Postgraduate Medical Training Review – RCR response

About you

1. Are you responding on behalf of a committee or organisation?

- Yes
- No

If you answered yes to the above, which of the following categories best describes your committee, department or organisation?

- Body representing a non-medical clinical profession
- Body representing doctors
- Charity or Body representing patients and/or the public
- Government/Arms' Length Body
- Independent Service Provider
- Medical Royal College
- Medical School
- NHS Service Provider
- Regulatory body
- Research funding body
- Other (please state below)

If you are responding on behalf of an organisation, what is the name of your organisation?

The Royal College of Radiologists

2. What is your profession/role? Please tick all that apply.

- Doctor - Locally Employed Doctor
- Doctor - On the Specialist Register or GP Register
- Doctor - Specialty/Specialist grade
- Doctor in Postgraduate Training (Core)
- Doctor in Postgraduate Training (Foundation)
- Doctor in Postgraduate Training (Higher Specialty/Run through/GP Specialty Trainee)
- Medical degree student
- Senior Training Faculty (Director of Medical Education, Associate or Deputy Dean, Postgraduate Dean,)
- Trainer/Educator (Training Programme Director, College Tutor, Head of School, Educational or Clinical Supervisor or Clinical Trainer)

- Other clinical professional
- Employer/Service Manager
- Patient
- Policy maker
- Other (please state below)
- Prefer not to say

3. What NHS region are you based in?

- East of England
- London
- Midlands
- North East and Yorkshire
- North West
- South East
- South West
- Northern Ireland
- Scotland
- Wales
- National organisation

Theme 1: Is postgraduate medical training meeting the needs and expectations of patients, healthcare services and doctors?

Subtheme 1.1 - Workforce Distribution

Medical workforce distribution is identified as a key challenge, with literature exploring the extent to which doctors are 'active agents' in their working lives within existing structures, and where doctors prefer to work and train.

Distribution of medical training posts across England has been based on historical arrangements and these do not fully align with the current or future health needs of local populations. Competitive recruitment can have a cumulative effect on care quality in less popular training locations, as those resident doctors who require additional support are more likely to be allocated to placements offering less support.

4. To what extent do you agree or disagree with the following statement?

'The current system of recruitment to and distribution of training posts meets the health needs of patients and the population.'

- 1 – Strongly disagree
- 2 – Disagree
- 3 – Neither agree nor disagree
- 4 – Agree
- 5 – Strongly agree
- 6 – Don't know

If you disagree, what changes are needed to better align the distribution of training posts with local health needs? [3000 characters]

- The current recruitment process is inefficient and fails to address resident, trust, and patient needs.
- Multiyear funding for posts must be agreed in advance to allow training programmes and trusts to make long term plans for their workforce. Expansion posts should be included in this. In 2025 confirmation of funding for expansion posts came after the deadline for Training Programme Directors (TPDs) to submit their post numbers to the national recruitment office, making it impossible for them to fully utilise expansion.
- Training post appointments are severely impacted by trust financial positions. Trusts are incentivised to focus on short-term productivity gains rather than recognising the long-term positive impact of residents on service provision across the length of their training and as the pipeline for the future consultant workforce.
- The solution is for SEBs to provide 100% funding for specialty training posts in the initial years of training, plus additional support to boost training capacity where expansion posts are needed.
- There are frequent errors in communication between TPDs, local offices and the national recruitment office (NRO), with severe impacts for residents and services. The process of declaring posts needs to be streamlined, with TPDs given more control to confirm correct data is received by the NRO.
- The locations of greatest health need do not always match resident preferences. We need to acknowledge that some residents will be tied to a specific location due to family and personal circumstances (e.g. caring responsibilities, children's schools and partner's work, particularly when partners are also residents). There should be incentives for residents to take posts in the locations with greatest need, and remain in them. This could include financial incentives and support for family relocation, as is common in other professions.
- Distribution of training posts is also affected greatly by training capacity. Regions where expansion posts are made available to address local workforce shortages are also those regions least likely to have enough capacity to deliver training. A

long-term plan is needed to gradually increase training capacity in these areas to support expansion of training posts. This requires proper funding and administrative support for TPDs and trainers, and funding for estate and IT infrastructure.

5. To what extent do you agree or disagree with the following statement?

'The current distribution of training posts meets the needs of healthcare service providers in delivering healthcare and developing their future medical workforce.'

