Evidence Brief: Histopathology

Contents

Produced by the Knowledge Management team Evidence Briefs offer an overview of the published reports, research, and evidence on a workforce-related topic.

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Key publications – the big picture

NHS Long Term Workforce Plan
NHS England, August 2023
[p. 72] Diagnostic support: AI has the potential to free up clinical time and improve accuracy and efficiency of diagnostics in services such as ophthalmology, imaging, pathology and dermatology by acting as a first reader on images and eventually automating some clinical decisions where safe to do so. One example is the use of first reader AI technology, which will support the radiology workforce and accelerate diagnostic screening times.

[p. 77] An example of innovative technologies being accelerated to improve flow of clinical data and process across a pathway is the Diagnostics Digital Capability Programme, where investment and support into pathology and imaging networks to implement new technologies is expected to increase productivity across imaging and pathology services by up to 10% by March 2025. Investment is also expected to enable faster turnaround times for diagnostic test results (supporting the delivery of national service delivery standards, such as urgent faster diagnosis standards for suspected cancer cases and six-week diagnostic waits), improved patient and staff experience, and reduced outsourcing spend.

Lung Cancer – GIRFT National Specialty Report
Getting It Right First Time (GIRFT), April 2022
[p. 82] An opportunity to review workforce modernisation should not be overlooked as this may be the key to unlocking some of the challenges which impact on service delivery and care. Services should ensure that they have development opportunities for staff, making use of innovative roles such as radiographer reporting, pharmacist prescribers, assistant practitioners and nurse-led clinics, especially where vacancies exist and recruitment has been challenging. Far too often, teams reported that simple solutions such as flexibility of job description or role, banding on Agenda for Change or invest to save opportunities blocked obvious solutions. Unless trusts invest in a people plan for the NHS these problems will continue to impede quality improvement. For example, we heard from one team of their proposed solution to a significant shortage of consultant histopathologists involving the introduction of enhanced biomedical scientist roles with the opportunity for career development, additional training and enhanced responsibility. The team were unable to progress this business case for such reasons and the impact on overall morale of the staff was palpable.

Pathology – GIRFT Programme National Speciality Report
Getting It Right First Time (GIRFT), September 2021
Using information provided by the RCPath and the Institute of Biomedical Science (IBMS), we identify challenges in the pathology workforce, and suggest ways to approach these. We especially look at ways to upskill and retrain a variety of staff to take on higher-level work, and create a more diverse and flexible workforce, ready to meet future challenges.

Diagnostics: Recovery and Renewal
NHS England, October 2020
[p. 40: The Pathology workforce] Histopathology has been seriously challenged for several years due to the increasing numbers of samples (e.g. related to bowel and prostate cancer) and increasing complexity of testing. Perinatal pathology services, which are delivered by highly specialist paediatric post mortem centres and involve post mortems and histopathological examination, are under severe strain due to lack of trained pathologists. Genomic analysis is also increasingly being undertaken on cancer samples. This may necessitate taking of

additional biopsies and will result in additional workload for histopathology laboratories.

Estimating the cost of growing the NHS cancer workforce in England by 2029
Cancer Research UK, October 2020
Over the last 50 years, the UK has made significant progress in improving survival outcomes for people diagnosed with cancer. In the 1970s, only 1 in 4 cancer patients would survive their disease for ten years or more. By 2010, this had risen to 2 in 4, and survival outcomes continue to improve.1 There are several drivers for this, from the introduction of screening programmes and innovative treatments to ongoing improvements to health care pathways – all of which has been underpinned by the continued and tireless efforts of staff from across the NHS.

[pp. 10-11] The histopathology workforce is forecast to decline
The results of the economic modelling show that achieving a growth of 45 per cent may be more difficult in some professions than others. For example, in clinical and medical oncology, if current trends continue this workforce would only need to grow by a further net addition of 57 staff to meet the 45 per cent growth scenario. However, in diagnostic radiography, an estimated additional 2,591 staff would be needed in addition to the existing trend. The modelling shows that, without any new intervention, the number of histopathologists is expected to reduce by 2 per cent by 2029. Therefore, to meet a 45 per cent growth, the profession would require 580 more staff at a potential maximum cost to HEE of £118 million.

See also p. 36, Histopathology

Meeting pathology demand: Histopathology workforce census
Source: Royal College of Pathologists
Publication date: 2018
This report looks at the issues, recommends some actions that could help to alleviate the difficulties – both now and in the longer term – and includes comments and case studies from histopathologists working in different areas of the UK.

