



The Royal College of Pathologists

Pathology: the science behind the cure

# Evidence from the Royal College of Pathologists to the HoC HSCC's evaluation of the Government's commitments in the area of the health and social care Workforce in England

10 May 2022

The Royal College of Pathologists (RCPATH) is a professional membership organisation with more than 12,000 fellows, affiliates, and trainees. We set and maintain professional standards and promote excellence in the teaching and practice of pathology, for the benefit of patients. Our members include medically qualified pathologists and clinical scientists in 17 diagnostic specialties.

The College welcomes the opportunity to contribute to this evaluation.

## Planning for the workforce

### Government commitment:

**- Ensure that the NHS and social care system have the nurses, midwives, doctors, carers, and other health professionals that it needs.**

Pathology underpins every aspect of patient care, and pathologists are crucial to the diagnosis of cancer and non-cancer diseases, treatment, and monitoring of patients. Pathologists provide diagnostic information and advice to all specialties in primary, secondary, and tertiary care.

There has been a year-on-year increase in demand for pathology services, both in the number and complexity of tests performed. Staffing levels have not risen in line with demand and pathology services are unable to recruit to vacant posts. It can take up to 15 years to train a pathologist. **It is therefore the College's view that this commitment has not been met.**

The College, as part of a coalition of c 90 health and care organisations, supported the amendment calling for stronger provisions on workforce planning in the Health and Care Bill. This

broad-spectrum coalition is clear that the data gap on how many staff will be needed in future must be resolved to put the NHS and care workforce back on a sustainable footing. The amendment would have mandated the regular publication of independent assessments of current and future health and care workforce numbers. It would also help to review existing needs of the current workforce e.g. desires to work less than full time, engagement with research activities etc. to allow provisioning for these changes. This amendment would have helped fulfil the Government commitment by ensuring that regular assessments of the number of staff required to meet service demand would provide a baseline against which to measure this pledge.

## Background

- 95% of clinical pathways rely on patients having access to efficient, timely and cost-effective pathology services; services that require significant attention and investment if they are to meet the immediate and future workforce demands.
- The workforce is an ageing one; around a third of pathologists are 55 or over. When our most senior consultants retire in the next 5-10 years, there will not be enough qualified specialists to replace them in numbers, let alone in knowledge, experience, and expertise.
- The College has serious concerns that the backlog of non-COVID-19 related illness and the associated surge of demand for pathology services is not currently being managed well and ongoing plans are not sufficient either, particularly for cancer diagnosis and treatment for both tissue and blood cancers. The COVID-19 pandemic has highlighted the importance of laboratory tests and laboratory professionals within healthcare and the wider community. There have been workforce shortages for some time, but now more than ever, it is vital that services are sufficiently funded and supported. Ensuring that there are sufficient trained staff, equipment, and IT support to underpin laboratory services is vital. The College suggests the following solutions:
  - **Short-term**
    - Increase number of biomedical scientists supporting medically qualified pathologists in integrated teams.
    - Increase number of clinical scientists in pathology and provide improved/widened workplace/academic training programmes.
    - Work to improving working environments and workplace cultures for pathologists to encourage staff retention and return to practice.
    - Increase consultant training time capacity to ensure trainees have sufficient trainers.
    - Provide suitable accommodation in which to conduct training and house additional staff.
    - Simplify the process of CESR application and support successful applicants afterwards.
    - Ensure specialty doctors and consultant clinical scientists have protected SPA time.
    - Increase availability of grants and financial support to Biomedical Scientists to help with their MSc degree, professional developments, other scientific degrees, registrations, study leaves, attending conferences.
    - Support Clinical Scientists with their FRCPath exams and projects both timewise and financially.
  - **Medium-term**
    - Increase training posts in all pathology specialties and provision of adequate resources needed for this training, including helping to support attempts to address training inequalities by region.



