The Royal College of Pathologists
Pathology: the science behind the cure

HEE Strategic Framework Call for Evidence 2021: summary response

October 2021

The vital role of pathology

Pathology is the study of disease and is the bridge between science and medicine. It underpins every aspect of patient care, from diagnostic testing and treatment advice to using cutting-edge genetic technologies and preventing disease. Pathologists play a critical role in research, advancing medicine and devising new treatments to fight viruses, infections and diseases like cancer.

95% of clinical pathways rely on patients having access to efficient, timely and cost-effective pathology services; a service that requires significant attention and investment if it is to meet the future workforce demands.

Workforce supply

Pathologists play a vital role in healthcare and medical research. They are critical to diagnostic services, and the development of new treatments in many fields. As evidenced by the recent GIRFT report on pathology, the profession needs more people, whether these be medical pathologists, clinical scientists or biomedical scientists. The workforce is an ageing one; around a third of pathologists are 55 or over. When our most senior consultants retire in the next five to ten years, there will not be enough trainees to replace them in numbers, let alone in knowledge and expertise. Coupled with the increasing move to part-time working across the profession, and the demands on the profession resulting in some people choosing to leave it,[1] workforce supply in pathology is at crisis point. In addition to extra staff, it is imperative that the workforce is supported

[1] https://www.bma.org.uk/bma-media-centre/thousands-of-overworked-doctors-plan-to-leave-the-nhs-bma-finds

by better data, better digital systems and more flexible career paths to facilitate maximum productivity. A concerted effort is desperately needed to fund sufficient numbers of training posts, to continue to attract trainees.

Workforce demand

Over the past 18 months workforce demand has increased significantly and this impact will be further exacerbated by the expected rapid decrease in workforce supply. Pathologists, like many healthcare professionals, have been working tirelessly during the COVID-19 pandemic. Microbiology, virology, infection, blood sciences and immunology communities have had very significant roles in developing and managing viral and antibody testing. The pandemic has served to highlight the vital role of pathology to serve patients' healthcare journey. When planning the workforce for pandemic recovery, consideration needs to be given to the significant increase in the number of diagnostic staff required to deal with the elective care and waiting lists. NHS Providers have recently reported that '*The diagnostic waiting list has increased by 3.4% to 1.31 million since the previous month, with 22.3% of people waiting six weeks or more for a test in May [2021] – missing the national target that no more than 1% of patients should wait more than six weeks*.'[2]

The College has serious concerns over preparations to deal with the backlog of non-COVID-19-related illness and the related surge of demand for pathology services, particularly for cancer diagnosis and treatment for both tissue and blood cancers. These challenges alone are worrying, but there are further areas on the horizon that will also lead to a higher workforce demand on the profession. This includes the evolution of genomics − an area of current rapid expansion that will significantly increase pathology workload. This increased workload is currently unfunded with no plans for funding in the future.

Pathologists are overwhelmed. Their excessive workloads not only have the potential to cause detrimental impacts to their clinical and laboratory outputs and their wellbeing, but also on their ability to contribute to the support and development of their profession. Reduced input into areas such as best practice guidelines and supervision of the junior workforce weakens the stability of the profession for the future and, ultimately, has the potential to significantly affect patient care. This has been keenly felt by the College over recent years and is a growing concern.

Key pressures for specialties

Haematology

Every 14 minutes in the UK, a patient is diagnosed with blood cancer or a related disorder. This is equivalent to 38,000 patients each year who rely on the input of a haematologist to contribute to their healthcare needs.

With clinical pressures on haematology consultants increasing, consultants are finding it increasingly difficult to undertake vital diagnostic work in the laboratory. There are difficulties recruiting to consultant posts, both medical and clinical scientists, as well as specialty and associate specialist (SAS) grade posts. This has resulted in around 10% of consultant posts and 30% of SAS grade roles remaining unfilled.

[2] https://nhsproviders.org/media/691779/addressing-the-care-backlog-briefing-1c.pdf

Cellular pathology

Cellular pathology incorporates histopathology, cytopathology, neuropathology and paediatric pathology. Each aspect of cellular pathology is facing increasing challenges, further compounded by issues related to COVID-19.

Histopathology

Hospitals process tens of millions of histopathological slides every year containing tissue samples requiring examination and diagnosis by a histopathologist.

While histopathology is the largest pathology specialty, it faces an approaching retirement crisis as a quarter of all histopathologists are aged 55 or over and there are insufficient trainee doctors in post to fill the gaps in the workforce. The introduction of new targets for cancer diagnosis and treatment leads to further pressure on reporting turnaround times, compounded by the now well-documented COVID-19 backlog. In addition, there is an ongoing reduction in the numbers of autopsy-active pathologists.

Although recruitment into histopathology has increased, there remains a 25% shortfall in staff able to report results, with many regions having even higher shortages. Cancer Research UK's report, Estimating the cost of growing the NHS cancer workforce in England by 2029, which works from data collected in 2019 (pre-pandemic) indicates that without targeted action and investment, the number of histopathologists is forecast to reduce from the existing shortfall by an additional 2% by 2029. This is being further exacerbated by the COVID-19 backlog.

Cytopathology

Cytopathology is a branch of pathology involving the study and diagnosis of diseases at the cellular level.

