



The Royal College of Pathologists

Pathology: the science behind the cure

Annual report

2017–2018



Pathology: vital to patient safety and high-quality care

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Pathology is the study of disease. It 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.

Doctors and scientists working in pathology are experts in illness and disease. They use their expertise to support every aspect of healthcare. They also play a critical role in research, advancing medicine and devising new treatments to fight viruses, infections and diseases like cancer.

The case studies on pages 4 to 11 illustrate the enormous benefits that pathologists provide to patients every day.

The role of the College

The Royal College of Pathologists is a professional membership organisation with more than 11,000 fellows, affiliates and trainees worldwide. 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.

91

The College coordinated input into 91 NICE guidelines consultations

435 / 362

We successfully reviewed 435 job descriptions and organised 362 College assessors to attend advisory appointment committees in England, Wales and Northern Ireland

200+

New fellows were welcomed across the College's admission ceremonies in September 2017 and February 2018

1,489

FRCPath, Diploma, Certificate, Stage A and Biomedical Scientist examination results issued across 56 different examinations

Message from the Registrar



Dr Lance Sandle
Registrar

‘Events, dear boy, events.’ A quote attributed to Harold Macmillan when asked by a journalist what is likely to blow governments off course. He may not actually have said it, but over the last year uncertainty has been generated by the greatest political event of recent times – the UK’s imminent departure from the EU. Irrespective of how you voted, it is undeniable that it has visited a blight on planning for medical research, therapeutics and medical devices.

The preoccupation of politicians with Brexit (and each other’s attitudes to it) has thankfully not hampered progress with medical examiners, and we have a new Secretary of State who is committed to exploring the potential of informatics. Given that the information supplied by clinical laboratories and their staff is one of the pillars of pattern recognition in the diagnosis and treatment of patients, the College aims to be central to the development of the field.

As our members would expect, we have seized opportunities presented by external consultations to use our collective voice to influence how decisions are made across a range of pathology issues, from education and training to regulation and a sustainable workforce. Significant College responses have been made to consultations on pathology staffing, the changes to simplify arrangements for research in the NHS and how the aforementioned medical examiner service will work with the Health Service Safety Investigations Body. All affect the quality of services we can provide to patients.

As well as responding to external challenges, the President’s drive to develop patient safety as a central theme of the College’s work has generated the welcome by-product of considerable new educational content for our website. We have also been refining and streamlining our governance procedures, ready for a move to our Alie Street premises late in 2018. That’s one new start we can all look forward to.

Welcome from the President



Professor Jo Martin
President

Welcome to our annual report, where we celebrate some of the great things that have gone on over the past year. As Lance has said, there has been a lot going on in our world, and our members and staff have done amazing things; they've made huge progress in the context of great change and uncertainty.

The teams who support professional guidance and information, examinations, events and public engagement have done super work. They've been strongly supported by our honorary officers, as well as all those who sit on and support our specialty advisory and other committees, those representing the College on a wide range of external bodies, and all those who lend a much valued helping hand with all our other professional work.

The involvement of trainees in so many areas of our work, including the trainee committee, has been a vital part of our work this year, and we say a huge thank you to them – it is a pleasure to work with them. We also thank our Lay Governance Group for sensible, helpful and balanced advice and wisdom.

Sometimes pieces of work take a long time to come to fruition, and of particular note has been the College's work on medical examiners, which has recently been highlighted by the new Secretary of State for Health and Social Care. Medical examiners will finally be rolled out, not least because of the tireless and committed work of our past presidents.

As you read through this report and appreciate the achievements, the thing that cannot easily be captured in print is the enthusiasm, determination and wisdom behind all the work. With all this expertise, and the clear will to make things better for our patients and our pathologists, we are looking forward to the coming year.

Case study

Dr Cate Wight is a histopathologist working in Kent. She has over 20 years' experience in pathology.

Here she reflects on how her personal experience of being diagnosed with cancer has affected her medical practice.



'From my experience, it's the time of uncertainty that's the hardest – I'm determined to make that time as short as possible.'

Histopathologist and patient: Dr Cate Wight

I first thought of becoming a doctor as a young teenager. I became more determined when a teacher thought I might make a nurse but not a doctor. At 16, I was diagnosed with Ewing's sarcoma – a type of cancer – and had to undergo gruelling radiotherapy and chemotherapy. Despite this, the orthopaedic surgeon I saw encouraged my ambition to become a doctor – this helped drive me to gain a place at Aberdeen Medical School.

During my studies, the cancer returned. I underwent a disarticulation amputation from the hip and took a year off for preventive chemotherapy. At the end of second year, I discovered pathology. To me, pathology – and especially histopathology – provided the logic to explain diseases and the symptoms patients experience. It still does.

I graduated in 1993. After house officer jobs and specialty training in Sheffield and Nottingham, I gained my MRCPATH and took up a consultant post at Path Links in Lincoln. I became particularly interested in improving patients' experiences of diagnosis. I learnt a lot about lean and continuous quality improvement techniques and how they can improve

the efficiency and quality of cellular pathology. Working with the team, we closely reviewed the whole process from patient to report and found ways to share results with patients faster. This was a real success, and often built on quite simple changes, such as colour-coding trays of slides for quick identification, or working with porters to speed up the transfer of biopsies.

In 2008 – during a day of reporting breast biopsies for a multidisciplinary team meeting – I attended a breast clinic for a check-up. My sister, who had been diagnosed with breast cancer aged 39, had pestered me to go. There was nothing on clinical examination but, after a mammogram, I was taken for an ultrasound. Immediately I knew they had found something. There was a cancerous mass, which I was told looked malignant, and a biopsy was carried out.

Waiting for my results was incredibly difficult. I had patient worries – I was anxious about my long-term health, the time it would take to recover and financial worries. My husband and I also had three children aged 10, 12 and 14 and had to decide whether to tell them. As a

pathologist I had other questions too, about the type of tumour I had, how fast it might grow and how treatable it would be. At the results clinic a few days later, I was told I had a grade 2 invasive ductal carcinoma – the most common type of breast cancer. I decided to have a mastectomy as I didn't want radiotherapy again.

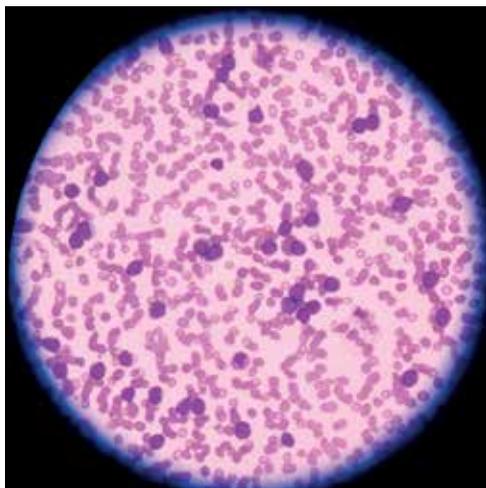
As a patient, I really appreciated the warm and supportive care I was given, particularly from the breast care nurses. In retrospect, I went back to work far too early – after just eight weeks – and I found reporting breast biopsies very difficult, as I found it hard to emotionally detach myself from the patients. After several years I came to see it as a privilege to be a breast pathologist: by doing my job well I could help other patients experiencing breast cancer.