- Invest in schemes to attract trainees to pathology at all stages of education.
  - Provide better IT to support ease of access to patient data confidentially where, when and to whom it is beneficial. This includes connectable laboratory information managing systems and opportunities to increase flexibility of delivery.
  - Ensure capital investment to implement IT developments and diagnostic technology more widely to benefit patient outcomes and enhance the working environment for staff.
  - Maximise on utility of the Pathology Portal and other online training capacity to ensure training opportunities for new techniques / diagnostic tests are available for the whole relevant workforce rapidly in response to clinical and patient need.
  - Prepare for greater demand for pathology services to service increases in chronic disease, (diabetes, heart disease, chronic respiratory diseases, future pandemics).
  - Ensure staffing levels are sufficient to meet service expectations. This is not possible in the current model where staffing is aimed to cover minimum/average workload.
- 95%<sup>1</sup> of patients will have a pathologist involved in their care at some point in their healthcare journey. The specialties play a vital part in cancer diagnosis, chronic disease management and have been central to efforts during the COVID-19 pandemic. As the evidence points to it being between 2%<sup>2</sup> and 4%<sup>3</sup> of the healthcare bill, the value of pathology services far outweighs the cost.
  - Without the right test, at the right time, with the right answer, safe and effective patient care cannot be delivered. Having the right number of diagnostic staff in the right places, working in a supportive culture, is key to the delivery of the College's vision of an agile and resilient pathology service with patients at its heart.
  - Recruitment and retention are a problem in rural areas, which results in the patient journey being slower, with the challenges of getting to hospitals. Pathology is at the heart of most patient experiences, and when pathology is well resourced, there are enormous benefits to the quality and timeliness of patient pathways. The advantages of pathology diagnostics are not being harnessed, with the role of pathologists often hidden.
  - The College has produced workforce data<sup>4</sup> for the pathology specialties, which identify the following geographical trends:
    - North-West England has the highest proportion of vacant medical posts.
    - Aside from London, the England regions have lower numbers of clinical biochemistry consultants than the other three countries.
    - The Midlands has the greatest proportion of medical haematology consultant vacancies.
    - North-West England has the highest proportion of medical microbiology consultant vacancies.
  - Regarding the issues specific to roles:
    - Consultants are needed in all paediatric laboratory medicine sub-specialties.
    - The role of SAS doctors in pathology could be expanded to support the pathology workforce and training.
    - Increasing dependence on molecular and genomic information to characterize, classify and define disease and guide treatment is “new” work. More adequately trained staff (and training opportunities for existing staff and trainees) are needed to take on this service load that will, as it has in haemato-oncology, significantly benefit patient outcomes.



- Staffing difficulties means the need for locum scientific and medical staff and remote reporting by private companies. Laboratory staff are often subject to poor pay structures, coupled with poor development and progression opportunities.
- Regarding the issues specific to certain specialties:
  - **Histopathology:** is seen as the ‘gold standard’ test for the diagnosis of many cancers and non-cancer diseases and has been seriously challenged for several years due to the increasing volume of samples (e.g., related to bowel and prostate cancer – and including national screening programmes as well as increasing numbers of investigations in symptomatic patients) and the increasing complexity of testing due to the impact of molecular diagnostics.  
For example, a histological diagnosis of colorectal cancer nowadays will be followed by extra testing on the biopsy to exclude the possibility of a familial cancer syndrome (Lynch syndrome). If the patient has widespread cancer, further testing on the biopsy to help predict the likely response of the cancer to additional treatments is commonly undertaken.

Although recruitment into histopathology has increased, there remains a 25% shortfall in staff able to report results, with some regions having even higher shortages. In 2020, Cancer Research UK<sup>5</sup> highlighted that the number of histopathologists is forecast to reduce from the existing shortfall by an additional 2% by 2029, unless there is targeted action and investment.

Cytopathology is the study of individual cells and is undertaken largely by general histopathologists. It plays a major role in the diagnosis of many conditions, both malignant and benign. It is integral to the diagnosis of lung cancers and in cervical screening as two examples. It uses many of the same techniques as are used in histopathology, such as molecular analysis and increasing use of digital techniques. Cytopathology faces the same workforce and general issues as histopathology.