- 1 – Strongly disagree
- 2 – Disagree
- 3 – Neither agree nor disagree
- 4 – Agree
- 5 – Strongly agree
- 6 – Don't know

If you disagree, what changes would better align training post distribution with service and workforce needs? [3000 characters]

- We are not training enough radiologists and oncologists to meet our current needs, let alone the needs of the future. The latest (unpublished) RCR workforce census reports show that there is a 31% shortfall of clinical radiologists and a 16% shortfall of clinical oncologists in England in 2024. There can be up to fourfold variations in shortfall rates between different regions.
- Given the demographic changes we expect to see in the patient population, medical capacity in England is on course to increasingly fall further behind demand. Patient waiting times and health outcomes are imperilled by these trends.
- The solution is twofold. First, to increase the baseline number of specialty training posts offered for both clinical radiology and oncology at the national level, in line with rising demand such that over time we close the workforce shortfall. To support recruitment into oncology, the number of internal medicine training posts must also be expanded.
- Second, action must be taken to allocate these additional training posts to regions with the largest shortages, accounting for future demographic trends. Those regions need support to provide the necessary training capacity and residents may need to be incentivised to these regions. It may be necessary to also incentivise qualified consultants to these regions, to create the required training capacity. These regions may need additional funding.

- There may be regions with few or no consultant vacancies but with capacity to train more residents. In these areas, such potential training capacity should also be utilised.
- Productivity improvements driven by new technologies (such as artificial intelligence) will also play a role in closing the demand-capacity gap. But workforce growth is necessary and unavoidable.
- The RCR has commissioned economic analysis that proves the value of investing in specialty training. Compared to alternative scenarios involving a reliance on international recruitment and outsourcing, we show that a 50% uplift to the baseline number of radiology and oncology training posts would, after ten years, deliver a cumulative cost saving of £376 million. Smaller and more realistic uplifts would likewise result in cost savings.
- There is therefore a strong financial case for expanding domestic specialty training. Not only will it enable the NHS to meet the healthcare needs of the future; it is also a cost saver in the medium to long term.
- Training is and should be perceived as an investment. Trusts should not be discussing the trade-off between outsourcing and onboarding new residents, yet this is a live conversation between finance and training teams. This is especially acute in hard-to-recruit areas.
- Training is a fundamental element of workforce delivery. It should not be opposed to direct clinical care, rather training and service delivery should be brought closer together. This would create an optimised environment for workforce growth, hence patient care.

Subtheme 1.2 Experience of being a Resident Doctor

The published literature and feedback from listening events highlight the issues related to wellbeing and morale. A consistently high proportion of doctors in training programmes report that they are at high risk of burnout in the GMC National Training Survey. However, rates of overall satisfaction with teaching remain high (78%), and 70% report a supportive environment.

Competition for specialty training places and the impact of this on career progression are identified as a significant stressor in the current system. Workload, access to pastoral support, access to high quality training opportunities and supervision, and issues of isolation associated with rotational training are also common factors impacting on wellbeing. The hidden costs of training were also highlighted, for example examinations, preparatory courses and college portfolio fees.

6. To what extent do you agree or disagree with the following statement?

'The current model of postgraduate medical training meets the personal and professional needs of most doctors.'

- 1 – Strongly disagree
- 2 – Disagree
- 3 – Neither agree nor disagree
- 4 – Agree
- 5 – Strongly agree
- 6 – Don't know

If you disagree, what changes would have greater impact in supporting the personal and professional needs of doctors in training? [3000 characters]

- Though most doctors do receive the education and support they require to excel, this can be in spite of the current model rather than because of it. There are several areas where improvement would be beneficial.

- **Uncertainty:** the training model includes significant uncertainty and frequent upheaval for residents. At each stage of the process (foundation, core specialty, higher specialty training) they must apply for their next post, which can entail moving anywhere in the country. This comes at a time when many are also attempting to buy a house, start a family, or make other major life decisions. It adds to the stress they experience in their working lives. Residents should have greater flexibility, at least insofar as the ability to prioritise stability of geography is concerned, though this must be balanced against regional workforce requirements.

- **Rotations:** a lack of flexibility and short notice of rotations, the possibility of rotating within large geographical areas resulting in very long commutes can make a big impact on residents' morale and wellbeing. Additionally, short rotations can prevent them from embedding within local teams. Rotas need to be designed to allow residents to fulfil their training requirements, but also to ensure adequate notice of rotations and to avoid short placements and wide geographical dispersal where possible.
- **Heavy acute workloads:** residents take part in on-call rotas. Though this is an invaluable part of their training, it can impact the time they have to spend in formal supervision and training. Over time, as emergency imaging volumes have increased, so too have the number of out of hours shifts and the time residents spend on acute work. This trend needs to be managed so it is balanced against the other demands of residents' training.
- **Inter-deanery transfers:** IDTs can also be a challenge. They are simultaneously opaque for residents, who want greater transparency and efficiency in the process, and can create chaos for training programmes, especially during the first year of training. Work is needed to make the IDT

process more efficient and fairer, whilst also minimising the impact it can have on training programmes. Ultimately, work is needed to create positive incentives for residents to remain in their first region.