This year, I was again diagnosed with breast cancer. Although anxious, I was more annoyed to have my life disrupted again: I'd applied for another consultant post at University Hospital Coventry and Warwickshire – a centre of excellence for digital pathology – and I didn't want cancer to mean I had to withdraw my application.

The biopsy showed I had the same type of tumour as before. Again, I opted for a mastectomy, though I didn't avoid radiotherapy this time as there was more than one tumour. I'm fortunate the cancer was detected and diagnosed early, which increases the chance of successful treatment. I've been able to get back to work and get on with my life.

This experience – as patient and pathologist – has renewed my determination to embed what I've learnt to improve the systems that support diagnosis and treatment. I'm passionate about making changes that result in positive differences to patients. Once a patient knows what they're up against they can more easily find the strength to deal with it. From my experience, it's the time of uncertainty that's the hardest – I'm determined to make that time as short as possible. ”

Dr Cate Wight
Consultant Histopathologist



Acute myeloid leukaemia cells, as seen under a microscope.

Special stains are added to bone marrow tissue samples taken from the hip through a process known as a bone marrow trephine. Cell types react differently to the chemicals in the stains, indicating whether leukaemia is present.

In October 2015, Alfie was 22. He hadn't felt well for a few weeks, but things got suddenly worse and he went to A&E with abdominal pain and vomiting. A routine blood test showed that Alfie had some abnormal cells in his blood. When a pathologist examined these under the microscope it was clear these were primitive blast cells: he had acute myeloid leukaemia. Alfie was transferred to the Teenage Cancer Trust Unit at Addenbrooke's Hospital in Cambridge, where doctors took a bone marrow sample. Detailed pathological analysis of the specimens by microscopy and flow cytometry showed that most of his marrow had been replaced by these abnormal cells. Most importantly, testing of the leukaemia cells found a particular DNA mutation in the NPM1 gene. This meant doctors could use a highly sensitive molecular monitoring technique – known as minimal residual disease (MRD) – that can detect tiny numbers of leukaemia cells (as few as 1 in 100,000 cells).

After undergoing several cycles of intensive chemotherapy, Alfie was delighted to find himself in remission, with no leukaemia cells visible when examined under the microscope by a pathologist. He made

a good recovery from chemotherapy; however, MRD testing showed that the leukaemia cells had not been completely eliminated. Alfie's doctors began to plan a stem cell transplant. Because Alfie's tissue type was unusual, it was harder to find a match for donation, but his parents were each half matched to him and could safely donate stem cells.

Alfie's leukaemia returned in December 2016. He had more chemotherapy, which again reduced, but didn't eliminate, the leukaemia. This time, Alfie went on to have a stem cell transplant from his father, Ashley.

Once more he was in remission. However, teams at the laboratories working on his case – the Haemato-Oncology Diagnostic Service in Cambridge and the Molecular Oncology Diagnostics Unit at Guy's Hospital in London – were concerned: there had been a rise in the levels of the NPM1 gene mutation in Alfie's marrow, suggesting that a relapse was imminent. Alfie's father donated more cells, this time lymphocytes – the immune cells that help to fight infections and cancer.

In September 2017, nearly five months after his transplant, Alfie underwent a

donor lymphocyte infusion. This was a difficult period in Alfie's treatment – the lymphocytes had the potential to cause a life-threatening immune complication, graft-versus-host disease. But two months later, MRD results showed that for the first time since he had been diagnosed in 2015, he had tested completely negative. Since then Alfie has had several further bone marrow tests, with molecular pathologists able to confirm each time that leukaemia is no longer detectable even by the most sensitive MRD techniques.

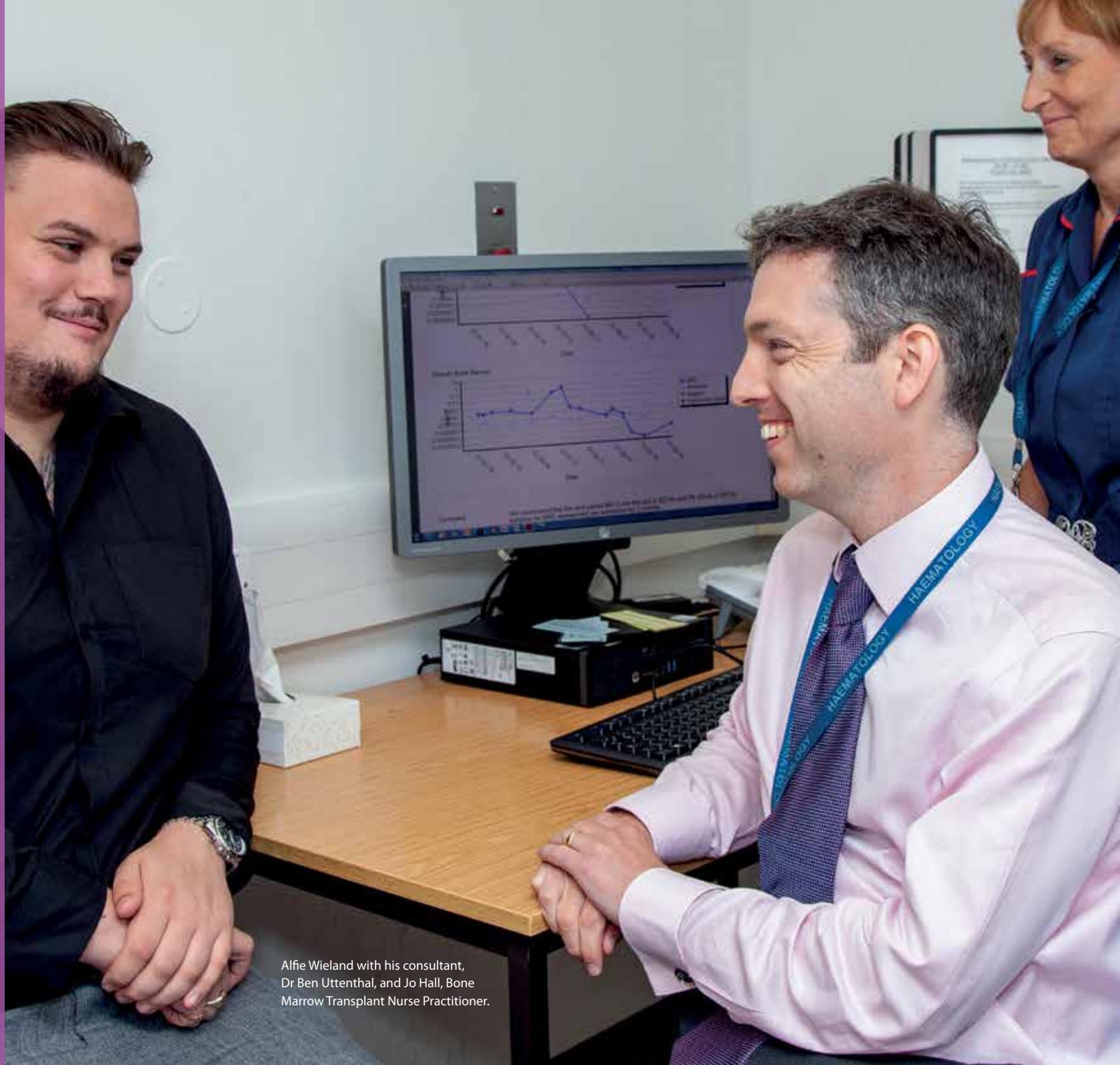
Alfie is now back at work, living with his partner Danielle and enjoying weight training at the gym several times a week.

