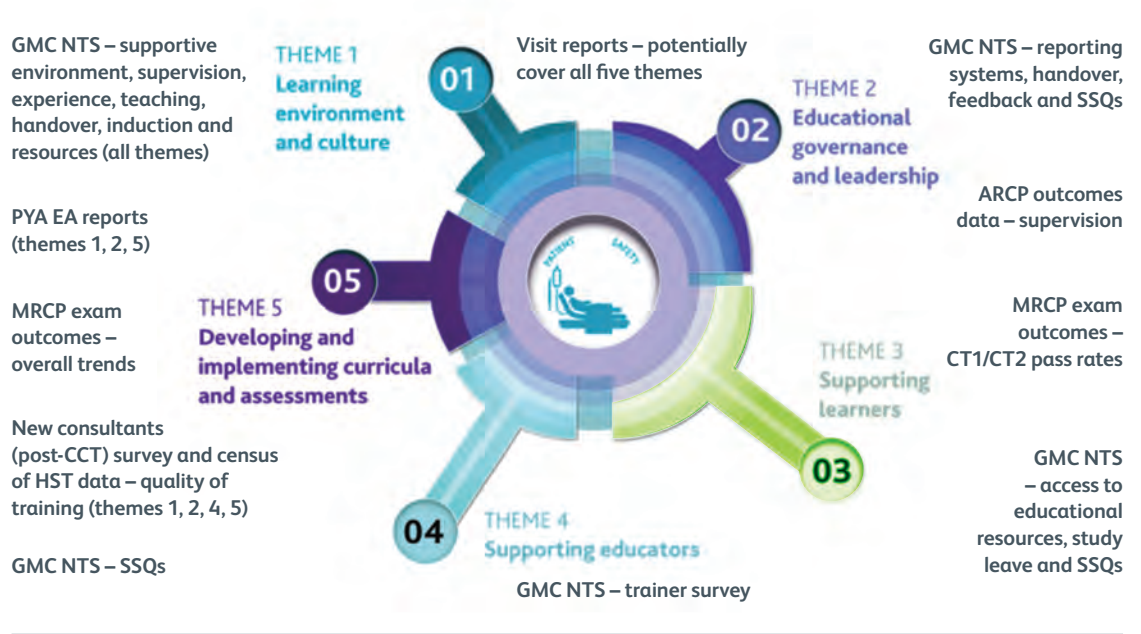
Table 1. Key quality indicators used for this report

Data source	Benefits	Challenges	Key quality indicators
GMC NTS	<ul style="list-style-type: none"> > Annual > High completion rate > Outliers reporting > Many years' data (deanery/specialty) 	<ul style="list-style-type: none"> > SSQ variability > Smaller specialties/sites not included > G(I)M vs specialty 	<ul style="list-style-type: none"> > Patient safety > Culture > Supervision > Feedback > Workload > Experience > Induction > Handover (Covers all GMC themes)
ARCP outcomes	<ul style="list-style-type: none"> > Performed by experienced practitioners > Can compare between deaneries/trends 	<ul style="list-style-type: none"> > Comparison between specialties is difficult due to recruitment and geographical variations 	<ul style="list-style-type: none"> > Specialty outcomes > Number of trainees completed/resigned > Exam failure > Engagement
MRCP exam outcomes	<ul style="list-style-type: none"> > Hard end points > Simple numerical quality indicator > Trends analysis 	<ul style="list-style-type: none"> > Tests knowledge and some skills only > Need to reference to demographic data 	<ul style="list-style-type: none"> > Overall pass rates for the MRCP exam > Specialty certificate exam (SCE) trends > Percentage passing the MRCP exam at core medical trainee (CMT)1 / completion of CMT2
New consultants (post-CCT) survey	<ul style="list-style-type: none"> > Best available global measure of training > Good view of employment situation 	<ul style="list-style-type: none"> > Incomplete datasets > Voluntary > Influenced by recruitment factors 	<ul style="list-style-type: none"> > Employment status > Quality of training in G(I)M/specialty > Age/gender > Success rate
PYA EA reports	<ul style="list-style-type: none"> > Efficiency of training programmes in delivering curriculum competencies 	<ul style="list-style-type: none"> > Lacks unified and quality assurance (QA) process > Variable > Incomplete datasets 	<ul style="list-style-type: none"> > Quality of educational supervisor reports > Percentage completing competencies, workplace-based assessments and number of targets set
Monitoring visit reports	<ul style="list-style-type: none"> > Provide rich qualitative data at local and regional level 	<ul style="list-style-type: none"> > Inconsistent/narrative format/reporting is difficult to categorise 	<ul style="list-style-type: none"> > Educational supervision (Could potentially cover all GMC themes)

Each of the data sources produces data that can be mapped to the GMC themes for standards of medical education and training (Fig 2). The GMC NTS can be mapped against all five themes, as can the monitoring visits (depending on how the data are collated). The ARCP outcome data and MRCP exam results can be mapped mainly against themes 2 and 5. The new consultants (post-CCT) survey and HST workforce census data can be potentially mapped against themes 2, 4 and 5; similarly, the PYA EA reports can be mapped against themes 1, 2 and 5. Data from the GMC NTS can be used to augment evidence for theme 4.

On the basis of the quality management audit, data were collated from the six identified core datasets for all specialities that are represented by the JRCPTB. These data were analysed by speciality and deanery. The annual specialty reports (ASRs) for all specialties were also examined to look at common themes and evaluate areas of good practice and any areas of concerns. This helped to triangulate some of the data from the sources. The key quality indicators were then mapped against the GMC themes for the standards for postgraduate medical education and training, to produce this report.

Fig 2. GMC *Promoting excellence: standards for medical education and training* (2015)⁷
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3.3 Context

The NHS provides some of the highest quality and most accessible healthcare in the world, yet in 2016 it was described as underfunded, underdoctored and overstretched.¹ The royal colleges of physicians have long argued that we need to review how healthcare is delivered, in order to meet the demands of an increasingly ageing population with complex care needs and longer-term conditions.²⁻³ Patient preferences and their expectations of the NHS are changing.⁸ New care models need to be delivered that break down barriers between primary and secondary care and provide a more integrated, coordinated system that meets patients' needs.⁸ In line with this, there is a need to change the way we train our NHS staff, and the Future Hospital Commission⁹ and Shape of Training have highlighted how we can reform postgraduate medical training to better meet the needs of all patients, including older people who have multiple comorbid conditions.⁵

Staff shortage within the NHS is now a major issue and this puts a burden on the existing staff, who experience increasing workload and consequent poor morale.¹ Seven out of ten junior doctors in training report working on a rota that has a permanent gap.² Poor recruitment into jobs on the front line in hospitals results in significant shortages for more 'generalist' posts that provide care for those who have more acute healthcare needs. The recruitment figures show that there are fewer trainees applying for core medical training (a 4% reduction in 2015–16) and specialist posts, particularly those with more acute and general

medicine components.^{10,11} This has a knock-on effect on consultant physician posts, with two out of every five advertised posts currently being unfilled.¹ The result of fewer doctors choosing to work in general medicine is that those who do choose to work in this area of medicine have an increased workload and poor training experience.

The overall morale of junior doctors is at an all-time low.¹⁻³ The breakdown in the relationship between the government and junior doctors over the new junior doctor contract led to the first junior doctor strike in over 40 years. The recent publication *Being a junior doctor* highlights some of the challenges that are faced by junior doctors, with four in five junior doctors regularly experiencing excessive stress because of their job; and 95% of trainees agreeing that rota gaps are compromising patient safety and that there is an excessive administration burden that is compromising patient safety.² The balance between service provision and training will always be difficult, and initiatives such as 'Keeping medicine brilliant' are attempting to address some of these issues in order to improve the working lives of junior doctors.¹²

Over the past 20 years, a number of organisations and reports have tried to progressively improve the quality of medical education and training. The PMETB gained overall responsibility for this work from the royal colleges of physicians in 2005. However, following the Tooke report (an independent inquiry into Modernising Medical Careers), the PMETB was assimilated into the GMC as the regulator and 'competent authority' that now oversees the continuum of undergraduate and postgraduate medical education and training, continuing professional development (CPD), quality assurance and enhancement.¹³ Lord Naren Patel's review in 2010 was a direct consequence of this merger, and this report set out a number of recommendations for the next steps in the evolution of the GMC's current quality assurance systems.¹⁴ This *The state of physicianly training* report aims to support the GMC's current approach to quality assurance.

More specifically, this *The state of physicianly training* report aims to evaluate the current quality of training across medical specialties using six key datasets. This is the first report to examine multiple quality datasets by specialty and region and to map these against the GMC's themes and standards for postgraduate medical education and training. The main focus of this report is to provide an evidence-based benchmark for future comparisons.

4. Physicianly training themes

4.1 Global theme

The JRCPTB is responsible for core medical training and the training in 29 medical specialties and three sub-specialties – typically training from specialist trainee (ST) years 1 to 6. Each medical specialty varies in size and complexity, and some are associated with acute unscheduled care and linked with dual training in G(I)M, while others have little or no acute component. The breakdown of trainees in different specialties and their contribution to the acute take is shown in Appendix A, Table 1.

The major challenges that were identified in the GMC NTS in 2016 include the increasing workload pressures of the more acute physicianly specialties and differing challenges of curriculum delivery and sustainability for the lesser acute and smaller specialties.

The 2016 GMC NTS generic data of 9,600 HSTs showed that specialties that contribute substantially to the acute take had the largest increase in deanery / LETB red flags compared with 2015, while specialties that generally make little or no contribution to the acute take recorded the greatest increases in the number of green flags. The top five specialties that had the highest number of deanery/LETB red or green flags are shown in Table 2.