- **Recruitment freezes:** the RCR has found that 1 in 4 cancer centres and 1 in 5 radiology departments across the UK are experiencing recruitment freezes, meaning they either cannot expand their workforces or cannot replace staff who leave. This is a result of significant financial pressures. But it does mean that residents may complete their training without a job to move into. It also means that more patients will potentially face dangerous delays. Freezes are not the solution; hospitals need to be supported to avoid them and to develop local workforce plans to meet the demand they face.

Subtheme 1.3 Flexibility in training

The desire for flexibility, greater autonomy, and a more sustainable work-life balance are recurrent themes. Flexibility can refer to flexible working, less rigid training structures and progression routes, and/or opportunities to pursue a portfolio career or extra-curricular interest areas, such as academia, clinical informatics or medical entrepreneurship.

A range of flexible training options are available (for example, the ability to train less than full time (LTFT); the opportunity to take a training pause and have competencies gained while out of training assessed on return to the training programme; and other opportunities to step out of programme for a defined reason). There is, however, varying confidence among residents in their ability to access these initiatives.

7. To what extent do you agree or disagree with the following statement?

'Current training processes are flexible enough to meet the needs of most doctors.'

- 1 – Strongly disagree
- 2 – Disagree
- 3 – Neither agree nor disagree
- 4 – Agree
- 5 – Strongly agree
- 6 – Don't know

If you disagree, please indicate which areas of flexibility need improvement? [3000 characters]

- Flexible working options such as LTFT working and out of programme activities (OOPA) are important tools with which to retain staff and provide for staff wellbeing. However, the prevalence of flexible working arrangements

for both residents and consultants is not yet being effectively factored into workforce planning.

- Training posts are currently allocated to each specialty by headcount. However, with increased residents training LTFT and expecting to continue working LTFT as consultants, we are training fewer total doctors than needed (measured by whole time equivalent (WTE)).

- Funding for training posts should be allocated on a WTE basis to enable any potential surplus funding from LTFT and OOPA to be reinvested in the provision of further training posts (i.e. 'slot-sharing').
- Educational and clinical supervision of LTFT residents does not necessarily reduce in direct proportion to resident training patterns, so an increased number of residents may require an increased number of trainers, even if some of those residents are LTFT. Training capacity and funding for trainers must be planned accordingly.

- Delays in creating consultant posts can mean residents who have completed training remain in their training posts, at least for the six month grace period, which prevents a new person from taking up an ST1 post. Grace periods should not block ST1 training posts from being filled.

- Additionally, more work is needed to ensure there are sufficient consultant posts for residents to move into (see answers above).

- Access to flexible training options is variable, particularly to OOP research, as are opportunities for portfolio careers and pursuing extracurricular interests. Improving access to these options will ensure that these tools for improving retention and wellbeing are available to all.

- Another issue is the inability to link applications when both partners are applying to specialty training. This can lead to difficult situations for couples who are posted to different regions. In other countries, like the USA, linked applications is common practice.
- The RCR has issued a series of resources and guidance to support residents working or wishing to work LTFT, and residents wishing to pursue OOPA such as research.

SAS and LE doctors

- Lower morale and higher turnover are noticeable trends amongst SAS doctors across all specialties. The causes include fewer CPD opportunities, less chance of onward progression, and a feeling of exclusion from the wider multidisciplinary team.

- These doctors must be recognised and valued. They need access to development and progression opportunities (including study budgets). NHSE should provide defined and recognised pathways for progression within the SAS role and from SAS to consultant. It is not always easy for SAS doctors to find out about the support that is available to them; this support needs to be made more obvious and available.

Theme 2: Training capacity, delivery and quality

Subtheme 2.1 – Preparation for future practice

Resident doctors and newly appointed GPs and consultants identify that they do not always feel prepared for their roles. Both domestically and internationally, research has focused on how best to prepare doctors for the professional requirements of their future roles within a rapidly changing healthcare and societal context.