Dr Ben Uttenthal
Consultant Haematologist, Cambridge University Hospitals NHS Foundation Trust

“ On one hand, the treatment has affected my energy levels when completing tasks and has changed my work-life balance. Before, I worked five days a week in an office environment. I now work two days a week, mid-week, so I can rebuild my energy levels for the next week.

However, on the other hand, it has given me a chance to focus on my health. I've been going to the gym and have changed my diet with support from a dietician. This is helping me improve my stamina so I can become more involved with everyday life. It has also given me the chance to play golf again and socialise with my girlfriend, friends and family. The treatment and support the hospital has given me has helped me move on with my life – it has made my life a more enjoyable experience. ”

Alfie Wieland



Alfie Wieland with his consultant, Dr Ben Uttenthal, and Jo Hall, Bone Marrow Transplant Nurse Practitioner.



Saiga antelopes have a specially adapted nose that is large and flexible with lots of mucous glands, to help remove dust particles that are inhaled during mass migration.

Working as part of a team in collaboration with the Royal Veterinary College, the Kazakh Government and local conservation teams, veterinary pathologist Dr Henny Martineau has been investigating the cause of mass deaths in herds of saiga antelopes. Saiga are an ancient species of antelope – they're survivors of the last ice age. Here, Dr Martineau describes her work, and the challenge of research in the field.

'Saiga are amazing creatures – they once lived alongside the woolly mammoth. They are perfectly adapted to living in the extremely cold and dusty environment of the steppes of Kazakhstan – a vast region of open grassland.'

In recent decades saiga have undergone dramatic declines in population size due to overhunting for meat, as well as the illegal trade of saiga horns. Conservation efforts saw their population increase, but, in 2015, there was a mass mortality event. Adults and calves dropped dead with no or few clinical signs. 200,000 saiga antelopes died in a matter of weeks – 80% of the global population.

'To understand what was happening, we carried out post-mortem examinations on adults and calves in the field. The main findings were multiple haemorrhages in all organs. We identified the same bacteria in many individual antelopes that had died. We know that this bacteria, *Pasteurella multocida* serotype B, causes blood poisoning in cattle and buffalo. It is thought to live dormant in the tonsils of healthy animals, with a trigger factor leading to bacteria multiplying, spreading round the body and causing death.'

Scientists now think that the bug becomes deadly when unusually hot and wet temperatures coincide with the saiga's calving.

Pathologists now monitor calving each year so there can be a quick and effective response to disease outbreaks. A team of scientists catches live calves to check their weight and measure them, and carries out post mortems on any carcasses they find.

'There are particular challenges with working in the steppe. It's very dry and dusty with very little water. We have to carry what we use. We have to cover the

area very systematically often walking ten miles recording the living, and dead, saiga.

To keep the saiga herds healthy, we need to understand the disease better and work out ways to control it.'



Dr Henny Martineau
Head of Veterinary Forensic Pathology,
Royal Veterinary College, University of London



Veterinary pathologist, Alwyn Jones, and veterinary student, Kelly Davies, conducting post mortems on saiga calves. Working with Dr Martineau, they are trying to establish the cause of death.

Case study



Histopathology trainee Dr Matthew Clarke took a while to settle on pathology as a career. First completing a zoology degree at the University of Liverpool, he then completed medical training at Keele University Medical School.

Matthew looked set to become a surgeon, having completed the Membership Examination of the Surgical Royal Colleges of Great Britain and Ireland. Yet during his Foundation Year 2 – designed to give junior doctors a broader range of experience – Matthew worked in histopathology and fell in love with the specialty.

‘I enjoyed the experience so much that I am now working towards a PhD in the molecular pathology of childhood brain tumours.’

A trainee's experience: Dr Matthew Clarke

I made a decision in my second year of Foundation training to change career paths and have not regretted it. I'm passionate about pathology and love the medical detective work and the breadth and diversity of knowledge that is required.

Histopathology training provides so many opportunities to explore different avenues of the specialty. I recently took an 'out of programme experience' opportunity, spending some time at the Institute of Cancer Research/Royal Marsden to learn about the practical and theoretical aspects of molecular pathology.

I enjoyed the experience so much that I am now working towards a PhD in the molecular pathology of childhood brain tumours. These tumours account for around a fifth of childhood cancers in the UK and are the most common solid tumour occurring in childhood.

The team I work with is undertaking research to find the genes that drive the development of tumours – the aim is to discover and develop new treatments. I find this work immensely rewarding and am gaining valuable experience as an academic as well as a doctor.

My day-to-day work is hugely varied. I spend time in the research laboratory looking after patient-derived cancer cells that we grow in flasks. This tissue is collected with the parents' consent from children who are undergoing an operation to remove the tumour. We attend theatre, collect a small sample of tissue and then bring it back to the lab to process and attempt to grow the cells. Other centres do this around the world too and so we often receive their samples as well.

The aim is to identify the tumour and experiment on it to explore the sensitivities of the cells to different drugs. I extract and sequence DNA from tumour samples to find mutations that may have led to the cancer developing. Using my microscope, I then examine the tumours at a cellular level to see if I can identify any unique features that may link to those mutations.

The importance of this is that, once we've identified a new type of tumour, we can make sure that our colleagues in histopathology laboratories are able to recognise and diagnose it. Having a better understanding of the type of tumour a child has means their treatment can be targeted and will therefore be more

effective. In some cases, being able to target the treatment leads to less toxic side effects too.