Genomics in Histopathology
Genomics Education Programme (no date)
Advances in genomics are shaping the field of histopathology in a number of ways. In cancer, genomics is enabling more precise diagnosis, treatment and risk prediction. The work of the histopathologist now regularly includes integrating both morphological and genomic information in order to inform clinical decisions. Genomics is also enabling progress in terms of better sub-typing of cancers and the development of targeted treatments.

Case Studies

Transforming histopathology
Biomedical Scientist, October 2023
Nottingham has a workforce of 32 whole-time equivalent (WTE) consultants, 170+ technical and admin and clerical staff delivering 73,000 cases per annum.

In 2022 the laboratory was facing consistent block backlogs of up to 3000, immunohistochemistry TATs of 9–14 days and overarching civility concerns with regard to low morale, stress, overworked staff, lack of training, limited opportunities and poor staff retention. Our overall TATs for patient results in 10 days ranged from 27% to 40% – a far cry from the expected 98% in 10 days by 2025. To compound issues, the department was

successful in receiving just short of £1m to increase staffing, but the anticipated improvement did not materialise.

While the above does not make for pleasant reading, I am pleased to say this is no longer the case. This article is an 18-month story of how bravery, embracing change, looking at things differently and enormous workforce dedication has turned things around to make NUH a leading centre for delivery of patient care.

The Star for workforce redesign

More resources and tools are available in the Star.

Statistics

You can find relevant statistics on the Health and Care Statistics Landscape under **"Health and Care"**.

National Data Programme

Workforce, Training and Education staff can look at the National Data Warehouse (NDL) SharePoint site to find out more about datasets and Tableau products.

Published Peer Reviewed Research

Career pathways

Academic training pathways in histopathology: practical perspectives Abstract only*
Diagnostic Histopathology, May 2025
Clinical academics are uniquely well-placed to drive the translation of novel research-derived insights into human health and disease towards direct improvements in clinical practice. The Integrated Academic Training (IAT) Programme provides a structured training pathway for aspiring clinical academics, allowing residents to undertake research from the earliest stages of medical training. Despite this, pursuing academic training in Histopathology poses distinct challenges and there are a declining number of academic pathologists in senior posts. It is therefore critical that Histopathology residents are encouraged to explore academic training opportunities. In this article I outline academic pathways - including those within and beyond the IAT programme - residents may wish to consider.

Career pathways into the medical laboratory workforce: Education, exposures, and motivations Abstract only*
American Journal of Clinical Pathology, April 2025
This study found overall positive job experiences and satisfaction, but career pathways into medical laboratory occupations are complex and often unclear. Organizations in the field are undertaking promotional efforts to increase the visibility of these occupations.

Why Choose a Pathology Career? A Survey of Australian Medical Students, Junior Doctors, and Pathologists
Archives of Pathology and Laboratory Medicine, July 2022
There is a global decline in medical graduates pursuing

pathology careers, resulting in a broadening gap between workforce demand and supply. Lack of exposure to pathology was the most-cited reason for rejecting pathology (after lack of patient interaction). There was poor understanding of the role of pathologists and low confidence in the ability to interpret histopathology reports among medical students and prevocational doctors. Negative stereotypes regarding pathologists were identified. Active interventions increasing exposure of medical students and prevocational doctors to pathology as a career, as well as promotion of research opportunities and potential for work-life balance, are needed to address pending workforce shortages.

Tips for academic pathology trainees (APT): A website offering advice for academic pathology trainees and medical students/doctors considering histopathology as a career
Pathological Society of Great Britain & Ireland, 2019
This website serves as a single-site, permanent, universally-accessible, comprehensive set of resources for both medical students/ doctors interested in histopathology and academic pathology trainees.

New ways of working

A Process Simulation Model for a Histopathology Laboratory
2024 Winter Simulation Conference, December 2024
In this paper, we consider a discrete-event simulation model for a histopathology department at a hospital in the East of England, UK. Our model captures the histopathology department with a higher level of detail than currently exists in the literature, and address some specific simulation challenges that arise from such a modeling approach. We then demonstrate how our simulation model can be used to answer various management questions regarding staffing levels, TAT and the trade-offs between them.