Research has considered whether postgraduate medical education is sufficiently responsive to societal needs and whether there should be a greater focus on sustainability and community health. The need for doctors to be adaptable, to manage resources effectively, to lead diverse clinical teams and to respond to clinical uncertainty have all been highlighted.

Researchers and event participants also queried whether the current system of postgraduate medical education provides appropriate educational and career support for locally employed (LE) and specialty and associate specialist (SAS) doctors. These doctors are an essential part of the medical workforce, with record growth in doctors taking up LE roles and SAS doctors possessing a diverse range of skills, knowledge and experience that the NHS relies on. However, retention among these groups is a significant issue and represents a major loss of talent and expertise from the NHS.

8. To what extent do you agree or disagree with the following statement?

'The current postgraduate medical training adequately prepares doctors for the professional and clinical demands of their future roles.'

- 1 – Strongly disagree
- 2 – Disagree
- 3 – Neither agree nor disagree
- 4 – Agree
- 5 – Strongly agree
- 6 – Don’t know

If you disagree, which of the areas contributing to preparedness require the most improvement? [3000 characters]

- Most resident doctors are adequately prepared to enter consultant and other roles after completing their postgraduate training. However, there are improvements that could be made for all individuals, and which would particularly benefit those individuals who do need further support.
- Resident doctors are the future leaders of clinical teams. Their training needs to be prioritised such that they are prepared for this leadership role, which involves providing holistic, patient centred care alongside managing a professional team.
- Postgraduate curricula and CPD training resources are designed to facilitate this. The RCR will continue to provide high-quality guidance and resources to ensure residents have the skills they need for their future careers.
- Service pressures, driven by workforce shortages, can limit residents' training and development opportunities. Problems include a lack of staff time for training and a lack of physical space and training materials (see below), and problems with the current training model such as the relative inflexibility and opacity of rotations (see above).
- Early careers support would serve to make the transition to consultant less of a cliff-edge. This support could include additional study leave and/or additional SPA allocation during the first few years as a consultant, and/or a named mentor and indicative career planning resources. The support provided should be tailored to individuals, some of whom will need more support than others. This is about good people management and clinical leads with sufficient resources to act. These are all things found in other professions as individuals move into more senior positions.
- Those providing support and mentoring for early career consultants will also need recognition of this role in their job plans.
- Greater support for academic teaching and training – provided by academic training posts and/or OOPA – would also help to prepare doctors to take on this aspect of the medical profession.

Subtheme 2.2 – Quality of the learning environment

High quality postgraduate medical education provides a broad range of relevant learning experiences in both formal and informal teaching settings. Engagement and connection with senior doctors during patient care is essential to this. A psychologically safe learning environment will value and support doctors both as learners and practitioners. It will also provide opportunities to influence the working environment, while being clear on a resident doctor's remit.

Service pressures can present a significant challenge to this ideal. Fractured working patterns and insufficient time with seniors are also inhibiting factors. While rotational training provides exposure to a broad range and variety of clinical settings and patient groups, frequent rotations can undermine a sense of stability and belonging.

9. To what extent do you agree or disagree with the following statement?

'The current system of postgraduate medical education provides doctors with a high quality learning environment.'

- 1 – Strongly disagree
- 2 – Disagree
- 3 – Neither agree nor disagree
- 4 – Agree
- 5 – Strongly agree
- 6 – Don't know

If you disagree, which of the areas contributing to preparedness require the most improvement? [3000 characters]

- Most residents do have a high-quality learning environment most of the time. This is a testament to the hard work and sacrifice of their trainers.
- However, service pressures can mean that this is not true of all residents, at least not all of the time. Given acute pressures necessitating a focus on direct clinical care (DCC), less urgent tasks including training can suffer.
- Over time, more administrative burden has been put onto TPDs, who report decreased time and support alongside a significantly increased workload related to their TPD role. This is resulting in concerning levels of burnout amongst TPDs, as well as reluctance amongst others to take up TPD roles. The same applies for other training roles, such as college tutors and supervisors. TPDs need additional administrative support to do this important work.
- One problem is that consultants need to supervise residents during both their SPA and their DCC time. However, providing supervision during DCC can make it difficult for departments to meet productivity requirements, which do not account for the additional time taken to deliver a service whilst resident doctors are also being trained. It takes additional time to talk them through processes and procedures and their rationale.
- In radiology, these contrasting demands lead to a split between radiology "training lists", in which residents are supervised, and "service lists", in which they are not. However, this erodes overall training capacity, since there is then less time overall in which they can be trained.