Table 2. Specialties that had the highest number of deanery/LETB red or green flags in 2016 (compared with 2015)

Specialty (red flags)	Number (2015)	Specialty (green flags)	Number (2015)
Geriatric medicine	50 (+20)	Palliative medicine	32 (+10)
Acute internal medicine	42 (+7)	Clinical genetics	22 (+8)
Gastroenterology	33 (+5)	Dermatology	22 (+0)
Respiratory medicine	27 (+8)	Rehabilitation medicine	22 (+9)
Endocrinology and diabetes	25 (+3)	Genitourinary medicine	21 (+7)

The top five indicators that had the highest percentage of repeated deanery/LETB red or green flags in 2016 are shown in Table 3.

Table 3. Top 5 repeated flags in 2015 and 2016

Indicator (red flags)	(%) number	Indicator (green flags)	(%) number
Clinical supervision out of hours	80 (32/40)	Workload	69 (20/29)
Clinical supervision	38 (10/26)	Clinical supervision (out of hours)	57 (8/14)
Adequate experience	37 (9/24)	Regional teaching	45 (13/29)
Study leave	37 (7/19)	Access to educational resources	43 (10/23)
Local teaching	34 (11/32)	Study leave	43 (3/07)

For the acute medical specialties, clinical supervision is a major issue (both out of hours and during the day, especially for clinics). Adequate experience is another significant issue, which is thought to result from rota gaps as well as the overall and G(I)M workload compromising specialty experience. This also has an impact on trainees being able to take their study leave and attend their scheduled teaching. The converse is true for the specialties that do not contribute to the acute take, as they have green flags for workload and better clinical supervision, attendance at teaching and access to study leave.

Overall satisfaction (mean scores by deanery/LETB in 2016) is variable by specialty. Specialties that contribute to the acute take had lower scores, and more of these specialties had a reduction in their mean score compared with 2015. These specialties included renal, respiratory, geriatric, rehabilitation medicine and infectious diseases (Appendix A, Table 2). In addition, the overall satisfaction scores for core medical training have fallen the most compared with core psychiatry, anaesthetics and core surgical programmes in 2015–16. The trend analysis from 2013 to 2016 is shown in Appendix A, Table 3.

Data from 2,912 core medical trainees (CMTs) showed that the top five indicators for red flags in 2016 (compared with 2015) included: supportive environment, reporting systems, overall satisfaction, clinical supervision (out of hours) and handover (Appendix A, Table 4). This is similar to the results for the medical specialties that contribute to the acute take.

Of the 305 red flags that were recorded for all the medical specialties in 2016, 88% (268/305) were in LETBs in England, 5% (14/305) were in the Wales Deanery, 4% (12/305) were in the Scotland Deanery and 3% (9/305) were in the Northern Ireland Deanery. This was similar for core medical training: 97% (114/118) of red flags for all indicators were in trusts in England, 1.5% (2/118) were in Scotland and Wales, and there were no red flags in Northern Ireland.

Quality assurance / concerns

Overall, four major themes were identified as affecting the quality of training across core and specialty programmes. This was evidenced from the analysis of the six key quality datasets and triangulated from the information provided in the ASRs. The four themes are summarised below and shown diagrammatically in Fig 3.

- 1 Rota gaps in acute medical specialties that affect workload**

This has a significant negative impact on overall satisfaction, training experience, clinical supervision (both in and out of hours), attendance at local and regional teaching and access to study leave and educational resources. The main specialties that are affected include: acute medicine, cardiology, core medical training, diabetes and endocrinology, gastroenterology, G(I)M, geriatrics, haematology, rehabilitation, renal, respiratory and stroke medicine.
- 2 An imbalance of the service delivery of G(I)M that affects the specialty training experience**

Many acute specialties have concerns about the imbalance of G(I)M (both daytime and on-call cover) compromising the specialty experience. A number of data sources provide evidence to show that up to 90% of the G(I)M component of posts is heavily service based and has very little training value.
- 3 Smaller specialties' issues with curriculum delivery and sustainability**

There are a number of smaller specialties in which concerns around curriculum delivery and overall sustainability have been highlighted. These include clinical pharmacology and therapeutics (CPT), paediatric cardiology, immunology and audiovestibular medicine.
- 4 Single specialty issues, such as meeting particular curricular requirements and commissioning**

Some of the issues highlighted within specialties from multiple data sources are shown in Fig 3.

Noteworthy practice

There are a number of examples of good practice within training programmes and also in different regions (see a summary in Fig 4). Some of these examples could potentially be adopted across different programmes and regions.

Fig 3. Thematic analysis of quality assurance concerns

Global theme: quality assurance concerns			
Major theme	Major theme	Major theme	Major theme
Rota gaps in the acute medical specialties that affect workload	Imbalance of service delivery of G(I)M that affects the specialty training experience	Smaller specialties' issues with curriculum delivery and sustainability	Single specialty issues
<p>Sub themes</p> <p>Negative impact on: overall satisfaction, training experience, clinical supervision in and out of hours, attendance at local and regional teaching.</p> <p>Specialities affected: acute medicine, cardiology, diabetes and endocrinology, gastroenterology, G(I)M, geriatric medicine, haematology, rehabilitation, renal, respiratory and stroke medicine.</p> <p>Evidence: GMC NTS, SSQs, post-CCT survey and HST census data, monitoring visit reports, ASRs, national recruitment data, GMC trainer survey.</p> <p>Worse in the North and the Midlands.</p>	<p>Sub themes</p> <p>Impact on service versus training balance.</p> <p>G(I)M posts – 90% service (G(I)M NTS).</p> <p>Compromised specialty experience in: cardiology, diabetes and endocrinology, gastroenterology (unable to attend endoscopy, clinic lists), infectious diseases, renal, respiratory medicine, rheumatology.</p> <p>Evidence: GMC NTS generic, SSQs, post-CCT survey and HST census data, PYA reports, monitoring visit reports, ASRs.</p>	<p>Sub themes</p> <p>Clinical pharmacology and therapeutics (CPT) – lack of trainee/trainer knowledge of WPBA requirements.</p> <p>Paediatric cardiology – issues of workload, supportive environment and meeting curricular requirements.</p> <p>Immunology – issues with smaller specialty study leave funding and inability to meet curricular requirements.</p> <p>Audiovestibular medicine – lack of flexibility over timing and location of diploma requirement.</p> <p>Evidence: GMC NTS, SSQs, ARCP outcomes, PYA reports, monitoring visit reports, ASRs.</p>	<p>Sub themes</p> <p>Training difficulties to meet curricular requirements.</p> <p>Cardiology – cardiovascular magnetic resonance (CMR), echocardiogram, pericardiocentesis.</p> <p>Genitourinary medicine (GUM) – loss of consultant posts due to service commissioning affecting clinical supervision.</p> <p>Haematology – issue with delivery of lab competencies due to centralisation of services with joint ventures/private labs.</p> <p>Respiratory medicine – gaps in pulmonary physiology training.</p> <p>Evidence – GMC NTS (generic and SSQs), PYA reports, ARCP outcomes, post-CCT survey, monitoring visit reports.</p>
<p>Recommendations</p> <p>Working with SACs, royal colleges, medical workforce units, national societies and LETBs to raise the profile of acute medical specialties and maximise recruitment and reduce rota gaps.</p> <p>Local and national initiatives eg AIM initiative to boost recruitment.</p> <p>Bridge the middle-grade gap with planned appointments of non-training grade doctors, explore overseas schemes, incentivise posts by providing additional training eg PG certificate.</p> <p>Flexibility in recruitment rules.</p>	<p>Recommendations</p> <p>Shape of Training proposals should help to ensure equity across programmes towards contribution to G(I)M and on call.</p> <p>Developing G(I)M registrar quality criteria should help to drive improvements in the quality of G(I)M training.</p>	<p>Recommendations</p> <p>CPT – the SAC to work with TPDs and plan to re-write decision aid.</p> <p>Paediatric cardiology – SACs working with training programme directors (TPDs) to address workload and curriculum delivery.</p> <p>Immunology – SACs working with the JRCPTB and HEE to identify mandatory curricular requirements and costs to provide effective training.</p> <p>Audiovestibular medicine – working with the JRCPTB and the GMC to obtain approval of more training sites.</p>	<p>Recommendations</p> <p>SACs working on curriculum mapping and identifying opportunities for training to address gaps.</p> <p>Embed some procedural competency training in simulation programmes.</p> <p>Heads of schools working with TPDs to address clinical supervision issues in GUM, in line with HEE recommendations.</p> <p>Discussion with pathology labs to optimise training.</p> <p>The British Thoracic Society added specific pulmonary physiology training within their courses.</p>

Fig 4. Examples of areas of good practice mapped to the GMC's themes for standards of postgraduate medical education and training

01	GMC theme 1 Learning environment and culture	<ul style="list-style-type: none"> > Initiatives to boost recruitment, reduce rota gaps and improve working environment: acute internal medicine – Take AIM Initiative; geriatric medicine – Geriatrics for Juniors Initiative; diabetes and endocrinology – joint working with the national societies, colleges and LETBs to raise profiles and aid recruitment; taster sessions in smaller specialties in the North West. > Improved regional teaching: genitourinary medicine (GUM) – joint regional training days; exam focused with improved exam results for postgraduate certificate and diploma; larger quarterly training events in rehabilitation medicine. > Improved access to educational resources: diabetes and endocrinology – videoconferencing (Cambridge); launched endocrinenortheast.co.uk website. > Induction – regional/national initiatives to boost quality: medical oncology (consistent green flags on NTS).
02	GMC theme 2 Educational governance and leadership	<ul style="list-style-type: none"> > CMT quality criteria: improving quality of training (56% improvement in rota being distributed; 10% improvement in simulation training opportunities (SSQs)). > Increased involvement of trainees in leadership and management: GUM – involve trainees in management of tendering applications with recent commissioning of services; renal – increased trainee involvement in leadership and management (North West and Scotland). > Supra-regional ARCP process in immunology – considered best practice. > Joint working of colleges, SACs in core infection training – joint process for recruitment, training and assessment with good feedback. > Educational supervision – improved quality of educational supervisor reports (ESRs) and supervised learning events (SLEs) by using standardised framework and individual ES and SLE feedback (renal and rheumatology – North West).¹⁴
03	GMC theme 3 Supporting learners	<ul style="list-style-type: none"> > National and regional network meeting set up to support training and increase educational opportunities: clinical pharmacology and therapeutics – British Pharmacological Society set up national specialist trainee advisory group; diabetes and endocrinology – regional network meeting (South West Peninsula). > Mentoring schemes for new ST3 trainees: geriatrics (Yorks and Humber).
04	GMC theme 4 Supporting educators	<ul style="list-style-type: none"> > Training time and sessions – increased availability of training sessions for educational supervisors and trainees for improving supervision: diabetes and endocrinology (Cambridge). > Structured framework for feedback to individual educational supervisors, which has improved the quality of ESRs: gastroenterology (North East), renal medicine and rheumatology (North West).
05	GMC theme 5 Developing and implementing curricula and assessments	<ul style="list-style-type: none"> > Changes in curricula: audiovestibular medicine – moved core academic component of PG diploma to PG certificate; clinical genetics – extended to include new genomic technologies; nuclear medicine – inclusion of core radiology training. > Specific courses to better meet curricular requirements: acute medicine – focused ultrasound course (trainee-led initiative). > Newer assessments: allergy – new KBA; core infection training exam developed to replace infectious diseases specialty certificate exams (SCEs).