Research in this area is collaborative and in the last year I've had the opportunity to share my work internationally at conferences in Prague, Denver, Heidelberg and London. I'm grateful for fantastic support from colleagues and my supervisor, Professor Chris Jones, and am very proud to be able to showcase our work and learn from experts in the field.

My time in the laboratory is increasing my knowledge of molecular and neuropathology, and will significantly contribute to my preparation for the Part 2 Fellowship examination of the Royal College of Pathologists. I've had to develop a very wide range of practical skills to successfully complete various experiments in my project and the feedback from workplace-based assessments and regular meetings with supervisors help me to monitor my progress.

I am enthusiastic about teaching and public engagement and spend a lot of my spare time involved with these activities. I hold regular teaching

slots at the multi-headed microscope where I teach colleagues the basics of histology. I frequently volunteer for public engagement activities, such as demonstrating the importance of pathology to medical undergraduates at the College's Summer School. I also take part in 'speak-easy' sessions for the Institute of Cancer Research, where we visit local pubs and talk to people about the work we do, and give talks in local schools and colleges about science and pathology.

It is an exciting time to train in histopathology. Each week we are understanding more about the biology and complexity of cancer through the analysis of the molecular components of cancer cells and their local environments. ”

Dr Matthew Clarke
Histopathology Clinical Research Fellow,
Institute of Cancer Research/Royal Marsden



Trainees

From our Summer School for medical undergraduates and New Trainee Welcome Day to developing curricula and running examinations, the College works to support trainees – the pathologists of the future – in a multitude of ways.

127

New specialty registrars were registered with the College

78

Certificates of Completion of Training were recommended to the GMC

16

Certificates of Eligibility for Specialist Registration were recommended to the GMC

The College's **Summer School** is open to medical students in any year of training, offering the opportunity to find out about the wide range of pathology specialties through a mixture of lectures and small-group interactive breakout sessions. This free two-day course gives students a chance to talk to current trainees and established consultants about their careers.

Award winners



Mr James Hawley presented with Gold medal by Professor Jo Martin for his published clinical biochemistry research.

Clinical biochemistry is the study of bodily fluids, such as blood and urine, to diagnose and manage disease. Clinical biochemists advise clinicians on the appropriate use of tests, interpretation of results and the follow up investigations that may be required.

Gold medal

awarded for the best research undertaken in any specialty

Mr James Hawley

for his published clinical biochemistry research.

Trainee Research Medal Awards

Clinical biochemistry

Mr James Hawley

for Serum Cortisol: An Up-To-Date Assessment of Routine Assay Performance, published in *Clinical Chemistry* in May 2016

Haematology

Dr Amit Sud

for Risk of Second Cancer in Hodgkin Lymphoma Survivors and Influence of Family History, published in the *Journal of Clinical Oncology* in July 2017.

Histopathology

Dr Hamid Raza Ali

for Patterns of Immune Infiltration in Breast Cancer and Their Clinical Implications: A Gene-Expression-Based Retrospective Study, published in *PLOS Medicine* in December 2017.

Medical microbiology

Dr James Price

for Transmission of *Staphylococcus aureus* between health-care workers, the environment, and patients in an intensive care unit: a longitudinal cohort study based on whole-genome sequencing, published in *Clinical Chemistry* in May 2016.

The Furness Prize for Science Communication

Dr Michelle Muscat

a Specialty Registrar in Chemical Pathology

Not only was Dr Muscat in the final stages of a PhD that had a strong focus on the communication of pathology, but she had also published a novel where the main character was a chemical pathologist. Michelle developed and delivered numerous teaching resources and school workshops that explored a range of chemical pathology topics including blood tests, high cholesterol and diabetes.

Medical undergraduate essay prize

Mr Oliver Shutkever

a sixth-year medical student

Mr Oliver Shutkever won the prize for his essay that addressed the theme of IT in pathology. His essay explored the impact that machine learning might have on the field.



Dr Amit Sud



Dr James Price



Dr Michelle Muscat



Mr Oliver Shutkever

Around the UK

Our regional councils provide an effective way to involve members in the work of the College and to facilitate the exchange of information and ideas between officers and members.

Although the regional councils work in different NHS systems, they share priorities and challenges. These include efforts to recruit, train and retain the right workforce, to promote pathology research and to keep pathology on the agenda.



England

The England Regional Council has been working to continue to recruit local representatives across England. There has also been a move to recruit regional specialty representatives, to bring local voices together across specialties and to help influence and inform the work of the wider Council.

The Council has **fed into the reconfiguration of the 29 NHS Improvement pathology networks** and raised concerns around their implementation. The College has strongly advised Health Education England, NHS England and NHS Improvement that investment in IT will be necessary to support the consolidation efforts. The Council has also discussed consolidation of genomics and cervical cytology screening, and warned that equitable access to these may not be achieved as rapidly as hoped.

The Council was pleased to welcome the announcement, in 2018, that a **national system of independent medical examiners** will be introduced in England and Wales from April 2019. The College has long campaigned for the implementation of this important patient safety initiative. While rapid wholesale implementation

would be ideal, the proposed phased approach will allow the many agencies involved to prepare and is a pragmatic solution to a complex scheme.

Professor Kate Gould
Chair, England Regional Council

Northern Ireland

The Northern Ireland Regional Council has had many new members over 2017/18. The Council continues to be represented on the **Northern Ireland Pathology Network Board** and is active in making sure that plans to modernise pathology services in the country continue to progress, despite the challenges created by the lack of restoration of the Northern Ireland power-sharing agreement.

The Council worked closely with the Wales Regional Council to alleviate challenges around the range of opportunities for autopsy training in Northern Ireland by providing access to the training course in Wales.

The Council's annual symposium was opened by Dr Michael McBride, Chief

Medical Officer for Northern Ireland, with the theme of new advances in pathology – the day offered insights into developments in pathology and their implications for the future. Topics included digital pathology, embedding continuous quality improvement and advances in bacteriology and microbiology.

Dr Suzanne McPherson also introduced her trainee research into therapy-induced epigenetic modifications in myeloproliferative neoplasms. The Council was pleased that the President, Professor Jo Martin, was able to address the symposium.

Professor Ken Mills
Chair, Northern Ireland Regional Council

Scotland

The Scottish Regional Council spent some time in 2017/18 discussing how it might help to promote collaboration and quality improvement initiatives across the country. It is keen to make trainees and pathologists aware of their career choices and help them advance their careers.

This can be achieved through investing in the workforce, and making sure pathologists experience positive organisational support.

The Council continues to work with colleagues on the Shared Services agenda, now known as the **National Laboratories Programme**. The agenda – at the centre of improving personalised care – aims to reduce pressures from increased workload and fewer staff across laboratory, radiology and diagnostics teams. The Council is conscious that while the process may help reduce duplication of services, it must be carefully balanced with the quality of services provided across the geography of Scotland.