- The solution is to adjust productivity targets to account for delivery of training alongside service, allowing all lists to be utilised for training purposes as appropriate. Enabling senior residents to train more junior residents and ensuring that individual trainers have a balanced training load (e.g. a mix of early and later stage trainees so that not all require a high level of direct supervision) will help to manage the cognitive demand of this for consultants.
- In both our specialties, the service pressures caused by chronic workforce shortages create a challenging environment in which to deliver high-quality training, with trainer burnout an increasing concern. Dedicated administrative support for TPDs and trainers would allow them to focus on providing high-quality training and learning.

- Unlike consultants, residents do not have formal professional development sessions in their job plans. This can make undertaking extracurricular, career development activities a challenge without sacrificing personal time or wellbeing. Though difficult in terms of service provision pressures, this is something that could be explored.

Subtheme 2.3 – Educator capacity

Educator capacity is a recognised issue. Service demands place significant pressure on trainers as increasing clinical workloads compete with their ability to train. Furthermore, routes into medical educator careers are less formalised compared with those for clinical research and management.

Researcher and event participants discussed the merits of introducing more formal protections of trainer time to improve the quality of postgraduate supervision; expanding faculty development programmes to ensure medical educators are supported with continuous professional development; and establishing clear and incentivised pathways for doctors to become educators.

10. To what extent do you agree or disagree with the following statement?

'Trainers in postgraduate medical education have sufficient time, support and resources to deliver quality supervision and training.'

- 1 – Strongly disagree
- 2 – Disagree
- 3 – Neither agree nor disagree
- 4 – Agree
- 5 – Strongly agree
- 6 – Don’t know

If you disagree, which factors could better support medical educators?

- Over the past decade, there has been a decline in the total average number of programmed activities in consultants' job plans. Much formal supervision and teaching training is provided by trainers during their SPA time; as this has declined, therefore so too has the capacity the NHS has to deliver formal supervision to residents. SPA time is also used for CPD activities to maintain one's skill in education.
- Another factor which is limiting training capacity is the growth of medical associate professions and the increased prevalence of skill mix; these trends require consultants to also spend time supervising professionals like advanced nurse practitioners and physician associates. This results in training capacity being spread too thinly, to the detriment of all these staff groups. Particularly affected are resident doctors, who can often be deprioritised due to the perception that they are a transient workforce in their teams.
- Of course, doing less training, given demand for diagnostics and cancer care, is not an option.
- Most TPDs also report a lack of sufficient office and clinical space to adequately support their residents. This limits the ability of residents to gain the necessary experience to advance their training.
- Teleradiology can also impact training capacity in CR. Teleradiology companies do not contribute to training, clinical consultation, problem solving, or multidisciplinary leadership. This leaves consultants with a disproportionately higher burden in these areas. Exhausted trainers cannot provide the same level of quality, empathetic training to residents as those who are not so over-stretched.
- If deployed indiscriminately, teleradiology could limit residents' access to educationally useful cases. However, it can be used to support training if scans that are less educationally useful are outsourced, leaving residents able to focus on the more educationally useful scans.
- Teleradiology could also support training by reducing residents' overnight working hours, where access to training and supervision is limited.

- Solutions:

    - Consultants need sufficient SPA time in which to provide teaching to residents. This time needs to be protected in their job plans; one way to ensure this is to grow the workforce.
    - Productivity targets must be adjusted to allow for the time spent on training, or else measures of productivity must account for the investment in specialty training *as time and resource well spent*.

Consultant job plans need to accommodate training requirements for all staff groups.

- Capital investment is required to ensure hospitals have sufficient space and equipment to accommodate their residents.
- Staff groups such as SAS doctors, senior residents and advanced health practitioners, should contribute to the delivery of training to junior colleagues, including resident doctors, where their skills and experience allow.
- Trainers need better admin support to enable them to focus their time on training.

Subtheme 2.4 – Equality, diversity and inclusion

Doctors from minority ethnic groups and those with disabilities often face additional challenges, including microaggressions, exclusionary behaviours and unequal opportunities for career progression, which result in differential attainment. Sexual harassment and discrimination are also a known issue. Systemic biases must be addressed to ensure that postgraduate medical education is fair, equitable and reflective of the diversity of the workforce and the communities it serves.

Effective channels for raising concerns - with clear routes of escalation, and effective communication of outcomes - are crucial to addressing issues of discrimination and exclusion, while building confidence and trust. An inclusive and supportive learning environment will facilitate a dialogue between learners and educators at all levels of seniority.