4.2 GMC theme 1: Learning environment and culture

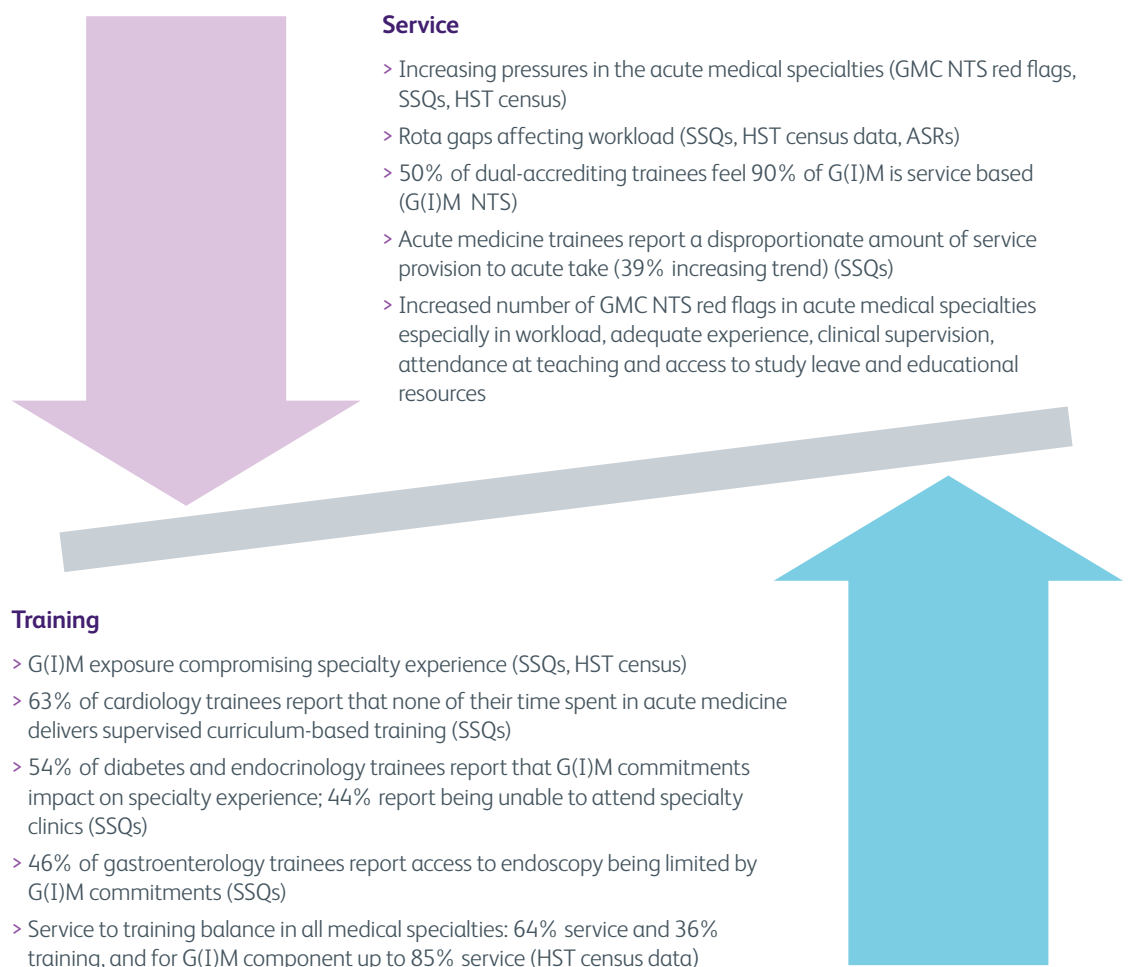
Theme 1: Learning environment and culture

S1.1: The learning environment is safe for patients and supportive for learners and educators. The culture is caring, compassionate and provides a good standard of care and experience for patients, carers and families.

S1.2: The learning environment and organisational culture value and support education and training so that learners are able to demonstrate what is expected in *Good medical practice* and to achieve the learning outcomes required by their curriculum.

A number of data sources have shown that the learning environment is challenging due to the increasing pressures of meeting service demands, particularly in the acute medical specialties, and this makes it difficult to balance the quality of training. This issue is summarised below and shown diagrammatically in Fig 5 and Table 4.

Fig 5. Service versus training



In many of the acute medical specialties the service pressures that arise particularly due to the rota gaps and G(I)M component are affecting workload, training experience, clinical supervision, formal learning and access to educational resources. This has been evidenced by the GMC NTS, SSQs and HST workforce census data, and has also been triangulated from information provided in the ASRs.

Table 4. GMC theme 1: Summary of findings linked to the evidence and data sources

GMC requirements	Specialties affected	Issues	Data source / evidence
Workload R1.7, 1.12	Acute medical specialties	A significant issue in acute medicine, cardiology, diabetes and endocrinology, gastroenterology, geriatric, respiratory and renal medicine. Specialities contributing to the acute take have increased numbers of red flags in the GMC NTS; lower overall satisfaction scores; and high mean hours worked per week in HST census data.	GMC NTS (Tables 2, 3, 5; App A, Tables 2, 11, 13); SSQs (App A, Table 5); HST census (App A, Fig 12); ASRs.
	Paediatric cardiology	Red flags for workload and supportive environment – nationally and for 2 consecutive years in South London; lower overall satisfaction scores on NTS; highest number of hours worked shown on HST census data.	GMC NTS (App A, Tables 2, 11); HST census data (App A, Fig 12); ASRs.
Training experience R1.12, 1.15–1.20	Acute medical specialties	Compromised due to rota gaps and imbalance of service delivery of G(I)M affecting specialty experience. Noted in acute medicine, cardiology, diabetes and endocrinology (unable to attend specialty clinics), gastroenterology (affecting access to endoscopy lists), geriatric medicine, haematology, infectious diseases, renal, respiratory, rheumatology and stroke medicine.	GMC NTS (Tables 2, 3, 5); SSQs (App A, Table 5); HST census data (Fig 5; App A, Fig 22); ASRs.
Clinical supervision R1.7–1.10, 1.12a, 1.13, 1.15	Acute medical specialties	Highest number of repeated deanery red flags (32/40) particularly in acute medical specialties eg acute medicine, cardiology, core medical training, CPT, gastroenterology, geriatric medicine, G(I)M and infectious diseases.	GMC NTS (Tables 2, 3, 5; App A, Tables 15, 14); SSQs (App A, Table 13); monitoring visits.
	GUM	Loss of consultant posts due to decommissioning affecting clinical supervision (Yorks and West of Scotland).	SSQs (App A, Table 5); ASRs.
Induction R1.6, 1.10, 1.13, 1.19	Infectious diseases	Pink outlier in seven regions (East of England; Kent, Surrey and Sussex (KSS); North Central and East London; North West Thames Valley; Scotland and West Midlands).	GMC NTS ASRs
Handover R1.14	Palliative medicine	Increased number of GMC red flags on the GMC NTS addressed by SAC by developing guidance on effective handover.	GMC NTS ASRs
Assessments R1.18	CPT	Both trainers and trainees not aware of guidance about WPBA required for their ARCP decision aids. SACs working with TPDs to re-write the decision aid.	ARCP outcomes; PYA (App A, Fig 23); ASRs; monitoring visit reports.
Formal learning R1.16	Acute medical specialties	Trainees unable to attend local and regional teaching due to workload pressures in acute medical specialties (acute medicine, cardiology, gastroenterology, geriatric, haematology, infectious diseases and renal).	GMC NTS (Tables 2, 3, 5); SSQs (App A, Table 13); ASRs; monitoring visit reports.
	GUM	Little or no formal teaching with few trainees spread geographically (East of England and Scotland); SACs working with TPDs to develop wider access teaching.	GMC NTS; ASRs.
Study leave R1.16	Acute medical specialties	Many trainees unable to access study leave due to workload and pressures of fulfilling service requirements (cardiology, core medical training, gastroenterology, geriatric, haematology and rheumatology).	GMC NTS (Tables 2, 3, 5). ARCP (immunology App A, Fig 4); ASRs.
	Immunology, nuclear medicine	Smaller speciality study leave funding – making it difficult to fulfil curricular requirements (regional).	

Table 4 (cont'd). GMC theme 1: Summary of findings linked to the evidence and data sources

GMC requirements	Specialties affected	Issues	Data source / evidence
Working hours, rotas R1.7, 1.12	Acute medical specialties	Rota gaps, high-intensity rotas and high working hours all reported as frequent issues in acute medical specialties.	HST census data (Fig 7; App A, Fig 12); monitoring visit reports.
	Cardiology	Targeted visits – concerns around high-intensity rotas.	
Access to educational resources R1.19, 1.20	Medical oncology	Poor in London (Barts, Imperial Hospital Trusts) and Lothian – being addressed locally with support of TPDs.	NTS GMC; ASRs. GMC NTS (Table 5) monitoring visit reports.
	Acute medical specialties	5/12 acute medical specialties red flags on the GMC NTS. Poor access to educational resource noted in cardiology.	
QI and audit R1.3, 1.5, 1.22	Acute medical specialties	8/10 specialties with the lowest percentage of PYA trainees active in audit or QI projects were from acute medical specialties.	PYA reports (App A, Fig 24).
Patient safety R1.1, 1.6	Acute medical specialties	Rota gaps and overall workload compromising patient safety.	HST census data (Fig 7); monitoring visit reports.
	Cardiology CPT	Targeted visits for cardiology and CPT raised patient safety concerns.	