The Council is committed to maintaining the level of discussion around the digital pathology initiative of the **Scottish Pathology Network**. Towards the end of the year, the Council worked towards an agreement for funding for the initiative, which has since been awarded to a consortium in the North and East.

Work has also continued on the **Scottish International Medical Training Fellowship programme**, which aims to

double the number of international trainee doctors over the next two years.

The Council is developing a mission and strategy to influence pathology in Scotland, and to maintain and enhance the profile of pathologists.

Professor Peter Johnston
Chair, Scotland Regional Council

Wales

This year, the Wales Regional Council has worked with the Academy of Medical Royal Colleges in Wales, and contributed to **Patient Knows Best (Choosing Wisely)** and the Welsh Government's **A Healthier Wales** programme. The Council has also collaborated with the **National Pathology Programme Board** (now the National Pathology Network) on a vision for the future of pathology services in Wales.

The Council ran an excellent symposium on the theme of education in July. It was attended by trainees and consultants from across many pathology specialties. The Chair, Dr Esther Youd, met a number of

Welsh Government officials and Assembly Members – including the Chief Medical Officer, Dr Frank Atherton, Chief Scientific Adviser for Health, Dr Rob Orford, and the Chair of the Health, Social Care and Sport Committee, Dr Dai Lloyd – to discuss pathology issues such as equitable access to specialist testing, the introduction of medical examiners and workforce issues.

Dr Youd also spoke at a meeting of the Cross-Party Group on Cancer at the Welsh Assembly to discuss pressures on diagnostics services, including pathology and the impact on cancer diagnosis.

The Council is looking forward to representing pathologists at the **Swansea Science Festival** during National Pathology Week and inspiring the next generation of pathologists and scientists.

Dr Esther Youd
Chair, Wales Regional Council

Our international activities

The College works with partners in the UK and overseas to raise awareness about the vital role of pathology in addressing global health issues and improving people's health around the world.



The 5th Annual Meeting of the International Academy of Pathology – Pakistan Division and the 8th Annual Meeting of the Histopathology & Cytology Society of Pakistan, April 2018. The College held an International session: Supporting Pathology Education, Training, Research & Continuing Medical Education through International Partnerships & Collaboration.



Cornelia Szecsei, a histopathology trainee, raised £1,500 through our Global Health Challenge initiative in April 2017. The donation was towards a College project to set up a blood service at Mubende Regional Referral Hospital, Uganda, where women are dying from blood loss during childbirth.

It is important to recognise collaborations between international agencies, government departments, non-governmental organisations and professional pathology bodies with signed Memorandum of Understanding (MOU). Across 2017/2018, the College signed three MOUs, with the:

- **Egyptian Military Medical Services**
Egypt, July 2017
- **National Postgraduate Medical College of Nigeria**
Nigeria, November 2017
- **Khartoum State Ministry of Health, Soba University and UK Sudanese Diaspora Pathology Group**
Sudan, February 2018



Sudan MOU (signed February 2018) between the Royal College of Pathologists, Khartoum State Ministry of Health, Soba University Hospital and the UK Sudanese Diaspora Pathology Group.

The College visited Myanmar to assess the pathology and laboratory medicine services needs of three hospitals – Monywa, Shwebo and Sagaing – and how the College could provide capacity building support.





The International Pathology Summer School in Cairo, July 2017.

In July 2017, the College held its first ever **International Pathology Summer School**, in Cairo, Egypt. The school was attended by cadets from Egypt's Armed Forces College of Medicine, as well as students from Alexandria, Cairo, Fayoum and Menoufia Universities. It aimed to develop among attendees a better understanding and appreciation of pathology as a specialty.



In November 2017, the College hosted its second **International Pathology Day Roundtable Webinar** in partnership with *The Pathologist* magazine. More than 300 people attended the live webinar via WorkCast and Facebook Live. The roundtable discussed the critical role of pathology in meeting the commitments of the World Health Organization's (WHO's) Cancer Resolution, which was unanimously adopted at the World Health Assembly in May 2017.



World Association of Societies of Pathology & Laboratory Medicine (WASPaLM).

College Fellow Dr Maadh Aldouri was nominated by the College as its representative on the Board of Directors of the World Association of Societies of Pathology & Laboratory Medicine (WASPaLM). He was also appointed as the chair of WASPaLM's education committee. The work of the committee will be anchored and driven by the College.

In June 2018, the College held a three-day workshop on **laboratory leadership, quality management and international accreditation standards** for a delegation of senior pathologists and officials from the Iraq Ministry of Health and Ministry of Higher Education and Scientific Research. The College collaborated with the UK Accreditation Service and King's College Hospital to deliver the programme.



Delegates of the College's Laboratory Leadership conference visit King's College Hospital in London, June 2018.

12

International medical graduates placed into UK training posts under the College's Medical Training Initiative

16

Overseas doctors sponsored to join the GMC register

63

International trainees recruited and matched with 47 mentors under the College's International Trainee Support Scheme

Engaging and influencing

One of the College's aims is to increase awareness and understanding of the role pathology plays in diagnosing, treating and preventing illness.

Engaging with and making our case to governments, ministers, parliamentarians and policy makers has raised awareness of pathology as a vital part of safe, high-quality patient care.

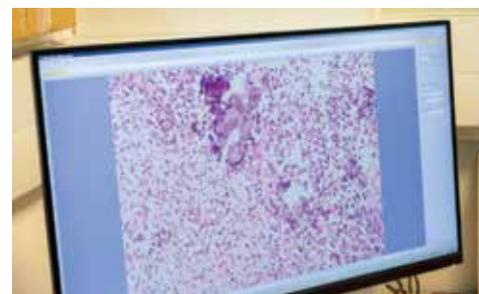
Meanwhile, working with the media has enabled us to engage directly with the public across a range of issues and campaigns – from concerns over screening for cervical cancer to plans to network pathology laboratories.

Working to improve patient care and safety

Digital diagnostic pathology

Digital diagnostic pathology – the use of a digital image of cells for diagnosis, education and research – has the potential to provide the combined benefits of improving patient care and supporting the pathology workforce by enabling them to work more efficiently and flexibly.

For patients, the rapid referral of cases between organisations or across pathology networks provides quicker and easier access to expert advice and opinion.



For example, images can be retrieved rapidly for discussion at multidisciplinary team meetings – where decisions about treatment are made. This makes the diagnosis and monitoring of disease much more efficient.

