The Bulletin

of the Royal College of Pathologists

Number 208 October 2024

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

The Royal College of Pathologists
6 Alie Street, London E1 8QT

T: 020 7451 6700
E: info@rcpath.org
www.rcpath.org

CONTENTS

OCTOBER 2024 NUMBER 208

From the Editor – October 2024

Welcome to the October issue of the Bulletin.

Published: 10 September 2024 **Author:** Angharad Davies **Read time:** 4 Mins

The theme of this issue of the Bulletin is health inequalities. Over the past few weeks, I am sure many of you will have read Lord Darzi's report into the state of the England's National Health Service, published in September, with similar pressures in the devolved nations' health services. It is a sobering read. Among many other issues, Lord Darzi noted that the absolute and relative proportion of our lives spent in ill-health has increased over the last decade; however, this depressing fact does not tell the whole story – because not all of society is affected equally.

So, our theme is very apt and I am especially delighted that we carry an editorial from Ruth Robertson of the King's Fund. I hope that this, along with our feature articles considering health inequalities relating to aspects of pathology – ranging from digital pathology, to antimicrobial resistance, to genomics, to cancer diagnosis, to bone marrow transplant to the experiences of minority ethnic women accessing healthcare in Wales – will give us all pause to reflect on how we, as pathologists, can play a role in reducing health inequalities, so pervasive in all areas of medicine, including our own.

At the end of September, the United Nations General Assembly convened its second high-level meeting on antimicrobial resistance – a call to action for world leaders to collectively address the threat this poses to global health. RCPath's own International team has also been active in this space. Over the summer, the team delivered a very well-received weekly global antimicrobial resistance webinar series presented by experts worldwide – Giles Hanratty reports. Meanwhile, our International Pathology Day event in November will focus on the same topic. We have the honour of welcoming Professor Dame Sally Davies, the UK's envoy to the UN on AMR, to open the conference, in conversation with our President, Dr Bernie Croal and Vice President for Communications, Dr Noha El-Sakka. Kelley Price previews the event.

The College has a new 5-year strategy, which reaffirms its commitment to supporting excellence in pathology for healthcare worldwide. Daniel Ross, the College's CEO, outlines how advocacy and leadership, education and training, professional standards, and fostering a global community remain at the heart of all College activities.

Recently, I had the pleasure of attending a Science Lates event at the Science Museum, at which a number of talented College members and Fellows showcased the importance of pathology to the public. A snakes-and-ladders game explaining cervical cancer prevention and a 'pathogen dating app' were just 2 examples of the memorable and engaging activities. Now, National Pathology Week is just around the corner. This year it will have the theme 'Pathology is Vital' and will be coordinated collaboratively by the Pathology Alliance for the first time. Penny Fletcher's update gives a flavour of the planned events and how you can get involved.

Our foundation and undergraduate essay competitions each attract a high standard of entries every year. This year, entrants were asked to consider the impact of climate change on health, disease and pathology – the winning essays are published in this issue. The College also has a number of annual named lectures; for this year's Kettle Memorial Lecture, we were delighted to welcome Professor Peter Chiodini OBE to Swansea – read more here.

This issue also contains a review from Heather Keir of the 3rd edition of Putnam & Thompson's *Diagnostic Pathology: Pediatric Neoplasms*, while Lorna Cain and Sarah Wheeldon report back from the recent Transfusion Transformation Symposium organised by NHS Blood and Transplant, the National Blood Transfusion Committee and NHS England.

We also have appreciations of Professor Christopher Fletcher, Professor Robin Warren and Professor Helen Whitwell, all of whom contributed so much to pathology and the profession, and who are greatly missed by family, friends and colleagues.

And lastly, a number of you put your summer breaks to good use by completing our pathology crossword. Thanks to all who rose to the challenge and submitted entries! The winner was Dr Sadia Qamar of Lewisham and Greenwich NHS Trust, who will receive a prize of College merchandise. Congratulations!

Meet the author

PROFESSOR ANGHARAD DAVIES

CLINICAL DIRECTOR OF PUBLISHING AND ENGAGEMENT

Return to October 2024 Bulletin

Read next

Member only content

King's Fund guest editorial: health inequalities

01 OCTOBER 2024

Member only content

A new strategy for the future

10 SEPTEMBER 2024

Member only content

Essay prize winners 2024

26 SEPTEMBER 2024

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

From the President – October 2024

Published: 10 October 2024 **Author:** Dr Bernie Croal **Read time:** 4 Mins

Health inequalities

Looking back at my time growing up on a deprived council estate, I became aware of health inequalities at a relatively young age. It was one of the early drivers for me to forge a career in medicine. I spent most of my teenage years as a volunteer for the British Red Cross; it was clear to me that those with less money, mental health and addiction issues, and disabilities were less able or motivated to access the healthcare that they needed.

Fast forward 40 years and I am not sure that things have improved much for these and other minority groups. Cuts to public health funding have compounded health inequalities. Certainly, plenty of evidence now exists that the reduction of healthcare provision – experienced through the pandemic and now residing in waiting lists and a gridlocked NHS – affects deprived and minority groups to a much greater extent, with key health metrics now widening across our population.

The recent Darzi report highlighted many of these deficiencies within the NHS. It is, therefore, important that this College works hard to ensure health inequalities reduce, especially with regard to those pathways where pathology plays a pivotal role. The future funding of pathology services, both capital and workforce spend, are hugely important, but so is improving the way that pathology services are used, misused and accessed.

This edition of the Bulletin focuses on many of the health inequalities that currently exist across healthcare. It would seem that such inequalities are present across the entire range of services we are involved in: prevention, screening, diagnosis, treatment and outcomes. The first part of reducing inequalities is, of course, being able to identify where and why they are occurring. The articles in this issue focus on examples such as cancer services, genomics and preventative healthcare.

Meanwhile, our new College strategy will focus on important areas such as workforce, reform, digitisation/AI, collaborative ways of working with industry and ensuring our voice is better heard across decision makers within government, both as a College but also as part of a stronger, louder Pathology Alliance.

Pathology has a pivotal role across all of healthcare and is now so important as the NHS tries to mend its "broken" status. Part of this needs to address the widening health inequalities that have emerged and worsened in recent years. Investment in pathology capital and workforce, improving access to pathology, improving knowledge among healthcare professionals and the public will not only improve pathology services but will also optimise the wide array of clinical services that are driven by pathology. Improving pathology will improve healthcare, reduce inequalities and, ultimately, improve outcomes for all.

The Darzi Report

The report of the independent review of the NHS by Lord Darzi and his team makes stark reading, but its contents are, of course, not a surprise to those of us working in healthcare. There is hope that it is the prelude to much needed increased investment in NHS services in the coming years but it is clear that such investment needs to be accompanied by reform of how we do things. The College is actively involved, through direct engagement with the NHS and government, but also via the collective work of the Academy of Medical Royal Colleges and the Pathology Alliance.

The new NHS 10-year plan for the English NHS and similar plans across the other UK nations are currently in development. They will outline what happens next. It is vital that pathology has an integral part in this. We are, therefore, developing our own 10-year plan for pathology and working with the Pathology Alliance to ensure that the collective voice of pathology is heard.

RCPath is a UK College

While the majority of College work within the UK is inevitably focused on England, the College continues to support and advise across the other 3 devolved nations. Many issues, especially workforce, are UK-wide. The College is committed to strengthening relationships across and with all 3 nations. Our regional council members for Northern Ireland, Scotland and Wales represent their respective nations and provide much valued and needed professional leadership locally to healthcare providers, government and other key stakeholders.

Our recent Celtic Nations Summit, held in the College, brought together the chief scientific advisors for the respective Scottish, Welsh and Northern Irish governments, prominent pathology leads, regional council members and other key College representatives, including honorary officers and our staff senior management team. Issues discussed included workforce and training, IT, digital and AI, strategies for key specialties and pandemic preparedness. A report will be published soon.

I also spent a very productive few days in Belfast, meeting with fellows, trainees, CMO/CSO representatives and other pathology stakeholders to learn about and discuss the key challenges and developments across Northern Ireland pathology services. I look forward to visiting Cardiff, Edinburgh and Glasgow in the coming weeks.

Global reach

The College has many members and fellows working across the globe. While we cannot oversee and input to the pathology needs of other countries to the same extent as we do in the UK, our work in advising, assisting and helping direct pathology services in other countries is much valued and, of course, hugely dependent on the input and support of our members in these countries.

The College International team is as active as ever. We look forward to International Pathology Day on 6 November, which focuses this year on the important topic of antimicrobial resistance. The International team also hosted a series of antimicrobial resistance webinars, with speakers and attendees from over 30 countries.

Medical examiners

The College was delighted to finally see the medical examiner system for England and Wales move to a statutory system from 9th of September 2024. This means that all deaths across all health settings that are not investigated by a coroner will be reviewed by NHS medical examiners.

The College has long campaigned for the introduction of medical examiners and worked closely with key stakeholders for many years to implement this important patient safety initiative. Since the roll out of the non-statutory system in 2019, the College has trained over 3,000 medical examiners and officers.

It will, of course, be interesting to compare and contrast the now quite different arrangements across the UK, with only a small proportion of deaths in Scotland and Northern Ireland undergoing equivalent scrutiny. Health is devolved, of course, and while the medical examiner/investigator systems are arguably less robust, this means that scarce funds can be spent elsewhere. Achieving the right balance overall is what matters. Such balance may be different in other settings or driven by different priorities and opinions.

Meet the author

DR BERNIE CROAL

PRESIDENT, ROYAL COLLEGE OF PATHOLOGISTS

Return to October 2024 Bulletin

Read next

King's Fund guest editorial: health inequalities

01 OCTOBER 2024

Member only content

A new strategy for the future

10 SEPTEMBER 2024

Global antimicrobial resistance webinar series

10 SEPTEMBER 2024

King's Fund guest editorial: health inequalities

The King's Fund introduces our theme of health inequalities.

Published: 01 October 2024 **Author:** Ruth Robertson **Read time:** 6 Mins

King's Fund Fellow Ruth Robertson introduces the theme of the October Bulletin and highlights the priorities for resolving health inequalities.

"The NHS is broken" – these were the stark words Wes Streeting chose to use in his first statement as Secretary of State for Health and Social Care.[1]

Whether or not you agree with that, if you consider the deteriorating state of our nation's health – as Lord Darzi did in his recent rapid analysis of the NHS[2] – it's clear any 'fix' needs to go well beyond the health service. Health inequalities are deep and widening.[3] It is impossible to ignore that some groups are disproportionately affected by the burden of ill health.

It is, therefore, heartening that tackling health inequalities – this issue's focus – is a key commitment in the new government's health policy. This includes an ambitious pledge to halve the gap in healthy life expectancy between the richest and poorest regions in England.[4] Work has started to turn this goal into policy (and then practice), with the establishment of a 'Health Mission' board that will work across government and the initiation of work in the Department for Health and Social Care to develop a new 10-year health plan. Due to be published next Spring, it has been dubbed a once-in-a-generation opportunity to influence the future direction of the NHS.

In this issue

The fantastic set of articles in this issue provide clear and compelling examples of the challenge that the Government must address with these plans and some of the strategies needed to make progress.

Rob Danby from Anthony Nolan highlights the inequalities that exist in bone marrow donation and in patients' access to and outcomes from haematopoietic cell transplant therapy, highlighting the way Anthony Nolan is prioritising work to tackle this.

Dr Veline L'Esperance and Professor Habib Naqvi from the NHS Race & Health Observatory summarise an important review that shows the urgent need to address ethnic inequalities in precision and genomic medicine – services that have the potential to revolutionise the diagnosis and treatment of disease.

Anu Gunuvardhan and Meena Upadhyaya discuss the disparities in care that ethnic minority women face in the Welsh healthcare system.

Dr Samar Betmouni sets out the equality of access considerations that result from the rise of digital pathology.

Katrina Brown's article on the inequalities in cancer care is stark reading. People in the poorest parts of England die almost a third more often from cancer than those in the richest areas – but Cancer Research UK has a mission to change this.

Finally, Ellie Gilham and Diane Ashiru-Oredope explain that the extent to which vulnerable and marginalised communities are disproportionately affected by anti-microbial resistance (AMR) is only just being realised and emphasise that this must be a focus for future work on AMR.

Driving progress in health inequalities

Supporting the health and care system in its work to tackle health inequalities and support people with the worst health outcomes – including issues like these – is a priority for The King's Fund. Health inequalities cannot be tackled by the NHS alone; however, the NHS clearly has a role to play.

But we have found that, over the past decade, the NHS has made little progress, despite commitments from many to change things and pockets of innovation.[5] At this moment of change, we have identified 7 priorities the new 10-year health plan should focus on to drive more progress.

1. The root causes of health inequalities, such as poor housing, low incomes and insecure employment, lie outside the NHS. We are calling for a cross-government strategy to tackle health inequalities that any new NHS plan must feed into. The NHS cannot do this alone.

2. Many of the big killers, like cardiovascular disease, disproportionately affect people from the most deprived parts of the country and ethnic minority groups.[6] That's why the NHS must reorientate itself to focus on prevention to tackle health inequality and be held to account.

3. The recent inquiry report on the Grenfell Tower fire and our own analysis of the healthcare response[7] vividly show what happens when public services do not listen to communities. The NHS needs to radically change its relationship with people and communities from 'power over' to 'power with'. The first place to test this is in the development of the 10-year health plan.

4. Racism and discrimination affect NHS staff in the workplace, the design of services and the health of the people who use those services. The NHS cannot address health inequalities without tackling systemic racism and direct and indirect discrimination; part of this is acknowledging the issue and cultivating a culture of compassion to support change.

5. Work to tackle inequality is often an add-on, but it must become part of everyone's business-as-usual. National bodies and local health systems have an important role to play in building skills and enabling staff to identify and act on health inequalities and capture learning.

6. It is important that decisions are taken close to local communities by people who understand their needs and the inequalities that exist in health and access to health services. That's why local 'place-based partnerships' – where local authorities, NHS organisations and the Voluntary, Community and Social Enterprise (VCSE) work together to plan and deliver services – must be empowered to take more decisions about how NHS money is spent, where possible delegating power further to local neighbourhoods.

7. The NHS must get better at working with local VCSE organisations that support many people who experience the worst health outcomes. This includes changing the way the NHS works with them to commission services.

Throughout this issue, you will see that many of these ideas are echoed in the articles. That these articles come mainly from voluntary sector organisations underlines the importance of partnership across sectors in making change happen. The concerns outlined are stark but the energy to address them is also palpable.

References available on our website.

Meet the author

RUTH ROBERTSON

SENIOR FELLOW, THE KING'S FUND

Return to October 2024 Bulletin

burden

Read next

Progress in stem cell transplantation: unlocking new ways to treat every patient

10 SEPTEMBER 2024

Reflections on the Ethnic Minority Women in Welsh Healthcare health inequalities conference

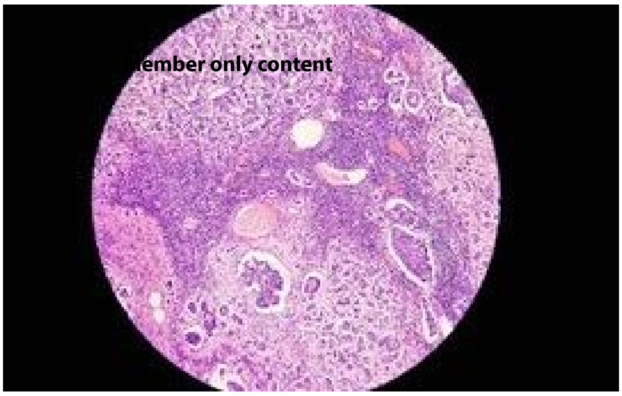
10 SEPTEMBER 2024

Antimicrobial resistance: improving understanding and addressing inequalities

10 SEPTEMBER 2024

Tackling ethnic inequalities in precision and genomic medicine

10 SEPTEMBER 2024



Inequalities in cancer – an unequal

Progress in stem cell transplantation: unlocking new ways to treat every patient

Anthony Nolan aims to find transplant donors for all, regardless of background.

Published: **10 September 2024** **Author:** **Dr Robert Danby** **Read time:** **10 Mins**

Successful transplants for blood cancer and blood disorder patients require matching donors. However, socioeconomic and genetic differences mean that some patients face disproportionately worse transplant outcomes. UK stem cell charity Anthony Nolan is leading the charge to resolve this. For this health inequalities edition of the Bulletin, Dr Robert Danby, Chief Medical and Scientific Officer at Anthony Nolan and RCPath College Fellow, expands on ongoing work to ensure all patients have an equitable opportunity to survive and thrive after a transplant.

When Anthony Nolan was born in 1971 with Wiskott–Aldrich syndrome, a rare inherited immunodeficiency disorder, his mother Shirley was told a bone marrow transplant was his only chance of survival. Known today as haematopoietic cell transplant (HCT), the procedure involves replacing affected bone marrow with that of a healthy human leukocyte antigen (HLA)-matched donor. But with no siblings, Anthony would need an unrelated donor.

At the time, there was no system to find potential donors for people like Anthony. Desperate for a match for her son, Shirley set up the world's first register of people willing to donate their bone marrow to those with blood cancers and serious blood disorders.

Sadly, Anthony died aged just 7 while waiting for a donor. But his and Shirley's legacy remains. 50 years later, the Anthony Nolan charity currently has over 900,000 people on its register and gives 4 people a day a second chance of life by facilitating life-saving stem cell transplants.

Anthony with his mum, Shirley. The Anthony Nolan charity works to uphold Anthony's legacy with its work in helping patients receive life-saving transplants.

Half a century of progress

Initially an experimental treatment, HCT is now considered a routine, though complex, therapy for thousands of patients each year with otherwise incurable blood cancers and serious blood disorders.[1]

As risks and complications have reduced with improved clinical understanding and new therapies, HCT has become available for a growing list of indications, including sickle cell disease and thalassaemia, and is increasingly used in older patients.[2–4] In recent years, our knowledge and understanding of HCT has also become central to emerging cell and gene therapies, like CAR-T therapy (read more in the July 2024 Bulletin), where genetically engineered cells are being used to treat malignant and non-malignant conditions.[5,6]

But there is still work to do. The intense nature of a transplant means many patients still suffer serious short- and long-term side effects and reduced quality of life after treatment.[7] On average, 5-year survival post-transplant sits at little over 50 percent.[8] Furthermore, disparities in access to and recovery from transplant – due to age, ethnicity, socioeconomic status and more – mean it’s likely that many patient groups may face disproportionately worse outcomes.[9]

When I was appointed Chief Medical and Scientific Officer at Anthony Nolan last year, it was clear that our research strategy needed to reflect and expand on this progress, while working towards ensuring all patients could equally benefit.

A research strategy fit for the future

Our mission to give all patients in need of a stem cell transplant the best possible outcomes has not wavered since Shirley first established the donor register. But the work we are doing to achieve this has evolved to meet the demands and opportunities in the field today.

In our new research strategy launched earlier this year, we set out 3 ambitious goals.

- Survival: transform outcomes for every patient.
- Equity: achieve greater equity of access, experience and outcomes.
- Progress: contribute to the development of new cell and gene therapies and ensure they are made available to more patients.

To achieve this, we had to rethink our approach to research. Having historically focused on the science of identifying the optimal donor for survival, we have now expanded our remit to also include patient-led research that considers quality-of-life outcomes as an additional priority. We also have a new focus on cell and gene therapies to improve understanding of the best donor, cell source and cell type for these new treatments.

Cutting-edge cellular and gene therapies are a key focus for Anthony Nolan's research.

This research cannot and must not be done in isolation. For this reason, we will work to enhance collaborations across the world and across different sectors to help deliver practice-changing clinical trials and to ensure our patients benefit from research breakthroughs, wherever they take place. We're also working to ensure research policy supports the needs of transplant patients.

Finally, we are investing in future talent, without which achieving our goals wouldn't be possible. We've committed to education and training programmes, including postgraduate degrees and fellowships, to help us future-proof international expertise in haematopoietic stem cell research. Through this team, we will continue to embed the highest standards of research culture – such as including patient and donor voices at every stage of the research process.

