

Ten-year cancer plan call for evidence – Response from the Royal College of Pathologists, 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. Pathologists are central to the diagnosis of cancer. We are the specialised laboratory-based doctors who examine patients' biopsies and decide if there is cancer there.

Pathologists have a key role in the Multi-Disciplinary Team meeting, liaising with surgeons and oncologists, determining the type, grade (aggressiveness) and molecular characteristics of that patient's cancer, which directly informs the treatment of the patient.

The College welcomes the opportunity to contribute to this call for evidence in relation to pathology in the areas below:

Question

Do you have any suggestions for how to raise awareness of the causes of cancer and how it can be prevented?

- Health screening programmes are vital to finding out if people are at higher risk of a health problem, so that early treatment can be offered, or information given to help them make informed decisions.
- Inequities in screening participation have been shown across the UK, with participation in all the adult screening programmes decreasing as deprivation increases. For example, according to [Public Health Wales](#), in 2018–2019 breast screening uptake decreased slightly by 0.3%.¹
- Recruitment issues in some key diagnostic disciplines, such as pathology, limit capacity and have an impact on the timeliness of programmes.
- Equal access to screening must be prioritised. Our members tell us that there is a need to reduce inequalities, especially in lower socio-economic status groups or high-risk groups, e.g., homeless women. There are transport issues, issues of poverty and larger older populations face particular problems in rural areas. Communication should be in easy-to-understand language with simple explanations of what is involved. This would help demystify the procedures.

Question

Do you have any suggestions for how to raise awareness of the signs and symptoms of cancer?

¹ <https://phw.nhs.wales/files/screening-division-reports/screening-division-annual-report-jan-2020/>

There was a reduction in people coming forward for cervical smear tests at the beginning of the pandemic. There are around 3,200 new cervical cancer cases in the UK every year, that's more than 8 every day (Cancer Research UK, 2015-2017).

Large-scale 'public service'-type adverts need to stress the importance of identifying cancer at an early stage when treatment is more likely to be successful.

The 'Be Clear on Cancer' adverts, posters etc. were proven to provide benefits regarding signs/symptoms awareness - could they be continued?

Cytology in diagnosis

Cytopathology is the study of cells in body fluids, smears, and aspirated samples, and is key for example in the study of cervical smears for the detection of changes in the cervix that could lead to cancer.

Challenges in cytopathology include:

- huge variations in general diagnostic cytology workload due to variation in workflow especially given reduction and now rebound in work with the pandemic. Many centres experienced a relative increase in malignant diagnostic rates as cancer investigations were prioritised.
- departments struggling as cervical screening catches up with a very marked rebound workload effect. Some centres are still unable to deliver the 14-day turnaround time from sample taking to report to women required of the cervical screening in England.
- centralisation of cervical screening has decimated the consultant reporting capacity for cervical cytology by inevitably restricting geographies. Is there a role for digital pathology to mitigate for this?
- everyday reporting and work, training and education has changed dramatically to enforce social distancing and other COVID-19 avoidance strategies. Many will remain in the future as some have been advantageous but require more time and effort to deliver.
- the use of IT has hugely accelerated and been used for meetings, education, and reporting consultations. The introduction of the new Cervical Screening IT system is long overdue but is planned for delivery shortly. The hope is that it will deliver what is required of a modern cervical screening programme.

Question

Do you have any suggestions for how to get more people diagnosed quicker?

The COVID-19 pandemic has highlighted the importance of laboratory tests and laboratory professionals within healthcare. There have been workforce shortages for some time, but now more than ever, it is vital that services are sufficiently funded and supported to get more people diagnosed quicker. This is necessary to optimise healthcare recovery both for COVID-19 related illness and to tackle the diagnostic backlog, particularly in cancer services. 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 numbers of biomedical scientists supporting medically qualified pathologists in integrated teams. Within cellular pathology, this should focus on BMS cut up as this frees up significant consultant time.
- Increase number of clinical scientists in pathology and provide improved/widened workplace/academic training programmes.
- Encourage return to practice.
- Develop a system of independent reporting for trainee pathologists which can also help reporting capacity.

Medium-term:

- Increase training posts in all pathology specialties and lab staff numbers.
- Invest in schemes to attract trainees to pathology at all stages of education.
- Provide better IT including modern, functional laboratory information systems, voice recognition support and remote working software.
- Ensure capital investment and follow-on revenue to implement digital pathology more widely, enabling staff to work more efficiently, flexibly, and remotely.
- Invest in the development of and adoption of AI technologies that help deliver increase in testing capacity and more rapid diagnoses (applicable to both radiology and pathology)
- There needs to be integration of histopathology and genomics/Genomic Laboratory Hubs - operating both in silos causes delays and generates waste of money as many processes end up being duplicated.