Only a handful of UK trusts are using digital pathology. Infrastructure, including IT systems, staffing and digitally trained pathologists, are essential to realising the full benefits of the technology. The College has developed a strategy to set out the implications of rolling out digital pathology. Working with the Parliamentary and Scientific Committee and through meetings with Norman Lamb MP, Chair of the Science and Technology Committee, and then Minister of State for Health, Philip Dunne MP, the College has also focused on raising awareness and understanding of how pathologists are leading this vital innovation.

Medical examiners

Lord O'Shaughnessy, Parliamentary Under Secretary of State at the Department of Health and Social Care, formally announced the rollout of a national system of independent medical examiners from 2019. Medical examiners will review every death not reported to the coroner and are a vital step in the drive to improve patient safety in the NHS. Medical examiner pilot schemes have provided reassurance to

next of kin, identified problems with care at an early stage, ensured the right referrals to the coroner, improved the accuracy of death certification and led to a reduction in cases of litigation against the NHS.

The system will be introduced in 2019 and will initially be limited to hospital deaths. Phased implementation will allow for a period of preparation by various organisations involved before the scheme is rolled out to also cover primary and community care.

The announcement was a major success for the College, which has been working with the Department of Health and Social Care to support NHS trusts with the practical implementation of the medical examiner service.

The right staff, in the right numbers, in the right places

Safe and effective patient care depends on having the right number of staff in the right places and we have continued to raise our concerns about gaps in the pathology workforce.

We played an active part in Cancer Research UK's parliamentary launch of its **Shoulder to Shoulder** campaign. This aimed to bring pressure on government to increase the staff needed to diagnose and treat cancer. Our College Fellows promoted the vital role pathology plays in cancer diagnostics, ran 'clinics' for CRUK campaign ambassadors and used the opportunity to explain to parliamentarians the challenges facing the pathology workforce in cancer diagnostics.

We have also briefed MPs on the pressures facing pathologists in meeting increased demand and new targets for cancer diagnosis in advance of parliamentary debates. Members of the Houses of Commons and Lords, including Baroness Finlay of Llandaff, Nick Thomas-Symonds, MP for Torfaen, and Nic Dakin, MP for Scunthorpe, have raised concerns on the College's behalf on issues such as diagnostic turnaround times, the effect of faecal immunochemical testing (FIT) in Wales and the capacity of the pathology workforce.



President Professor Jo Martin in an interview with *The Pathologist*, May 2018. Working with the media enables the College to engage directly with pathologists and the public.

Exploring pathology

A person with a braided ponytail is seen from behind, wearing a bright blue t-shirt. The t-shirt features the text 'PREVENTION', 'DIAGNOSIS', and 'TREATMENT' in large white letters, with a small blue microbe icon in the 'O' of 'PREVENTION'. Below this, the website 'www.rcpath.org' is printed in white. The background is slightly blurred, showing other people in similar blue shirts.

PREVENTION
DIAGNOSIS
TREATMENT

www.rcpath.org

This year the focus of our **National Pathology Week** was '**Pathology in the community**'. Our annual celebration of pathology – designed to increase awareness and understanding – saw the College organise a two-day pathology fair at the Ecology Pavilion in Mile End Park, in the heart of the London borough of Tower Hamlets.

Entitled **Adventures in health: Secrets of the lab**, the fair was opened by then-President, Dr Suzy Lishman, who presented the College's first Facebook Live video, reaching 3,600 people. A range of hands-on activities designed to appeal to secondary school students and families gave visitors the chance to play a DNA-themed version of a Twister-style game, to '**Paws for thought**' and find out about how genetics affect dogs' health and how they look, and to pin the microbe on a 'body' and discover the tests needed to make a diagnosis.

There was also a public vote for our **Art of Pathology** competition, while younger visitors particularly enjoyed the **Colourful Pathology** art activities, modelling clay viruses and colouring images of cells and tissues.

A team of more than 40 volunteer pathologists, medical undergraduates and staff welcomed over 250 students from ten schools and colleges, as well as more than 300 members of the public. A highlight was a large troop of Cub and Beaver Scouts arriving as the fair opened and staying all day. Online engagement across the week was very high. The College's @RCPath Twitter account had more than 70,000 impressions and our Instagram account's following almost tripled.

250

Students

300

Members of the public

7,000+

Tweets



Exploring pathology

continued

Members organised more than 100 events around the country, from presentations in schools, hospitals, libraries and shopping centres to open laboratories where people could learn about antibiotic resistance or discover what happens to their biopsy.

The College's annual **School Science Conference** saw 400 school students aged 13–16 taking part in interactive and discursive activities about organs and organ donation.

The College chose **organs and organ donation** as the theme for this year's event as it tied in with a key theme of the 70th anniversary of the NHS – the importance of blood and organ donation. Students, supported by pathologist volunteers, learned about the location, size and function of some of the body's major organs, using a variety of fruit to help give a sense of the size and weight of the heart, liver and kidneys.

They also took part in our ethics workshop: **Your Body, Your Consent**. This introduces the history and law of organ donation in a short presentation before giving each group a case study about organ donation to discuss. The feedback from students and pathologists was very positive and many of the College's careers leaflets (and other freebies) were taken away by the enthusiastic school students.



The College teamed up with South West London Pathology to create a series of public engagement videos. One of the videos, **The journey of a biopsy**, shows what happens to samples of tissue and blood in the laboratory. #DiscoverPathology.



272

Volunteers delivered public engagement activities through the year

100

Member-led National Pathology Week events

25

Members given science communication training, with one introductory and one advanced course

Lay Governance Group

Lay Trustees

Mr Tommy McIlravey, Chair
Mr Robert Smith, Vice Chair

Ms Mary Ann Cameron
Mr Chris Jelley
Dr Rachael Liebmann
Mr Stephen Pattison
Ms Jennifer Sano
Dr Lorna Williamson
Ms Edna Young

The Lay Governance Group has continued to grow its influence on – and support for – the work of the College. Its membership is made up of lay representatives who provide valuable contributions to a range of College committees, including those focused on ethics, international work and examinations, as well as the various College specialty training committees.

Two of the lay advisers also serve as trustees. The Chair of the Lay Governance Group is a member of Council and the Vice Chair attends as an observer. This brings a useful diversity of thought and opinion, in addition to expertise on issues such as governance, finance and strategic human resources management.

Lay representatives have also taken up various other roles essential to the functioning of the College. This has included providing a lay perspective to disciplinary panels, examinations misconduct hearings and invited reviews at a number of trusts. Feedback on the usefulness of their contributions in these roles has been very positive.



The group has also been asked to provide lay input into pathology curriculum development, alongside its continuing role in reviewing College guidelines. This lay review often helps with clarity of language and structuring of key documents.

The group also continues to raise concerns about national issues affecting the work of the College. In particular bringing a lay (and patient) perspective to issues such as consolidation within the NHS and future workforce planning within pathology.