Finding matches for all, regardless of ethnicity

HLA-matching is the cornerstone of HCT. However, owing to the complexity and diversity of HLA genes, some patients have unique genetic types for which an ideal donor is highly unlikely to be found. Crucially, our research shows that patients from minority ethnic backgrounds are more likely to have rare genetic types, making it harder to find them an HLA-matched unrelated donor compared to those with white or Northern European heritage.[10]

Organisations across the globe, including Anthony Nolan, are working hard to recruit more people of minority ethnic backgrounds to help address this disparity. As a founding member of the World Marrow Donor Association (WMDA), we are part of a network operating in 55 countries, with access to over 40 million adult donors.[11]

Yet, studies of HLA and population genetics shows that these staggering numbers alone, even with further recruitment, will not be enough to find everyone their perfect donor.[12] To level the playing field, we must find alternative solutions when an HLA-matched donor cannot be found.

Anthony Nolan is part of a group of organisations with access to 40 million adult donors worldwide.

Unrelated donor umbilical cord blood has been an important alternative source of haematopoietic stem cells for many years. This blood, which is otherwise discarded after birth, is rich in stem cells and can withstand a lower degree of matching than cells taken from adult donors.[13] Since the first successful transplant with cord blood in 2012, over 300 transplants have taken place in the UK.[13] However, the specialist clinical knowledge required to administer cord blood donations, combined with factors like lower cell dose, mean that umbilical cord blood is not a suitable alternative for every patient.[14,15]

Recent advances in transplant practice and new strategies to prevent graft-versus-host disease, such as post-transplant cyclophosphamide (PTCy), are another important option. Use of PTCy now allows patients to receive an allogeneic HCT from an HLA-mismatched donor, either related haploidentical or unrelated, in a way that was not previously possible.[16]

Ongoing clinical trials, which Anthony Nolan is helping to support, are assessing the safety and efficacy of PTCy in both matched and mismatched unrelated donor transplants.[17,18] While further research is needed to understand the long-term consequences of this approach, results so far show that PTCy is significantly increasing donor options for those without an HLA-matched unrelated donor, with very encouraging clinical outcomes.[16]

Addressing socioeconomic barriers to access

Beyond finding a donor, we are also interested in whether other factors – such as socioeconomic status, household income, educational level and regional location – also influence HCT outcomes and survival.

For example, recovery from transplant can be a lengthy process, with many patients requiring long stays in hospital and extended periods of recuperation at home. Those on lower incomes may face more pressure to return to work prematurely, which could impact their recovery. They may also be disproportionately affected by the costs associated with a transplant – some patients have told us that they considered postponing or even refusing a lifesaving transplant due to the financial implications.

Despite this, currently in the UK there is no widely accepted method of routinely collecting information about socioeconomic status and how it may affect quality of life or survival post-transplant.

Our researchers are leading the charge to address this. The Anthony Nolan study SEQoL is pioneering methods for collecting patient-reported outcome data and linking this to socioeconomic factors, aiming to inform how the transplant community can offer the best support possible to every patient.

Including patients, donors and families at every step

It's well accepted that, to fully understand and equitably improve patient experience, those who are affected must be actively involved in research.[19]

At Anthony Nolan, acting as an advocate for the needs of patients has always been central to our mission. Our unique position as a research institute, facilitator of the world's oldest register and delivery partner at every stage of the clinical pathway means that we can ensure the diverse views of patients, families and donors are included at every stage of making improvements to care.

We're also working to ensure diverse patient experiences are factored into research beyond Anthony Nolan – for example, by championing better, more inclusive clinical research practices.

Looking to the future

Since the inception of the Anthony Nolan charity 50 years ago, there has been unprecedented progress in outcomes and survival from stem cell transplants. Based on our understanding of his condition, if Anthony Nolan needed a donor today, we estimate he would have as much as a 93% chance of finding a 9/10 or 10/10 HLA-matched donor on our register. But until we see equivalent progress in every patient – regardless of their ethnicity, socioeconomic status and more – there is more work to be done.

Anthony Nolan has made exceptional progress in stem cell transplant in the 50 years since its inception.

References available on our website.

Meet the author

DR ROBERT DANBY

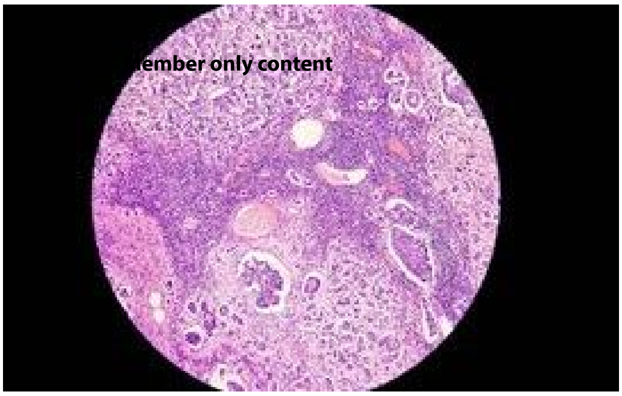
CHIEF MEDICAL AND SCIENTIFIC OFFICER AT ANTHONY NOLAN

Return to October 2024 Bulletin

Read next

Reflections on the Ethnic Minority Women in Welsh Healthcare health inequalities conference

10 SEPTEMBER 2024



Inequalities in cancer – an unequal burden

10 SEPTEMBER 2024

Tackling ethnic inequalities in precision and genomic medicine

10 SEPTEMBER 2024

Reflections on the Ethnic Minority Women in Welsh Healthcare health inequalities conference

What inequalities exist in the Welsh healthcare system?

Published: **10 September 2024** **Author:** **Anu Gunuvardhan and Meena Upadhyaya** **Read time:** **5 Mins**

A recent conference covered the significant disparities that ethnic minority women face within the Welsh healthcare system. The key themes emphasised the necessity for systemic changes in healthcare delivery and policy.

The Health Inequalities Conference was organised by Ethnic Minority Women in Welsh Healthcare (EMWWH) and held in Cardiff on 29 June. EMWWH was established in 2015 by a dedicated group of women with a deep understanding of racial and gender discrimination and its harmful effects. It is the only voluntary organisation Wales that focuses on supporting ethnic minority women in healthcare.

Preventable deaths, social determinants of health and healthcare access

65% of avoidable deaths under the age of 75 could be attributed to conditions that are preventable, which underscores the existing gaps in healthcare and preventive services.[1]

There is an evident link between poverty and health outcomes. 28% of children in Wales live in poverty. Families in social housing who face economic deprivation and disability risk falling into a cycle of poverty across generations. It is crucial to address the social determinants of health, including housing, economic stability and education, to break this cycle and achieve health equity.

Challenges for vulnerable populations

Dr Mohammad Al Hadjali and Dr Raja Biswas gave presentations that highlighted the specific health challenges faced by migrants, refugees and older people, especially those from minority ethnicities. The emphasis on health advocacy and community-based education tailored to refugees is crucial in addressing health disparities in these groups.

Similarly, the discussion on elderly care emphasised workforce challenges and the need for multidisciplinary teams to manage the complex health needs of an ageing population. The ongoing impacts of COVID-19 on older patients, especially within Bangladeshi and Pakistani communities, further illustrate the compounding effects of existing health inequalities.

Economic impact and the cost of inequality

Prior to COVID-19, health inequalities were estimated to cost the NHS an extra £4.8 billion a year and costed society around £31 billion in lost productivity. Between £20 and £32 billion a year was in lost tax revenue and benefit payments.[2] This cost reflects financial strain and also reduced life expectancy and quality of life. The fact that the UK has one of the lowest life expectancies in Europe underscores the need for comprehensive healthcare reforms.

Patient-centred care and cultural sensitivity

Bami Adenipekun emphasised the importance of listening to the lived experiences of patients from ethnic minority backgrounds, highlighting the need for patient-centred care. Cultural sensitivity in healthcare is essential, for example in addressing mental health and oncology outcomes among ethnic minorities.

The principle of 'nothing about me without me' serves as a reminder for healthcare professionals to engage with patients respectfully and inquisitively. Expertise in healthcare must be complemented by an understanding of the patients' lived experiences.

Gender inequalities in health

Dr Helen Munro led a discussion on gender bias and women's health, covering the specific health challenges faced by women that underscore ongoing inequities in healthcare. The lack of research and data collection on women's health, coupled with bias in healthcare delivery, contributes to poorer health outcomes for women, particularly in later life.

Dr Munro emphasised that the increase in suicide rates and the heightened risk of cardiovascular disease in perimenopausal women highlights the need for targeted interventions and awareness campaigns, pointing out that gender-specific health inequalities affect both physical and mental health, as well as the quality of health expectancy beyond 65 years: furthermore, women are not generally listened to or heard by health professionals.

Dr Nadia Hickary-Bhal presented a discussion on menopause, which highlighted the unique challenges faced by women, particularly those from ethnic minority backgrounds. Studies demonstrate that ethnic minority women are more likely to experience early menopause,[3] which is associated with higher morbidity and mortality rates. Barriers such as language, bias and stigma can influence the experience and management of menopause, particularly for women of colour.

Menopause is shaped by cultural perspectives. The 'bio-psycho-cultural model' illustrates how cultural differences affect the experience of menopause. A significant link exists between menopause and domestic abuse, especially for women aged 36–55. How menopausal symptoms are presented can affect quality of care. A holistic approach to menopause care is crucial to improve quality of life and reduce future health risks.

The acceptance of hormone replacement therapy is less common among women of colour, often due to concerns about cancer and a lack of help-seeking behaviour. There is a critical need for specialised support, a person-centred approach and access to female GPs. It is essential to be aware of symptoms and to address communication gaps. The symptoms of menopause in ethnic minority women may differ from those of White women, which leads to a lack of confidence in primary care physicians.

Positive initiatives

The conference stressed that addressing health inequalities requires a comprehensive approach, including policy reform, improved healthcare access and a focus on the social determinants of health. The Discovery report on the Foundations for a Women's Health Plan for Wales[4] and the launch of a centralised data repository are positive initiatives, but they will require ongoing effort and collaboration across various sectors.

The conference highlighted the importance of inclusive, patient-centred care and the need for healthcare professionals to engage with and understand the diverse experiences of the populations they serve. Improving healthcare and addressing health inequalities involves a multi-faceted approach that tackles the underlying causes of these differences.

The COVID-19 pandemic illuminated existing health disparities, particularly those that affect marginalised communities. Many social determinants, such as housing, education and employment, have a significant impact on health outcomes. This has necessitated interdisciplinary discussions and solutions to address these issues.

References available on our website.

Meet the authors

DR ANU GUNAVARDHAN

CHAIR, WALES REGIONAL COUNCIL

PROFESSOR MEENA UPADHYAYA

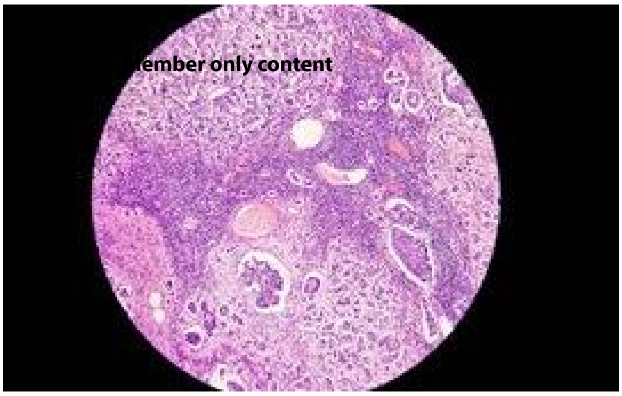
CO-OPTED MEMBER, WALES REGIONAL COUNCIL

Return to October 2024 Bulletin

Read next

Tackling ethnic inequalities in precision and genomic medicine

10 SEPTEMBER 2024



Inequalities in cancer – an unequal burden

10 SEPTEMBER 2024

Transfusion Transformation Symposium

Antimicrobial resistance: improving understanding and addressing inequalities

The UK Health Security Agency describes its current work on inequalities relating to antimicrobial resistance.

Published: 10 September 2024 **Author:** Ellie Gilham and Diane Ashiru-Oredope **Read time:** 10 Mins

Emerging evidence suggests that vulnerable, deprived and minority populations face greater rates of antimicrobial resistance (AMR) and infection. This article details the work being done to identify the scope of these inequalities and what can be done to resolve them.

It has been estimated that 4.71 million (95% UI 4.23–5.19) deaths were associated with bacterial AMR in 2021, which includes 1.14 million (1.00–1.28) deaths attributable to bacterial AMR.[1] This is expected to increase to 1.91 million deaths annually by 2050.[2] These infections are also associated with a significant cost to the global economy of approximately $100 trillion annually.[2]

A Global Action Plan was published by the World Health Organization in 2015. 193 countries subsequently signed a UN declaration in 2016 to address the root causes of antimicrobial resistance (AMR) within human health, animal health and agriculture by strengthening regulation of antimicrobials, improving knowledge and awareness of AMR and promoting best practices.[3] The declaration also promoted the use of innovative approaches by using alternatives to antimicrobials and new technologies for diagnosis and vaccines. Multiple countries have now published and implemented national action plans (NAPs) to tackle AMR.[4]

Emerging evidence of AMR inequalities

There is emerging evidence of increased rates of infection and resistant infection,[5] as well as higher levels of antimicrobial exposure, in individuals with factors commonly associated with health inequalities.[6]

The prevalence of hepatitis C and B, tuberculosis (TB) and respiratory conditions that are likely to lead to increased rates of respiratory infection, such as asthma, is higher in homeless populations, individuals with substance use disorders, sex workers and individuals in contact with the justice system.[7] Furthermore, people from ethnic minorities, deprived individuals and inclusion health groups, such as vulnerable migrants (including asylum seekers and refugees, unaccompanied asylum-seeking children, people who have been trafficked, undocumented migrants who are living in the UK with no legal status and low-paid migrant workers) have consistently been shown to be at higher risk of infections, including TB, sexually transmitted infections and methicillin-sensitive *Staphylococcus aureus* (MSSA).[8–12]

Higher levels of antibiotic use have also been identified within groups such as older adults, especially those in residential care and those living in areas with higher levels of deprivation. Furthermore, vulnerable migrants often rely on alternative routes of antibiotic supply owing to barriers faced in accessing healthcare within the UK. This may lead to higher rates of inappropriate antibiotic use within this population.[6]

Raising awareness – who is being reached?

The UK Health Security Agency (UKHSA) has conducted multiple health campaigns to raise public awareness of AMR, improve public knowledge of correct antibiotic use and support healthcare professionals to prescribe appropriately, including Antibiotic Guardian,[13] Keep Antibiotics Working,[14] e-Bug[15] and TARGET.[16] While campaign evaluations have outlined the effectiveness of these programmes at increasing public engagement, awareness and knowledge, and at supporting healthcare professionals, it was unclear whether they were having an equitable impact across all demographics.

This led to the evaluation of public health campaigns using a health equity assessment tool (HEAT).[17] The campaigns have demonstrated equality and diversity in terms of their reach, based on the Equality Act 2010, as they were accessible to individuals of different ages, sexes, races and other protected characteristics. Notably, this includes the translation of website materials into over 30 languages and reaching individuals in 122 countries.

It was noted, however, that several of the protected characteristics were not applicable across all campaigns; for example, marriage/civil partnership would not be relevant for the e-Bug campaign, which is aimed at children. The continuous development of resources with collaboration from a variety of diverse user groups would aid future campaign reach. The use of the HEAT tool has demonstrated an easy and cost-effective way to assess reach to diverse groups, providing assurance that campaigns and resources do not increase existing health inequalities, and would be a useful addition to all antimicrobial stewardship and public health campaigns.[17]

Addressing inequality

Following evaluation of campaigns using the HEAT tool, a health-inequality-specific workstream was established in 2019 within the Healthcare-Associated Infection and AMR division of UKHSA. Objectives and key performance indicators (KPIs) were subsequently developed with the aim of embedding a systematic approach to reducing health inequalities in AMR (Figure 1).

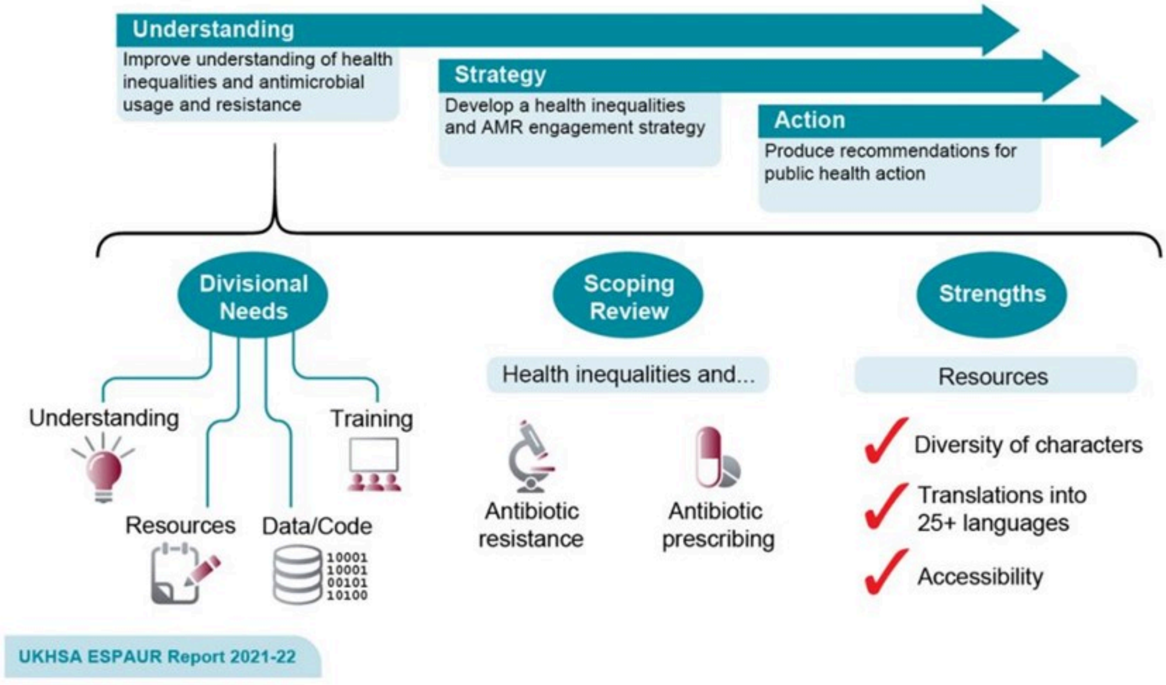


Figure 1: Overview of UKHSA's workstream to address health inequalities across the work of the UKHSA healthcare-associated Infection, Fungal, Antimicrobial Resistance, Antimicrobial Usage and Sepsis Division.

One such KPI was to improve AMR and antimicrobial consumption (AMC) surveillance to understand the burden and trends of AMR and AMC for Core20PLUS5 populations (Figure 2). Subsequently, levels of data reporting on health inequalities and AMR were increased within the annual English Surveillance Programme for Antimicrobial Utilisation and Resistance (ESPAUR) report.

Core20PLUS5 is a national approach used by NHS England to reduce health inequalities at a national and systemic level[18] (Figure 2). Core20 refers to the most deprived 20% of the national population, defined by the national Index of Multiple Deprivation.[19] PLUS population groups refer to inclusion health groups (people experiencing homelessness, drug and alcohol dependence, vulnerable migrants, Gypsy, Roma and Traveller communities, sex workers, people in contact with the justice system, victims of modern slavery), groups that share protected characteristics defined by the Equality Act 2010 (age, gender reassignment, marital status, pregnancy, disability, race, religion, sex and sexual orientation), as well as ethnic minorities, people with a learning disability or autism, and people with multiple long-term health conditions.