An overview of infectious disease laboratory methods: an update for the histopathologist Abstract only*
Diagnostic Histopathology, October 2024
This review will start with an outline of the key methodologies of microscopy, culture, serology, fungal antigen testing, and molecular techniques. The second part will focus on particular histopathological findings and their associated infections. The examples provided are representative of scenarios encountered in our practice in the United Kingdom. We include examples of the diagnostic workup of granulomatous inflammation, sulphur granules containing filamentous bacteria and viral cytopathic effects. The possibilities for PCR testing on fixed formalin paraffin embedded tissues is discussed. This review provides a foundation for histopathology trainees and specialists to strengthen their knowledge of infection diagnostics.

Pathologist assistants in a Pathology Department: perceptions of their changing role
Pathologica, October 2024
Recognising the value of Pathologists' Assistants is crucial for effective collaboration and optimal utilisation of their skills. Addressing unresolved issues, such as institutionalising their role and improving academic training, is essential. Creating a community of practice and fostering effective communication and professional development are key to successful integration. Further research and stakeholder collaboration are needed to integrate Pathologists' Assistants into the healthcare system fully.

Consolidation of pathology services in England: have savings been achieved?
BMC Health Services Research, November 2018
Consolidated units have on average achieved larger cost savings than non-consolidated units', but there is a small minority of providers that have actually experienced a deficit,

even when taking into consideration inflation and increased activity. In addition, the consolidation of services has opened the pathology market to the private sector, with an increased number of private laboratories operating in the last 5 years. Our analysis is unable to directly prove that the greater cost savings are due to the consolidation process but savings were achieved with negligible redundancies. The long-term impact on the pathology workforce and the quality of pathology services is worth further investigation.

Conference abstract: Auditing the practice of a healthcare scientist in training to report gastrointestinal surgical specimens
Journal of Pathology, October 2016
In 2012, a joint histopathology working group from the Royal College of Pathologists (RCPath) and Institute of Biomedical Science (IBMS) began a pilot study to train healthcare scientists in the reporting of gastrointestinal (GI) surgical specimens, which in 2015 became a full qualification. The training maps that of medical histopathology trainees, albeit to a much narrower breadth. At the end of stage C, after a minimum of 3 years, trainees sit an exit exam, set and marked at equivalent level to FRCPath part 2.

Careful auditing of reporting accuracy and diagnostic errors is a useful tool for monitoring the progress of histopathology trainees. The decrease in incorrect diagnoses and diagnostic errors by stage C demonstrates the development of this trainee and demonstrates the ability of healthcare scientists to safely report gastrointestinal surgical specimens after a period of appropriate training. Healthcare scientists are a key part of the existing histopathology workforce. This development will allow them to become integrated members of the clinical histopathology team delivering a high quality service to patients.

Staff experiences

Benefits and challenges of digital pathology use for primary diagnosis in gynaecological practice: a real-life experience
Abstract only*
Diagnostic Histopathology, October 2023
In this article, we will outline our personal experience of transitioning to digital pathology from the joint viewpoint of an experienced consultant gynaecological pathologist and a senior pathology trainee. We will examine the drivers for going digital including efficiency, quality and patient safety from the perspective of a real life deployment. Flexibility of a fully digital workflow include the ability to radically redesign service delivery, which has the potential to support new models of subspecialisation and deliver quality gains. We will describe our experience of using digital pathology for pathology training and wider teaching. Finally, we will consider some of the deficiencies of primary reporting in digital pathology and some of the challenges in delivering a large digital pathology service.

Impact of the transition to digital pathology in a clinical setting on histopathologists in training: experiences and perceived challenges within a UK training region
Journal of Clinical Pathology, July 2022
The survey results highlight the need to consider histopathologists in training during the transition to digital pathology, and to ensure a means to develop their confidence in its utility within the diagnostic setting. We outline key considerations for training in digital pathology and the potential support needed for those working within training regions with variable access to digital pathology.

Implementation of digital pathology into diagnostic practice: perceptions and opinions of histopathology trainees and implications for training OpenAthens log in required*
Journal of Clinical Pathology, October 2019
The opinions and aspirations of trainee histopathologists with regard to digital pathology are similar to those of more experienced histopathologists, and need to be considered during the period of adoption of this technology in the diagnostic setting. While their training needs similarly overlap with those of established consultants, there are additional specific considerations around maintaining competency and confidence with traditional microscopy.