The generic GMC NTS data show that there is a higher percentage and number of trusts with red flags by indicators for acute medical specialties (Tables 2, 3, 5 and Appendix A, Tables 11, 13). Geriatric medicine has the highest number of red flags (7/9 indicators) and many of the acute specialties have a number of repeated red flags for workload, adequate experience, clinical supervision and teaching. Eight out of 12 of the acute medical specialties have repeated red flags for overall satisfaction (Table 5).

Table 5. Red flags by indicators for acute medical specialties, showing the highest percentage of trusts with red flags compared with 2015

Specialty (including all trusts with trainees in the specialty)	Overall satisfaction	Workload	Adequate experience	Clinical supervision (in hours)	Clinical supervision (out of hours)	Local teaching	Regional teaching	Study leave	Access to educational resources
Acute internal medicine	5 (0)	3 (+2)	6 (+3)	3 (-2)	3 (-2)	7 (+4)	4 (-2)	1 (-3)	3 (0)
Cardiology	2 (-2)	4 (-2)	2 (-2)	0 (-1)	1 (0)	4 (0)	5 (+1)	4 (0)	3 (-1)
Core medical training	6 (+3)	5 (-2)	2 (0)	4 (-1)	6 (+1)	3 (-2)	3 (-2)	5 (+1)	4 (+1)
Clinical pharmacology and therapeutics	11 (+6)	7 (0)	5 (-6)	0 (-5)	7 (0)	0 (-13)	7 (0)	0 (0)	5 (+5)
Diabetes and endocrinology	2 (-2)	3 (-1)	3 (0)	1 (-3)	3 (0)	0 (-1)	1 (-1)	3 (0)	2 (+1)
Gastroenterology	6 (+1)	7 (0)	3 (-3)	2 (+1)	4 (-2)	9 (+3)	6 (0)	7 (+2)	3 (-1)
Geriatric medicine	8 (+2)	4 (+3)	10 (+1)	6 (+1)	12 (+3)	5 (-4)	7 (+1)	6 (+2)	7 (0)
Haematology	3 (+2)	8 (+2)	2 (+2)	1 (0)	0 (0)	4 (+2)	5 (-6)	2 (+1)	4 (0)
Infectious diseases	0 (-2)	5 (-3)	0 (-5)	0 (0)	5 (+5)	2 (+2)	10 (+5)	0 (0)	5 (+5)
Renal medicine	3 (+2)	7 (0)	0 (-1)	1 (0)	1 (0)	9 (0)	11 (+6)	3 (0)	7 (+4)
Respiratory medicine	6 (+2)	7 (-3)	4 (-2)	1 (0)	3 (-1)	9 (-3)	3 (-2)	4 (-1)	4 (0)
Rheumatology	2 (+1)	2 (+1)	2 (+1)	1 (-2)	2 (+1)	1 (0)	2 (-2)	3 (+2)	0 (0)

The cumulative analysis of the SSQs is shown in Appendix A, Table 5. There is a lot of variability both in the number of questions and the content, and this makes direct comparisons between specialties difficult. However, one of the major themes from analysis of the SSQs reflects the imbalance between service and training, and the impact of the G(I)M exposure compromising the specialty experience.

The G(I)M SSQs for specialty trainees who are dual accrediting was introduced as a pilot in 2015, and data from the past 2 years were analysed. This showed that 50% of trainees (no change from 2015) agreed that while working in G(I)M, the balance of their time is 90% service and 10% training. Up to 26% (a 6% increase from 2015) wanted to discontinue their training in G(I)M. This was highest in renal medicine at 33% (a 60% increase since 2015) and lowest in geriatric medicine at 22% (a 9% increase since 2015) (Fig 6).

Fig 6. Summary of G(I)M SSQs data 2015–16

	Training experience	<ul style="list-style-type: none"> > 50% (same as 2015) agreed that while working in G(I)M, the balance is 90% service, 10% training > 26% (an increase of 6% from 2015) strongly agreed or agreed that they had considered discontinuing their training in G(I)M in the past 6 months (highest in renal (33%) and lowest in geriatric medicine (22%)) > 76% (a decrease of 3% from 2015) agreed training is appropriately distributed between main speciality and G(I)M; highest in renal (78%) and lowest in geriatric medicine (75%) > 48% (a 1% increase from 2015) rated training opportunities in G(I)M as good or very good (highest in geriatric medicine (51%) and lowest in respiratory (42%)) > overall satisfaction 44% (a 6% decrease from 2015) very satisfied or satisfied with their training in G(I)M (highest in geriatric medicine (48%) and lowest in renal and respiratory (42%))
	Supervision	<ul style="list-style-type: none"> > 62% (a 2% reduction from 2015) agreed their current clinical supervisor (CS) participated in the acute take (highest in respiratory (74%) and lowest in renal (39%)) > 19% of trainees (an increase of 2% from 2015) had a separate supervisor for G(I)M (highest in renal medicine (33%) and lowest in respiratory (8%)) > 51% of trainees (a decrease of 2% from 2015) rated overall supervision in G(I)M as very good or good (highest in geriatric and respiratory medicine (54%) and lowest in renal medicine (47%)) > 16% (an increase of 1% from 2015) rated overall supervision in G(I)M as very poor (highest in respiratory (19%) and lowest in renal (12%))
	On-call experience	<ul style="list-style-type: none"> > 55% of trainees (an increase of 3% from 2015) felt training had benefited from a Hospital at Night rota (highest in geriatric medicine (63%) and lowest in renal medicine (50%)) > 27% (a 3% decrease from 2015) had a designated supervisor to discuss cases from night shifts (highest in geriatric medicine (29%) and lowest in renal (26%)) > 35% (no change from 2015) agreed feedback from educational supervisor (ES)/CS if they lead post-take ward rounds was very good or good (highest in geriatric medicine (39%) and lowest in renal medicine (32%))

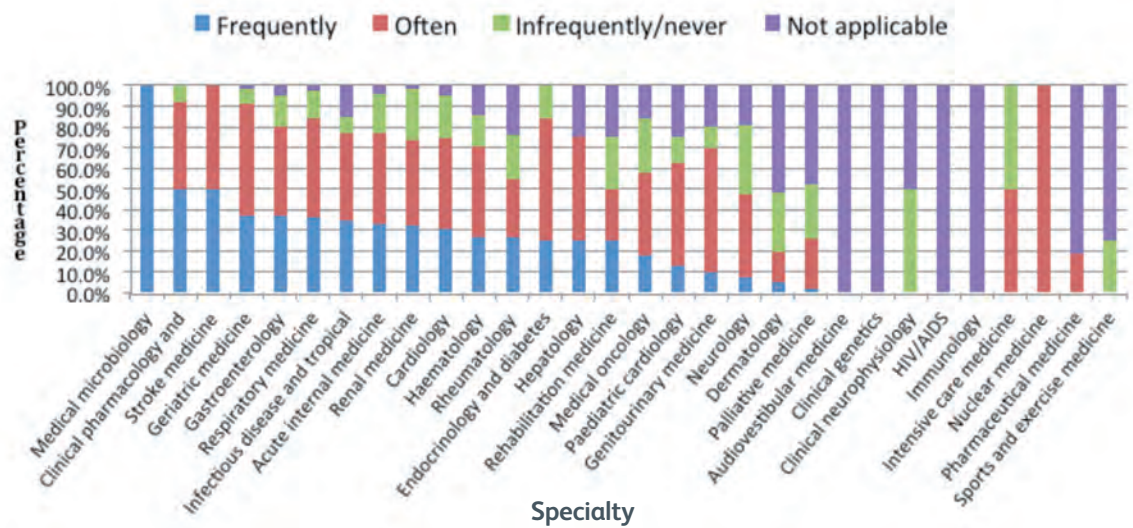
The results from the HST workforce census data also highlighted the imbalance between service and training.¹⁵ In trainees' main speciality, the service-to-training balance was reported as 64.4% service to 35.6% training, and this was variable between specialties (78.2% service in haematology and 20% in metabolic medicine) (Appendix A, Fig 20). For G(I)M, the mean balance between service and training was even more striking, with 84.5% reported as service and only 15.5% on average as training (Appendix A, Fig 21).

There was a high proportion of trainees in the acute medical specialties who reported that they felt they spend too much time in G(I)M and that their main speciality training suffered as a consequence (mean 24.7%; highest in diabetes and endocrinology (60.2%)) (Appendix A, Fig 22).

The gaps in the trainee rotas are a significant issue, particularly in the acute medical specialties (Fig 7). Overall, the reporting of gaps has increased, with 28% of trainees reporting them as being frequent to the extent of compromising patient safety and 51% reporting them as being often where a work-around solution can be put into place to avoid any patient safety issues. This compares with 21% and 48% respectively in 2015.

As a consequence, more consultants are reported to act down to cover the gaps: 13% regularly and 32% as a one off (compared with 10% and 30% in 2015 respectively). In addition, HSTs are frequently acting down to cover CMT gaps (7% regularly and 14% frequently).¹⁵

Fig 7. Gaps in higher specialty training (HST census data)



The data from monitoring visit have further substantiated the issues around the quality of training, particularly in the acute medical specialties. There were three targeted visits for cardiology and one GMC-enhanced monitoring visit for clinical pharmacology and therapeutics (CPT) which had representation from the JRCPTB in 2015–16. A summary of the reports is shown in Appendix A, Section 2.6. The monitoring visit reports provide rich qualitative data, but these are often difficult to compare. Standardising the method of reporting for the visits against the GMC themes would allow more meaningful comparisons across local education providers and specialties.