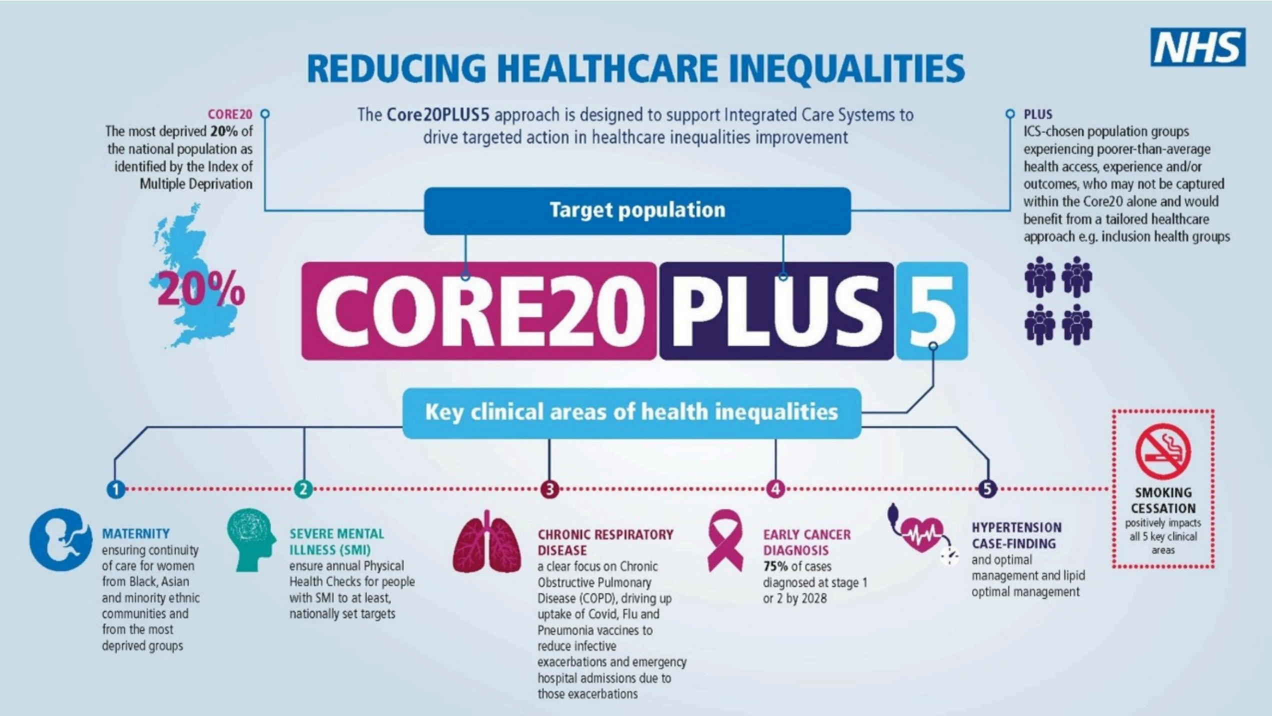


Figure 2: NHS England CORE20PLUS5 – an approach to reducing healthcare inequalities.[18]

Data published in the 2022–2023 ESPAUR report highlights the difference in AMR burden seen in populations that have a number of factors commonly associated with health inequalities, including deprivation, ethnicity, age and regional variation (Tables 1–3 and Figure 3). Rates of resistant bloodstream infections are 41% higher in the most deprived compared to the least deprived groups (33 versus 24.3 infections per 100,000 population).[20] Furthermore, this percentage difference has increased by 7% from 2019, while the difference in rate of bloodstream infections between the most and least deprived groups has remained constant over this time period.

The 2022–2023 ESPAUR report also highlights a higher burden of AMR in bloodstream infections within Asian and British Asian compared to White individuals (34.6 versus 18.7%). The rate of carbapenemase-producing gram-negative bacteria infection was also higher among Asian and British Asian ethnic groups (7.7 per 100,000 minority ethnicity population versus 4.1 per 100,000 for White populations).

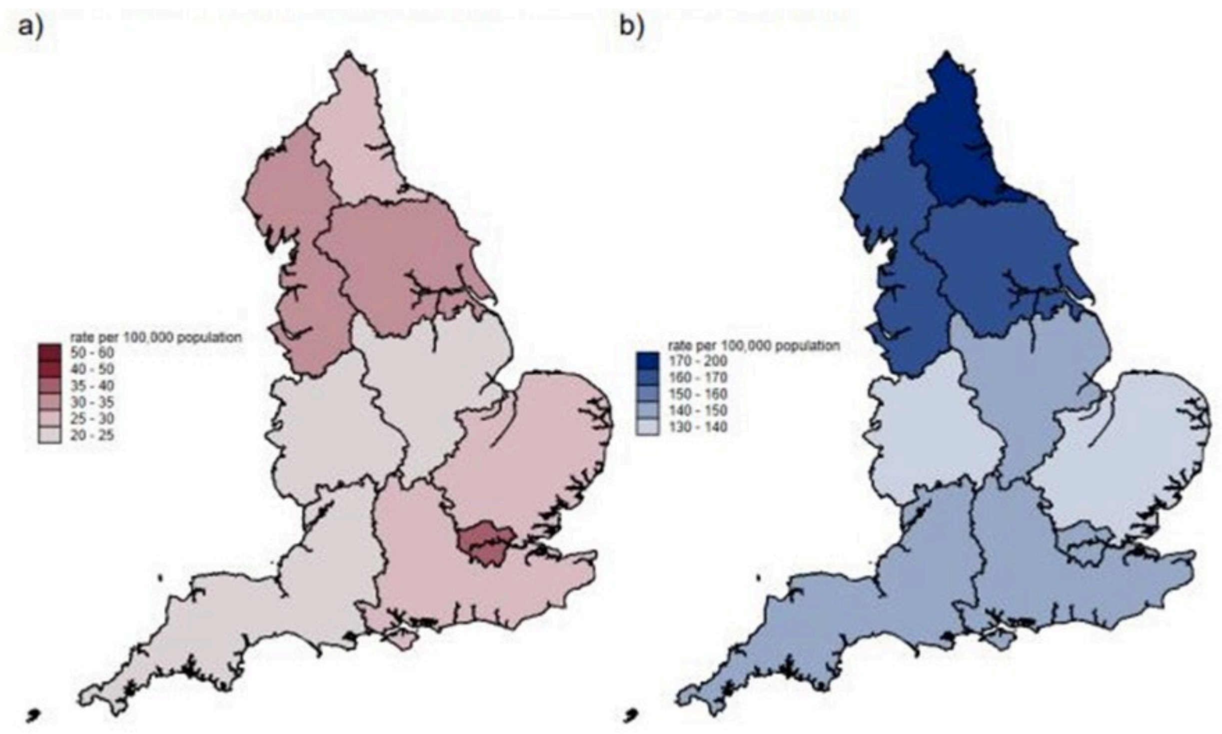


Figure 3. Regional variation in rate per 100,000 population. (a) The estimated burden of AMR. (b) The estimated numbers of bloodstream infections in England in 2022.

AMR burden was also shown to vary by age. The rate of resistant bloodstream infections was highest in >74-year-olds (157.0 per 100,000) and lowest in the 5–9-year-old age group (4.8 per 100,000). Finally, regional variation in AMR was reported, with the London region reporting the highest AMR burden rate (39.2 per 100,000 population) followed by the Northwest (32.9 per 100,000 population). The lowest AMR burden rate (from bloodstream infections) was recorded in the Southwest (22.8 per 100,000 population). This data echoes other findings in the literature that demonstrate higher rates of resistant infections in minority ethnic populations,[21–24] with economic deprivation[25,26] and within inclusion health groups, such as vulnerable migrants.[27]

Table 1

Table 1. AMR burden from bloodstream infection (BSI) by ethnic group in England in 2022.*

Ethnic group	**Rate of BSI per 100,000 ethnic population (n)**	**Rate resistant per 100,000 ethnic population (n)**	**Percent resistant (95% confidence intervals)**
White	150.7 (68,983)	28.1 (12,870)	18.7% (18.4 to 18.9)

Asian or Asian British	77.1 (4,185)	26.7 (1,450)	34.6% (33.2 to 36.1)
Black African, Black Caribbean or Black British	94.0 (2,240)	24.0 (570)	25.5% (23.7 to 27.3)
Mixed or multiple ethnic groups	33.4 (558)	6.4 (107)	19.2% (16.0 to 22.5)
Any other ethnic group	25.3 (311)	4.7 (58)	18.7% (14.3 to 23.0)
Not known or not stated	N/A (1,262)	N/A (190)	15.0% (13.1 to 17.0)

* 4,982 (6.0%) BSI episodes could not be linked to obtain ethnic group information. The percentage resistant in this group was 18.3% (n=911).

Table 2

Table 2. AMR burden from bloodstream infection by in Index of Multiple Deprivation (IMD) in England in 2022.

IMD quintile	Rate of BSI per 100,000 population (n)	Rate of BSI per 100,000 population (n)	Percent resistant (95% confidence intervals)
1 (most deprived)	163.3 (18,455)	33.0 (3,729)	20.2% (19.6 to 20.8)
2	146.8 (17,078)	29.2 (3,397)	19.9% (19.3 to 20.5)

3	142.8 (16,399)	28.6 (3,288)	20.0% (19.4 to 20.7)
4	135.0 (15,090)	28.6 (3,288)	18.9% (18.2 to 19.5)
5 (least deprived)	125.9 (13,793)	23.4 (2,567)	18.6% (18.0 to 19.3)

Table 3

Table 3. AMR burden from bloodstream infection by age group in England in 2022.

Age group (years)	**Rate of priority BSI per 100,000 population (n)**	**Rate resistant per 100,000 population (n)**	**Percent resistant (95% confidence intervals)**
Under 1	300.7 (1,742)	46.5 (269)	15.5% (13.8 to 17.2)
1–4	37.4 (928)	4.8 (119)	12.8% (10.6 to 14.9)
5–9	16.0 (536)	2.4 (80)	15.0% (11.9 to 18.0)
10–14	11.1 (381)	1.8 (60)	15.9% (12.2 to 19.5)
15–44	35.8 (7,755)	6.4 (1,382)	17.8% (17.0 to 18.7)
45–64	120.3 (17,541)	23.2 (3,377)	19.2% (18.7 to 19.8)
65–74	297.2 (16,543)	64.2 (3,574)	21.6% (21.0 to 22.2)
Over 74	767.6 (37,624)	157.0 (7,693)	20.4% (20.0 to 20.9)
Unknown	N/A (43)	N/A (22)	52.9% (37.9 to 67.9)

Significant progress

Tackling health inequalities related to AMR has now been included as an outcome with associated commitments in the recently published 2024–2029 National Action Plan for AMR,[28] which states that, "by 2029, the UK targets interventions and associated funding where there is the most burden from AMR, where it will have the greatest impact in controlling AMR and where it will be cost-effective, including targeting specific regions, population groups and settings if appropriate".[28]

Future work will focus on improving access to and dissemination of data which reports on differences in infection incidence, AMR and antimicrobial use in the context of health inequalities. This will allow for more bespoke epidemiological analyses and inform interventions for marginalised, disadvantaged, vulnerable and high-risk populations.

Furthermore, additional and tailored support can only be provided to vulnerable groups if teams in local government and organisations, such as local authorities and NHS trusts, are knowledgeable of ways to address potential inequalities that have been identified in their area. Therefore, future work will also look to develop a toolkit that collates evidence-based resources for identifying and addressing inequalities in healthcare access, infection incidence, clinical outcomes, vaccine uptake and antimicrobial exposure at a local community level.

In addition to the use of data to inform interventions that target certain points in the patient infection pathway, other interventions that can be adapted to local needs will also be identified from the published literature. Work regarding this is already underway, with a series of ongoing rapid reviews that look to determine AMR burden and identify interventions to tackle AMR in inclusion health groups. There are currently reviews on populations in prisons (OSF registration: https://doi.org/10.17605/OSF.IO/XHCFJ), sex workers, adults in social care (PROSPERO 2024: CRD42024494928) and people who use drugs (PROSPERO 2024: CRD42024561876).

In conclusion, while AMR itself is complex, with multiple factors contributing to increases seen in resistant infections, the extent to which vulnerable and marginalised communities are disproportionately affected is only just being understood. Significant progress has been made in recent years to understand the effect of health inequalities on AMR burden. However, further work is needed to determine whether these differences are being seen across all groups which suffer from health inequalities, to understand the driving factors for the differences in infection incidence, AMR and antimicrobial use within these populations and to develop and implement effective interventions.

References available on our website.

Meet the authors

ELLIE GILHAM

SENIOR SCIENTIST (EPIDEMIOLOGY – ANTIMICROBIAL RESISTANCE AND STEWARDSHIP), UK HEALTH SECURITY AGENCY

DIANE ASHIRU-OREDOPE

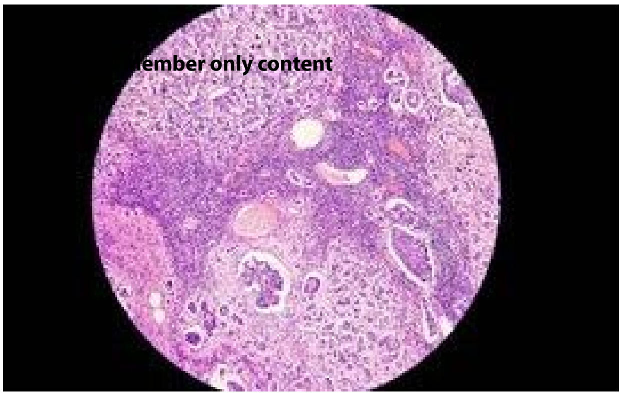
LEAD PHARMACIST, ANTIMICROBIAL RESISTANCE, UK HEALTH SECURITY AGENCY, CHAIR OF ENGLISH SURVEILLANCE PROGRAMME FOR ANTIMICROBIAL UTILISATION AND RESISTANCE (ESPAUR)

Return to October 2024 Bulletin

Read next

Tackling ethnic inequalities in precision and genomic medicine

10 SEPTEMBER 2024



Inequalities in cancer – an unequal burden

10 SEPTEMBER 2024

Global antimicrobial resistance webinar series

10 SEPTEMBER 2024

Antimicrobial resistance at International Pathology Day

10 SEPTEMBER 2024

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

Tackling ethnic inequalities in precision and genomic medicine

Can equality in genomics services be achieved?

Published: 10 September 2024 **Author:** Dr Veline L'Esperance and Professor Habib Naqvi
Read time: 8 Mins

The NHS Race and Health Observatory is investigating ethnic inequality to ensure that the benefits of genomic medicine are enjoyed by patients of all backgrounds. This article explores its key findings.

Introduction

The NHS Race and Health Observatory aims to address ethnic health disparities by producing evidence about racial and ethnic inequality in health, not only by commissioning original research to fill knowledge gaps, but also by synthesising and mobilising existing evidence. In turn, it uses the evidence it commissions to develop practical recommendations to support the implementation of policy and practice.

Precision medicine, which tailors medical treatments to individual genetic profiles, promises highly personalised healthcare that optimises therapeutic efficacy while minimising side effects. However, a significant issue within this evolving field is the underrepresentation of Black and ethnic minority groups in genomic and precision medicine research. This is compounded by inequities in access to genomic medicine services, which in turn exacerbate existing health inequalities. Addressing these disparities is crucial to ensure that all populations benefit from advancements in precision medicine.

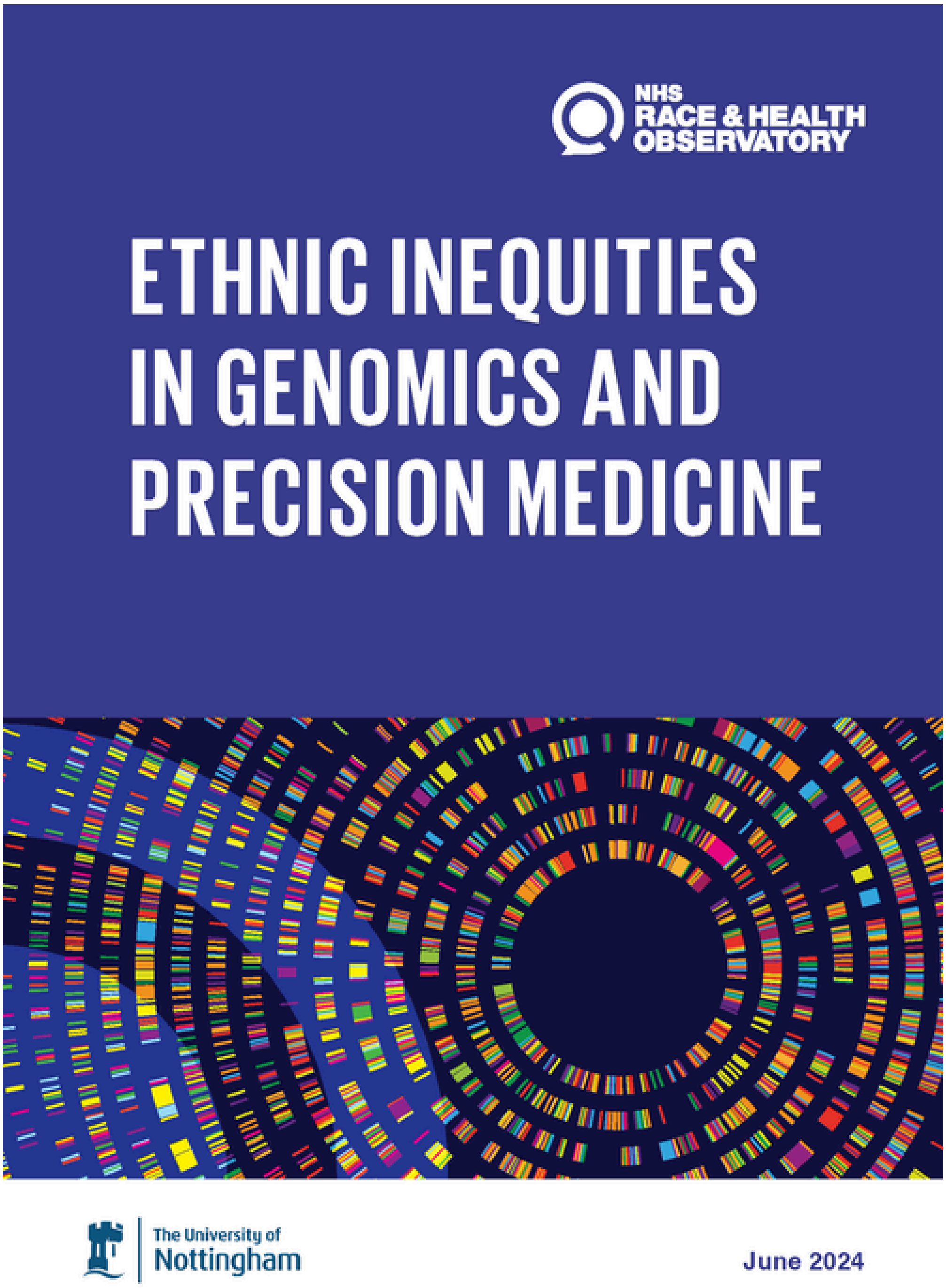
Although genomic medicine is still a relatively new service within the NHS, we have found that the elements that reinforce ethnic health inequalities, including structural, institutional and interpersonal racism, are entrenched in this service, as they are in more established services, such as maternity care or mental health services. Therefore, embedding genomics medicine within the

NHS not only signals the next big step in healthcare innovation, but also presents a real opportunity to instigate meaningful change early to ensure that not a single community is left behind.

Reviewing inequalities in genomics

To focus on these matters, the NHS Race and Health Observatory commissioned the University of Nottingham to undertake a review of ethnic inequities in genomics and precision medicine in the UK.[1] This work further built on our seminal report, *Ethnic Inequalities in Healthcare: A Rapid Evidence Review,* which highlighted the inequities across a range of areas, including mental health care, digital access to healthcare and the NHS workforce.[2] The review laid the foundations for our commitment to addressing ethnic health disparities in the fields of genomics and precision medicine.

Equitable access to genomic testing, particularly for cancer and rare, inherited and common diseases, is crucial for reducing health inequalities and enhancing patient outcomes across all communities. This article provides an overview of the report, its findings and recommendations. The full report is available here.



NHS
RACE & HEALTH
OBSERVATORY

ETHNIC INEQUITIES
IN GENOMICS AND
PRECISION MEDICINE

The University of
Nottingham

June 2024

The University of Nottingham's report highlighted inequities in mental health care, digital access to healthcare and the NHS workforce.