As the Lay Governance Group completed its second year of full operation, it entered a period of reflection and planning. With that in mind, the group will launch a new round of recruitment in autumn 2018 to continue to broaden the diversity of skills and views it brings to its work.

Financial report

+ 2%

Growth in membership

+ 8%

College examinations

7.8%

Return on College's investments

The income for the College for 2017/18 amounted to £5.2m. Subscriptions remain the largest source of income at £3.2m, followed by postgraduate education and examinations at £1.4m. Membership numbers grew by over 2% for the year and the number of candidates sitting College examinations grew by 8%. Expenditure totalled £5.1m.



Topping out ceremony, December 2017.

Work on the construction of the new Alie Street premises progresses well. The build started in January 2017 and, although we have suffered some delays due to the inclement weather in January and February 2018, the project is on track to be completed in the fourth quarter of 2018. In terms of costs, the project remains on budget. The additions to the building in the year to 30 June 2018 amount to £10.7m. We have commenced drawdown

of the development loan facility, which has been secured to fund approximately 28% of the total costs of the project.

Examinations expenditure has reduced over the year as fewer venues were used and the trend of moving from wet to dry examinations has continued. Income from College symposia was more than budgeted, as 12 meetings were run.

Income from RCPATH Consulting – accounted for through the College's wholly owned trading subsidiary, RCPATH Trading Limited – amounted to £78k with costs of £46k. The trading surplus is gift-aided to the College.

In the last 12 months, global markets went from an unbridled bull in 2017 and the first month of 2018 to a very different environment from February onwards as the risk of trade tariffs increased market volatility. Returns were largely dependent on being in the right sectors and countries, with IT, energy and financials scoring well. The US, Japan and emerging markets fared better than Europe, with the UK in the middle. The College's investments had another good year, with the portfolio delivering a total return of 7.9% in the

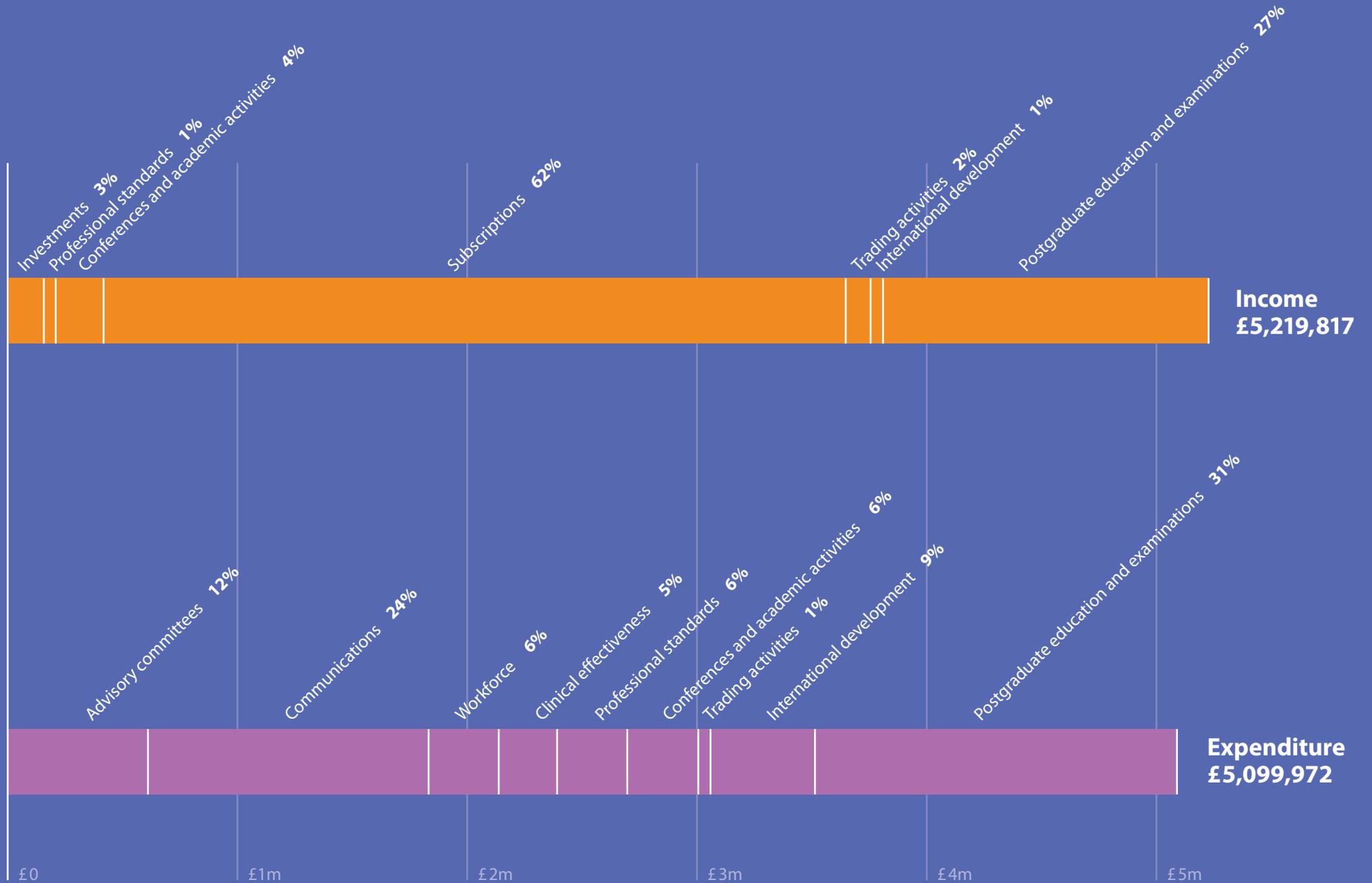
12 months to 30 June 2018. Over the longer term, the portfolio has delivered 29.8% and 48.7% on three- and five-year timeframes respectively.

The accounts published overleaf are not the statutory accounts, but a summary of information relating to both the statement of financial activities and the balance sheet. The full financial statements have been audited and contain an unqualified audit report. They were approved by the Trustee Board on 26 July 2018 and have been submitted to the Charity Commission. Any member may request a copy of the full accounts by writing to the Chief Executive.

Dr David Cassidy, Treasurer
Mr Daniel Ross, Chief Executive

26 July 2018

The Royal College of Pathologists 2017–2018



Summary of accounts 2017–2018

Independent Auditor's Statement to the Trustees of the Royal College of Pathologists

The full financial statements were audited by Begbies, Chartered Accountants, and approved by the Trustee Board on 26 July 2018. They were signed on behalf of the Trustee Board by Professor Jo Martin and Dr David Cassidy.