Long-term:

- Prepare for greater demand for pathology services to service increases in chronic disease, (diabetes, heart disease, chronic respiratory diseases).
- 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.

Pathology underpins every aspect of patient care, and pathologists are crucial to cancer diagnosis, 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.

- 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 both 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 trainees to replace them in numbers, let alone in knowledge and expertise.
- 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.

95%² 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%³ and 4%⁴ 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.

Question

Do you have any suggestions for how to improve access to and experiences of cancer treatment?

Minimising diagnostic delays and making sure that pathology is also sufficiently well-resourced to perform its role in directing patient care in a timely manner is essential. As an example, when it comes to treatment, blood cancers are more complex than solid tumour cancers. Ensuring blood cancer patients have timely access to the best and most effective new medicines and treatments is, therefore, critical to improving patient outcomes.

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

² [pathol-dig-first.pdf \(england.nhs.uk\)](#)

³ [IBMS supports call for increased diagnostics investment - Institute of Biomedical Science](#)

⁴ [NHS England » Funding and efficiency](#)

scientists, acknowledgement of the role of consultant scientists and clarity on career structure in other areas including paediatric haematology.

Digital pathology – the digitisation of biopsy images to allow their review on computers, or remotely, will improve patient care and support the pathology workforce by making the diagnosis and monitoring of disease much more efficient. It will bring faster and easier access to expert opinion and advice, with the rapid referral of cases between pathology networks or between organisations. However, to transform pathology services and support patient care and safety, we need investment in IT infrastructure, staffing and training.

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”⁵). 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 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.
- If managed carefully this can provide some flexibility, but we also must be careful that a department doesn't become a series of individuals working in a more isolated way.
- Any investment should also 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 Portal⁶. 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 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, 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.

⁵ [NHS England 2022/3 Priorities and operational planning guidance](#)

⁶ <https://www.rcpath.org/discover-pathology/news/pathology-portal.html>

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.

Question

Do you have any suggestions for how to improve after-care and support services for cancer patients and their families?

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.

Personal care plans will be revolutionised by genomics, and this is already starting to be happen. In all oncology specialities, there is a huge push to do more and more genomics, which will be fantastic for patients, but it has huge workload implications for pathology and there which has been unaddressed with funding. And this is going to be like a parallel service to traditional histology in the next five years. So, this is going to be important in terms of personalised care, but there will be huge implications. This is something that, if not addressed now, will be a big problem in five years’ time, because the government will have missed the boat to invest in genomics.

Improving data and translating research into practice

Question

Do you have any suggestions for how can we maximise the impact of research and data regarding cancer and cancer services in England, including how we can translate research and data into practice sooner?

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 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 – i.e., more staff equipped with knowledge, and laboratories with necessary equipment.
- Pathologists are at the heart of these developments and hence must be involved throughout the programme, because of their vast experience in tissue handling, processing, and reporting.
- There is no planned resource provision for the significantly increased workload that the Genomic Medicine Service will create for pathology, which will grow over time. Without this being 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. This may necessitate taking of additional biopsies and even when existing biopsies are used as samples for these tests, extra work is required from histopathologists for pre-and post- genomic test processing e.g., determining whether sufficient cancer tissue is present within a sample to enable genomic testing to occur; and integrating the test result into the existing histopathology report. 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.

Impact on pathology subspecialties

Histopathology

Histopathology is seen as the 'gold standard' test for the diagnosis of many cancers 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 investigations in symptomatic patients) and the increasing complexity of testing.

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.

In 2020, Cancer Research UK⁵ 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. Although recruitment into histopathology has increased, there remains a 25% shortfall in staff able to report results, with some regions having even higher shortages.

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.

References

¹ [pathol-dig-first.pdf \(england.nhs.uk\)](#)

² [IBMS supports call for increased diagnostics investment - Institute of Biomedical Science](#)

³ [NHS England » Funding and efficiency](#)

⁴ <https://www.rcpath.org/profession/workforce-data.html>

⁵ 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

⁶ [NHS England 2022/3 Priorities and operational planning guidance](#)

⁷ <https://www.rcpath.org/discover-pathology/news/pathology-portal.html>

Contact details

Janine Aldridge, Public Affairs Officer. E: janine.aldridge@rcpath.org T: 020 7451 6769