11. To what extent do you agree or disagree with the following statement?

'Postgraduate medical training creates an equitable and inclusive environment for doctors from diverse backgrounds, including those from minority ethnic groups and those with disabilities.'

- 1 – Strongly disagree
- 2 – Disagree
- 3 – Neither agree nor disagree
- 4 – Agree
- 5 – Strongly agree
- 6 – Don't know

If you disagree, how can things be done differently to address differential attainment, sexism and microaggressions for doctors from diverse backgrounds? [3000 characters]

- There is lots of evidence of differential attainment amongst resident doctors.
- Several actions could be taken to reduce these attainment gaps, including:
    - High-quality training for supervisors and trainers in cultural competence, sexual harassment, disability awareness, psychological safety and other areas
    - Mentorship and reciprocal mentoring for all supervisors and trainers, such as is provided via the RCR
    - Flexible training pathways (see answers prior) and easier access to reasonable adjustments in the workplace for residents
    - Additional funding for residents requiring reasonable adjustments or for groups known to show differential attainment, e.g. additional exam preparation courses.
    - Additional time and/or administrative support for TPDs and supervisors who have residents requiring reasonable adjustments, since these adjustments mean additional contact time may be required.

Theme 3: Enabling and reforming postgraduate medical education to achieve the 3 NHS mission shifts

Subtheme 3.1 – Hospital to community

There is growing recognition that more postgraduate medical education should take place in diverse community settings to better equip doctors with the skills to meet the evolving needs of patients and local communities, closer to home. By providing training opportunities outside of hospital environments, doctors can gain a deeper understanding of public health, social determinants of health and the complexities of delivering care in community settings.

Greater involvement of local health systems, such as integrated care boards, in shaping training placements and specialty allocations could ensure that training aligns more closely with local population health needs.

We are seeking insights on how community-based learning, social accountability and public health principles can be more effectively embedded in postgraduate medical education.

12. To what extent do you agree or disagree with the following statement?

'Postgraduate medical training should include more opportunities in community-based settings to better align with patient and community needs.'

- 1 – Strongly disagree
- 2 – Disagree

- 3 – Neither agree nor disagree
- 4 – Agree
- 5 – Strongly agree
- 6 – Don't know

If you disagree, please explain why you believe postgraduate education should not provide more community-based opportunities. [3000 characters]

- There may be some scope to increase the training residents could receive in community settings, at least in some specialties and regions.
- In radiology, this could take place in certain community diagnostic centres (CDCs). The simpler cases seen in CDC reporting lists and the quieter, less intense environment would be conducive to training delivery. Some CDCs are already used to train reporting radiographers.
- However, CDCs are currently under-utilised for delivering training. This is for a variety of reasons, including: staff shortages, a lack of reporting workstations, CDCs that are operated by third parties, and a lack of recognition of the potential.
- Therefore there must be support for residents to access these settings. This will include changes to rota design. Factors like travel time and cost also need to be considered. Lots of CDC work is reported fee-for-service, which creates a disincentive to deliver training alongside.
- It may be easier to expand training to community-based locations in urban centres like London than in rural or remote areas (even though the need for community-based care is higher in these areas).

Subtheme 3.2 – Treatment to prevention

Researchers and event participants considered how postgraduate medical training can better equip doctors to address health inequalities. This would require a stronger focus on prevention, population health and the broader social determinants that impact health outcomes.

By expanding generalist training opportunities, the medical workforce could be better prepared to address the evolving healthcare needs of diverse populations and to adapt to a rapidly changing healthcare environment. Similarly, in the USA, systems-based practice has been embedded in postgraduate medical training, requiring residents to demonstrate an awareness of and responsiveness to the larger context and system of healthcare.

There could also be more formal opportunities within postgraduate medical curricula to offer dual accreditation in generalist and specialist fields, for example paediatrics and public health.

13. To what extent do you agree or disagree with the following statement?

'Postgraduate medical training curricula should include a stronger focus on addressing health inequalities, social determinants of health and population health.'

- 1 – Strongly disagree
- 2 – Disagree
- 3 – Neither agree nor disagree
- 4 – Agree
- 5 – Strongly agree
- 6 – Don't know

If you disagree, please give your reasons. [3000 characters]

- Health inequalities and the social determinants of health already feature heavily in the clinical oncology and clinical radiology curricula. Indeed, they are a feature of most higher specialty training curricula as a requirement of the General Medical Council.
- Changes to curricula alone will not effectively bring about change. Shifts must also be embedded in service delivery, if the culture at large is to change.