Objectives of the precision and genomic medicine review

The review aimed to explore and understand ethnic inequalities within precision and genomic medicine. The specific objectives of this report were to:

- assess the current priorities to achieve ethnic health equity in precision and genomic medicine services by reviewing relevant policy and guidance documents

- identify ethnic disparities in recruitment for biomedical research and patient access to precision medicine through academic evidence synthesis
- determine the educational and service needs by evaluating stakeholders' knowledge, practices and perceived barriers and facilitators to accessing precision medicine services
- investigate equity in access and uptake of genomic testing by examining data recording practices by organisations of protected characteristics, such as ethnicity
- identify informational, educational and service needs to promote equitable access among individuals from diverse ethnic backgrounds by exploring their knowledge, attitudes and engagement with precision medicine.

Research methodology

The review used a mixed-methods approach, underpinned by the pragmatic paradigm. The methodology included:

- policy and guidance document review: a comprehensive review of UK-based policy and guidance documents to understand how ethnic inequities are acknowledged in precision and genomic medicine
- academic evidence synthesis: an analysis of academic literature to identify ethnic inequalities, focusing on recruitment biases in biomedical research and patient access to genomic services
- qualitative research: perspectives from various stakeholders, including clinicians, policymakers and community representatives, were gathered to understand current knowledge, attitudes and practices. Additionally, focus groups explored the views of individuals from different ethnic groups on their engagement with precision medicine.

Key findings

Policy and guidance document review

The review analysed 70 documents from organisations involved in precision and genomic medicine, with 50 containing relevant information. The analysis revealed significant underrepresentation of ethnic groups in genomic datasets, which limits the understanding of genetic variation across different ethnicities and hinders the development of effective genomic medicine services. This underrepresentation negatively impacts the effectiveness of diagnostic tools, early detection and interventions for these populations.

Advanced analytic techniques, such as artificial-intelligence-based risk prediction tools, are also constrained by the lack of diverse genomic data, reducing their predictive utility for non-White populations. Efforts to engage diverse communities in genomic initiatives were often fragmented and lacked detailed acknowledgment in policy documents. Co-design and coproduction were recommended, but practical implementation remains unclear. Educating ethnic minority communities on genomics and precision medicine is essential, but this requires adequate time and resources to enable informed contributions.

At the health service level, there is a need for better evaluation and monitoring of genomic services and initiatives. Increasing diversity within the healthcare workforce is key to overcoming historical barriers to access, such as mistrust among ethnic minority communities. Training healthcare professionals in cultural awareness and embedding diversity within clinical care guidelines were identified as positive steps that would reduce ethnic inequities in precision medicine. However, the specific content of such training needs further exploration, alongside increased public engagement with ethnic minority groups.

Improved collaboration among researchers, stakeholders, government bodies and public representatives, particularly from diverse ethnic groups, is necessary to address these issues.

Inequalities in patient healthcare access can be improved by increased diversity in the workforce.

Academic evidence synthesis

The systematic review aimed to explore ethnic inequalities in precision medicine, focusing on recruitment biases in biomedical research and patient access to genomic services. From 10,984 titles identified, 143 studies were included, with most relying heavily on the UK Biobank, resulting in similar data across multiple papers.

The genomic analyses of minority groups were rudimentary, with findings in the results sections rarely interpreted. Ethnic minorities were often treated as a covariate in multivariate analyses rather than a focus for identifying meaningful differences. Among studies that included ethnic minorities, 91.1% mentioned these groups in their results, with 78.5% performing statistical analysis involving ethnic minorities. The lack of ethnic minority data was frequently acknowledged as a limitation.

Qualitative studies revealed concerns among ethnic minority groups about providing samples for biobanking research, stemming from negative historical experiences with researchers. This reluctance raises questions about how these communities benefit from such research. Addressing ethnic health inequalities in precision medicine requires increasing ethnic minority representation in research, which will help bridge gaps and ensure equal access to genomic services.

Qualitative research

Semi-structured interviews were conducted with professional stakeholders to explore their knowledge, attitudes and practices in promoting access to genomic medicine for ethnic minority groups.

Additionally, participants from various ethnic minority groups, including Black African, Black Caribbean, Indian, Pakistani, Bangladeshi, Arab and mixed ethnicity backgrounds, took part in focus groups or interviews. Several themes emerged related to knowledge and awareness of genomics, barriers and facilitators to access and workforce training needs.

Knowledge and awareness of genomics and precision medicine varied widely among public stakeholders. Concerns were raised about healthcare professionals' knowledge of these topics. Both public and professional stakeholders emphasised the need to improve knowledge and awareness across ethnic minority groups. Healthcare professionals were identified as key sources of information, while faith and community leaders were seen as crucial points of contact for disseminating information within ethnic communities. Tailored strategies and sustained messaging were highlighted as essential to improving engagement.

Barriers to accessing services included language challenges, mistrust, fear and suspicion of healthcare systems and research. Understanding and addressing the reasons for mistrust were seen as critical for improving engagement with genomic services and research.

Community engagement was consistently identified as key to improving equity of access and participation in research. Workforce training needs were also highlighted, with a focus on improving genomics education across the healthcare workforce. Cultural awareness and competency training for healthcare professionals and researchers were recognised as necessary, not only in genomics but across the healthcare system.

Recommendations

Our goal is to ensure that the findings from this report are translated into meaningful change. Therefore, we have proposed 6 key actionable recommendations to achieve equality in genetic medicine.

Meaningful community engagement

Government, relevant health authorities and research bodies should ensure diverse groups of patients and community groups are aware of and involved in discussions about NHS genetic medicine services.

Build trust

Understand the local population. Acknowledge the impact of past medical trials and reflect on the barriers that limit current research participation among Black, Asian and ethnic minority communities. Form diverse and meaningful partnerships, including with voluntary and charitable groups.

Ensure equitable access

Maintain consistent and comprehensive monitoring of patient access to NHS genetic medicine services. Take targeted action to ensure of access to services, including adequate provision of interpreters to translate complex medical language.

Share practical knowledge

Regular monitoring, evaluation and publication of projects by NHS England's Genomics Policy Unit that aim to address inequities in genetic medicine services. Testing uptake must be routinely published and publicly accessible. Authorities, including the Genetic Medicine Service Alliance, must hold key stakeholders to account through regular monitoring and evaluation of action and implementation plans.

Diversify research participation

Governments, research bodies and funders must ensure that research databases hold genetic information that is representative of our diverse population, with more appropriate coding and recording of ethnicities. Increasing diverse representation of participants in genetic and precision medicine research studies should be prioritised.

Training and education

Government and healthcare organisations should routinely review work underway to increase the diversity of healthcare workers involved in genetic services, leadership positions and research delivery. Insights should be used to develop improved genetic medicine education for healthcare professionals that incorporates cultural awareness training that is relevant to diverse communities.

Conclusion

The review highlights the urgent need to address ethnic inequalities in precision and genomic medicine. Achieving equity in genomics and precision medicine requires a multifaceted approach, including increasing ethnic representation in research, improving access to genomic services, enhancing education and training for healthcare professionals and fostering community engagement.

Collaboration among researchers, healthcare providers, policymakers and community leaders is essential to ensure that all individuals, regardless of ethnicity, benefit from advancements in precision medicine. Without such efforts, existing health disparities are likely to persist and worsen, undermining the potential of precision medicine to improve health outcomes for all.

References available on our website.

Meet the authors

DR VELINE L'ESPERANCE

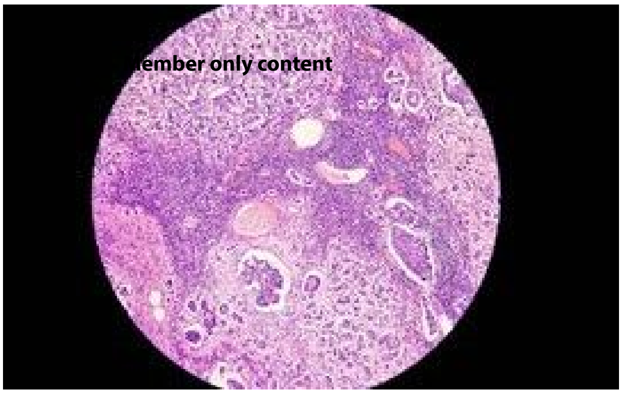
SENIOR CLINICAL ADVISOR, NHS RACE AND HEALTH OBSERVATORY

PROFESSOR HABIB NAQVI

CHIEF EXECUTIVE OFFICER, NHS RACE AND HEALTH OBSERVATORY

Return to October 2024 Bulletin

Read next



Inequalities in cancer – an unequal burden

10 SEPTEMBER 2024

Antimicrobial resistance: improving understanding and addressing inequalities

10 SEPTEMBER 2024

A new strategy for the future

10 SEPTEMBER 2024

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

Inequalities in cancer – an unequal burden

Cancer Research UK is investigating the inequalities in cancer care in the UK.

Published: 10 September 2024 **Author:** Katrina Brown **Read time:** 10 Mins

Almost all people are affected by cancer. However, the burden of cancer is not distributed equally in our society. In this article, Dr Katrina Brown from Cancer Research UK discusses these inequalities using illustrative examples from across the UK.

Cancer is the UK's biggest killer, responsible for 1 death every 4 minutes.[1] Each year, it accounts for around a quarter of all UK deaths[1] and claims around 2 million years of life in the UK alone.[2] But this burden is not distributed equally across population groups, with inequalities across multiple domains.

For example, Cancer Research UK (CRUK) analysis shows that age-standardised cancer mortality rates are more than 40% higher in men compared with women in the UK,[3] around a fifth higher in Scotland compared with England,[3] almost a third higher in the most versus the least deprived areas in England;[4] and, for a wide range of cancer sites, higher in the White ethnic group compared with most other broad ethnic groups in England and Wales combined.[5]

These inequalities in cancer mortality are the product of inequalities throughout the cancer pathway and across the UK. Inequality impacts the prevalence of key cancer risk factors in the incidence of the disease, the stage of diagnosis and access to treatment impacting survival.

Prevention and incidence

Around 4 in 10 cases of cancer in the UK are preventable.[6] Smoking contributes the largest number of cases, followed by overweight and obesity. In both, there are marked inequalities over a range of demographic characteristics.[7–11]

Inequalities in preventable cancers

CRUK analysis suggests that almost 34,000 cancer cases in the UK each year are associated with deprivation, with incidence rates around a fifth higher in the most versus least deprived groups.[12] Smoking is the key driver of socioeconomic inequality in cancer incidence; for example, in England there are nearly twice as many cancer cases caused by smoking in the most deprived areas compared with the least. It is estimated that well over half of England's deprivation-associated cancer cases are attributable to smoking.[13]

Smoking rates are more than 4-times higher in people with no qualifications versus those with a degree and almost 3-times higher among those in routine and manual jobs compared to managerial and professional workers.[11] White, Mixed and Other ethnicities (versus Black or Asian), gay, lesbian or bisexual sexual orientations, urban versus rural status, and living with a mental health condition are also associated with higher smoking prevalence.[10,11,14]

Smoking inequalities arise for a range of reasons, including social norms, tobacco product marketing that targets specific communities and stressful life circumstances.[14–16] CRUK wants more action and funds to prevent people from starting to smoke and to help them to quit. Sustainable funding for cessation support and services, ideally raised through a levy on the tobacco industry, is required to ensure comprehensive national, regional and local action can be delivered to reduce the impact of tobacco across the UK.

Obesity rates are almost twice as high in the most versus the least deprived areas,[7–10] and up to 20-times higher in Black African, Black Caribbean and Pakistani women compared with Chinese women (up to 2.5-times higher versus other ethnic groups).[17] For overweight and obesity combined, rates are around a tenth higher in men than in women.[8–10,18]

Inequalities in overweight and obesity prevalence may be linked with the food environment, including cost and marketing, and physiological factors.[19–21] To help address this, CRUK wants the UK government to implement legislation around high fat, salt and sugar foods no later than October 2025, UK-wide restrictions on TV and online advertising, and restrictions in England on volume-based price promotions (devolved governments are responsible for similar restrictions in Scotland, Wales and Northern Ireland).

Screening programmes

Bowel and cervical screening can prevent cancer and diagnose the disease earlier. Bowel screening uptake is around a third lower in the most deprived areas versus the least.[22–24] Some South Asian ethnic groups are around 50% less likely to be screened compared with the White ethnic group.[25]

Cervical screening coverage is lower in GP practices in more deprived areas and in those with higher proportions of ethnic minority patients.[26,27] Other groups with lower bowel and/or cervical screening uptake include people with learning disabilities,[28] some religious communities[25] and women who have sex with women.[29]

Variation in screening uptake may reflect practical barriers, social norms and understanding of personal risk (among both health professionals and the public).[25,28–30]

Diagnosis

People diagnosed with cancer at an earlier stage have higher survival rates than those diagnosed at a later stage,[31] owing to the availability of a wider range of more effective treatments for localised disease. Stage at diagnosis varies markedly between cancer types and by demographic factors.

In England, among cases with a known stage, more than 8 in 10 cases of testicular, melanoma skin, breast and uterine cancers were diagnosed at stages 1 or 2, compared with fewer than 3 in 10 cases of non-Hodgkin lymphoma, lung, pancreatic, oesophageal and oropharyngeal cancers (this is based on 2018 data, as all data from 2019 onwards has been affected by COVID-19).[32,33] For some cancer sites, later stage at diagnosis is associated with higher deprivation,[33,34] being male,[35] and having Caribbean, African or Asian ethnicity.[36]

Inequalities in routes to diagnosis underpin these stage differences. Overall, the proportion of cases diagnosed through screening – a route associated with earlier diagnosis – is more than a third lower in the most versus the least deprived areas.[37] Conversely, the proportion diagnosed through emergency presentation – associated with later stage at diagnosis – is almost 50% higher in the most versus the least deprived quintiles and up to 3-times higher in the oldest patients compared to the youngest.[37]

Stage at, and routes to, diagnosis may vary by demographic characteristics. This is because of the attributes of the disease (e.g. some cancers present with non-specific symptoms until they are at a late stage), practical and emotional barriers to seeking help, and different levels of symptom recognition among both patients and health professionals.[38–40]

Reducing barriers to access

CRUK's Longer, Better Lives programme for the UK government calls for a paradigmatic shift in our ability to accurately detect and diagnose cancers at an earlier stage, which will require action on all fronts. Particularly for communities that face additional barriers, it is key to encourage help-seeking and informed screening uptake. To achieve this, we need a long-term commitment to fund national public awareness campaigns, with evidence-based targeting of the population groups that face inequalities.

There are also significant gains to be made in reducing late-stage cancer diagnoses by improving the existing cancer screening programmes, optimising diagnostic pathways and updating cancer referral guidelines to reflect the most up-to-date evidence. Achieving these improvements depends on the government ensuring that the NHS has sufficient capacity in diagnostic services, notably through addressing workforce shortages through a cancer-specific workforce plan and additional targeted capital investment in essential equipment, facilities and IT infrastructure.[41]

CANCER
RESEARCH
UK

CRUK is calling on the UK Government to introduce improvements in cancer diagnosis, particularly in communities that face discrepancies in care.

Treatment and survival

Waiting too long for cancer diagnosis and treatment causes additional worry for patients. Delays may affect stage at diagnosis and, ultimately, survival. Across the UK, cancer waiting time targets are routinely missed,[42] but within this there are notable inequalities. For example, CRUK analysis in partnership with NHS England shows that patients living in the most deprived areas of England are a third more likely to wait over 104 days to begin treatment, compared with the least deprived. Patients starting treatment for lower gastrointestinal or urological cancer are the most likely to wait over 104 days.[43] The period between initial primary care presentation and diagnosis is 10–16% longer for Black and Asian patients versus White patients with certain cancers in England.[44]

There is also inequality in the type of treatment received. The most deprived late-stage lung, oesophageal, stomach and pancreatic cancer patients in England were around a fifth less likely to receive chemotherapy, or chemotherapy and radiotherapy combined, compared with the least deprived.[45]

Although there are legitimate reasons for why diagnosis can take longer or why some treatments may be inappropriate, these analyses are adjusted for age, sex, ethnicity, comorbidities and cancer site and stage, where relevant.

Given these inequalities in cancer diagnosis and treatment, it is unsurprising that there are also inequalities in survival. For most cancer sites, survival is lower in the most versus the least deprived areas. The relationship between survival and deprivation is roughly linear.[31,46,47] For some cancer sites, individual-level survival inequalities may be more pronounced than area-level; the survival experience of individuals may vary more in the most deprived areas compared with the least.[48] Evidence on other domains of inequality in cancer survival is sparse.

A fairer future?

CRUK has set out 5 missions that together could reduce cancer mortality in the UK by acting strategically across the cancer pathway in biomedical research, public health and cancer care.[41] Woven through these missions is the aim of reducing inequality. CRUK exists to beat cancer and beat cancer for everyone.

But the challenge is set to get even tougher. Deprivation gaps in smoking and obesity prevalence are set to widen, according to CRUK projections[49,50] This could worsen existing socioeconomic inequality in cancer incidence. Although the incidence of most cancer types is currently lower in non-White minority ethnic groups compared with the White population,[51] this may change if risk factors become more common in these groups. If current trends continue, within 2 decades there will be more than half a million new cancer cases diagnosed in the UK each year, up from 385,000 annually now.[52]

Improved collection of, access to, and analysis of inequalities data is vital.[53] A review of the data landscape, commissioned by a consortium of cancer charities including CRUK and Macmillan Cancer Support, reported that evidence is scant around cancer outcomes and gender identity, sexual orientation and mental health conditions, for example. Even domains where substantial evidence exists are marred by incomplete datasets and lack of granularity (e.g. many reports that describe inequality by ethnic group report only on 'White' versus 'non-White').[54] The interplay between domains of inequality is also poorly understood.

Inequalities in cancer are deep-seated and multifactorial. Some may be linked with the biology of the disease, but inequalities in outcomes are not inevitable. Where there is the will to address them, we can work towards a fairer future.

References available on our website.

Meet the author

DR KATRINA BROWN

SENIOR CANCER INTELLIGENCE MANAGER, CRUK

Return to October 2024 Bulletin

Read next

Progress in stem cell transplantation: unlocking new ways to treat every patient

10 SEPTEMBER 2024

Reflections on the Ethnic Minority Women in Welsh Healthcare health inequalities conference

10 SEPTEMBER 2024

Antimicrobial resistance: improving understanding and addressing inequalities

10 SEPTEMBER 2024

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

Mitigating inequalities in digital pathology

Do all patients benefit equally from new technologies in pathology?

Published: 01 October 2024 **Author:** Samar Betmouni **Read time:** 9 Mins

This article explores the issue of equity in the use of artificial intelligence in pathology. Pathologists must ensure that these new technologies do not maintain or even intensify existing health disparities.

There is much to be excited about as pathology evolves, as it has done over many decades, to provide innovative and impactful diagnostic solutions. One only has to see the transformation of digital pathology conference agendas over the past 10 years, with their increasing pathology artificial intelligence (AI) research content and the burgeoning commercial sponsorship of these events.

There have been significant advances in the development of AI as a diagnostic tool in pathology.[1] Histopathologists' attitudes to the application of AI in pathology have been explored; there is consensus that AI will form part of our diagnostic repertoire in the future.[2] However, there are still technical and systems challenges that must be addressed before routine deployment of AI in diagnostic practice can become a reality across all diagnostic pathology services.

Pathology and health equity

We often refer to the NHS as providing a 'cradle to grave' service. Pathology is at the heart of this. With advances in personalised medicine, pathology can more accurately be considered as providing a 'pre-womb to tomb' service.[3]

The World Health Organization defines health equity as "the absence of unfair and avoidable or remediable differences in health among population groups defined socially, economically, demographically or geographically or by other dimensions of inequality (e.g. sex, gender, ethnicity, disability, or sexual orientation)."[4]

While there are many potential benefits of AI in pathology, we have to assess our considerations of AI as a diagnostic tool in the context of health equity.

AI and potential sources of bias

A lack of representative data is a significant potential obstacle to ensuring that algorithms are fit-for-purpose. As Dr Sara Khalid says, "because AI-based healthcare technology depends on the data that is fed into it, a lack of representative data can lead to biased models that ultimately produce incorrect health assessments."[5]

Sources of bias can be introduced at 1 or more of the many steps of AI tool development – data type, collection and preparation, machine learning (techniques used to train AI algorithms) model development and evaluation and, finally, at clinical deployment stage. They can also arise from system-wide factors, such as workforce diversity or how research agendas are developed, and by healthcare organisations themselves, e.g. provision of appropriate IT infrastructure.