Some specialties have also been affected by the commissioning of services that has negatively impacted on training. This includes GUM and haematology in particular and is evidenced by the GMC NTS affecting the clinical supervision in GUM with loss of consultant posts and difficulty in attaining some of the laboratory competencies due to centralisation of services to private facilities in haematology. This was also evidenced by the SSQs and triangulated from the ASRs. Data from the new consultants (post-CCT) survey showed that a higher proportion of GUM CCT holders were in locum posts or unemployed (54.6%) than were in consultant posts (18.2%).¹⁶ Efforts are being made by heads of school and TPDs, with further discussions with commissioners and service providers, to improve clinical supervision and also ensure that trainees are able to meet their competencies.

4.3 GMC theme 2: Educational governance and leadership

Theme 2: Educational governance and leadership

S2.1: The educational governance system continuously improves the quality and outcomes of education and training by measuring performance against our standards, demonstrating accountability, and responding when standards are not being met.

S2.2: The educational and clinical governance systems are integrated, allowing organisations to address concerns about patient safety.

S2.3: The educational governance system makes sure that education and training is fair and is based on principles of equality and diversity.

The findings from this theme are summarised in Table 6.

Table 6. GMC theme 2: Summary of findings

GMC requirements	Specialties affected	Issues	Data source / evidence
Educational governance, leadership and quality control R2.1–2.4, 2.8	Cardiology	Monitoring visits – concerns around unsupervised clinics, high-intensity rotas, workload and lack of support.	Monitoring visits; GMC NTS (Table 5); SSQs (App A, Table 5). SSQs – CMT quality criteria (App A, Figs 26–27).
	CPT	Clinical supervision, patient safety and undermining trainees.	
	CMT	CMT quality criteria (QC) implementation has shown positive changes in rotas over 4 months being distributed (increased by 56% from 2015); greater simulation training (increased by 10% from 2015), 67% shifts allow post-take ward round attendance (increased by 5% from 2015).	
Performance, progression and outcomes R2.45, 2.16	CMT/HST	Regional variation in ARCP outcomes in part explained by high proportion of Outcome 5s due to unsatisfactory record keeping / evidence on trainee ePortfolios.	ARCP outcomes (App A, Figs 28–33).
	CMT	Overall MRCP pass rates consistent in the past 5 years. More CT1s entering training with MRCP Part 1.	MRCP outcomes (App A, Figs 5, 8).
Equality and diversity R2.5	CMT	Evidence of differential attainment by gender and ethnicity.	MRCP outcomes (Table 7; App A, Tables 19–20; App A, Figs 14, 41–44).
	All specialties	Gender differences in specialty applications and consultant posts; LTFT applications / consultant posts vary with specialty and gender; <1% applicants have a disability.	
Incident reporting / feedback R2.7	All specialties	Reporting systems – second highest number of red flags.	GMC NTS (App A, Table 14); monitoring visit reports.
	Cardiology	Poor mechanism/quality of feedback after incident reports.	
Educational supervision R2.11, 2.14, 2.15	Acute medicine	75% trainees have an acute physician as their educational supervisor (ES).	SSQs (App A, Table 5); CMT quality criteria (App A, Fig 26); PYA (App A, Fig 38).
	CMT	91% trainees have a single ES over the training year (CMT QC).	
	All specialties	86.9% of trainees had satisfactory ES reports at the time of the PYA.	
Service redesign and management experience R2.3	Acute medicine	Management experience supervised by AMU consultant (71% downward trend).	SSQs (App A, Table 5).
	Diabetes and endocrinology	Trainees involved in service development (50.8% on average and slightly higher with seniority).	
	Geriatric	Attended 0–1 non-clinical management meetings in the past 4 months.	ASRs. PYA reports (App A, Fig 38).
	GUM All specialties	Increasing trainee involvement in leadership and management. 51% attended a management course at the time of their PYA. Significant variability between specialties (100% AVM, 70% acute medicine, 31% haematology).	

The CMT quality criteria were launched in 2015 in an attempt to drive quality and enhance the educational experience in CMT.¹⁷ These criteria have demonstrated improvements in the quality of training through organisational changes, which have been measurable against set standards and evidenced through the SSQs (Fig 8; Appendix A, Fig 27).

Fig 8. CMT quality criteria trainee survey results 2016 (compared with 2015)

High levels of agreement nationally	<ul style="list-style-type: none"> > 91% of trainees agreed that they have a single, named ES appointed to oversee CMT training for a minimum of 12 months, although Northern Ireland was an outlier in this criteria with only 36% of trainees being in agreement > 88% trainees agreed that they received >1 hour of curriculum-relevant teaching on average per week > 88% of trainees agreed they had on-call rotas covering 4 or more months in length > 76% of trainees agreed they had, or will have, a formal interim (pre-ARCP) review > 73% of trainees had the opportunity to attend skills lab/simulation training at least once a year
Low levels of agreement nationally	<ul style="list-style-type: none"> > 17% of trainees overall expected to have attended 40 or more outpatient clinics by the end of their CMT programme > 19% of CMTs overall agreed that they normally have protected teaching time at outpatients clinics where their attendance is bleep free > 26% of trainees overall agreed they normally have protected teaching for formal training (eg PACES) where their attendance is bleep free
Overall improvements seen	<ul style="list-style-type: none"> > On-call rotas covering over 4 months being distributed (+56%) > Rotas being published 6 weeks in advance (+1%) > Opportunities for simulation training (+10%) > 67% shifts patterns allowing attendance at post-take ward rounds (+5%) > Pre-ARCP review (+5%) > Departmental induction to training, assessment and review (+4%)

The ARCP outcomes data reported satisfactory outcomes for 67% of HSTs' and 64% of CMTs' ARCP outcomes in 2014/15 (excluding exam failure). There was significant regional variation in outcomes (53–83% in HST; 47–98% in CMT) (Appendix A, Figs 28–29). Out of the unsatisfactory outcomes, there was a high proportion of Outcome 5s (incomplete evidence presented), with 30% of the CMT and 13% of the HST ARCP outcomes reported (Appendix A, Tables 6–7 and Figs 30–31). This in part explained the regional variation in outcomes. The main reason for Outcome 5s was unsatisfactory record keeping / evidence on trainee ePortfolios (Appendix A, Figs 31–33).

MRCP(UK) outcome data showed that the overall pass rates for the MRCP exams have been consistent for the past 5 years, with good reliability across examinations (Appendix A, Fig 5). Trainee progression is consistent in Part 1 and 2 of the MRCP exam and slightly lower in PACES. Overall, 75% of CT2s achieve full MRCP (Part 1, 2 and PACES) before the end of their training. This reduced by 3% in 2015–16 but overall it has increased by 4.6% over the past 5 years (Appendix A, Fig 7 and Table 18). More trainees are entering CT1 with Part 1, and a greater number proportionately then enter CT2 with Part 2 and PACES, due to many trainees taking a gap before entering into core medical training (Appendix A, Fig 8). Regional variation in pass rates by deanery are shown in Appendix A, Fig 34. MRCP outcomes by gender and ethnicity are shown in Appendix A, Tables 19–20.

The HST census data showed that the overall perceived quality of training (supervision and training opportunities) was lower for the more acute medical specialties (Appendix A, Fig 35). The quality of the G(I)M component in specialties that frequently participate in G(I)M was variable and noted as poor in 15–20% (Appendix A, Fig 36). This was also supported by the new consultants (post-CCT) survey results. Trend analysis over the past 6 years showed the quality of training in G(I)M to be generally poorer than in specialty training and that the overall quality of specialty training is falling (Appendix A, Fig 15).

Data from the PYA reports showed that 86.9% of trainees had a satisfactory educational supervisor report (ESR) at the time of their PYA (Appendix A, Fig 37), but there is little evidence on the quality of reports. Some areas of good practice have been reported, which use standardised frameworks for assessing ESR and tailoring ES feedback (Fig 4). These have shown to improve outcomes and could be adopted more widely.¹⁸

The average percentage of trainees who had evidence of attending a management course at the time of their PYA was 51%, and this varied between specialties (Appendix A, Fig 38). There was little evidence of trainees receiving specific management experience or training in individual programmes other than evidence from some of the SSQs (Table 6).

Equality and diversity (E&D) data were obtained from the Specialty Recruitment Office. Data from 2,694 applications in 2016 for CMT and HST programmes were analysed. The overall female:male ratio was 1.13 (52% female; 46% male) (Appendix A, Fig 39). There was a significant gender difference among the specialties (Table 7).

Table 7. Top 10 male and female dominated specialties in 2016

Male majority	Male:female ratio	Female majority	Female:male ratio
Audiovestibular medicine	100/0	Clinical neurophysiology	83/17
Clinical pharmacology and therapeutics	100/0	Palliative medicine	76/19*
Sports and exercise	71/29	Geriatric medicine	74/25
Cardiology	67/32	Dermatology	73/25*
Renal medicine	64/36	Clinical genetics	71/29
Respiratory medicine	64/36	Medical oncology	70/30
A(I)M	60/40	Haematology	70/29*
Gastroenterology	58/40*	Immunology	67/33
Endocrinology and diabetes	55/45	Genitourinary medicine	62/38
Rehabilitation medicine	55/45	Core medical training	53/44*

* The remainder preferred not to say or left the field blank

In 2016, the average age of CMT applicants was 28 years, and the average age of HST applicants was 29 years. Of the total applicants in 2016, 53% were white, 25% were Indo-Asian, 6% were Chinese, 5% were mixed race and the rest were classified as other or non-stated. There were some ethnic differences noted between specialties. There were a high proportion of Indo-Asian applicants for acute (internal) medicine (A(I)M), cardiology and diabetes and endocrinology (Appendix A, Figs 40–41).

Overall, 98% of applicants applied for a full-time post and only 2% applied for a less-than-full-time (LTFT) position. The LTFT applications were highest in clinical neurophysiology, immunology, sports and exercise medicine and palliative medicine (Appendix A, Fig 42).