- **Clinical Biochemistry:** Clinical biochemists play a key role in diagnosing patients with a wide variety of illnesses – from bowel cancer to high cholesterol and rare genetic diseases. As a result of potential retirements and increased demand, clinical biochemistry is facing an uncertain future. These pressures are compounded by workforce instability, potential changes to job planning arrangements, medical training, and clinical scientist training. It is anticipated that 47% of consultant posts could be vacant within the next 10 years. If not filled, this would leave the service unable to cope with the demands placed upon it, including running clinics for diabetes monitoring. In addition, the complexity of caseloads is growing, with metabolic tests guiding new therapies.
- **Haematology:** Haematologists are doctors who are experts in blood. These include the blood cells circulating in the blood and those being made in the cell factories of the bone marrow. Haematologists study blood disorders, including blood cancers, and diagnose and treat these cancers. They are an essential element of clinical cancer care. As reported in the [British Society For Haematology workforce report](#), vacant posts are an issue, exacerbated by the need for service expansion to accommodate new therapies and increasing complexity of the clinical workload in an ageing population with longer survival. The BSH workforce/member research has also highlighted the increasing prevalence of stress and concern about the wellbeing of those in the haematology profession (>75% respondents).



There is a high proportion of consultants approaching retirement, 48% of haematologists will be retiring in the next 10 years, this will be compounded by difficulties in recruitment to both substantive and trainee posts and represents a higher proportion of the workforce than in many other specialties

<https://www.rcplondon.ac.uk/projects/outputs/focus-physicians-2018-19-census-uk-consultants-and-higher-specialty-trainees>

There are areas of haematology training and career development that need specific attention including development of improved pathways for career progression for healthcare scientists, acknowledgement of the role of consultant scientists and clarity on career structure in other areas including paediatric haematology.

- **Microbiology:** Microbiologists are involved where there is the emergence and re-emergence of certain infectious diseases including influenza, tuberculosis, Middle East respiratory syndrome (MERS) coronavirus, etc. Climate change is resulting in increased incidence of various vector-transmitted diseases. Immigration patterns bring exotic and tropical infections with which general clinicians are not familiar, increasing the demands on consultant microbiologists' expertise. Increasing antibiotic resistant infections is a national priority and there is a direct consequence in needing more consultant microbiologists to lead Antibiotic Stewardship.

Many district general hospitals have been unable to fill microbiology posts over recent years, and workforce pressures are keenly felt. This is important as these members work on infection control and had a critical role in the pandemic. There is a need for better resourcing for the future. With the increase in population, there is a greater need for maternity services, resulting in microbiology input into neonatal care which is an intensive area of infection services.

- **Virology:** the number of consultant retirements in the next 10 years outstrips the supply of trainees. Of the existing medical consultants, over 40% are expected to retire in the next five years and over 10% within ten years. Considering the size of the workforce (77 medical consultants), these figures are extremely concerning. While fewer in number, clinical scientists make a real contribution to the delivery of virology services. The situation with the clinical scientist workforce is that 20% of the workforce is due to retire within five years.

While the impending retirement of such a large proportion of the senior virology workforce is bad enough in terms of leaving a gap in service provision in five years, the problem is more acute because, in order to maintain service continuity, replacements require four to five years of higher specialty training by the current senior workforce. We are on the verge of losing important specialist knowledge in this clinical discipline.

- **Paediatric and Perinatal Pathology:** There is a total of 65 consultants in post, 55.8 Whole Time Equivalent (WTE). However, there are 15.25 WTE consultant vacancies with only 14 trainees currently in post. Some of these are training on a less than full time basis and others plan to work part time once they become consultants. This is compounded by 10% of the current workforce (4.8 WTE) being due to retire in the next three years, which will lead to a substantial loss of experienced staff.
- **Neuropathology:** There are 63 diagnostic consultants working in 25 centres, but this equates only to 54 WTE due to academic/teaching sessions. Some centres have merged, delivering a networked service. Workload varies considerably between centres



based on the type of work and number of consultants. Many consultants work 7.5 - 8 Direct Clinical Care (DCC) Programmed Activities (PAs) for the NHS.

- **Immunology:** There is increased demand for immunology services, the largest growth areas being in immune deficiency (due to increasing number of treatments available) and allergy. The pandemic has also increased workload for the specialty, particularly in the areas of vaccination, allergies, and covid immunity. There are many small centres, where long-term absence of a colleague or retirement can adversely affect service provision. Resilience is low.