An international review has identified that databases from the United States and China are over-represented in clinical AI and that the majority of these are for image-rich healthcare specialities.[6] Furthermore, the top 10 databases and author nationalities were from high-income countries. In terms of authorship, authors are predominately male, with non-clinical backgrounds.

A study from the Institute of Global Health Innovation identified that minority ethnic groups in the UK are underserved by technology and that this has a basis in the way that data is collected and how the research agenda is prioritised.[7] In general, this study found the data is unrepresentative and does not account for social categories, or may even misrepresent them.

The prioritisation of the research agenda is an interesting white paper finding, because it highlights structural issues that may exacerbate inequity: lack of diversity at strategic levels in an organisation (e.g. NHS, funding body, policymakers), as well as lack of diversity in the AI workforce itself.

The lack of diversity in the AI workforce is an important issue to consider further, particularly as it is one that the College can play a significant role in addressing. Diversity in the AI workforce, in the commercial sector at least, remains a significant challenge internationally, something that is recognised by the industry (Box 1).[8] This workforce disparity is also likely to be operating in many science, technology, engineering and mathematics (STEM) subjects. Certainly, this is supported by a recent House of Commons Science & Technology Committee report, Diversity & Inclusion in STEM,[9] which concluded that STEM has 'a diversity problem' (Box 2). This is an area that is still in need of improvement if we are to capitalise on the potential of AI in our diagnostic workflows.

Box 1

Box 1: Workforce characteristics in the AI and technology industry – extracted from Shawn Tan, Computer Weekly, 2022.[8]

- 78% of AI professionals globally are male
- >80% AI professors are male
- Female AI researchers
    - 15% at Facebook
    - 10% at Google
- % Black employees
    - 2.5% at Google
    - 4% at Microsoft
    - 4% at Facebook

Box 2

Box 2: Science & Technology Committee; *Diversity in STEM report* findings highlighting lack of diversity in STEM.

- Under-representation of people from Black Caribbean backgrounds
- Low uptake of A-Levels by girls at school
    - Maths (39%)
    - Physics (23%)
    - Computing (13%)
- Schools in disadvantaged areas less likely to have specialist teachers
- Under-representation in funding awards (UKRI)

Mitigating bias and promoting health equity

It is possible to mitigate bias by interrogating each of the steps during algorithm development and monitoring its performance after deployment,[10] as outlined by the US Food and Drug Administration Action Plan in 2021.[11] The NHS has provided guidance on 'how to get AI right'[12] and support safe clinical practice – this is predominately around data and AI governance and approaches to promoting the adoption of AI in healthcare.

The NHS recognises that issues of equity and avoidance of bias are important for the development of effective healthcare AI tools. To deliver this, the NHS AI Lab seeks to provide a collaborative environment where barriers to development of AI can be addressed. Within this, there are specific workstreams to focus on opportunities where AI can be used to address health inequalities, optimise datasets and improve approaches to development, testing and deployment of AI in healthcare.[13]

Other organisations, like the Ada Lovelace Institute, are also proposing approaches to build trust in healthcare AI systems by prompting developers "to explore and address the legal, social and ethical implications of their proposed AI systems as a condition of accessing NHS data."[14]

The objectives here are to help build public trust, mitigate potential harm, maximise potential benefit and avoid exacerbation of health and social inequalities. This so-called algorithm impact assessment, therefore, aims to avoid undermining patient consent and provides a toolkit through which it is possible to assess the societal impact of AI before its clinical implementation.

The College position statement on the use of AI in pathology[15] highlights support for its clinically-led development and use, emphasising the need for a 'human in the loop' model in the short term. It recognises the many ethical challenges that are raised by the use of AI and includes health equity as an issue that will require "ongoing multi-stakeholder dialogue across the medical sciences, computer science, the social sciences, public policy, and patient and public involvement."

The Topol Review recognises the importance of adopting new healthcare technologies in a "spirit of equality and fairness."[16] One of the approaches to doing this is to ensure that the healthcare workforce is appropriately trained and skilled to implement use of new technologies in healthcare. This will require investment in workforce training.

Technical resources across health and care have also to be up to standard. A failing IT infrastructure is not an appropriate basis for the delivery and sustainability of large-scale technology projects. Not only that, but a fragile IT infrastructure represents "a clear and present threat to patient safety that also limits the potential for future transformative investment in healthcare."[17]

The contribution of AI in healthcare and its impact on patients should not be overlooked. The ethical perspective is highlighted as a crucial consideration by McCradden and Kirsch.[18] In this review, the authors suggest that clinicians' assessment of the efficacy of an algorithm should go beyond its accuracy to ensure that decisions are made in patients' interests by considering the "historical patterns, societal inequalities and biases such as racism, sexism and ableism, which may influence medical recommendations and decisions."[18]

Conclusion

AI has the potential to transform healthcare. In pathology, there is opportunity to revolutionise the way we do our work to meet the significant challenges that our services face. However, we must maintain a critical eye on this promise in the hyperbole that surrounds AI. This critical eye is not intended as a signal to avoid or delay its implementation; it is a necessary means to ensure that these emerging diagnostic tools are safe, accessible to all of our patients and acceptable to wider society, and that they do not worsen health inequalities. These tools also need to be usable and trusted by the workforce charged with their deployment in diagnostic workflows.

The main challenges to be addressed are ensuring that:

- data is representative
- research agendas are inclusive
- workforces are diverse
- workforce training is up to date
- IT infrastructure is functional
- public trust in use of AI is optimised
- innovative diagnostics are available to all.

There is exciting and innovative research in AI and computational pathology. There also needs to be a parallel endeavour that takes us beyond a technology-centric view, to bring together multiple stakeholders to help inform the ethics, health equity, patient and workforce impacts of AI in our practice. I believe that such a systems-based approach will help focus how we can best capitalise on the promise of AI in pathology.

References available on our website.

Meet the author

DR SAMAR BETMOUNI

CONSULTANT NEUROPATHOLOGIST (RETIRED) AND VISITING FELLOW,
SCHOOL OF DESIGN & CREATIVE ARTS, LOUGHBOROUGH UNIVERSITY

Return to October 2024 Bulletin

Read next

Tackling ethnic inequalities in precision and genomic medicine

10 SEPTEMBER 2024

2024 Kettle Memorial Lecture

16 SEPTEMBER 2024

Global antimicrobial resistance webinar series

10 SEPTEMBER 2024

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

A new strategy for the future

College CEO, Daniel Ross, outlines our 5-year strategy.

Published: **10 September 2024** **Author:** **Daniel Ross** **Read time:** **6 Mins**

Our new 5-year strategy for 2024–2029 reaffirms our commitment to supporting excellence in pathology for healthcare worldwide. Advocacy and leadership, education and training, professional standards, and fostering a global community remain at the heart of all our activities. This article explores how this aligns with our new strategy and drives our vision to develop and support excellence in pathology across the world.

Our vision, mission and values: the foundation of our strategy

Our vision is clear: to develop and support excellence in pathology for healthcare worldwide. This vision is underpinned by our mission to advance the science and practice of pathology, further public education in the field and promote study, research and innovation. Our core values – teamwork, service and ambition – guide our work and reflect our commitment to achieving excellence by collaborating effectively, supporting our members and leading innovation.

The new 5-year strategy outlines the key aims to ensure we achieve our vision:

1. leading excellence in pathology practice

2. promoting the highest standards of pathology education and training

3. fostering a sense of pride and belonging among our members

4. becoming the authoritative and trusted partner for pathology

5. being a well-resourced, sustainable and inclusive organisation.

We aim to strengthen our position as a leader in pathology and continue to provide exceptional support to our members.

Advocacy and leadership: promoting excellence in pathology practice

As the leading advocate for pathology, the College is uniquely positioned to influence national policies that benefit patients, pathologists and health services. Our strategy emphasises the importance of advocating for pathology and pathologists (Aim 4), promoting the breadth of opportunities in the field (Aim 1) and maintaining strong relationships with stakeholders, including UK politicians, government bodies and industry partners (Aim 1).

We provide a clear voice on workforce planning, raise awareness of the value of pathology and engage with key stakeholders to influence policy. Our goal is to ensure pathology services remain high-quality, patient-centred and sustainable. This will be achieved through evidence-based insights and robust data analysis, which will allow us to lobby for necessary actions to sustain the pathology workforce in the interest of patients.

Moreover, our commitment to being the authoritative and trusted partner for pathology (Aim 4) will be reinforced by maintaining high standards of professionalism, integrity, and transparency in all our communications. Collaborating with partners to gather and share intelligence will strengthen our evidence base, ensuring our policy positions are well-founded and impactful.

Education and training: promoting the highest standards

Education and training are central to our role as the leading professional body for pathology. Our focus is on establishing and maintaining high standards of education and training across all pathology specialties. This aligns closely with Aim 2 of our new strategy: promoting the highest standards of pathology education and training.

To achieve this, we will continue to set curricula, training standards and assessments that reflect current best practices. By reviewing these regularly and removing barriers to progress, we will ensure equity in training and also support appropriately qualified international medical graduates to obtain registration to practice in the UK. Furthermore, we will provide support and resources for trainees and new consultants, ensuring they have the tools and knowledge needed to excel in their roles.

Our strategy also emphasises the importance of supporting professional development (Aim 3) to safeguard the future of pathology practice. This includes delivering high-quality resources, educational events and opportunities for members to network and share best practices. By fostering a sense of pride and belonging among our members, we aim to create an inclusive and engaged community of pathologists who are dedicated to delivering the highest standards of patient care.

Professional standards: ensuring safe and effective patient care

The College plays a crucial role in defining the professional standards required for safe and effective patient care in prevention, diagnosis and treatment. Our commitment to supporting pathologists and their teams in improving safety and quality of care aligns with Aim 4 of our strategy: becoming the authoritative and trusted partner for pathology.

We will continue to deliver reviews of pathology services, provide governance for external quality assessments and produce best practice recommendations and clinical guidelines. Our work with the International Collaboration on Cancer Reporting will ensure the production of internationally validated and evidence-based datasets, supporting consistent and high-quality care for cancer patients globally.

By advocating for pathology and ensuring our standards are upheld, we reinforce our position as a leader in the field and a trusted partner to healthcare organisations. This will be further strengthened through partnerships with kindred organisations, stakeholders and devolved nation health services, as outlined in our strategy.

Global community: expanding our international reach

We play a key role in creating a global community of pathologists, supporting them through training, professional development and strategic partnerships. This global perspective is central to Aim 4 of our strategy, which focuses on building our profile as a trusted partner and advisor in pathology practice.

We will continue to support international members and trainees and promote our work internationally to benefit patient health worldwide. By leveraging our global network, we can share knowledge, insights and best practices, ensuring that our international members are equipped to meet current and future challenges in the profession.

A sustainable and inclusive future for pathology

Our strategy for 2024–2029 sets a clear path towards becoming a well-resourced, sustainable and inclusive organisation (Aim 5). Equity, diversity and inclusion are central to all we do. We have an ambitious plan to deliver on our carbon reduction plan and net zero commitment while prioritising staff wellbeing and workload management. By embracing digital transformation, we will enhance organisational efficiency and provide better support to our members.

To achieve financial sustainability, we will explore new opportunities for income generation, expand and enhance our commercial activities, and reduce our deficit within 5 years. By harnessing member expertise and promoting sustainability in pathology practice, we can continue to provide high-quality services and support our members in delivering the best patient care.

Conclusion: a unified vision for the future

As we move forward with our new strategy, the College is more committed than ever to supporting excellence in pathology. Our strategic objectives are closely aligned, ensuring we continue to lead the way in advocacy, education and professional standards.

By working together, valuing diversity and embracing innovation, we can achieve our vision of developing and supporting excellence in pathology for healthcare across the world. We invite our members to join us on this journey, as we advocate for our profession, promote the highest standards and ensure a sustainable future for pathology.

The full strategy for 2024–2029 is available on the College website.

Meet the author

DANIEL ROSS

CHIEF EXECUTIVE

Return to October 2024 Bulletin

Read next

College subscription rates for 2025

23 SEPTEMBER 2024

King's Fund guest editorial: health inequalities

01 OCTOBER 2024

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

College subscription rates for 2025

An update on College subscriptions.

Published: **23 September 2024** **Author:** **Dr John Ashcroft and Daniel Ross** **Read time:** **3 Mins**

As we approach 2025, the Trustee Board has recommended a 3% increase in member subscriptions. This decision reflects the current economic environment, where inflation continues to impact all sectors, including the College. We want to assure our members that this adjustment was made after careful consideration, with a continued commitment to minimising costs and maximising value for your membership.

The updated subscription rates for 2025 are outlined in Tables 1 and 2 below. As always, subscriptions are due on 1 January each year.

Table 1. UK subscriptions.

Member	2025
Fellows	671
Fellows with income less than £60,000 per annum (2024 – £58,000 per annum)	536
Fellows by examination in first year of fellowship	335
Fellows by examination in second, third and fourth year of fellowship	536
Diplomates	335

Member	2025
Affiliates	235
Affiliates with more than 5 years' membership who are medically qualified	536
Retired with mailing	118
Medical examiners and medical examiner officers	118

Table 2. Overseas subscriptions.

Member	Country band	2025
Fellows	A	371
	B	301
	C	246
	D	195
Fellows by examination in first year of fellowship	A	268
	B	219
	C	194
	D	156
Fellows by examination in second, third and fourth year of fellowship	A	299
	B	242
	C	199
	D	158

Member	Country band	2025
Diplomates	A	268
	B	219
	C	194
	D	156
Affiliates	A	137
	B	112
	C	92
	D	84
Retired with mailing	A	109
	B	91
	C	83
	D	82

Discounted membership rates

We remain committed to supporting our members by offering a variety of discounted rates.

- New fellows by examination: From January 2025, to better support the transition to fellowship, first-year fellows will pay a fee aligned with the diplomate rate. For years 2, 3 and 4, these fellows will automatically receive a 20% discount on the full fellowship rate. Fellows who joined before 31 December 2024 will continue to receive a 20% discount for the first 5 years of their fellowship.
- Fellows in the UK earning under £60,000: fellows with total income below £60,000 are eligible for a 20% discount on the full fellowship fee.
- Parental leave: We offer reduced subscription rates to members on parental leave.
- Financial hardship: For members experiencing exceptional financial hardship, the College has a scheme to consider further subscription reductions.

We strongly encourage members to take advantage of the convenience of paying by direct debit, either annually or monthly. Monthly payments can be spread across 10 equal instalments from 1 February to 1 November, allowing for easier financial management.

If you wish to amend your payment method to direct debit, either annually or monthly, or if you would like to apply for any of the discounted membership rates, please contact our Membership & Finance Directorate at membership@rcpath.org.

We appreciate your ongoing support and commitment to the College and we look forward to continuing to provide valuable resources and opportunities to our members in the year ahead.

Meet the authors

DR JOHN ASHCROFT

TREASURER

DANIEL ROSS

CHIEF EXECUTIVE

Return to October 2024 Bulletin

Read next

A new strategy for the future

10 SEPTEMBER 2024

2024 Kettle Memorial Lecture

16 SEPTEMBER 2024

2024 Kettle Memorial Lecture

This year's Kettle Lecture was held at Swansea University Medical School.

Published: **16 September 2024** **Author:** **Professor Angharad Davies** **Read time:** **2 Mins**

Professor Angharad Davies reports on this year's Kettle Memorial Lecture, which was given by the parasitologist, Professor Peter Chiodini OBE.

The College's 2024 Kettle Memorial Lecture was held at Swansea University Medical School on 3 September. This eponymous lecture was established in 1938, in memory of Professor Edgar Hartley Kettle. It is particularly apt for it to take place in Wales, since Professor Kettle was Professor of Pathology in Cardiff between 1924 and 1927. There, he established a centre of teaching and research in pathology, before later moving back to London as Professor at St Bartholemew's Hospital.

This year's invited lecturer was Professor Peter Chiodini OBE, Consultant Parasitologist at the Hospital for Tropical Diseases, Honorary Professor at the London School of Hygiene & Tropical Medicine, Honorary Clinical Professor at University College London and Director of the UK Health Security Agency (UKHSA) Malaria Reference Laboratory and the UKHSA Parasitology Reference Laboratory.

Professor Chiodini with the session co-chairs, Professor Rachel Chalmers, Sharon Poynton and Professor Angharad Davies.

His highly engaging presentation, entitled 'Life cycle of a clinical parasitologist', was delivered to a packed in-person audience at Swansea University Medical School, as well as to an online audience via livestream link.

The lecture covered topics ranging from Professor Chiodini's work on the use of AI in parasitology - for example in malaria diagnostics - to hydatid disease, to his support of the Social Mobility Foundation. It is still available to view on the RCPath YouTube channel. At the end of this tour de force, Professor Chiodini was presented with a gift from the College.

Meet the author

PROFESSOR ANGHARAD DAVIES

CLINICAL DIRECTOR OF PUBLISHING AND ENGAGEMENT

Return to October 2024 Bulletin

Read next

Get involved with National Pathology Week 2024

10 SEPTEMBER 2024

Global antimicrobial resistance webinar series

10 SEPTEMBER 2024

Transfusion Transformation Symposium

10 SEPTEMBER 2024

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

Get involved with National Pathology Week 2024

Find out about this year's National Pathology Week.

Published: **10 September 2024** **Author:** **Penny Fletcher** **Read time:** **2 Mins**

Pathology's annual awareness week will run from 4 to 10 November. For the first time, it will be coordinated collaboratively by the Pathology Alliance.

National Pathology Week (NPW) is the UK's annual celebration of pathology, where we highlight the important contributions that pathologists make to healthcare. Working in partnership with pathologists and laboratory scientists, NPW aims to improve public awareness and understanding of how pathologists and scientists diagnose disease.

From 2024 onwards, we'll be delivering NPW in collaboration with other members of the Pathology Alliance. The organisations who are part of the Alliance are the Association for Laboratory Medicine, Association of Clinical Pathologists, British Division of the International Academy of Pathology, British In Vitro Diagnostics Association, British Infection Association, British Society for Haematology, Institute of Biomedical Science, Pathological Society and The Royal College of Pathologists.

National
Pathology
Week 2024
4–10 November

Our theme for 2024 is 'Pathology is Vital'. The Alliance is encouraging its collective membership to get involved in any way they can. We welcome pathology-related events and activities of all sizes and formats (including virtual) in our nationwide NPW programme. You can find lots of ideas and free resources on the RCPath's website to help with planning and delivering great activities. If you already have an event in mind, please register it on our website.

We're working with several of the Pathology Alliance organisations to deliver a joint event called 'Pathology Myths and Misconceptions'. This online event will open National Pathology Week on Monday 4 November at 6pm GMT. A variety of speakers will explore and dispel commonly held misconceptions about pathology and pathologists. The event is primarily aimed at undergraduates and foundation doctors but is likely to be of interest to a broad range of audiences. Please share the booking link for this event widely.

You can find out more about National Pathology Week 2024 and download logos and other digital assets here.

If you have any questions about NPW, contact penny.fletcher@rcpath.org.

Meet the author

PENNY FLETCHER

CORPORATE AND PUBLIC ENGAGEMENT MANAGER

[Return to October 2024 Bulletin](#)

Read next

Antimicrobial resistance at International Pathology Day

10 SEPTEMBER 2024

Transfusion Transformation Symposium

10 SEPTEMBER 2024

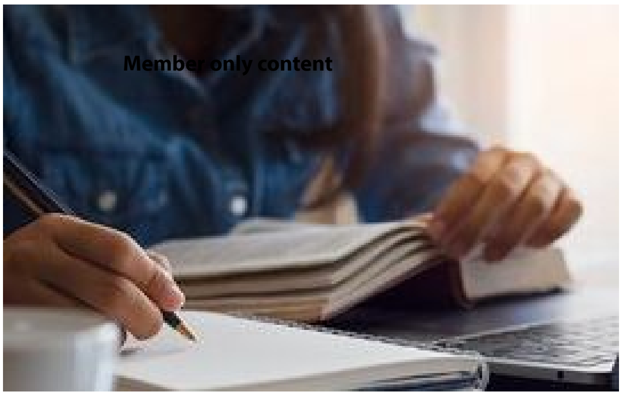
Essay prize winners 2024

Read about our new prize-winning essays.