Survey of UK histopathology consultants' attitudes towards academic and molecular pathology
Journal of Clinical Pathology, March 2019
The survey reveals that the academic workforce is skewed towards senior individuals, many of whom are approaching retirement, with a missing cohort of 'junior consultant' academic pathologists to replace them. Most pathologists stop formal research activity at the beginning of a consultant career. While molecular pathology is an increasing part of a pathologist's workload, the majority of consultant cellular pathologists have not received any formal molecular training.

Ready, steady, go! What do histopathology trainees think they need from training to enable them to develop autonomy in surgical pathology reporting?
Journal of Clinical Pathology, July 2015
For trainees to develop autonomy in histopathology reporting they need to accumulate at least 3 years' experience with a wide variety and sufficient number of cases in their portfolio. They need to be able to recognise normal histology and have an awareness of diagnostic pitfalls. Being able to write a clear, concise pathology report and being able to present cases at MDT were perceived as essential learning needs, as was adequate consultant supervision, particularly using double-headed microscopes. The medical literature suggests that promoting feedback-seeking behaviour in a safe learning environment with reflective practice and clearly defined performance standards are also key requirements for developing expertise.

Current experience and attitudes to biomedical scientist cut-up: results of an online survey of UK consultant histopathologists
Abstract only*
Journal of Clinical Pathology, February 2011
This survey is representative of current BMS cut-up practice in the UK. The majority of UK consultant histopathologists replying to this survey support BMS cut-up to some degree, but utilisation of BMS cut-up is rather limited and patchy at present. Cost, staffing constraints, perceived quality issues and individual consultant preferences are cited as reasons for limited uptake currently. Recognised benefits of promoting BMS cut-up include better use of consultant time, enhanced team working, BMS job satisfaction and career progression, and better adherence to standard operating procedures.

Technology

Artificial intelligence and digital pathology: where are we now and what are the implementation barriers?
Diagnostic Histopathology, November 2024
In this article, we provide an update on the current progress of AI development in histopathology including the AI tools currently available and potential future applications. We also discuss the ongoing implementation of digital pathology services in the NHS and highlight the barriers to building a strong foundation for AI tool deployment. This builds upon, and complements, our previous article on these issues.

Artificial intelligence in digital pathology: a systematic review and meta-analysis of diagnostic test accuracy
npj Digital Medicine, May 2024
This systematic review provides an overview of performance of diagnostic tools across histopathology. The objective of this review was to determine the diagnostic test accuracy of artificial intelligence solutions applied to WSIs to diagnose disease. A further objective was to examine the risk of bias and applicability concerns within the papers. The aim of this was to provide context in terms of bias when examining the performance of different AI tools.

Applications of artificial intelligence in prostate cancer histopathology Abstract only*
Urologic Oncology, March 2024
The diagnosis of prostate cancer (PCa) depends on the evaluation of core needle biopsies by trained pathologists. Artificial intelligence (AI) derived models have been created to address the challenges posed by pathologists' increasing workload, workforce shortages, and variability in histopathology assessment. These models with histopathological parameters integrated into sophisticated neural networks demonstrate remarkable ability to identify, grade, and predict outcomes for PCa. Though the fully autonomous diagnosis of PCa remains elusive, recently published data suggests that AI has begun to serve as an initial screening tool, an assistant in the form of a real-time interactive interface during histological analysis, and as a second read system to detect false negative diagnoses. Our article aims to describe recent advances and future opportunities for AI in PCa histopathology.

Artificial intelligence applications in histopathology Abstract only*
Nature Reviews Electrical Engineering, February 2024
In this Review, we delve into the latest progress in AI methods for histopathology, which promise to yield accurate, scalable, useful and affordable support tools for clinical decision. We examine the challenges and opportunities in this domain, exploring historically important approaches and problems that have shaped the field, while also highlighting recent technological breakthroughs that are poised to redefine its future. Furthermore, we offer an overview of publicly available datasets that have been instrumental in propelling the development of AI methods in histopathology.

Why do errors arise in artificial intelligence diagnostic tools in histopathology and how can we minimize them? Abstract only*
Histopathology, November 2023
There remains uncertainty regarding the use of AI tools in healthcare from a legal, ethical, and regulatory standpoint. If it is inevitable that an AI tool will make a mistake, then a key question is, who is legally responsible—the pathologist, the tool itself, or the implementing trust? There is no precedent for this and clarification from the medicolegal community is warranted, encouraging prospective legislative action, rather than reactive (and likely damaging) legal action. There are also numerous ethical challenges with the use of AI. The principles of beneficence, nonmaleficence, and justice state that we must not only maximize benefit while minimizing harm, but also ensure fairness in the spread of these benefits and risks between populations, meaning data biases must be overcome. Finally, there is uncertainty around the accreditation process for AI tools, and concerns that it is not used to the same rigorous standard as other areas of medicine. As this field continues to grow, regulatory bodies must demonstrate robust standards that allow implementation of safe tools built on a high-quality evidence base, with transparency regarding any potential risks.