Immunology will require increasing workforce as immunodeficiency increases in prevalence and polypharmacy adds to the requirement for drug allergy identification. This will involve increased numbers of medical immunologists and clinical scientists. These smaller specialties are even more vulnerable to the resource issues. For example, many immunology departments only have 2 or 3 consultants, so even a single vacancy places a lot of added strain with risk of things not working. Although the absence of the smaller specialties may not be as noticeable as the larger, more mainstream ones, their absence or lack of resourcing also has an impact, particularly for some of the more specialist diagnoses that they contribute towards.

- **Transfusion Medicine:** In Transfusion, the traditional model and staffing structure in hospitals is being challenged by automation and centralisation of pathology services. Equally, the shift to genomics-based diagnostics requires PhD level clinical scientists and bioinformaticians.
- An aging population will require more pathology testing generally. This will impact all pathology specialties, but particularly those involved with blood tests (chemical pathology and haematology). These laboratory services are led by medical specialists and clinical scientists.

## Building a skilled workforce

### Government commitments:

- **Help the million and more NHS clinicians and support staff develop the skills they need and the NHS requires in the decades ahead.**

- **£1 billion extra of funding every year for more social care staff and better infrastructure, technology, and facilities.**

- **Supporting moves towards prevention and support, we will go faster for community-based staff. Over the next three years we want all staff working in the community to have access to mobile digital services, including the patient's care record and plan, that will help them to perform their role. This will allow them to increase both the amount of time they can spend with patients and the number of patients they can see. Ambulance services will also have access to the digital tools that they need to reduce avoidable conveyance to A&E.**

**Overall, it is the College view that this commitment has not been met.**

Notwithstanding this view, we acknowledge the significant investment in LIMS/digital pathology promised for 2021-2022. This corresponds to the NHS priorities for 2022/3 announced on 24 December 2021 (Achieving "digitisation in every service"<sup>6</sup>). In relation to this, the commitment has



been met. However, long-term investment in training staff and establishing well-equipped laboratories to support Genomic medicine is needed. This area offers an incredible opportunity for faster, accurate diagnosis and tailored treatment, particularly for people with cancer.

## **Digital pathology**

Digital pathology includes the acquisition, management, sharing and interpretation of pathology information, including slides and data, in a digital environment. Digital slides are created when glass slides are captured with a scanning device, to provide a high-resolution image that can be viewed on a computer screen or mobile device.

One area the College is keen to develop as a profession is to harness technology to achieve the best possible outcomes for the workforce and patients. Digital pathology has the potential to improve patient care and support the pathology workforce by making the diagnosis and monitoring of disease much more efficient. It also has a vital role in training the next generation of pathologists. However, to transform pathology services and support patient care and safety, we need significant and sustained investment in IT infrastructure, staffing and training.

Digital pathology also facilitates remote working in several ways which are useful during the pandemic and going forward will help with staffing issues - home reporting, avoiding the need to be physically in the same space as a colleague giving a second opinion, and facilitating trainee pathologists in learning.

Any investment should build on the initial investment of the NHS to develop centres of excellence in digital pathology nationally. These centres can help with any further expansion of the technology across the NHS, by sharing knowledge and standards. It is the view of the College that digital pathology should be centrally funded and rolled out nationally in a similar way to digital radiology.

Digital pathology, and developments in technology enhanced learning provide unique opportunities to support future training models (attracting high calibre trainees), multidisciplinary learning, and workforce challenges. For example, the Pathology Portal<sup>7</sup>. The adoption of these beneficial modern technologies will require initial funding and ongoing financial support to maintain up-to-date systems, and to train the pathologists, IT staff, and biomedical scientists to use them effectively.

## **Artificial Intelligence**

There is great potential for the development of artificial intelligence (AI) to support the diagnostic process in pathology, especially image analysis in histopathology. Investment in digital pathology systems with joined up IT systems and information sharing across organisations is vital to begin to understand the potential for AI-assisted diagnostics, for example in grouping and presenting data around clinical presentations and in results management, and continued investment in digital pathology. There will need to be educational resources to educate health professionals in data governance, ethics, appraisal and interpretation of AI and similar technologies.

While the advent of AI in pathology is very exciting, and the NHS could be a world leader in the development and use of AI in pathology thanks to investments in this area to date, a great deal of work is required to get to the point where AI is fully developed and used safely in the NHS. As a result, it is very unlikely that AI will address the severe workforce gaps we see in the short term, but rather contribute to future developments in medical safety and efficiency in the medium term.