Published: 26 September 2024 **Author:** Penny Fletcher **Read time:** 3 Mins

The College's 2 annual essay prizes offer undergraduates and foundation doctors the chance to take an in-depth look at a particular aspect of pathology through a written piece. This year's essay questions centre around the impact of climate change on health, disease and pathology.

The College runs 2 essay prizes each year – the Hugh Platt Foundation Essay Prize and the Paola Domizio Undergraduate Essay Prize. Prize winners in both competitions are awarded £250 and are presented with a certificate at an RCPath event. You can find out more about each competition and read this year's winning essays below. Read interviews with the 2024 winners on the competition webpage.



Hugh Platt Foundation Essay Prize 2024 winner

26 SEPTEMBER 2024

Paola Domizio Undergraduate Essay Prize 2024 winner

26 SEPTEMBER 2024

Hugh Platt Foundation Essay Prize

The Hugh Platt Foundation Essay Prize is an opportunity for foundation doctors with an aspiration to specialise in pathology to explore how pathology makes a difference to patients, as well as a unique opportunity to boost their CV ahead of applying for specialty training.

The competition is posthumously named after Dr Hugh Platt, an RCPath Fellow who contributed a huge amount to the work of the College and to the support of postgraduate medical training in pathology disciplines.

2024 winner

Dr Katie Griffiths, a foundation doctor based in North London, was awarded with the prize for her essay in the 2024 Hugh Platt Foundation Essay Competition.

The essay subject for this year was 'Today's greatest global challenges and health threats are the result of human activity affecting the natural environment. Discuss, with examples relevant to pathology specialties.'

Professor Marta Cohen, the RCPath Vice President for Learning, was the judge for this year's competition.

Katie's winning essay is here.

Paola Domizio Undergraduate Essay Prize

The Paola Domizio Undergraduate Essay Prize is open to all undergraduates who are passionate about pathology and who are studying any related course. It offers students the opportunity to demonstrate their enthusiasm and explore a fascinating subject through writing.

The competition is posthumously named after Professor Paola Domizio, an RCPath Fellow who contributed a huge amount to the work of the College and to pathology education.

2024 winner

The winner of the 2024 Paola Domizio Essay Prize is Aleksandra Tanaka, a second-year medical undergraduate who is studying jointly at Cardiff and Bangor universities. The essay topic for the 2024 competition was 'Climate change presents a fundamental threat to human wellbeing. Discuss how it impacts health, disease and pathology.'

Dr Noha El Sakka, the RCPath Vice President for Communications, was the judge for this year's competition. She commented on the high standard of the essays submitted and said it was "great to see this level of effort, research and knowledge amongst undergraduates".

Aleksandra’s winning essay is here.

Return to October 2024 Bulletin

Hugh Platt Foundation Essay Prize 2024 winner

Read the winning entry of the Hugh Platt Foundation Essay Prize.

Published: 26 September 2024 **Author:** Dr Katie Griffiths **Read time:** 7 Mins

Today's greatest global challenges and health threats are the result of human activity affecting the natural environment. Discuss, with examples relevant to pathology specialties.

It is hard to imagine a world without the influence of human activity. One of its most profound consequences on the natural environment is perhaps climate change. There is little doubt that we are driving climate change at a staggering rate.[1] Increasing greenhouse gas emissions leads to atmospheric warming, causing multiple climate hazards.[2] The consequences of these present many challenges relevant to pathology specialties. In addition to climate change, our construction of urban environments and use of man-made materials may also be a detriment to our health and that of the environment.

Climate change can increase the transmission of infectious diseases. It can increase interactions between pathogen and human populations,[2,3] enhance pathogens' survival, reproductive ability and virulence,[2] and increase human susceptibility to disease.[2] For example, vector-borne disease transmission is increased when climatic suitability enhances the geographical range or period over which vectors can interact with humans.[4] The malaria-carrying *Anopheles* mosquitoes' range is predicted to expand due to warming and increased rainy season duration in tropical regions of Africa.[5] This may overburden current healthcare facilities, expose immunologically naïve populations and expose healthcare systems which are less developed to respond to these diseases.[4]

Additionally, climate change may cause novel pathogen exposures due to the expansion of zoonotic diseases[3] and thawing of ice and permafrost.[2] These changes are likely to increase the pressure upon microbiology and virology services. These services will be vital in monitoring for and rapidly responding to new outbreaks, identifying causative agents, identifying or developing diagnostic tests and treatment, and advising public health strategies.[6]

The COVID-19 pandemic highlighted these pressures and how instrumental pathology services were in responding to global health threats.[7] For example, there was a reliance on lateral flow assays to rapidly identify COVID-19-infected persons.[8] This highlighted our need for innovative technologies to quickly and accurately identify infected persons, to control the spread of disease.

Another health risk posed by climate change is food insecurity and malnutrition. Climate change can impair crop production and the nutritional quality of food,[9,10] increase food prices[11] and disrupt supply chain infrastructure.[9,11] The effects of malnutrition are widespread. They range from impairing immunocompetence and increasing the risk of infectious diseases in the short-term,[2] to increasing the risk of development of cancer in offspring.[12] Consequentially, malnutrition can increase the demand upon histopathology and haematology services, especially in the context of an already growing and ageing population.[13,14]

Furthermore, these pressures on food production lead to sub-optimal farming practices for long-term planetary and human health, including a growing reliance on herbicides and pesticides. In 2023, over 50% of fruit and vegetable samples in the United Kingdom were found to contain pesticide residues, with 3% containing levels above the maximum residue level.[15] Although consuming a wholefood diet is considered protective of health, exposure to pesticides in fruits and vegetables may offset the benefits of their consumption in relation to all-cause mortality.[16] Furthermore, Cavalier et al. (2022) detected a causal relationship between pesticide exposure and acute lymphoblastic leukaemia and colorectal cancer,[17] of relevance to the histopathology and haematology disciplines. Similarly, the use of antimicrobials in animal farming is likely contributing to antimicrobial resistance.[18] Microbiologists are already facing increasing pressures to reduce antimicrobial prescription and challenges in treating multi-drug-resistant bacterial infections.[19]

Climate change is also increasing the incidence of severe weather events, such as wildfires and droughts. These increase transmission of infectious diseases[2] and convey longer-term health threats. For example, wildfires are associated with an increased incidence of asthma,[20] as particulate matter can penetrate alveoli and bronchioles and induce inflammatory processes.[21]

The manipulation of the natural environment to support human activities, as seen in our construction of urban environments, has also generated challenges aside from climate change. Urban design may promote physical inactivity, poor food choices[22,23] and exposure to air and noise pollution.[26] Urban environments with poor walkability are associated with an increasing burden of obesity[24,25] and cardiometabolic diseases, including hypertension[24,25] and type 2 diabetes mellitus.[25] Similarly, increased exposure to noise and air pollution may increase the risk of developing cardiovascular disease.[26] These are all long-term diseases with significant sequalae, which rely on pathology services for their diagnosis and monitoring. Additionally, human activity may be a factor in the dramatic increase in allergic disorders seen in recent years.[27] Many environmental and lifestyle changes have been implicated in this, including air pollution, which may also be related to the severity of presentation.[27] Of course, urban design may also promote climate change, for example by increasing air pollution, thereby exacerbating the problems previously discussed.[28]

Another global threat is the widespread use of plastics, leading to accumulation of microplastics in the environment, food chain and human tissue.[29] The full extent of the risk that this poses to human health is unknown, but it is thought to potentially contribute to carcinogenesis, metabolic disorders and immune system dysfunction, all of which would burden pathology services.[29] Of course, plastics are also heavily used by healthcare services, including pathology services themselves.

Despite all these factors, global life expectancy is generally increasing[30] and rates of death from infectious disease are falling.[31] Perhaps this is due to the tremendous efforts by humans to improve the prevention, detection and management of diseases, promote health equity and mitigate climate change. Urbanicity also improves access to healthcare services, sanitation, education and employment. It is, therefore, difficult to label humans' effects on the natural environment as purely damaging, despite the challenges it presents.

In conclusion, human activity has profoundly impacted the equilibrium of the natural environment, the consequences of which are now being unmasked. Currently, it appears that we are somewhat compensating for these changes – death rates from infectious diseases are static, for example – but it is unknown whether human activity can continue to buffer these changes. It seems likely that pathology services' workload will increase and will need to be adaptable to meet evolving demands in the context of a rapidly changing health landscape. It remains to be seen whether human activity can evade the so-called tipping point, both in terms of climate stability and healthcare service provision.

References available on our website.

Meet the author

DR KATIE GRIFFITHS

Return to October 2024 Bulletin

Read next

Paola Domizio Undergraduate Essay Prize 2024 winner

26 SEPTEMBER 2024

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

Paola Domizio Undergraduate Essay Prize 2024 winner

Read the winning entry of the Paola Domizio Undergraduate Essay Prize.

Published: 26 September 2024 **Author:** Aleksandra Tanaka **Read time:** 7 Mins

Climate change presents a fundamental threat to human wellbeing. Discuss how it impacts health, disease, and pathology.

Earth is a febrile planet. Since 2003, the UK has experienced 10 of its hottest recorded years. And, given the interconnected nature of humans and our planet, as Earth sweats, so does humanity. Whether the effects of climate change manifest directly, such as a predicted 166% increase in heat-related UK deaths by the 2030s,[1] or indirectly, climate change will function as an amplifier of hazards threatening global and local health security.

Climate change potentiates the exacerbation of 78% known human pathogenic diseases,[2] with issues centred around range expansion of vector-borne diseases (VBDs) and spillover events. For example, *Aedes albopictus*, native to Asia, acts as an arbovirus vector, causing dengue, chikungunya and West Nile virus outbreaks across mainland Europe.[3] Although there are no current established populations in the UK, London and the surrounding areas presently have been deemed suitable *Ae. albopictus* habitats owing to increasingly longer, warmer and wetter seasons, with the remainder of the UK set to follow by the 2070s.[1] On a grim note, there are no presently available vaccines for the West Nile or chikungunya viruses and Qdenga has only just been introduced to Europe.[4]

However, climate change also enables the emergence of previously unknown threats. For example, *Candida auris* is the first human pathogenic fungus to have emerged due to climate change,[5] as *C. auris* adapted to become highly thermotolerant in response to increasing ocean temperatures. First clinically isolated from a case of otitis media in 2009,[6] it has since been characterised as multi-antifungal-resistant yeast[7,8] capable of causing serious invasive infections with a 30–72% mortality rate.[9] Moreover, it can be transmitted between patients and survive, despite being dried out, for at least 28 days.[10]

Zoonoses, such as SARS-CoV-2 or HIV, already challenge public health infrastructure, but novel spillover hotspots are predicted to increasingly arise following migratory variations and geographical overlap in animal populations driven by climatic changes, amplifying the emergence of known and novel zoonotic threats.[11] Concurrently, droughts and weather extremes have been predicted to hit Earth's mid-latitudes the hardest, creating 'climate change refugees' and increased population densities.[12] Both human and animal migrations, combined with differing population susceptibilities and limited resources (i.e. clean water, sanitary supplies) have the capacity to challenge public health measures and guidelines all over the globe.

Finally, and perhaps most insidiously, climate change has the capacity to aggravate non-communicable diseases. Already, cancer imposes a heavy burden on global healthcare, with an estimated 20 million new cancer cases and 9.7 million related deaths in 2022.[13] Aside from heat-related deaths in a vulnerable aging population, the incidences of various cancers (particularly melanomas and carcinomas) and chronic inflammatory disorders (e.g. chronic obstructive pulmonary disorder) are likely to increase in a future world of increased UV exposure, environmental pollutants and carbon emissions.[14]

But how do these snapshots relate to pathology? In the face of shifting disease landscapes and events, pathologists must continue to stand sentinel against known and emerging climate change threats, whether they are pathogenic illnesses or cancers. The success of pathology within this capacity was most recently illustrated by the COVID-19 pandemic. The rapid progress from SARS-CoV-2 identification to the development of diagnostic polymerase chain reaction tests and a successful vaccine in under a year (a historical first) was down to the combined efforts of a great many pathologists, such as virologists, immunologists and histopathologists.

However, COVID-19 was a singular, overwhelming threat at the given time. It is possible that the convergence of VBDs, emerging and novel pathogens, as well as increasing burden of non-communicable diseases may ultimately 'divide and conquer' available pathology services. Little to no routine vaccinations or preventative measures exist in the UK for the vast majority of tropical diseases pushed northwards by climate change. Cancer is an old and ever-present threat, still yet to be unraveled despite decades of research. Therefore, not only would routine screening need to continue at a similar or greater rate than before, but other screening, diagnostic and monitoring measures against climate-change derived threats would need to be introduced on top.

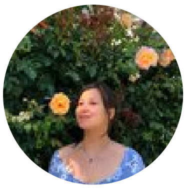
Yet for the aging, increasingly overweight population of the UK that is no easy task. Demands on health services have only grown, with 5% and 2% annual increases in demand for blood and microbiology tests.[15] Presently, 10% of consultant haematologist positions remain vacant and only 3% of laboratories are adequately staffed to meet clinical demand.[16] Already, these issues directly impact patient care, as only 62.8% of patients in England begin treatment within 2 months of an urgent referral, missing the critical care target of 85%.[17] At this stage, pathology must adapt with the changing times and climate to simply keep running as always, as the services provided are invaluable and indispensable to patient care. However, with the advent of artificial intelligence and integration of technological advances, there remains hope.

On top of all this, it is also important to recognise that, beyond the laboratory bench, healthcare drives climate change just as it affects healthcare – if it were a country, the healthcare industry would be the fifth largest polluter, accounting for 4–5% of global greenhouse emissions.[18] Therefore, prevention of climate change driven effects on public health is not solely limited to what pathology can provide by way of screens, tests and other patient-focused measures, but what the practice of pathology can adapt within itself to reduce environmental costs, such as integration of the OneHealth approach. Without such measures, healthcare-related emissions could triple by 2050, with patient sample collection and phlebotomy leaving the largest carbon footprints.[19]

In conclusion, the effects of climate change cannot be seen in isolation and the effects upon health are complex. A warming earth means increased freak weather and temperature extremes, which, among others, drive massive environmental changes that impact directly upon population and individual health. Therefore, while its role in prevention and management of current and future health crises cannot be understated, pathology must adapt to keep pace with the rapid environmental alterations and the burdens they introduce into existing healthcare infrastructure.

References available on our website.

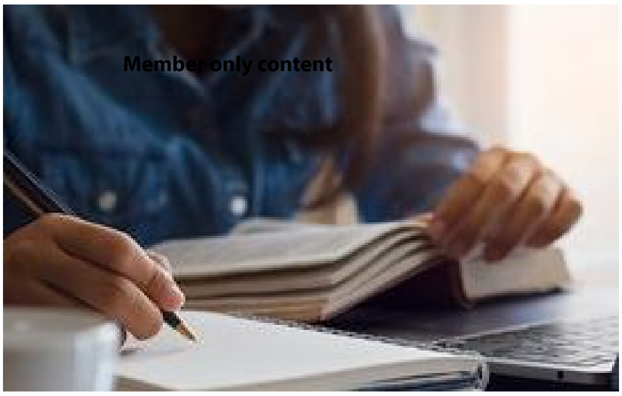
Meet the author



ALEKSANDRA TANAKA

Return to October 2024 Bulletin

Read next



Hugh Platt Foundation Essay Prize 2024 winner

26 SEPTEMBER 2024

Global antimicrobial resistance webinar series

Read about our international antimicrobial resistance webinars.

Published: **10 September 2024** **Author:** **The International team** **Read time:** **3 Mins**

From Wednesday 5 June to Friday 12 July, the International team delivered a weekly global antimicrobial resistance webinar series.

Each week from June to July, we explored an aspect of antimicrobial resistance and stewardship with speakers from around the world. Each webinar started with a speaker providing an introduction and a UK perspective to the topic, followed by 2–4 international speakers providing the perspective from their respective countries. After this there was an audience Q&A.

Programme

The webinars explored the following topics:

- Global Perspectives on Antimicrobial Resistance, with speakers from Australia, Kenya and Qatar. Some of the topics discussed were the use of intravenous versus oral antibiotics and persistence of resistance to certain antibiotics, despite the removal of selective pressure through reduction in consumption.
- Antimicrobial Stewardship in the Community, with speakers from Nigeria and Sri Lanka. We discussed the challenges of antimicrobial stewardship in the community and considered the use of the World Health Organization's AWaRe classification.
- Antimicrobial Stewardship in Secondary Care, with speakers from Cuba, India, Nigeria and Qatar. The topics discussed included how to influence the choice of antibiotics and case studies on antimicrobial stewardship in palliative secondary hospice care.
- Engaging the Public in Antimicrobial Stewardship, with speakers from Egypt and the United Arab Emirates. We heard about various activities in different parts of the world designed to help inform the public.

- Developing Prescribing Guidelines, with speakers from Egypt and India. We discussed how to develop the skills to write guidelines and policies, and considered ways to help ensure their implementation.
- Evaluating an Antimicrobial Stewardship Programme: What Are the Measures of Success, with speakers from Canada, Egypt and Hong Kong. Speakers outlined possible metrics that can be used to demonstrate the impact of an antimicrobial stewardship programme.

Attendees

Attendees joined from around the world, with nearly 600 joining many of the webinars in the series.

Attendees came from over 30 countries, including Algeria, Australia, Barbados, Canada, Cuba, Egypt, Ethiopia, Germany, Hong Kong, Hungary, India, Iraq, Ireland, Jordan, Kenya, Kuwait, Laos, Lebanon, Malaysia, Malta, the Netherlands, Nigeria, Oman, Pakistan, Qatar, Romania, Saudi Arabia, South Africa, South Sudan, Sri Lanka, Thailand, the United Arab Emirates and the UK.

The feedback from the webinars was overwhelmingly positive, with the vast majority of attendees reporting that they found the webinars extremely useful. Comments indicated that the global perspectives and range of speakers from many countries were particularly valued. Receiving this feedback highlights the importance of international collaboration and the international activities we deliver, which help to advance knowledge in pathology practice.

Recordings

If you would like to watch the webinars, please visit this webpage, where the recordings from all 6 webinars are hosted.

Special thanks

Special thanks go to Professor Angharad Davies, Clinical Director for Publishing and Engagement, for supporting this programme, moderating the webinars and coordinating each Q&A session. Thanks also go to all the expert speakers, who provided such informative insight into antimicrobial resistance and stewardship in each of their respective countries and to all the attendees who joined the webinars and took part in the Q&A sessions.

Meet the author

THE INTERNATIONAL TEAM

Return to October 2024 Bulletin

Read next

Antimicrobial resistance at International Pathology Day

10 SEPTEMBER 2024

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

Antimicrobial resistance at International Pathology Day

Join the College for our upcoming events on antimicrobial resistance.

Published: **10 September 2024** **Read time:** **2 Mins**

Antimicrobial resistance (AMR) is one of the most pressing global health challenges the world faces today. The prediction is that, unless we take urgent action, 10 million people each year could die from the effects of AMR by 2050.

AMR affects everyone, everywhere, regardless of income status or nationality. From the misuse and overuse of antibiotics to lack of clean water and inadequate healthcare infrastructure, the causes of AMR are complicated and critical.

On Wednesday 6 November, from 9:45 for a 10:00 GMT start, our virtual conference for International Pathology Day will focus on the theme 'The rise of global antimicrobial resistance' and explore these issues in partnership with our sponsor, the British Society for Haematology.

We are honoured to welcome Professor Dame Sally Davies, the UK's Special Envoy on AMR, who will open the conference in conversation with College President, Dr Bernie Croal and Vice President for Communications, Dr Noha El Sakka.

This will lead on to additional presentations from speakers from across the globe. Visit our event page to discover more about our speakers.

Our signature roundtable discussion

A discussion on 'Global perspectives on AMR' will take place in the afternoon. Inspired by our 6-part free global AMR webinar series that took place this summer, our panel of experts below will offer their insights on AMR.