Invisible for a few but essential for many: the role of Histotechnologists in the establishment of digital pathology
Abstract only*
Journal of Histotechnology, October 2023
Digital pathology (DP) is indisputably the future for histopathology laboratories. The process of digital implementation requires deep workflow reorganisation which involves an interdisciplinary team. This transformation may have the greatest impact on the Histotechnologist (HTL) profession. Our review of the literature has clearly revealed that the role of HTLs in the establishment of DP is being unnoticed and guidance is limited. This article aims to bring HTLs from behind-the-scenes into the spotlight. Our objective is to provide them guidance and practical recommendations to successfully contribute to the implementation of a new digital workflow. Furthermore, it also intends to contribute for improvement of study programs, ensuring the role of HTL in DP is addressed as part of graduate and post-graduate education.

Role of digital pathology in diagnostic histopathology in the response to COVID-19: results from a survey of experience in a UK tertiary referral hospital
Journal of Clinical Pathology, July 2020
The COVID-19 pandemic has challenged our diagnostic services at a time when many histopathology departments already faced a diminishing workforce and increasing workload. Digital pathology (DP) has been hailed as a potential solution to at least some of the challenges faced. We present a survey of pathologists within a UK National Health Service cellular pathology department with access to DP, in which we ascertain the role of DP in clinical services during this current pandemic and explore challenges encountered. This survey indicates an increase in uptake of diagnostic DP during this period, with increased remote access. Half of respondents agreed that DP had facilitated maintenance of diagnostic practice. While challenges have been encountered, these are remediable, and none have impacted on the uptake of DP during this period. We conclude that in our institution, DP has demonstrated current and future potential to increase resilience in diagnostic practice and have highlighted some of the challenges that need to be considered.

Artificial intelligence in digital pathology: a roadmap to routine use in clinical practice Abstract only*
The Journal of Pathology, May 2019
Abstract: The use of artificial intelligence will transform clinical practice over the next decade and the early impact of this will likely be the integration of image analysis and machine learning into routine histopathology. In the UK and around the world, a digital revolution is transforming the reporting practice of diagnostic histopathology and this has sparked a proliferation of image analysis software tools. While this is an exciting development that could discover novel predictive clinical information and potentially address international pathology workforce shortages, there is a clear need for a robust and evidence-based framework in which to develop these new tools in a collaborative manner that meets regulatory approval. With these issues in mind, the NCRI Cellular Molecular Pathology (CM-Path) initiative and the British In Vitro Diagnostics Association (BIVDA) have set out a roadmap to help academia, industry, and clinicians develop new software tools to the point of approved clinical use.

Workforce

Development of a national pathology training system using digital pathology and SNOMED-CT Abstract only*
Journal of Pathology Informatics, August 2025
There are recognized current and ongoing challenges in the recruitment and retention of the pathology workforce. Digital

pathology can support in training and retention of staff including through flexible working practices, expanding the tools available for teaching, options for national and international collaboration and improved workload monitoring and allocation, among other benefits. Whereas traditional glass slide collections of cases remain useful, they come with practical challenges, including how to identify appropriate cases, retrieval of slides from archive, managing storage, and transportation, along with the risk of damage to diagnostic material. There is also the inherent difficulty in sharing individual slides with large groups of users and across multiple centers simultaneously. Digitization of slides can help to overcome many of these limitations associated with glass collections.

The current troubled state of the global pathology workforce: a concise review
Diagnostic Pathology, December 2024
The histopathology workforce is a cornerstone of cancer diagnostics and is essential to the delivery of cancer services and patient care. The workforce has been subject to significant pressures over recent years, and this review considers them in the UK and internationally. These pressures include declining pathologist numbers, the increasing age of the workforce, and greater workload volume and complexity. Forecasts of the workforce's future in numerous countries are also not favourable – although this is not universal. Some in the field suggest that the effects of these pressures are already coming to bear, such as the financial costs of the additional measures needed to maintain clinical services. There is also some evidence of a detrimental impact on service delivery, patient care and pathologists themselves. Various solutions have been considered, including increasing the number of training places, enhancing recruitment, shortening pathology training and establishing additional support roles within pathology departments. A few studies have examined the effect of some of these solutions. However, the broader extent of their implementation and impact, if any, remains to be determined. In this regard, it is critical that future endeavours should focus on gaining a better understanding of the benefits of implemented workforce solutions, as well as obtaining more detailed and updated pathology workforce numbers. With a concentrated effort in these areas, the future of the pathology workforce could become brighter in the face of the increased demands on its services.