## **Genomic medicine**

Genomic medicine provides an incredible opportunity for faster, accurate diagnosis and tailored treatment for people with cancer, and with inherited diseases. It is essential however that there is equity of access to tests and the associated treatment(s).

Evidence-based medicine is the cornerstone of these developments, and it is vital to integrate research and data collection into monitoring clinical outcomes for patients.

Developments in genomics will require significant investment to ensure enough professionals, with appropriate training, supported by laboratories with the necessary equipment. Pathologists, due to their vast experience in tissue handling, processing and reporting, are at the heart of these developments and so must be involved throughout the development of this area.

There is no planned resource provision for the significantly increased workload that the Genomic Medicine Service will create for pathology. If this is not addressed there will be issues in providing the quality and level of service desired. Genomic analysis is increasingly being undertaken on cancer samples in order to refine diagnoses and to help determine the best treatment strategies. Extra work is required from histopathologists for pre-and post-genomic test processing. This all results in significant additional workload for histopathology laboratories.

## **Targeted cancer therapy using CAR-T cells**

Reprogramming a person's own immune system to target cancerous cells provides a truly individual approach to cancer treatment, which involves collaboration between haematology and pathology services.

CAR-T therapy is a novel and highly complex immune therapy that redirects the body's own immune system to fight cancer. CAR-T cells are often described as 'the living drug' because they actively search and target malignant cells. It uses a type of immune cell called a T-cell, which is extracted from patients' blood before being genetically altered to allow it to target surface proteins found on cancer cells.

The pandemic has had a devastating impact on recent efforts to improve cancer recovery and survival in the UK. Until the diagnostics are complete, treatment for cancer, as with other debilitating conditions, cannot start. There is a compelling need for diagnostics to be "front loaded" so that the prioritisation of patients becomes markedly more efficient. The government's commitment to 40 community diagnostic centres is a major step in the right direction.

## **Community Diagnostic Centres**

We welcome the move to introduce easier access to diagnostic services centred around patients. Quicker, easier access through a 'one stop shop' will lead to earlier diagnoses which leads to better outcomes for patients and can save lives.

The significant drop in referrals from primary care has meant that patients are presenting late for diagnosis. The establishment of Community Diagnostic Centres should help with this by introducing easier access to diagnostic services centred around patients. Quicker, easier access through a 'one stop shop' will lead to earlier diagnoses which leads to better outcomes for patients and can save lives.

These new diagnostic centres need to be introduced with sufficient resources, in terms of staffing, IT provision and connectivity with other systems (such as GP practices).





The COVID-19 crisis has highlighted pre-existing problems facing rural areas. Our members tell us that this means patients wait longer for a diagnosis in these areas. It can be hard to recruit and retain doctors and nurses who are willing to work in smaller hospitals, which means health Trusts/boards rely more heavily on agency staff to fill gaps in rotas. This has a knock-on effect on patient care, with patients travelling long distances.

## Wellbeing at work

### Government commitments:

- **Introduce new services for NHS employees to give them the support they need, including quicker access to mental health and musculoskeletal services.**
- **Reduce bullying rates in the NHS, which are far too high.**
- **Listen to the views of social care staff to learn how we can better support them, individually and collectively.**

**Overall, it is the College view that this commitment has not been met.**

A well workforce working in a caring and supportive environment is a more efficient, cohesive, safer workforce and is better able to serve the needs of patients<sup>8</sup>.

The impact of the pandemic has been hard on laboratory staff, given the huge effort to deliver rapid implementation of COVID-19 related testing. Many have not taken annual leave, many have been redeployed to frontline care and many others will have also had to deal with family pressures of the pandemic like everyone else. There are increasing numbers of pathologists and trainees feeling 'burnt out' which could have significant implications for workforce projections if they choose to leave the specialty.

Trainees have suffered in several ways including reduced training opportunities, redeployment to other clinical areas, and professional exam disruption.

We believe the key in supporting the workforce is to provide safe space and time to enable conversations about wellbeing related issues, and to keep in mind the solution is not a one size fits all model.