They will explore the challenges and opportunities in different regions and highlight the similarities in our experiences and the priorities for addressing this issue. The panellists at the event will be:

- Chair: Dr Bernie Croal, President, The Royal College of Pathologists, UK
- Panellist: Dr David Jenkins, Consultant in Medical Microbiology and Virology and Lead Infection Control Doctor, University Hospitals of Leicester NHS Trust, UK
- Panellist: Dr Margaret Ip, Hong Kong
- Panellist: Professor Samuel Taiwo, Nigeria
- Panellist: Professor Daniel Thirion, Full Clinical Professor, Pharmacist, Université de Montréal, Montreal and McGill University Health Centre, Canada

Digital poster competition

The theme of this year's competition is 'Conquering superbugs: innovations in combating AMR'. Entries are invited from individuals and teams until the closing date on **Wednesday 23 October at midnight BST.** Find out how to enter, the terms and conditions and the cash prizes to be won from our event page.

Lunchtime activities

The College has significantly increased its efforts around AMR and there will be a presentation highlighting the work around this.

Secure your place and be a part of this vital conversation – register now. Together, we can make a difference in the global fight against AMR.

Meet the author

THE INTERNATIONAL TEAM

Return to October 2024 Bulletin

Read next

Antimicrobial resistance: improving understanding and addressing inequalities

10 SEPTEMBER 2024

Global antimicrobial resistance webinar series

10 SEPTEMBER 2024

Transfusion Transformation Symposium

10 SEPTEMBER 2024

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

Appreciation: Helen Whitwell

The pathologist who inspired Silent Witness.

Published: **10 September 2024** **Author:** **The Times** **Read time:** **3 Mins**

Helen Whitwell was Britain's first female professor of forensic pathology and an early challenger of shaken baby syndrome in various court cases. She was the inspiration for the television drama series 'Silent Witness', whose writer Nigel McCrery had encountered her when he worked as a police officer.

This article was published in the Times on 2 August 2024.

Helen Laura Whitwell was born in Kendal, in what was then the county of Westmorland, in 1955, the eldest of 5 children. Her father, Edward, was an accountant and a former mayor of Kendal. Her mother, Beryl, was a maths teacher. Their third child, Robin, was born with spina bifida and died in infancy. She was educated at Kendal High School for Girls, a grammar school, then trained as a doctor at Manchester University, qualifying in 1977 and winning various awards.

She became Britain's first female professor of forensic pathology and produced 2 books on her discipline that have become standard texts. Involved in several of the most high-profile murder trials of her time, she was also one of the first forensic pathologists to challenge the notion of shaken baby syndrome (SBS) as the cause of death in various murder cases.

From 1979 to 1986, she lectured in neuropathology at Manchester University before becoming senior consultant neuropathologist at the Queen Elizabeth Hospital in Birmingham. But from the mid-1980s, she had grown increasingly interested in forensic pathology and joined the Home Office register of forensic pathologists in 1988.

For the next decade, she worked as a forensic pathologist in the West Midlands, assisting the police forces of the West Midlands, Warwickshire, West Mercia and Staffordshire and conducting as many as 60 post-mortem examinations a year in cases of suspicious deaths.

She bought a 17th-century thatched cottage in Great Comberton, near Pershore in Worcestershire, where she grew flowers with wonderful scents. She explained to visitors that pathologists can lose their sense of smell because of the formalin and other chemicals they deal with, but 'as long as I can smell my garden I know I'm all right.'

Whitwell visited Silent Witness film sets, checked scripts for accuracy and served as a sounding board for ideas.

Between 1998 and 2000, she lectured at the University of Auckland in New Zealand, a country she loved and where she kept a property for the rest of her life. She returned to Britain in 2000 to become the country's first female professor of forensic pathology at Sheffield University and an inspiration to many young students (including 4 of her nephews and nieces).

Whitwell left Sheffield in 2004 because the university was closing her department and returned to practice forensic pathology in the West Midlands.

By her mid-50s, Whitwell was suffering from osteoarthritis in her hands, which made it hard to grip the dissecting knives necessary for her work. She was forced to cease practising forensic pathology in 2009, but continued to travel to international conferences and to edit and co-author 2 standard works – *Forensic Neuropathology* and *Mason's Forensic Medicine for Lawyers*.

Retiring to Great Comberton, she became a campaigner for local train and bus services to isolated communities, secretary of the Friends of Pershore Abbey and a regular at Pershore's White Horse pub whose owner, Pio Palombo, and his black labrador, Sugar, were her long-time companions.

Helen Whitwell, forensic pathologist, was born on January 9 1955. She died of cancer on July 24 2024, aged 69.

Return to October 2024 Bulletin

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

Appreciation: Professor Christopher Fletcher

Colleagues remember the life and career of the renowned surgical pathologist, Professor Christopher Fletcher.

Published: **30 September 2024** **Author:** **Eduardo Calonje, Phillip McKee and Sebastian Lucas**
Read time: **6 Mins**

Chris was a kind, thoughtful and generous friend for over 40 years. Both of us are deeply indebted to him.

He was a world-renowned surgical pathologist with great expertise in tumour pathology in general and soft tissue tumours in particular. Although he was initially drawn towards dermatopathology, he soon realised his real passion lay in soft tissue tumour pathology.

His career in the latter began when he was a trainee working on his Doctor of Medicine thesis. Utilising retrospective electron microscopy and immunohistochemistry of archival cases of so-called malignant fibrous histiocytoma, he demonstrated that the overwhelming majority of such tumours could be re-classified into more specific categories, including spindle cell squamous carcinoma, leiomyosarcoma and rhabdomyosarcoma among others. This was truly groundbreaking and paved the way for the better understanding and classification of soft tissue sarcomas.

Immediately after completing his training in pathology, he became a consultant at St Thomas' Hospital in London and founded the Soft Tissue Tumour Unit in the early 1990s. On his own, with a single orthopaedic surgeon and a fellow, he managed to establish a world-class treatment and research centre that started attracting not only many consultation cases from the United Kingdom and abroad, but also pathologists from all over the world to train under his guidance and expertise. The unit flourished and grew with research grants that allowed him to cement his meteoric career.

During this time, he was granted a personal chair, becoming a professor. He was soon offered a post at the Brigham and Women's Hospital, Harvard University in Boston, USA, where he established his ever-growing professional career until he took early retirement in 2022 to enjoy more time with his family.

He was not only a gifted pathologist and researcher but also a captivating orator. He was an amazingly witty, entertaining teacher and communicator, whose lectures around the world were always a sold-out phenomenon!

Chris's career was quite remarkable, as evidenced by his breathtaking curriculum vitae listing approximately 600 original articles and over 150 review articles, chapters and books. He received innumerable distinguished honours, including the United States and Canadian Academy of Pathology (USCAP) Young Investigator Award in 1997. He served as president of many international societies, including USCAP, and was chairman of the WHO working group for the classification of bone and soft tissue tumours. His textbook, *Diagnostic Histopathology of Tumours*, is in its 5th edition and is essential reading material for all tumour pathologists.

The side of Chris that only the privileged experienced was the care and attention that he showed to the residents and fellows that came under his tutelage. His sign-out sessions on over 5,000 soft tissue tumour consultations at Brigham and Women's Hospital in Boston were a delight for all. He treated even the most junior pathologist with kindness and courtesy.

Chris was a remarkable man who is sorely missed, although his legacy will live on.

Chris is survived by his partner Nina and his daughters Amy, Alexandra and Fenella.

Meet the authors

EDUARDO CALONJE
LEAD IN DERMATOPATHOLOGY, ST JOHN'S INSTITUTE OF DERMATOLOGY, ST THOMAS' HOSPITAL, LONDON

PHILLIP MCKEE
CHIEF OF DERMATOPATHOLOGY, BRIGHAM AND WOMEN'S HOSPITAL, BOSTON (RETIRED)

I first encountered Chris Fletcher in early 1982, having returned from working 2 years in Nairobi and assuming a 1-year consultant locum position at the Department of Histopathology at St Thomas' Hospital, London. He was a young trainee and already stood out in a department not short of serious expertise under the leadership of Professor John Tighe.

My recollection is that he first took an interest in soft tissue pathology from working with Professor Michael Hutt in the Wellcome Tropical Pathology Unit (WTPU) within the department (headed by Hutt and Dennis Burkitt). The main pathological input to the WTPU was the weekly parcel containing all the biopsy material from hospitalised patients in Malawi, sent to UK for diagnosis (results returned by airmail), there being no path lab there at the time. A lot of soft tissue tumours, including Kaposi sarcoma (then a rarity in UK), were presented. And from that start he linked up with the orthopaedic and soft tissue surgeons in St Thomas', and rapidly became their pathological point of reference.

By 1984, he had already authored papers on retroperitoneal fibrosis[1] and inflammatory fibrous histiocytoma of the penis,[2] as well as contributing to papers on tissue eosinophilia associated with skin, bladder and oral carcinomas.

He rapidly became a significant speaker on soft tissue pathology in the UK and gained the reputation of being the most highly qualified pathology junior, with the best publication CV, in the country. A personal chair in soft tissue pathology at St Thomas' followed. In 1984, he demonstrated his attention to histological detail with a meticulous analysis of skin sarcomas.[3] By the late 1980s and early 1990s, he was at the forefront of combining histopathology with genetic analysis of soft tissue tumours.[4,5] This culminated in the major publication correlating lipomatous tumour morphology with cytogenetic abnormalities,[6] where he was the lead author.

A major take-home message from the talks Chris gave concerned advising clinicians to think carefully about what to do for a tumour patient and not automatically go for maximal excisions and inevitable surgical morbidity. He was a true informed patient advocate.

References available on the website.

Meet the author

PROFESSOR SEBASTIAN LUCAS

Return to October 2024 Bulletin

Appreciation: Professor Robin Warren

Pathologists worldwide pay respects to Professor Robin Warren.

Published: 10 September 2024 **Author:** The Royal College of Pathologists of Australasia
Read time: 2 Mins

This appreciation was published by the Royal College of Pathologists of Australasia.

The RCPath and the Royal College of Pathologists of Australasia (RCPA) are deeply saddened to hear of the passing of Nobel Laureate Professor John Robin Warren AC, an eminent and highly respected pathologist and medical pioneer.

Professor Warren was the joint recipient of the 2005 Nobel Prize for Medicine alongside Professor Barry Marshall AC, awarded for their rediscovery of *Helicobacter pylori*, a pathogenic organism widely recognised to be the cause of gastritis, peptic ulcer disease and gastric cancer. Their work on the bacterial basis for stomach ulcers revolutionised the treatment of peptic ulcers by enabling an antibiotic cure and has led to a significant reduction worldwide in the prevalence of gastric cancer.

In addition to the numerous scientific awards received for their work on *H. pylori*, Professor Warren and Professor Marshall also received Australia's highest civilian honour, the Companion of the Order of Australia in 2007.

Professor Warren became a Fellow of the RCPA in 1967, specialising in histopathology, and received the RCPA Distinguished Fellow Award in 1995. Originally hailing from Adelaide, Professor Warren trained in Melbourne at Royal Melbourne Hospital and moved to Perth after achieving Fellowship of the College, spending the majority of his career at Royal Perth Hospital. He later became Emeritus Professor at the University of Western Australia.

Professor Warren's legacy will be ingrained on pathology and medicine forever. Our heartfelt condolences go out to his family, friends and colleagues.

Return to October 2024 Bulletin

Condolences October 2024

Published: **10 September 2024** **Read time:** **1 Min**

The deaths of the following fellows were announced at the 12 September 2024 Council meeting. We extend our condolences to those who grieve for them.

- John Victor Dadswell, Reading, UK
- Christopher David Marsden Fletcher, USA
- Francois Gros, France
- Margaret Ellen Macaulay, Stockport, UK
- Jonathan Wolfe Miller, London, UK
- Udo Schumacher, Germany
- Helen Laura Whitwell, Pershore, UK

Consultants: new appointment offers October 2024

Published: 10 September 2024 **Author:** The Workforce team **Read time:** 3 Mins

The following appointments have been offered and are subject to acceptance by the applicants. The lists are prepared by the College's Workforce team, on the basis of returns completed by College assessors on consultant advisory appointment committees (AACs), submitted by Monday 23 September 2024.

Please note, we receive no return following 20% of AACs. Any forms received after Monday 23 September 2024 will be published in the next issue. If you do not take up your post or have additional information, please inform the Workforce team. Whenever you move home or job, please inform the Membership team.

Haematology appointments

Region	Employing body	Base hospital	Appointee
East Midlands	University Hospitals of Leicester	Leicester	Dr Omar Mukhlif
England	NHS Blood and Transplant	Flexible base	Dr Lise J Estcourt
Northern Ireland	Northern Ireland Blood Transfusion Service	Belfast City	Dr Allameddine Allameddine

Wales	Cwm Taf Morgannwg University Health Board	Royal Glamorgan	Dr Chloe Knott

Cellular pathology appointments

Region	**Employing body**	**Base hospital**	**Appointee**
East of England	The Princess Alexandra Hospital	The Princess Alexandra	Dr Lubna Rafiqi
North East	Gateshead Health	Queen Elizabeth	Dr Nandita Ghosal
North West	Liverpool Clinical Laboratories	Royal Liverpool University	Dr Rachel C Bowden
North West London	Imperial College Healthcare	Charing Cross	Dr Neelakshi Goyal
			Dr Chaya Prasad
South London	St. George's University Hospitals	St. George's	Dr Almas Dawood
			Dr Zahida Hamid
Wales	Aneurin Bevan University Health Board	Aneurin Bevan University Health Board	Dr Kristina Robinson
West Midlands	University Hospitals of North Midlands	Royal Stoke University	Dr Laura Z Lu
			Dr Kavitha K Pai

Yorkshire and the Humber	The Leeds Teaching Hospitals	St. James's	Dr Simon M Vlies

Medical microbiology, infection and virology appointments

Region	Employing body	Base hospital	Appointee
East of England	West Suffolk	West Suffolk	Dr Nicholas K Jones
North West	Liverpool University Hospitals	Liverpool Clinical Laboratories	Dr Aye Thar Aye
Yorkshire and the Humber	The Leeds Teaching Hospitals	St James's University	Dr Ralph Schwiebert
West Midlands	Worcestershire Acute Hospitals	Worcestershire Royal	Dr Gemma L Winzor

Return to October 2024 Bulletin

Book review – Diagnostic Pathology: Pediatric Neoplasms, 3rd Edition

Angelica R Putnam and Karen S Thompson, Elsevier, 2024, 968pp, £266.99, 978-0443-22426-3

Published: **10 September 2024** **Author:** **Heather Keir** **Read time:** **3 Mins**

The 3rd edition of *Diagnostic Pathology: Pediatric Neoplasms* by Angelica R Putnam and Karen S Thompson continues to serve as a comprehensive reference for the diagnosis and management of paediatric neoplasms. As a part of the *Diagnostic Pathology* series, this edition offers a detailed update, reflecting the latest advances in paediatric oncology and pathology.

The book maintains the well-organised approach of previous editions, providing comprehensive descriptions, histological images and diagnostic criteria for a wide range of paediatric neoplasms. I found this user-friendly structure particularly appealing; I believe it is highly regarded by those familiar with the *Diagnostic Pathology* series.

The text encompasses most neoplastic conditions affecting children, from common tumours to rare malignancies. The inclusion of high-resolution histopathological images remains a cornerstone, facilitating visual recognition and comparison, which is further enhanced by the incorporation of diverse clinical, radiographic and gross images. There is an increased emphasis on the clinical aspects of paediatric tumours, including presentations, prognoses and therapeutic strategies. Notably, the expanded sections on molecular diagnostics and genetic underpinnings of paediatric neoplasms reflect the growing significance of personalised medicine.

Several significant enhancements and updates distinguish the third edition from its predecessor. Updated content includes newly recognised tumour entities and updated classifications aligned with the latest World Health Organization guidelines. There is an increased focus on molecular pathology and genetics, offering insights into the pathogenesis and targeted therapies for various paediatric neoplasms.

This 3rd edition features very high-quality images with more comprehensive image sets for each neoplasm, encompassing a broader spectrum of histopathological variations. The layout and organisation have been refined, enabling intuitive navigation and cross-referencing.

Furthermore, the inclusion of additional tables and summary boxes condenses key diagnostic criteria, differential diagnoses and prognostic factors, making the text accessible to experts and junior pathologists alike. Compared with the previous 2 editions, there is stronger integration of clinical information with pathological findings, facilitating a holistic understanding of each neoplasm. Lastly, this edition introduces diagnostic algorithms and flowcharts to streamline the diagnostic process.

The text exhibits several notable strengths, some of which have been retained from previous editions but are still worth mentioning. The content is up to date with the latest advances in paediatric oncology, ensuring its relevance in contemporary practice. The authors acknowledge that the range of ancillary studies aiding diagnosis, prognostication and therapeutic information will continue to expand and evolve. As such, the accessible and portable eBook version included with each printed version of the text can be updated as information becomes available, maintaining the content's currency. The inclusion of abundant high-quality images plays a crucial role in facilitating visual diagnosis and learning for pathologists. The integration of clinical, pathological and molecular information makes it a valuable resource for pathologists, oncologists and paediatricians.

Potential drawbacks of the text include its complexity and cost. The depth and complexity of information may be overwhelming for those new to the field; a foundational understanding of pathology and oncology is required. In addition, as with many specialised medical textbooks, the cost may be prohibitive for certain readers, especially students or practitioners in resource-constrained settings.

Overall, *Diagnostic Pathology: Pediatric Neoplasms, 3rd Edition* is a significant upgrade from its predecessor. It reflects the rapid advances in the field of paediatric pathology. The comprehensive coverage, high-quality images and practical integration of clinical and molecular data make it an indispensable resource for professionals dealing with paediatric tumours.

While it may be complex for novices, the user-friendly structure, bullet points and concise sentences enhance the text's accessibility. The detailed and organised approach solidifies its position as a cornerstone reference for experienced practitioners. In my opinion, Putnam and Thompson have once again succeeded in delivering a comprehensive, current and highly valuable guide. I would recommend this beautifully presented textbook to any pathologist involved in the diagnosis of paediatric neoplasms.

Meet the author

HEATHER KEIR

CONSULTANT PAEDIATRIC & PERINATAL PATHOLOGIST, CLINICAL LEAD FOR PAEDIATRIC HISTOPATHOLOGY, ROYAL MANCHESTER CHILDREN'S HOSPITAL

Return to October 2024 Bulletin

Read next

Transfusion Transformation Symposium

10 SEPTEMBER 2024

Global antimicrobial resistance webinar series

10 SEPTEMBER 2024

Transfusion Transformation Symposium

Haematologists recently held a symposium on the future of transfusion strategy.

Published: 10 September 2024 **Author:** Dr Sarah Wheeldon and Dr Lorna Cain **Read time:** 5 Mins

A recent symposium discussed the current priorities and challenges in transfusion, charting a course for the next 5 years of transfusion strategy. Here, transfusion colleagues summarise the educational talks, questions and commentary, and engaging panel discussions that shaped the symposium.

The Transfusion Transformation Symposium was held on 10 June 2024, organised in partnership between NHS Blood and Transplant (NHSBT), the National Blood Transfusion Committee (NBTC) and NHS England (NHSE). Building further on the previous Transfusion 2024 plan and taking on board lessons learnt from recent blood shortages and the Infected Blood Inquiry (IBI), 3 main strategic aims were considered: the appropriate use of blood, transfusion digital interoperability and stabilising the transfusion workforce.

Professor Cheng-Hock Toh and Dr Gail Miflin welcomed delegates on behalf of NBTC and NHSBT and the meeting was opened by Sir Steve Powis, NHSE National Medical Director.