The HST census provided additional E&D data. This included 1,592 respondents in 2016, of which the majority were at ST5 stage and above. Overall, 78.2% were aged between 31 and 40. In total, 52.4% were female, and there was a similar gender pattern within specialties (Appendix A, Fig 9). Overall, 60.8% were on full-time contracts and 11.3% were on LTFT contracts, of which 90.4% were female.

The proportion of HSTs who wanted an LTFT post was high in medical microbiology, clinical neurophysiology, GUM and palliative medicine, and low in stroke medicine, paediatric cardiology and hepatology (Appendix A, Fig 43).

Data from the new consultants (post-CCT) survey showed that women were more likely to be shortlisted and appointed for consultant posts (Appendix A, Fig 14), and there is a similar trend for LTFT, probably as a result of the higher proportion of women in this cohort. CCT holders who are white British (54% respondents) applied for fewer posts (mean 1.4 versus 1.9) but were more likely to be offered a post (55% versus 24%) compared with respondents from other ethnic groups.¹⁶

Only 1% of applicants considered themselves to have a disability (Appendix A, Fig 44). Data for the other protected characteristics is presented in Appendix A, Figs 45–47.

4.4 GMC theme 3: Supporting learners

Theme 3: Supporting learners

S3.1: Learners receive educational and pastoral support to be able to demonstrate what is expected in *Good medical practice* and to achieve the learning outcomes required by the curriculum.

The challenges of the learning environment and its impact on learners and their training experiences have been described in theme 1. Some further issues that are specific to this theme are summarised in Table 8.

Table 8. GMC theme 3: Summary of findings

GMC requirements	Specialties affected	Issues	Data source / evidence
Trainee support R3.1–3.2	Acute medical specialties	Proportionately higher number of red flags for overall satisfaction, supportive environment (22%).	GMC NTS (App A, Tables 4, 14–15).
	CMT	Supportive environment – top indicator with highest percentage of trusts with red flags (7%, five more than in 2015).	
	Paediatric cardiology	Red flags – 2 consecutive years for supportive environment and workload in South London.	GMC NTS, ASRs.
	Cardiology CPT	Monitoring visits – concerns around trainee support and supervision.	Monitoring visit reports.
Undermining R3.3	Cardiology CPT	Monitoring visits noted concerns around undermining – addressed locally.	Monitoring visit reports.
Feedback on performance, development and progress R3.13	All medical specialties	20 red flags for feedback on GMC NTS in 2016 (eight more than in 2015) and 25% of repeated red flags.	GMC NTS (App A, Tables 14–15).
	GIM	35% trainees felt feedback from clinical supervisor was good if they led a post-take ward round.	
	CMT	Agreeing a plan for MRCP between the trainee and ES (37% increase) – largest improvement in supervision and ongoing support in quality criteria.	GIM SSQs (Table 6). CMT quality criteria (App A, Fig 27).
Timely, accurate information on placements R3.7	CMT	Improvement of details of placements/on-call rotas covering over 4 months being distributed (increased 56% from 2015).	CMT quality criteria (App A, Fig 26).

Table 8 (cont'd). GMC theme 3: Summary of findings

GMC requirements	Specialties affected	Issues	Data source/evidence
Academic/ other opportunities R3.8	Medical oncology	Opportunity to be involved in clinical trials and research: 86% of trainees.	SSQs (App A, Table 5); ARCP outcomes (App A, Fig 48); HST census data (App A, Fig 49); PYA reports (App A, Fig 50).
	Neurology	Out of placement (OOP): 7.9% applied and approved; 1.27% declined; 30% granted; 67% N/A; declined <1%.	
	Renal	56% trainees felt they had no time for research/publications.	
	Paediatric cardiology	85% had the opportunity to shadow elsewhere.	
	Clinical genetics		
Support LTFT R3.10	Cardiology	56% of trainees felt the deanery would be supportive of LTFT training and 71% felt that the ES/CS and 66% felt that other colleagues would be supportive.	SSQs, (App A, Table 5); HST census data (App A, Fig 43).
Study leave R3.12 (see R1.16)	Acute medicine	58% of trainees were able to attend specialist meetings.	SSQs (App A, Table 5).
	Cardiology	72% were able to attend 60% or more mandatory teaching days.	
	Clinical genetics	>80% agreed they had good access to formal teaching.	
	Immunology	National training days attendance was >75% for 92% of trainees.	

The GMC NTS showed an increased number of red flags particularly in the acute medical specialties for: overall satisfaction, experience, clinical supervision, formal teaching and study leave (Tables 3 and 5). 'Supportive environment' was the top indicator in CMT, with the highest percentage of trusts with red flags for this indicator in 2016 (7%, an increase of five red flags from 2015) (Appendix A, Table 4). 'Supportive environment' had 14 red flags in 2016 by indicator (two fewer than in 2015) for all medical specialties, and contributed to 19% of the repeated red flags in 2015–16. Feedback was also noted to be poor, with 20 red flags in 2016 (an increase of eight from 2015) and 25% of repeated red flags in 2016 (Appendix A, Tables 14–15).

The GMC SSQs provided evidence of service pressures impacting on learners and their training and also of G(I)M commitments affecting their specialty experience (Appendix A, Table 5). In addition, the G(I)M SSQs gave some evidence of the quality of G(I)M training, supervision and on-call experience (Fig 6). Overall, 55% of trainees had benefitted from a Hospital at Night rota but only 27% had a designated supervisor to discuss cases from night shifts. In total, 51% trainees rated overall supervision in G(I)M as 'very good' or 'good' and 16% rated it as 'poor' or 'very poor'. Overall, 63% of acute medicine trainees reported that the acute take was well organised and 55% felt it provided a good learning experience.

The SSQs also provided evidence of attendance at teaching, conferences and other opportunities for laboratory or clinical experience elsewhere, as well as attendance at multidisciplinary team (MDT) meetings (Appendix A, Table 5). The SSQs data are useful but they need to be standardised and mapped to the GMC themes to allow better comparisons.

The ARCP outcomes data gave some indication of trainees who were currently out of programme (OOP) and this showed some variability between specialties (Appendix A, Fig 48). The top three specialties with high OOP ARCP outcomes were CPT (26%), medical oncology (25%) and infectious diseases (22%). The bottom three specialties were CMT (1%), pharmaceutical medicine (4%) and acute medicine (4%).

The HST census data provided further evidence about research/academic training posts (Appendix A, Fig 49). The specialties with the highest percentage of trainees who were out of programme doing research (OOPR) or in an academic post included metabolic medicine (100%, but this may be skewed by the small numbers) and medical oncology (55.3%, including academic clinical fellows (ACFs)). Acute medicine (2.6%) and geriatric medicine (4.7%) had the lowest percentage of trainees who were OOPR or in an academic post.

The PYA reports showed that, on average, 93% of trainees present to their PYA with adequate research skills. Data for acute medicine and G(I)M were not available for this indicator and further supports the conclusion that, due to their inherent service pressures, some more acute medical specialties have fewer opportunities for research (Appendix A, Fig 50).

4.5 GMC theme 4: Supporting educators

Theme 4: Supporting educators

S4.1: Educators are selected, inducted, trained and appraised to reflect their education and training responsibilities.

S4.2: Educators receive the support, resources and time to meet their education and training responsibilities.

This theme provides evidence for some of the challenges that educators face to deliver the quality and meet the standards for education and training. Data from this theme are summarised in Table 9.

Table 9. GMC theme 4: Summary of findings

GMC requirements	Specialties affected	Issues	Data source / evidence
Trainer support R4.1–4.6	All medical specialties	42.9% of trainees felt that consultants were working under excessive pressures (due to inadequate consultant posts (19.9%) or inadequate HST posts (59.6%)).	HST census data (Fig 9; App A, Figs 51–53).
	Geriatric medicine	44% of consultant advertised posts were not filled, especially in geriatric and acute medicine.	
	Acute medicine	Increased number of red flags in the trainer survey – highest in cardiology for support for trainers and organisational culture domains.	GMC trainer survey (Table 10; Fig 10).
	Acute medical specialties	Increasing difficulty recruiting educational supervisors in some regions, due to increasing workload with the new junior doctor contract.	ASRs.
	Haematology	Not enough time allocated in consultant job plans to provide effective training; trainers not trained nor accredited as educational and clinical supervisors.	HST census data.
	Cardiology		Monitoring visit reports.
	CPT		
Recognition and approval of trainers R4.6	Geriatric medicine Rheumatology Dermatology Diabetes and endocrinology	Highest number of green flags on the GMC NTS trainer survey and a high proportion of flags in supervisor training.	GMC trainer survey (App A, Figs 58, 65).