The College suggests the following ways to support the workforce:

- **Looking after people**
  - address pension tax arrangements issues.
  - address burnout and workforce issues.
  - work to improve the inclusivity of workplace cultures to foster diversity and equality of opportunity.
  - invest in the estate to enhance the experience and improve safety for staff working in laboratories in healthcare systems.
  - review/simplify appraisal and revalidation.
  - facilitate improved work-life balance and ensure staff well-being is prioritised.
  - mitigate impact of COVID-19 on training and examination schedules.
  - ensure job planning facilitates greater flexibility within training programmes and work to support their individual needs and help attract and retain staff.



- ensure commitment is made to regular teaching time and training with equity of required resource provision.
- **Belonging**
  - recognise/value contributions of all staff, highlighting the work and efforts of trainees and international colleagues.
  - support optimisation of multi-professional teams.
  - address lack of access to specialist placements (neuropathology, paediatric pathology, and molecular pathology (cellular pathology trainees)).
  - recognise/reward professional activities vital to patient safety and protection of the future workforce (writing clinical guidelines, being an examiner, clinical leadership, quality improvement, and governance).
- **New ways of working**
  - reduce administrative burdens.
  - alleviate impact of flexible working patterns on the departments' capacity.
  - provide digital training resources (case studies, guidance, support, etc).
  - facilitate rollout of integrated IT and innovative technology.
- **Growing**
  - consider post-COVID recovery of services, particularly cancer, and mitigate workload on consultants, including delivery of supervision and training for trainees.
  - inspire the public to tackle the obesity crisis and consider how best to deal with chronic illness.
  - consider ways to avoid unnecessary repeat tests.
  - ensure a maintained focus on the day-to-day and longer-term wellbeing of all staff.
  - commit at every level to building a new culture to help build sustainability and resilience. This will prioritise the physical and psychological safety of staff as core values within the NHS to build loyalty, productivity, and retention.
  - provide additional support to trainees to ensure they can re-start their training and provide a much-needed complement to the future consultant workforce.
  - support the older workforce to enable an ongoing contribution to the NHS in the later stages of their career – such individuals will be a vital resource in the coming years.

## References

- <sup>1</sup> [pathol-dig-first.pdf \(england.nhs.uk\)](#)
- <sup>2</sup> [IBMS supports call for increased diagnostics investment - Institute of Biomedical Science](#)
- <sup>3</sup> [NHS England » Funding and efficiency](#)
- <sup>4</sup> <https://www.rcpath.org/profession/workforce-data.html>
- <sup>5</sup> [https://www.cancerresearchuk.org/sites/default/files/estimating\\_the\\_cost\\_of\\_growing\\_the\\_nhs\\_cancer\\_workforce\\_in\\_england\\_by\\_2029\\_october\\_2020\\_-\\_full\\_report.pdf](https://www.cancerresearchuk.org/sites/default/files/estimating_the_cost_of_growing_the_nhs_cancer_workforce_in_england_by_2029_october_2020_-_full_report.pdf)
- <sup>6</sup> [NHS England 2022/3 Priorities and operational planning guidance](#)
- <sup>7</sup> <https://www.rcpath.org/discover-pathology/news/pathology-portal.html>
- <sup>8</sup> [https://www.gmc-uk.org/-/media/documents/caring-for-doctors-caring-for-patients\\_pdf-80706341.pdf](https://www.gmc-uk.org/-/media/documents/caring-for-doctors-caring-for-patients_pdf-80706341.pdf)



## Contact details

This response was authored by Fiona Addiscott, Workforce Planning Manager.

E: [fiona.addiscott@rcpath.org](mailto:fiona.addiscott@rcpath.org)

## About the Royal College of Pathologists

The Royal College of Pathologists is a professional membership organisation with more than 12,000 fellows, affiliates and trainees, of which 23% are based outside of the UK. We are committed to setting and maintaining professional standards and promoting excellence in the teaching and practice of pathology, for the benefit of patients.

Our members include medically and veterinary qualified pathologists and clinical scientists in 17 different specialties, including cellular pathology, haematology, clinical biochemistry, medical microbiology and veterinary pathology.

The College works with pathologists at every stage of their career. We set curricula, organise training and run exams, publish clinical guidelines and best practice recommendations and provide continuing professional development. We engage a wide range of stakeholders to improve awareness and understanding of pathology and the vital role it plays in everybody's healthcare. Working with members, we run programmes to inspire the next generation to study science and join the profession.