Subtheme 3.3 – Analogue to digital

The literature identified opportunities to harness extended reality technologies, artificial intelligence (AI) and machine learning to make educational processes more efficient, build training capacity and personalise learning experiences. For instance, AI and machine learning could be used for curriculum development, personalised education, medical simulation' enhancing assessments and developing clinical reasoning skills. Digital innovation is recognised as a key reform option for expanding training capacity and developing clinical confidence and competence within a safe learning environment.

Researchers and event participants also considered whether postgraduate training should better prepare doctors for a digital future by incorporating more content on digital health, AI and technology-enabled remote care delivery.

14. To what extent do you agree or disagree with the following statement?

'Postgraduate medical training should incorporate more content on digital health, AI and remote care, including the use of technologies such as extended reality, AI and machine learning, to enhance learning experiences and improve training capacity.'

- 1 – Strongly disagree

- 2 – Disagree
- 3 – Neither agree nor disagree
- 4 – Agree
- 5 – Strongly agree
- 6 – Don't know

If you disagree, please give your reasons. [3000 characters]

- AI will play an enormous role in radiology and oncology in the future. It has the capacity to enable clinicians to work faster and more accurately; by automating administrative tasks, it could help clinicians dedicate more of their valuable time to patient care and service improvement; and it could actively play a role in medical training via personalised learning tools.
- AI will not be able to replace consultant doctors, but it will empower them to spend more time caring for patients with a greater wealth of information.
- Therefore, future clinicians will need to become conversant in the basic principles of data science and confident in using clinical AI tools in their practice.
- Indeed, resident doctors tell us they would like more training in and with AI.
- The training and support that is provided will need to be tailored to individual's specialty, their level of experience, and their clinical roles; service leads responsible for selecting, testing and deploying AI tools will need more in-depth knowledge than clinicians using the end products day-to-day, but all will need some grounding in AI.
- This will require a cross-sector approach, with input from NHS England, the royal colleges and other professional bodies, medical schools, and local training programmes.
- There are however significant pressures already on curricula; it is challenging to include additional content. There is nothing that can be removed; every item is essential. RCR curricula include high-level outcomes relating to utilising new technologies.
- Moreover, the adoption of new technologies must also be incorporated into consultant practice and service delivery. There is little chance to integrate it into training if it is not taking place on the ground. Consultants cannot train residents in technologies they are not themselves familiar with; moreover, consultant skills and expertise vary significantly when it comes to new technologies.
- This means that qualified consultants also need training resources. Plus, trusts need the support to make IT/technology changes to deploy new tools like AI.
- Learning will need to be lifelong, as with all other aspects of medical education, so centralised and specialty-specific educational resources and

events will need to be provided. NHS England should use the NHS Digital Academy to provide resources for clinicians. Trusts and networks will also need to provide 'in-house' support and training to their staff.

- The RCR is actively working to provide and improve its AI education materials and events; we issue guidance on the selection, deployment and use of AI in clinical practice.

Career expectations and system gaps/issues impacting on satisfaction

The following questions are specifically for medical students, doctors, their representative bodies and education bodies (including medical schools, medical Royal Colleges and unions).

15. What factors are the most and least important for a rewarding and satisfying postgraduate medical training pathway?

(To note: pay and conditions are not within the scope of the review.)

Please select the 3 most important:

- Ability to develop and/or deliver effective patient care pathways
- Ability to train and work in one's desired location
- Ability to train and work in one's desired specialty
- Access to high quality mentorship and supervision
- Being a member of an effective multidisciplinary team
- Confidence in career progression
- Contributing to an effective healthcare service
- Flexible training options
- Leadership, research, quality improvement or teaching opportunities
- Making a difference to the wellbeing of individual patients
- Professional identity and status
- Professional/technical 'mastery' of one's craft
- Support for personal and professional development
- The opportunity to improve health of a local community at a population level
- Work-life balance and workload
- Working conditions
- Other(s) – please specify below

Please select the 3 least important:

- Ability to develop and/or deliver effective patient care pathways
- Ability to train and work in one's desired location
- Ability to train and work in one's desired specialty
- Access to high quality mentorship and supervision
- Being a member of an effective multidisciplinary team
- Confidence in career progression
- Contributing to an effective healthcare service
- Flexible training options
- Leadership, research, quality improvement or teaching opportunities
- Making a difference to the wellbeing of individual patients
- Professional identity and status
- Professional/technical 'mastery' of one's craft
- Support for personal and professional development
- The opportunity to improve health of a local community at a population level
- Work-life balance and workload
- Working conditions
- Other(s) – please specify below

All of the factors listed are important.