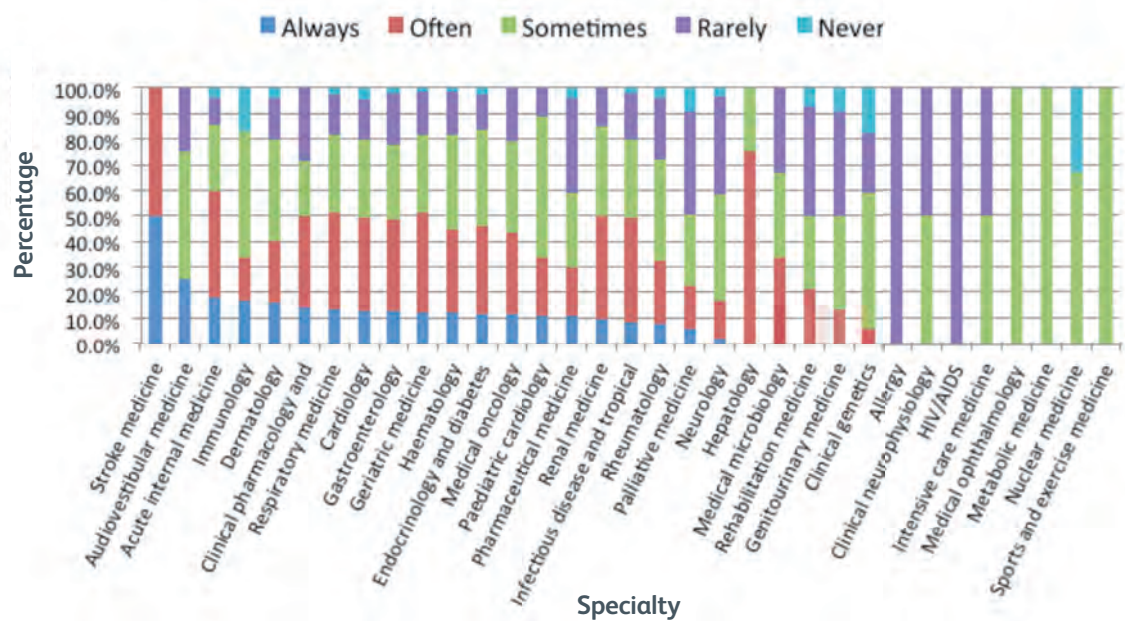
The annual census data show that there are currently 14,674 consultant physicians in the UK, of which 12,331 (84%) are working in England, 1,290 (9%) in Scotland, 664 (5%) in Wales and 389 (3%) in Northern Ireland. Geriatric medicine and cardiology are the largest specialties, with approximately 10% each of all consultant physicians.¹⁵

In 2016, geriatric medicine and acute internal medicine advertised the highest number of posts (222 and 188 posts, respectively). The highest number of successful appointments was in cardiology (100 posts with a fill rate of 71%) and the lowest number of successful appointments was in geriatric medicine (140 unfilled posts; 37% appointed), followed by acute medicine (91 unfilled posts; 48% appointed) (Appendix A, Fig 51).

Overall, 44% of advertised consultant physician posts were not filled. There was a 10% reduction in successful appointments compared with 2014–15, with a 6% reduction in the number of posts advertised. Overall, 29% of consultants were aware of one or more posts in their department that had been vacant for longer than 6 months, with 52% of this group reporting two or more vacancies.

In total, 42.9% consultants reported that they are always or often working under excessive pressure (Fig 9). Overall, 19.9% felt that the work pressure was due to inadequate numbers of consultants in posts and 59.6% felt that it was due to there being inadequate HSTs in post (Appendix A, Figs 52–53). The rota gaps are also impacting on the consultant workload and job satisfaction. Overall, 77.7% of consultants were satisfied with their specialty post but only 20.6% were satisfied in G(I)M. Overall, 32.3% of consultants often or frequently ‘felt down’ in their posts (Appendix A, Figs 54–56).

Fig 9. Working under excessive pressure



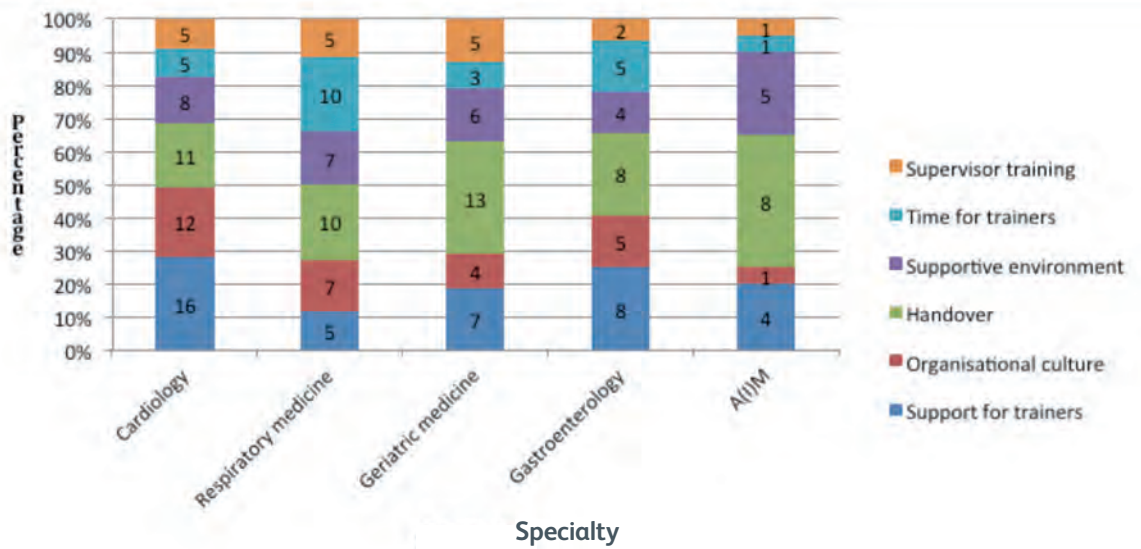
The GMC NTS was introduced in 2016 to evaluate trainers’ perception of the training provided against GMC standards. Trainers from 29 higher medical training specialties participated, and the average response rate across all specialties was 72%.

Specialties that contribute substantially to the acute take showed the largest number of red flags in 2016, across a mixture of specialties. Cardiology had the highest number of red flags and the distribution of red flags was highest in relation to support for trainers and organisational culture (Table 10 and Fig 10). Geriatric medicine had the highest number of green flags, followed closely by rheumatology and dermatology, and these were proportionately higher in the supervisor training domain (Appendix A, Fig 58).

Table 10. Top five specialties showing the highest number of specialty red or green flags

Specialty (red flags)	Number	Specialty (green flags)	Number
Cardiology	57	Geriatric medicine	41
Respiratory medicine	44	Rheumatology	27
Geriatric medicine	38	Dermatology	23
Gastroenterology	32	Respiratory medicine	21
Acute (internal) medicine	20	Endocrinology / diabetes	21

Fig 10. Distribution of red flags by domain in the top five specialties



Of the 300 trust red flags recorded for all medical specialties, 8 out of 10 of them were in specialties that contribute to the acute take (Appendix A, Fig 59). The highest number of trust red flags were in handover and support for trainers (Appendix A, Fig 60).

Of the 300 red flags, 80% (240/300) were in LETBs in England, 8% (23/300) were in the Scotland Deanery, 7% (20/300) were in the Northern Ireland Deanery and 6% (17/300) were in the Wales Deanery. The North West had the highest number of red flags (47) with a high proportion of flags in the ‘organisational culture’ and ‘support of trainers’ domains (Appendix A, Figs 62–63).

There were 251 green trust flags recorded, and these were highest in the ‘supervisor training’ domain (Appendix A, Figs 64–65). The East Midlands had the highest number of green flags (38) with a high proportion in the ‘support for trainers’ domain (Appendix A, Figs 67–68).

4.6 GMC theme 5: Developing and implementing curricula and assessments

Theme 5: Developing and implementing curricula and assessments

S5.2: Postgraduate curricula and assessments are implemented so that doctors in training are able to demonstrate what is expected in *Good medical practice* and to achieve the learning outcomes required by their curriculum.

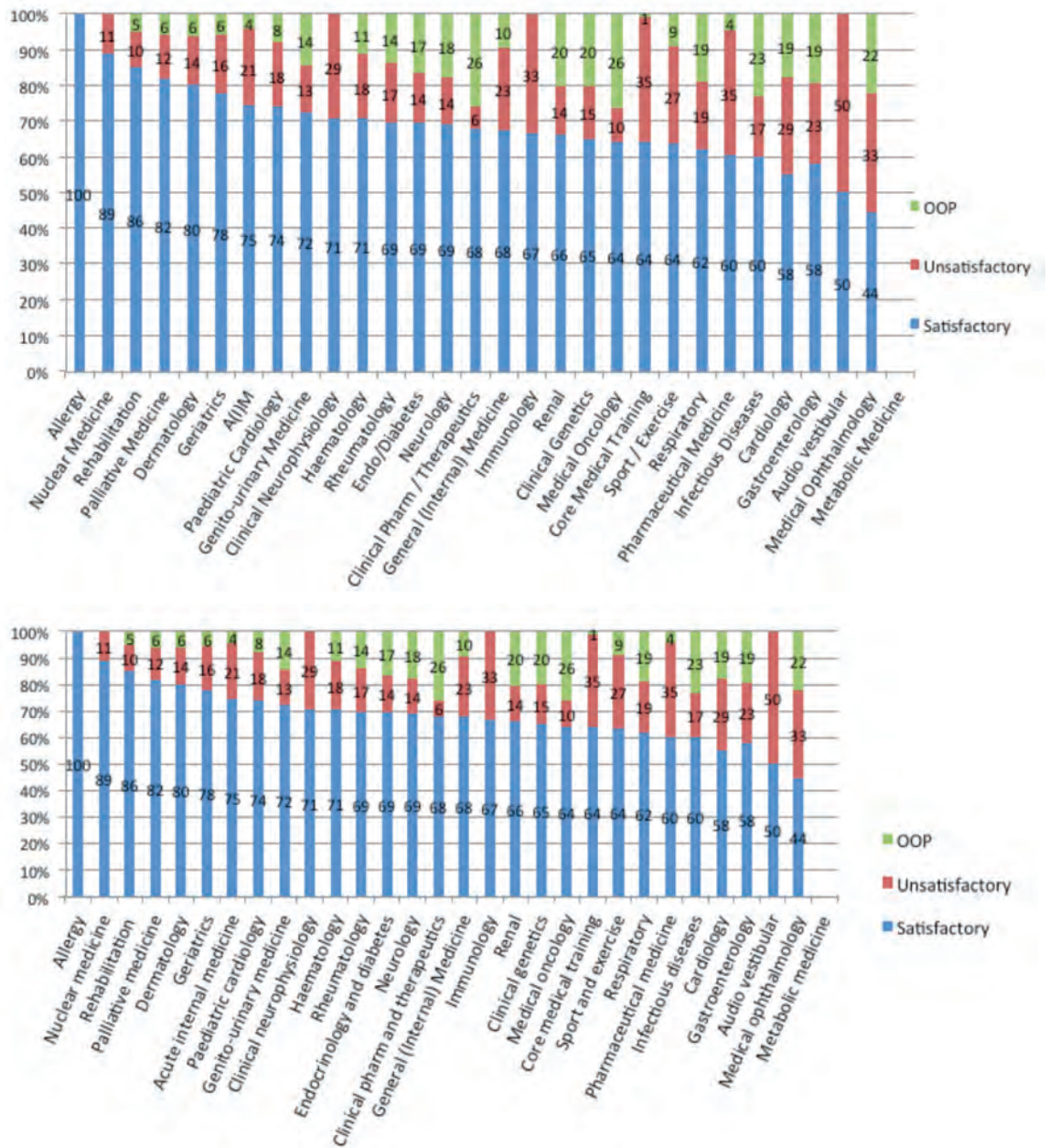
Data from multiple sources have evidenced the challenges of curriculum delivery in many of the acute and smaller specialties, and these are summarised in Table 11.