Begbies

Chartered Accountants and Registered Auditors
9 Bonhill Street, London EC2A 4DJ

26 July 2018

Consolidated balance sheet

as at 30 June 2018

	2018 £	2017 £
Fixed assets		
Tangible assets	32,597,355	22,056,648
Investments	5,685,228	5,385,166
Total fixed assets	38,282,583	27,441,814
Current assets		
Stocks	14,132	15,294
Debtors	920,413	514,247
Cash at bank and in hand	5,528,711	11,815,588
Total current assets	6,463,256	12,345,129
Liabilities		
Creditors		
Amounts falling due within one year	(4,298,018)	(3,057,165)
Provisions for liabilities	(100,000)	–
Net current assets	2,065,238	9,287,964
Total assets less current liabilities	40,347,821	36,729,778
Creditors		
Amounts falling due after more than one year	(3,321,179)	–
Provisions for liabilities	–	(100,000)
Net assets excluding pension liability	37,026,642	36,629,778
Defined benefit pension scheme liability	–	(38,233)
Total net assets	37,026,642	36,591,545
The funds of the College		
Unrestricted funds – general funds	6,821,049	6,284,446
Unrestricted funds – designated funds	29,540,478	29,627,022
Restricted funds	665,115	680,077
Total College funds	37,026,642	36,591,545

The financial statements were approved by the Trustee Board on 26 July 2018 and signed on behalf of the Trustee Board by Professor Jo Martin, President, and Dr David Cassidy, Treasurer.

Consolidated statement of financial activities

for the year ended 30 June 2018

	Unrestricted General Funds £	Unrestricted Designated Funds £	Restricted Funds £	Total Funds 30 June 2018 £	Total Funds 30 June 2017 £
Income from					
Donations and legacies	3,172		1,000	4,172	3,732
Charitable activities					
Subscriptions	3,238,655	–	–	3,238,655	3,126,629
Postgraduate education and examinations	1,416,216	–	–	1,416,216	1,325,786
International development	21,396	–	8,109	29,505	74,696
Conferences and academic activities	221,457	–	–	221,457	124,048
Professional standards	67,701	–	(7,306)	60,395	65,628
Communications and public engagement	5,246	–	369	5,615	11,308
Trading activities (RCPATH Consulting)	78,771	–	–	78,771	33,000
Investments	157,329	–	7,013	164,342	202,740
Other	689	–	–	689	1,052
Total income	5,210,632	–	9,185	5,219,817	4,968,619
Expenditure on					
Raising funds					
Trading activities (RCPATH Consulting)	46,043	–	–	46,043	12,761
Investment management fees	25,557	–	–	25,557	19,716
Charitable activities					
Postgraduate education and examinations	1,561,907	–	13,610	1,575,517	1,657,077
International development	420,066	16,420	419	436,905	410,288
Conferences and academic activities	306,015	–	–	306,015	220,391
Research	–	–	13,334	13,334	526
Professional standards	311,775	–	–	311,775	337,088
Clinical effectiveness	256,056	9,213	1,490	266,759	245,015
Workforce	307,002	–	–	307,002	290,886
Communications and public engagement	1,130,514	86,911	10,491	1,227,916	1,052,292
Advisory committees	583,149	–	–	583,149	540,563
Total expenditure	4,948,084	112,544	39,344	5,099,972	4,786,603
Net income / (expenditure) before net gains on investments	262,548	(112,544)	(30,159)	119,845	182,016
Net gains on investments	280,255	–	34,997	315,252	686,868
Net income / (expenditure)	542,803	(112,544)	4,838	435,097	868,884
Transfers between funds	(6,200)	26,000	(19,800)	–	–
Net movement in funds	536,603	(86,544)	(14,962)	435,097	868,884
Reconciliation of funds					
Total funds brought forward	6,284,446	29,627,022	680,077	36,591,545	35,722,661
Total funds carried forward	6,821,049	29,540,478	665,115	37,026,642	36,591,545

Council members

as at June 2018

Trustees

President
Vice President for Learning
Vice President for Communications
Vice President for Professionalism
Treasurer
Registrar
Assistant Registrar
Chair, Scotland Regional Council
Chair, Northern Ireland Regional Council
Chair, Wales Regional Council
Chair, Lay Trustee

Chief Executive

Professor Jo Martin
Professor Shelley Heard
Dr Rachael Liebmann
Dr Tim Littlewood
Dr David Cassidy
Dr Lance Sandle
Ms Avril Wayte
Professor Peter Johnston
Professor Ken Mills
Dr Esther Youd
Mr Tommy McIlravey

Mr Daniel Ross



Some of the College's Trustees (left to right)

Mr Robert Smith / Dr Lance Sandle / Dr Tim Littlewood / Professor Peter Johnston / Professor Ken Mills
Dr David Cassidy / Professor Jo Martin / Professor Shelley Heard / Dr Rachael Liebmann

Nationally elected members

Dr David Jenkins
Dr Mike Osborn
Dr Anne Thorpe
Dr Darren Treanor

Regionally elected members (for England)

Dr Paul Barrett, England, North Region
Dr Adrian Bateman, England, South Region
Professor Sebastian Brandner, England, London Region
Dr Laszlo Igali, England, East Midlands Region

Co-opted members

Dr Nigel Brown, Chair, Toxicology Specialty Advisory Committee (SAC)
Professor Finbarr Cotter, Chair, Interspecialty Committee on Molecular Pathology
Dr Bill Egner, Chair, Immunology SAC
Mrs Angela Douglas, Chair, Genetics and Reproductive Science SAC
Professor Kate Gould, Chair, England Regional Council
Professor Roberto La Ragione, Chair, Veterinary Pathology SAC

Observers by invitation

Dr Maadh Aldouri, Clinical Director of International Activities
Dr Paula Bolton-Maggs, Chair, Transfusion Medicine SAC
Professor Philip Cachia, Clinical Director of Training and Assessment
Professor Terry Cook, Chair, Ethics Committee
Dr Andrew Day, Clinical Director of Examinations
Dr Rebecca Halas, Chair, Trainees Advisory Committee
Professor Hilary Humphreys, Dean, Faculty of Pathology, the Royal College of Physicians of Ireland
Dr Sacha Kolar, Chair, Forensic Pathology SAC
Dr Jo McPartland, Chair, Pre/Perinatal/Paediatric Pathology SAC
Professor David Roberts, Chair, Research Committee
Dr Kathryn Ryan, Chair, Clinical Biochemistry SAC
Dr Deborah Sage, Chair, Histocompatibility and Immunogenetics SAC
Mr Robert Smith, Vice Chair, Lay Trustee
Professor Richard Tedder, Chair, Medical Virology SAC
Mr David Wells, Institute of Biomedical Science representative
Dr Bridget Wilkins, Clinical Director of Clinical Effectiveness
Dr Lorna Williamson, Clinical Director of Publishing and Engagement

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