16. What are the most and least significant barriers to a rewarding and satisfying postgraduate medical training pathway?

(To note: pay and conditions are not within the scope of the review.)

Please select the 3 most important:

- Cost of training (for example, examinations and college membership fees)
- Current rotational training structure
- Inadequate physical and IT infrastructure to support training
- Lack of access to high quality supervision
- Lack of access to high quality training opportunities
- Lack of access to simulation, virtual, digital and AI-based education
- Lack of flexibility to gain experience across multiple settings
- Length of training
- Limited protected time for portfolio development (research, QI, teaching, leadership)
- Burden of portfolio requirements
- Relevance of curricula
- Rigidity of training structures / career progression routes
- Service pressures / time to train
- Training bottlenecks at key progression points
- Other(s) – please specify below

Please select the 3 least important:

- Cost of training (for example, examinations and college membership fees)
- Current rotational training structure
- Inadequate physical and IT infrastructure to support training
- Lack of access to high quality supervision
- Lack of access to high quality training opportunities
- Lack of access to simulation, virtual, digital and AI-based education
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- Burden of portfolio requirements
- Relevance of curricula
- Rigidity of training structures / career progression routes
- Service pressures / time to train
- Training bottlenecks at key progression points
- Other(s) – please specify below

All of these factors are important.

17. Please select the 3 most important options for reforming postgraduate medical education:

- Addressing bottlenecks in training progression at key transition points
- Addressing burnout and improving resident doctor wellbeing
- Balancing general and specialist training opportunities
- Creating formal pathways for doctors to pursue extracurricular interests (for example, informatics, medical entrepreneurship, academic medicine)
- Creating longer-term trainer/resident mentorship structures
- Embedding training to tackle health inequalities and social determinants of health into curricula
- Ensuring access to physical and IT infrastructure required to facilitate training (for example, shared desk space, reliable digital systems)
- Establishing clearer pathways into medical education, with appropriate incentives
- Expanding training in community settings
- Geographically smaller training programmes
- Giving local health systems greater input into shaping postgraduate medical training placements and specialty numbers
- Greater ability to have capabilities gained in any post counted towards training progression
- Greater access to flexible working patterns

- Making greater use of extended reality, AI and machine learning in the delivery of postgraduate medical education
- More curriculum focus on doctors' competencies in digital health, AI and remote care
- Offering better support for doctors pursing clinical academic career
- Offering targeted incentives to work in underserved areas
- Protecting time for educators
- Providing better career coaching/mentorship/personalised career planning support
- Reducing the frequency of rotations within a programme
- Reform of the specialty training recruitment processes to support the specialty preferences of candidates
- Reform of the specialty training recruitment processes to support geographical preferences of candidates

If you have any further ideas or feedback regarding a model/exemplar design for the delivery of postgraduate medical education, please describe these: [3000 characters]

- There is a significant potential conflict throughout this consultation between promoting flexibility in training whilst also ensuring adequate and equitable service provision across the UK. This will need careful and painstaking consideration.
- There are potential solutions to any conflicts that may arise – for instance, allocating training places by WTE to allow for slot-sharing, which would help to facilitate LTFT working amongst residents whilst also increasing the total workforce.
- Transparency and forward notice will also help. If residents know that their training will include rotations to peripheral units – if they know when and where these will be – then they may be able to make plans for this, and may be more likely to accept this aspect of their training. The problem is often with the lack of clarity and notice.
- Alongside this consideration, other major themes we would encourage NHSE to take away are:
    - Digitisation: basic IT infrastructure must urgently be addressed to tackle poor NHS productivity and to enable the adoption of AI tools – which will empower clinicians and facilitate specialty training.
    - Move to community care: diagnostics is key to this, insofar as early diagnoses made will help patients remain out of hospital. Access to tests within communities will also enable early detection and intervention. Substantive NHS consultants are critical for reimagining and operating services in line with this shift.
    - Recognising and valuing specialty training: training is, and therefore should be seen as, a valuable investment in the future workforce, and

hence population health. Investing in specialty training is a cost saving compared to outsourcing or global recruitment. Investing in workforce growth is itself an enabler of this since it would provide additional training capacity, unlocking these cost savings.

- Stability, clarity and forward notice of funding for training and the number of specialty training posts available is essential for rational and efficient workforce planning. The current system is opaque, misaligned and can be chaotic, leading to lost opportunities and financial cost.