Table 11. GMC theme 5: Summary of findings

GMC requirements	Specialties affected	Issues	Data source / evidence
Curriculum coverage R5.9	Geriatric medicine	Significant variation across the UK in achieving curriculum competencies; trainees least confident in tissue viability, continence, community geriatrics and old age psychiatry. British Geriatrics Society working with the Education Standards Committee to develop a minimum standard for the curriculum.	SSQs (App A, Table 5); PYA reports; ASRs.
	Immunology	Inability to meet curricular requirements in some regions due to smaller specialty study leave budgets; SACs now working with the JRCPTB and HEE to identify mandatory requirements and costs.	SSQs (App A, Table 5); ARCP (Fig 11); PYA reports; ASRs.
	Rehabilitation medicine	Some regions do not provide training in spinal injuries (East of England); now linked with wider regions (eg Sheffield) to meet curriculum requirements.	SSQs (App A, Table 5); PYA reports; ASRs.
	Respiratory medicine	Gaps in pulmonary physiology training reported with no training sessions in one-third of trainees and 1–5 sessions in only 46% of trainees; the British Thoracic Society has added specific training within their courses to address this.	SSQs (App A, Table 5); PYA reports; ASRs.
	Diabetes and endocrinology	Experience of diabetes in the community (only 29% from SSQs).	SSQs (App A, Table 5);
	Paediatric cardiology	43.7% relocated to another deanery to get specialist training to meet curricular requirements.	SSQs (App A, Table 5); PYA reports (App A, Fig 23);
	Renal medicine	No exposure to live donor clinics (54.5%), adolescent care clinics (45%) and HD MDT (35%).	SSQs (App A Table 5).
Sufficient practical experience R5.9b	Cardiology	Specific training difficulties to meet curriculum requirements: cardiac MR (Wales, KSS), echocardiography training nationally; pericardiocentesis nationally (only 34% of trainees confident of performing unsupervised); embedding procedural competency training in simulation programmes.	SSQs (App A, Table 5); PYA reports; ARCP outcomes; ASRs.
Balancing service vs training R5.9h	Acute medical specialties	Significant impact in acute medicine, cardiology, diabetes and endocrinology, gastroenterology, GIM, haematology, renal and respiratory medicine.	GMC NTS (Fig 5; App A, Table 5); SSQs (App A, Table 5); HST census data (App A, Figs 20, 21).
	GIM	Many G(I)M posts: 90% service and 10% training (G(I)M SSQs Fig 6); GIM impacting on specialty experience (new consultants survey: App A, Fig 19).	
Assessment R5.10–5.11	CPT	Trainers and trainees not aware of requirements of WPBA for their ARCP decision.	GMC SSQs (App A, Table 5); ARCP outcomes (Fig 11); ASRs; PYA (App A, Fig 23).
	Sports and exercise medicine	Systems used to test knowledge and skills reported as poor on SSQs; lower satisfactory ARCP outcomes; low completion of WPBA at PYA.	

The ARCP outcomes from 2014–15 showed that, on average, 69% of trainees across all the medical specialties achieved satisfactory outcomes. There was a significant variation between specialties with satisfactory outcomes (ranging from 44% to 100%). These satisfactory outcomes were high in allergy, nuclear medicine, rehabilitation, palliative medicine and dermatology. Unsatisfactory outcomes ranged from 0% to 35% and these were high in audiovestibular medicine, medical ophthalmology, immunology, CMT, pharmaceutical medicine, cardiology and sports and exercise medicine (Fig 11).

Fig 11. Proportion of satisfactory/unsatisfactory/OOP ARCP outcomes by specialty (excluding record of in-training assessments (RITAs))



Of the unsatisfactory outcomes, there was a high proportion of Outcome 5s (Appendix A, Fig 4). This was highest in CMT, medical ophthalmology and G(I)M (Appendix A, Fig 71). Given the number of trainees that dual train in a specialty and G(I)M, the ARCP outcomes of trainees doing G(I)M were examined specifically.

At 69%, the overall proportion of satisfactory outcomes in G(I)M was similar to all medical specialties, but there was significant regional variability (highest in the West Midlands at 93% and lowest in West Scotland at 51%) (Appendix A, Fig 75). Of the total G(I)M ARCP outcomes reported, 17% were Outcome 5s. This varied by deanery (35% in the East Midlands and 5% in Thames Valley). The reason for the Outcome 5 in the majority of cases was due to unsatisfactory record keeping / evidence on the trainee’s ePortfolio (Appendix A, Figs 76–77).

MRCP outcomes data show that 62% of trainees achieved Part 1 at the start of CT1 and 22% achieved it during CT1. Overall, 75% of trainees complete PACES during CT2 (Appendix A, Table 23). Regional variability is noted (Appendix A, Fig 34). Overall, there is a gradually increasing trend for trainees to come in with Part 1 at CT1 and then complete Part 2 and PACES during CT2 (Appendix A, Table 18).

Specialty certificate examination (SCE) data from 12 specialties show some variability in trends of pass rates and pass marks for different specialties (Appendix A, Fig 6 and Table 8). Increasing pass rates were seen in gastroenterology and neurology, with pass marks remaining similar. Variable trends were seen in acute medicine, dermatology and nephrology. There was a significant fall in pass rates in nephrology (2015–16), with a higher pass mark in 2016. There was also a significant difference in pass rates of SCEs depending on whether candidates were UK or non-UK trainees and graduates. Some examples are shown in Appendix A, Figs 78–85.

The issues in smaller specialties were evidenced by multiple sources. A summary of these issues, mapped to the relevant data source, is shown in Fig 12.

Fig 12. Smaller specialty issues – triangulated data

Clinical pharmacology and therapeutics	<ul style="list-style-type: none"> > Very low overall satisfaction scores 28/29 (GMC NTS) > Red flags for overall satisfaction and access to educational resources (GMC NTS) > Concerns around quality of training, supervision, supportive environment, patient safety and undermining (monitoring visit reports) > Assessments – lack of trainers' and trainees' knowledge of WPBA requirements (ASRs) > Lowest proportion of satisfactory educational supervisor reports at PYA (71%) > Lowest proportion of satisfactory ePortfolio at PYA (29%) > Highest percentage 'felt down in the post' (HST census data) (14% always; 40% often)
Paediatric cardiology	<ul style="list-style-type: none"> > Red flags for workload and supportive environment (GMC NTS) > Highest number of hours worked per week (HST census data) > 43.7% relocated to another deanery to meet curricular requirements (SSQ) > 56% of trainees felt they had no time for research/publications (SSQ) > High proportion of service vs training (74.8% vs 25.2%) (HST census data) > High proportion of unsatisfactory outcomes (second highest for Outcome 2s and Outcome 7.2s) > Low proportion of satisfactory WPBA completion at the time of PYA (62%)
Audiovestibular medicine	<ul style="list-style-type: none"> > Lack of flexibility over timing and location of diploma requirement; working with the JRCPTB and the GMC to obtain approval of more training sites (ASRs) > 50% unsatisfactory ARCP outcomes – highest number of Outcome 4s > Lower proportion of satisfactory WBPA completion at the time of PYA (67%) > Lower proportion of satisfactory ePortfolio at the time of PYA (67%)
Immunology	<ul style="list-style-type: none"> > Smaller specialty study leave funding and inability to meet curricular requirements (ASRs) > 33% unsatisfactory ARCP outcomes with high proportion of Outcome 2s and Outcome 7.2s > Some difficulty gaining sufficient lab training to meet curriculum competencies (59% able, but regional differences) (SSQs)
Sports and exercise medicine	<ul style="list-style-type: none"> > Systems used to assess skills and knowledge adequate in 60% (SSQs) > High proportion (27%) of unsatisfactory ARCPs outcomes (in particular, Outcome 3s) > Lower proportion of satisfactory WPBA completion at the time of PYA (67%) > Low proportion of satisfactory ePortfolios at PYA (67%)

5. Conclusion

This report has highlighted a number of concerns that relate to physicianly training, mainly around the increasing pressures of the acute medical specialties due to rota gaps and the imbalance of the service delivery of G(I)M affecting the specialty training experience. This has been shown to negatively impact on a number of the GMC's themes and standards of postgraduate medical education. Specific issues around curriculum delivery and sustainability have also been identified in some other specialties and smaller specialties. These issues were evidenced by a number of the key quality data sources.

This report has made judgements based on the analysis of six key datasets. The findings provide an evidence-based benchmark for the current state of the quality of physicianly training in the UK and they allow for future comparisons. This report also supports the literature around the challenges of the NHS and being a junior doctor in the current climate in terms of increasing service pressures compromising the quality of training.

Although many of the challenges described in this report fall within the remit of HEE/LETBs/NES/NIMDTA and Wales deanery to address, the JRCPTB will continue to support a programme of work to enhance the quality of physicianly training. Some of these activities are shown diagrammatically in Fig 13.

We hope that this report has provided a useful framework to allow more meaningful comparisons and will help to further improve the quality of postgraduate medical training.

Fig 13. The JRCPTB programme of work



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Follow us on Twitter: @JRCPTB



How to contact us

Email: qualitymanagement@jrcptb.org.uk

Joint Royal Colleges of Physicians
Training Board (JRCPTB)
5 St Andrews Place
Regent's Park
London NW1 4LB

www.jrcptb.org.uk