Preventing inappropriate blood use

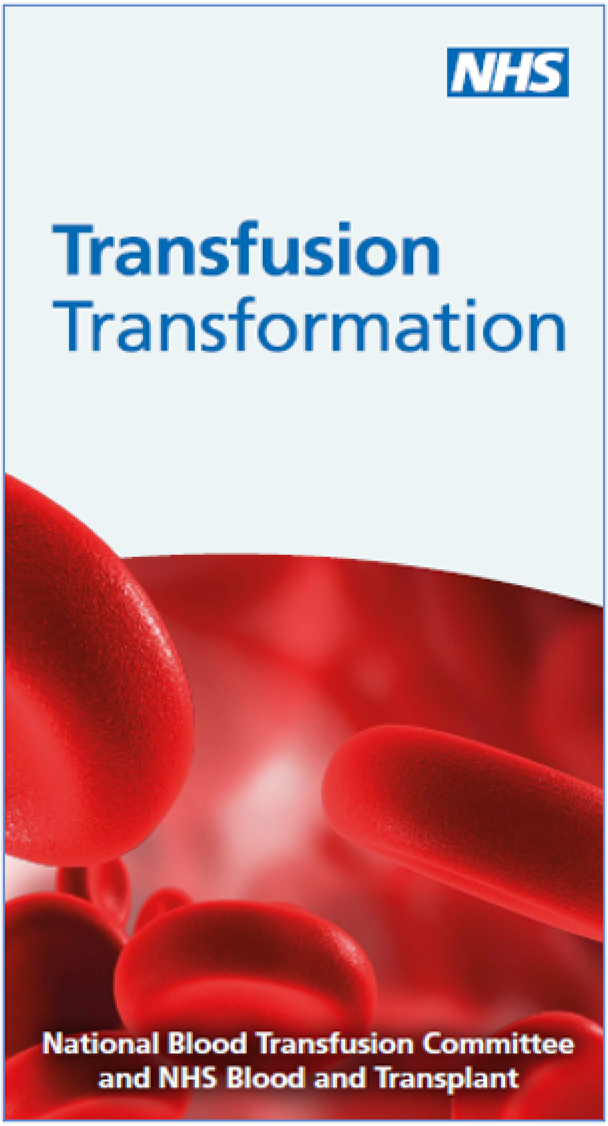
In the first session, discussions centred around appropriate blood use, highlighting lessons learnt from the amber alert for red cells in 2022 and the use of perioperative strategies to minimise inappropriate transfusion, particularly the use of tranexamic acid.

We heard from Professor Lise Estcourt that, overall, red cells issues are decreasing, but our changing population means more blood is going to medical patients, those with blood cancers and those with haemoglobinopathies. Professor Ian Roberts spoke eloquently and passionately about the use of tranexamic acid to reduce bleeding in surgery – a simple, unequivocally evidence-based, low-risk intervention that is being underused.

Patient blood management strategies and measures to address pre-operative anaemia were described with real-world examples by Professor Ramani Moonesinghe and Dr James Prentis. The effectiveness of these strategies hinges on a multidisciplinary team approach with clear accountability, strong patient partnership and robust mechanisms for feedback.

The panel discussion emphasised the importance of patient engagement and highlighted our persistent failure to seek adequate patient consent, as evidenced by audits of the NICE quality standards. Health literacy in the UK is low; by underestimating the need for simple, clear communication with patients, we exacerbate health inequalities. By empowering patients to understand the rationale behind interventions like tranexamic acid use, we can foster true collaboration in their healthcare.

Improving safety and resilience in transfusion



Session 2 tackled ways to bolster safety and resilience in transfusion. Patient empowerment and the need to build a robust workforce emerged as top priorities; the session emphasised leveraging the IBI recommendations for change.

The annual Serious Hazards of Transfusion (SHOT) report continues to offer valuable lessons for improving patient safety. Dr Shruthi Narayan reminded us that these insights must translate into tangible changes, particularly for high-risk groups, including paediatric patients, patients with haemoglobinopathies and those who are regularly transfused. The rising trend of errors and near misses underscores the critical need for well-resourced and robust IT systems, appropriate staffing numbers and comprehensive training.

Kerry Dowling shed light on the alarming picture painted by the UK Transfusion Laboratory Collaborative (UKTLC) surveys in 2019 and 2022. Staff shortages in transfusion laboratories persist; nearly 20% of staff do not feel psychologically safe in their workplace and nearly 50% have faced workplace incivility. To prevent exacerbating this crisis, we need to foster collaboration between clinical and laboratory teams and give laboratory staff a voice in the wider hospital. A robust workforce is not just 'nice to have' but is essential for efficiency and patient safety.

Dr Laura Green discussed the evaluation and health economic benefits of implementing bedside electronic vein-to-vein tracking at Barts Health. These systems demonstrably enhance patient and staff experience, improve safety and efficiency, and generate valuable data for evidence-based improvement.

Improving the visibility of blood stocks and tackling wastage is essential for ensuring a sustainable and resilient blood supply. We heard from Matthew Bend about how data-sharing between hospitals and NHSBT can offer a powerful tool to guide, influence and evidence change. Jane Mills spoke about how improvements in digital data and technology in transfusion align with transformation across the 27 pathology networks in England. For more information, please see the previous Bulletin article on the Future of data in transfusion medicine.

Innovation to enhance patient care

Finally, session 3 delved into the innovations at the forefront of change in transfusion medicine. We heard from Professor Simon Stanworth about how better data and metrics can be used to support patient care in our rapidly evolving digital landscape and from Professor Dame Sue Hill about the huge advances being made in blood matching. Significant health inequalities currently exist in blood matching, particularly for patients with haemoglobinopathies. Leveraging the advances of blood group genotyping technology for both patients and donors will help to level the playing field and ensure all patients have access to the best-matched blood possible.

Unsurprisingly, the impact of the IBI resonated throughout the day. Dr Su Brailsford stressed that implementing the recommendations outlined in the IBI is of paramount importance and is the shared responsibility of all delegates. These recommendations should be embedded into medical curricula to ensure future generations of doctors are equipped to manage transfusion safely and ethically.

Wendy McSporran highlighted the vital role played by transfusion practitioners and the integral part they will play in implementing IBI recommendations. Currently, they have no standardised job description or career progression. Developing a professional framework for this role requires engagement and support, at both national and individual trust levels.

Just one thing

In a day brimming with complex information, the symposium concluded with a powerful call to action inspired by the late Dr Michael Mosley's 'just one thing' concept. Delegates were challenged to identify a single, achievable step to affect change now. Notably, Professor Cheng-Hock Toh, Chair of the NBTC, pledged to create a patient NBTC co-chair role.

It was a fascinating day. It will be exciting to hear more ideas as delegates reflect on the symposium, contribute to the aligned Transfusion Transformation Strategy and go forth with putting actions into practice.

Meet the authors

DR SARAH WHEELDON

NHSBT TRANSFUSION EDUCATION FELLOW

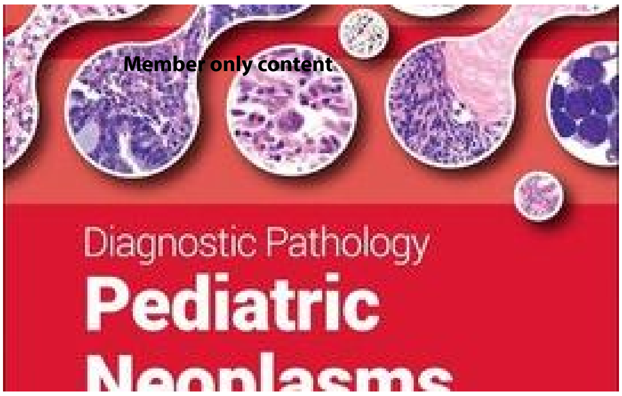
DR LORNA CAIN

NHSBT CLINICAL RESEARCH FELLOW, RCPATH TRANSFUSION SAC TRAINEE REPRESENTATIVE

Return to October 2024 Bulletin

Read next

Reflections on the Ethnic Minority Women in Welsh Healthcare health inequalities conference



Book review – Diagnostic Pathology: Pediatric Neoplasms, 3rd Edition

10 SEPTEMBER 2024

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

CPD-accredited events October–December 2024

Find out details of events that have been accredited for CPD by the College.

Published: **17 September 2024** **Author:** **CPD team** **Read time:** **2 Mins**

Our full programme of continuing professional development (CPD) events can be found on the members' website.

RCPath CPD-accredited online resources can be found here.

Return to October 2024 Bulletin

UK North Myeloma Forum

Date: 17 October 2024

Location: Radisson Blu, Frankland Ln, Durham DH1 5TA

CPD credits: 4

Book for the UK North Myeloma Forum

UK European Society for Blood and Marrow Transplantation (EBMT) Nurses and Allied Health Professionals Group

Date: 18 October

Location: Birmingham

CPD credits: 6

Book for the UK EBMT Nurses and Allied Health Professionals Group

Engaging with the media (a webinar delivered by the Microbiology Society)

Date: 24 October

Location: virtual

CPD credits: 1

Book for Engaging with the Media (a webinar delivered by the Microbiology Society)

The British Society for Genetic Medicine (BSGM) Annual Conference 2024

Date: 5 November

Location: London

CPD credits: 7

Book for The British Society for Genetic Medicine (BSGM) Annual Conference 2024

British Society of Blood and Marrow Transplantation and Cellular Therapy (BSBMTCT) Education Day

Date: 7 November

Location: London

CPD credits: 5

Book for the British Society of Blood and Marrow Transplantation and Cellular Therapy (BSBMTCT) Education Day

UK Lymphoma Research Group

Date: 8 November

Location: London

46th Annual Conference of the Association of Clinical Biochemists in Ireland

Date: 8–9 November

Location: Ireland

CPD credits: 9

46th Annual Conference of the Association of Clinical Biochemists in Ireland

UK Myeloma Society Autumn Day

Date: 14 November

Location: Aylesbury

CPD credits: 6

UK Myeloma Society Autumn Day

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

College conferences October–December 2024

We provide a range of educational opportunities across the breadth of pathology. Discover more about the conferences we offer.

Published: **19 September 2024** **Author:** **The Events team** **Read time:** **2 Mins**

To see all 2024 conferences visit our website.

Return to October 2024 Bulletin

Date: 25 October 2024

Location: To be held in Wales

3 CPD credits

This symposium is aimed at RCPath fellows, members, trainees and others interested in the range of pathology specialties in Wales. Delegates will hear presentations about upcoming themes in the field of pathology and share some of the great developments happening in Wales. They will hear from the President Dr Bernie Croal and hear about the College's work in Wales.

Date: 30 October 2024

1 CPD credit

This webinar will discuss common renal pathology encountered in routine autopsy practice, and the value of renal histology in understanding causes of death.

Date: 6 November 2024

Join us online for our virtual conference on Wednesday 6 November to mark International Pathology Day as we explore the rise of global Antimicrobial Resistance (AMR)

We are honoured to welcome Professor Dame Sally Davies, the UK's Special Envoy on Antimicrobial Resistance, as a special guest at our upcoming event. Professor Davies will open the conference in a discussion alongside Dr Bernie Croal, College President and Dr Noha El Sakka

OBE, Vice President for Communications. This discussion will emphasise the critical importance of international collaboration and adopting a One Health approach in combating AMR.

Date: 8 November 2024

2 CPD credits

This meeting is relevant to all those involved in the delivery of pathology training – including trainers, assessors, and senior trainees preparing to become consultants.

Date: 20–21 November 2024

The meeting brings together experts from various clinical disciplines with leaders in transfusion science to provide an update on key developments.

Date: 20 November 2024

1 CPD credit

During this session we will discuss how the CTPM service in Leicester operates, the triaging of cases for CTPM (plain or angiography), the importance of our Consultant Radiologist colleagues in reporting the images and how this guides us with either providing a cause of death or by refining our subsequent investigations in determining the cause of death e.g. limited or targeted invasive post mortem examination +/- histology, microbiology/virology.

Date: 25 November 2024

Join a host of expert speakers for a day of talks and discussion aimed at generating closer working between cellular pathology, genomics and industry in the delivery of patient centred care.

The objective of the 'Cellular Pathology and Genomics; Partnering for Precision Medicine' conference is to promote closer working between cellular pathology, genomics and industry in the delivery of patient centred care.

Date: 27 November 2024

1 CPD credit

This talk will explore the role of the HTA in regulating the Post Mortem sector within England, Wales and Northern Ireland. The discussion will cover a brief history, the Human Tissue Act 2004 legislation, the HTA's regulatory framework and the regulatory tools and activities we have developed in this diverse sector.

Date: 28 November 2024

1 CPD credit

Dr Simon Spiro is the veterinary pathologist for the Zoological Society of London, where he is responsible for the diagnostic pathology of the society's 23,000 animals of 800 species. He is also the pathologist for the Cetacean Strandings Investigation Programme (CSIP) which investigates dead whales, dolphins, sharks, turtles, and seals in English and Welsh waters. In this talk he will cover the whats, wheres, hows and whys of wildlife pathology, covering everything from the practicalities of performing post mortem examinations on everything from tiny invertebrates up to massive whales, to the science and conservation work that results. This talk will cover topics such as cholesterol mediated diseases in meerkats, bacterial diseases in bats and orthopaedic disease in whales, all told with the aid of pictures, video and digital microscopy.

Date: 3 December 2024

1 CPD credit

The past, the present and hopefully the future of prognosticating feline soft tissue sarcomas; this webinar aims to give an overview of where we currently are regarding the histological grading of feline soft tissue sarcomas, with some insight into the origins via grading STS in humans and canine, and the development of the proposed grading system in cats. It will look at some of the challenges, including nomenclature, subtyping, the complication of feline injection site sarcomas, and the subjectivity of some aspects. It will also look at where we would like to go in the future...

Date: 4 December 2024

6 CPD credits

Medical Examiner Training is aimed at senior doctors who wish to apply for, or have already been appointed to, the role of medical examiner in England, Wales, Northern Ireland, and Gibraltar. Eligibility criteria and employment models are determined locally in England and by NHS Shared Services Partnership in Wales. The College does not make medical examiner appointments and completing the training does not entitle you to employment in this role. Only medically qualified applicants are eligible to apply for membership of the College via the RCPathME route.

Date: 11 December 2024

1 CPD credit

Return to October 2024 Bulletin

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

Join the Lab Tests Online UK team

Become a volunteer reviewer with Lab Tests Online UK

Published: **02 October 2024** **Read time:** **1 Min**

Join the Lab Tests Online UK editorial team

Become a volunteer reviewer with Lab Tests Online UK and:

- join an editorial board to help with peer reviewing website content
- gain editorial skills working on an exciting digital publishing project
- option to develop a new skillset writing for patients and the public
- share your expertise with a broad audience (over 2 million pageviews last month).

This CPD activity is an excellent way to develop new specialist skillsets and reach a broad audience with your knowledge of the latest best practices.

If you're interested in getting involved with Lab Tests Online UK, please contact labtestsonlineuk@labmed.org.uk.

Deputy managing editor(s) for Lab Tests Online UK

We have an exciting new opportunity for you to develop varied skills while you contribute towards educating and empowering patients.

We're looking for deputy managing editors to join the Lab Tests Online UK board and assist our managing editor in ensuring that the website's content meets the needs of its audience. With support, you'll be helping to oversee and refine content review processes, check edited content and seek patient feedback to keep content responsive and effective.

You don't need prior editorial experience, although we are looking for:

- members of LabMed, IBMS or RCPath
- HCPC registration and band 8c or above for biomedical scientists

- full FRCPath for clinical scientists and chemical pathologists.

If you're interested in the role and meet the above requirements, we'd love to hear from you. Please send your CV to sahana@labmed.org.uk.

Return to October 2024 Bulletin

Pathological Society
Understanding Disease — Guiding Therapy

The Pathological Society of Great Britain and Ireland offers a wide range of grant schemes.

JEAN SHANKS/PATHOLOGICAL SOCIETY (JSPS) RESEARCH GRANTS

Pre-Doctoral Research Bursary	**1 April & 1 October**
Clinical PhD Fellowship	**1 April & 1 October**
JSPS/MRC Post-Doctoral Clinical Research Fellowship	**Open**
Clinical Lecturer Grant	**1 April & 1 October**
Clinical Lecturer Support Grant	**1 April & 1 October**
Intermediate Research Fellowship	**1 April & 1 October**
Clinical Academic Research Partnership (CARP)	**1 April & 1 October**

CRUK/PATHOLOGICAL SOCIETY

Pre-Doctoral Research Bursary	**25 March & September TBC**

PATHOLOGICAL SOCIETY

PhD Studentship	**1 October**
Early Career Pathology Research Grant – Hodgkin & Leishmann	**1 April & 1 October**
Cuthbert Dukes Grant	**1 April**
Trainees' Small Grants Scheme	**1 April & 1 October**
Trainees' Collaborative Small Grant	**1 April & 1 October**
Trainees' Clinical Scientist Partnership Grant	**1 October**
Post-Doctoral Collaborative Small Grant	**1 April & 1 October**
Visiting Fellowships	**1 April & 1 October**
Best Trainee Research Impact Award	**1 October**
Best Trainee Research Paper Award	**1 October**
Consultant's Pump-Priming Small Grants Scheme	**1 April & 1 October**
Equipment Grant	**1 April & 1 October**
International Collaborative Award	**1 October**

EDUCATION GRANTS

Bursaries for undergraduate elective or vacation studies (available to Associate Undergraduate Members of the Society)	**27 February & 28 April**
Education Grant	**1 April & 1 October**
Intercalated Degree (available to Associate Undergraduate Members of the Society)	**31 March & 1 October**
Student Society Bursary Scheme (available to Associate Undergraduate Members of the Society)	**Open**
Undergraduate Essay Competition (available to Associate Undergraduate Members of the Society)	**31 August**
Jean Shanks/Pathological Society Summer Studentships	**Open**

TRAVEL GRANTS

Pathological Society Meetings Bursaries	**31 May & 31 December**
Pathological Society Meeting Bursaries for Undergraduates	**31 May & 31 December**
Travel & Conference Bursaries	**Open**

OTHER GRANTS

Open Scheme	**1 March, 1 June, 1 September & 1 December**
Public Engagement	**1 March, 1 June, 1 September & 1 December**

Full details are available on our website: www.pathsoc.org or from:
Lydia Ivnik, Pathological Society of Great Britain and Ireland. E: operationsmgr@pathsoc.org
Conferences and Events: https://www.pathsoc.org/events

www.pathsoc.org

Legacies

Published: 14 September 2023 **Author:** Daniel Ross **Read time:** 3 Mins

The objectives of the College are to develop and maintain high standards of pathology education, training and research; promote excellence and advance knowledge in pathology practice; increase the College's influence through a clear, coherent, professional voice; and resource the future of the College. Financially, the College aims to match activities to projected income. The College is funded from subscriptions, examinations and related fees, investment income, grants from outside bodies and charitable donations.

Bequests or legacies are always gratefully received. Leaving a gift to charity in your will is a very special way of helping to secure the future for organisations such as the Royal College of Pathologists. Legacies to the College have the added benefit of being exempt from inheritance tax.

An open legacy may be made toward the general purposes of the College. This is preferred because it allows the College to apply the funds donated where the need is greatest at the time the legacy eventually becomes available. This can be quite different from the perceived need when a will is made. However, you may legally oblige the College to spend the money in a particular area of College work or for a specific purpose by making a restricted legacy.

The College undertakes many educational initiatives. We are actively undertaking an outreach programme that spreads the awareness of pathology throughout the UK and abroad. No other UK college has committed so much time and resources to the future of our profession. This will promote the importance of pathology to the grassroots of this country through schools, colleges, hospitals and many other sites where the general public can have access to important healthcare information.

If we are to safeguard the future of our profession in the face of increasing competition from other medical and science career opportunities, it is vital that we commit ourselves to the promotion and awareness of pathology, and continue to train our young professionals to the very highest standards. This public engagement programme will require financial support from the College for years to come and we hope very much that we can build on the tremendous support you have already given and ask if you would consider leaving a legacy. Additions to your existing will can be made using a 'Form of codicil', available on our website. Alternatively, please write to us and we will be happy to post you a copy. Please note that witnesses should be present when you sign the form, but it should not be witnessed by a College member or the spouse of a College member. We recommend consulting a solicitor or qualified will writer before making a will; they should give you all the legal and tax advice that you require.

If you are considering including a legacy to the College in your will, we would very much appreciate being informed of your generous act. To inform us of your bequest or for specific advice on legacies to the College, please contact me Daniel Ross Chief Executive (daniel.ross@rcpath.org).

Author

DANIEL ROSS

CHIEF EXECUTIVE