Estimating the cost of growing the NHS cancer workforce in England by 2029
Cancer Research UK, October 2020
See pp.36-37: Historic and status quo changes in the histopathology workforce.

Delphi study to determine the key qualities consultant histopathologists look for in their trainees
Journal of Clinical Pathology, April 2020
This study has triangulated findings from our qualitative interviews. No new items were suggested by participants, suggesting the qualitative interviews explored diagnostic competence in sufficient depth. Consideration should be given to incorporating these qualities into assessment tools used in histopathology, such as evidence of reflection, which was highly valued. In addition, these findings suggest the assessment of competence in histopathology is best viewed longitudinally and on a number of cases, rather than 'snapshots' captured on workplace-based assessments. Diagnostic competence culminates in consultants trusting their trainees to perform certain tasks independently. Curricula should focus on what trainees do in the workplace rather than demonstration of individual competencies. Further work is needed to determine the pedagogic approach and feasibility of delivering these findings within assessments.

The important role of the histopathologist in clinical trials: challenges and approaches to tackle them Abstract only*
Histopathology, March 2020
This paper will discuss the many ways in which histopathologists are involved in clinical trials and the challenges faced in meeting the additional demands posed by trial participation and potential ways to address this, with a special emphasis on the UK model and the Cellular–Molecular Pathology Initiative (CM-Path).

How consultants determine diagnostic competence in histopathology trainees
Journal of Clinical Pathology, June 2019
This article describes the key knowledge, skills and behaviours required for diagnostic competence, which have not been fully described in the literature. The conceptual model may be used to design future assessment strategies in histopathology training.

Realistic technician staffing requirements in a histopathology laboratory via an innovative workload method Abstract only*
Pathologica, February 2011
It is well recognized that efficiency is one of the most important objectives of clinical governance. The correct determination of personnel required plays a central role in health economics. Inadequate staffing of clinical laboratories may compromise quality and throughput, whereas excess staff can uselessly increase costs. This study was undertaken to determine the most reliable and easily applicable method for determination of staffing requirements in a histopathology laboratory. There are only three relevant published methods, and even these are not appropriate for current requirements. In particular, they may be based on data that is not readily available (calculation of standard time) or may use outdated patterns (using weighted workload) or nonstatistical benchmarks.

Staffing benchmarks for histology laboratories
Annals of Diagnostic Pathology, June 2010
This article summarizes annual workloads for staff positions and work flow productivity (WFP) values from 247 human pathology, 31 veterinary, and 35 forensic histology laboratories (histolabs). There are also recommendations about workload limits for supervisory staff (lead techs and supervisors) and when neither is required. Each benchmark was related with the productivity of the different tasks they include (Buesa RJ. Productivity standards for histology laboratories. [YADPA 50 552]) to calculate the hours per year required to complete them. The relationship between workload and benchmarks allows the director of pathology to determine the staff needed for the efficient operation of the histolab.

Competency Frameworks

Curriculum for specialty training in histopathology
Royal College of Pathologists, August 2021
The purpose of the curriculum is to set the standards for attainment of the award of the Certificate of Completion of Training (CCT) or Certificate of Eligibility for Specialist Registration (CESR) via the Combined Programme (CP) in histopathology and to ensure that trainees are fully prepared to work within a histopathology service at consultant level in the National Health Service (NHS).

Pathology Competencies for Medical Education and Educational Cases
Academic Pathology, July 2017
The educational cases highlight principles of the 3 competencies—(1) disease mechanisms and processes, (2) organ system pathology, and (3) diagnostic medicine and therapeutic pathology—and are presented in a way to help the

development of clinical reasoning and the application of basic science into medicine, as well as increase the diagnostic acumen and treatment of disease. Continuing to build and review the PCME and create educational cases to highlight what we as a pathology education community feel is essential knowledge for the practice of medicine requires broader input.