Nearly a third of pathologists reporting on cytology are over 55 years old, and potentially approaching retirement in the next ten years. With increases in demand, both in number and complexity of the tests required, pre-pandemic we saw a shortfall of around a quarter of the staff required to deliver the necessary service. COVID-19 has brought about even more challenges, and many departments are struggling as cervical screening catches up with a very marked rebound workload effect. We haven't yet been able to quantify the scale of the effect of this on the already under-resourced workforce.

Neuropathology

Neuropathologists divide their time between diagnosing illness in patients, investigating causes of death and contributing to neuroscience research.

There are 63 diagnostic consultants working in the 25 centres in the UK, but this equates only to 54 whole time equivalent (WTE) owing to academic/teaching sessions. While some centres have merged, to maximise efficiencies by delivering a networked service, there remains a considerable shortfall in the workforce necessary to meet the increasing service demand with evidence to suggest that most centres report a shortfall in the number of direct clinical care programmed activities (PAs; defined as 'work directly relating to the prevention, diagnosis or treatment of illness') with 14.8 PAs per centre compared with an ideal of 20.3 PAs on average.

Paediatric and perinatal pathology

Paediatric pathologists investigate illnesses affecting children up to 18 years of age. Children present with a different range of conditions from adults, and paediatric pathologists are experts in

unique childhood diseases. Perinatal pathology includes the study of disorders of the placenta, problems affecting unborn babies' development, and causes of miscarriage, stillbirth and neonatal (newborn) death.

There are currently 15.25 WTE consultant vacancies across the UK out of a workforce of around 45, but 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 the fact that 10% of the current workforce (4.8 WTE) are due to retire in the next three years, which will lead to a substantial loss of experienced staff.

Chemical pathology/clinical biochemistry

Chemical pathology (or clinical biochemistry) involves monitoring bodily fluids like blood and urine to detect important changes in the body's chemistry. Pathologists in this area play a key role in diagnosing and monitoring patients with a wide variety of illnesses – from kidney disorders to rare genetic diseases. As well as a consulting role as part of the primary care team, both medically and scientifically qualified clinical biochemists contribute directly to ward-based inpatient care and care pathways. Medically qualified clinical biochemists typically have direct clinical responsibility for primary and secondary heart disease prevention in local lipid clinics.

It is anticipated that 47% of consultant posts will likely be vacant within the next ten years. If not filled, this would leave the service unable to cope with the demands placed upon it, including areas such as advances in genomics, expanded neonatal screening, recognition and identification of rare metabolic disease such as peroxisomal storage diseases, treatment for blood cancers and management of clinics for diabetes monitoring. As a result of potential retirements and increased demand, clinical biochemistry is facing an uncertain future. These pressures are compounded by workforce instability, and potential changes to job planning arrangements, medical training and clinical scientist training.

Microbiology

Microbiologists are another vital part of healthcare delivery and have a dual role in treating infections as well as the spread of disease.

A recent College workforce planning overview showed that, in the UK, there are 684 medical microbiologists. Many hospitals have been unable to fill microbiology posts over many years, and workforce pressures are keenly felt. The expertise of microbiologists is critical in tackling the antimicrobial resistance crisis, one of the greatest threats to modern medical practice, and to infection control in healthcare, including controlling the spread of SARS-CoV-2 and many other infections in hospitals.

Virology

Virological disease has increasingly affected human health in recent years as advances in medicine have unfolded, the number of people with immunosuppression has increased and more antiviral treatments have become available. A significant proportion of the population experience viral infections each year, ranging from minor ailments like coughs and colds to life-threatening diseases like AIDS, chronic hepatitis and pandemic influenzas. Virologists have been one of the pathology specialties on the frontline dealing with the COVID-19 pandemic over the last two years.

The recent College workforce planning overview showed that, in the UK, there are only 83 medical virologists. It is estimated that an additional 56 virologists are required to keep up with the current demand. Despite filling all the training posts available, the number of consultant retirements in the next ten years outstrips the supply of trainees. More training posts are urgently required. Of the

existing medical consultants, over 40% are expected to retire in the next five years and over 10% within ten years. In Northern Ireland, the sole medically qualified consultant is due to retire within the next five years. In Wales, a third of the workforce, comprising six consultants, will retire in five years and another person within ten years. 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. The imminent retirement of medical consultants and clinical scientists over the next five years will lead to huge gaps in service provision, and places the UK at significant risk, particularly for new and emerging infections.

Immunology

Immunology is a clinical and laboratory discipline dealing with the study, diagnosis and management of patients with diseases resulting from disordered immune systems, and conditions in which immunological treatment forms an important part of therapy and/or prevention.

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 the workload for this specialty, particularly in the areas of vaccination, allergies and COVID-19 immunity. Service provision in small centres has been affected heavily by retirement and long-term absence.

Trainees

COVID-19 has had a huge impact on pathology departments, trainers and trainees.[3] It has disrupted training and examination schedules for many across the pathology specialties, leading to significant delays for at least 14% of pathology trainees. There is concern about the effect of this on the progression of trainees in all specialties through their training programmes, as well as on their wellbeing. This is being compounded by challenges in enabling trainees to catch up with the training that they have missed as a result of COVID-19 as well as trying to deliver training for trainees new to the specialty. Ultimately, this will affect the workforce more generally and, therefore, patients. There is a determination to restart and reboot training to address the significant issues that the pandemic has caused for trainees.

[3] The *Bulletin* of the Royal College of Pathologists. Bulletin-July-2020.pdf (rcpath.org) (p154)

About the Royal College of Pathologists

The Royal College of Pathologists is a professional membership organisation with more than 11,000 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.