LabMedNews

Association for Laboratory Medicine

APRIL 2025

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Association for Laboratory Medicine

APRIL 2025

LabMed News ISSN 3033-3814

PRESIDENT'S UPDATE

KATH HAYDEN
President

Welcome to the April edition of LabMed News. This month, we're thrilled to share the full programme for LabMedUK25, taking place in Manchester from 9-11 June. Shaped by members submitting their topic and speaker ideas, it features an outstanding lineup of sessions. Due to the success of this approach we'll be inviting submissions for LabMedUK26 in Birmingham via our website from 2-30 June. A key highlight this year is welcoming international UNIVANTS award winners so make sure you book your place to learn from their global best practices.

As my two-year term as President concludes, I'll be handing over the role to Ian Godber at the AGM in June. Before that, we'll attend EuroMedLab in Brussels 18-22 May, where we'll officially be handed over to as hosts for EuroMedLab27 in London. If you're attending, visit us at our stand in the exhibition.

Getting involved in LabMed committees is a really rewarding way to develop your leadership skills and build your professional network. We're recruiting for two new roles: workforce lead and deputy workforce lead, working alongside Katie Hadfield, our director of education and training. These roles will shape how we achieve the workforce priorities in our five-year strategy and strengthen our influence in laboratory medicine and beyond. We're also seeking a national member for our governing Council – an opportunity to represent our membership and actively contribute to the association's decision-making. More details available here.

A recent highlight for me was the Patient-Centric Sampling conference in Liverpool on 11 February. Inspired by three members passionate about changing our approach to specimen collection, the event brought key stakeholders together for a day of learning and discussion. The outcome? A position statement (see pages 49-51) and the launch of a LabMed Specialist Interest Group. Special thanks to Sophie Hepburn, Karen Perkins and Neil Spooner for their work on this.

We're also pleased to introduce Alan Deacon, our new Lab Tests Online Editor and National Pathology Lead for Wales. He's assembling a fresh editorial team — see pages 8-9 to meet Alan and find out how to get involved.

Finally, check out the Learning Academy's clinical content featured on page 5. Created by members for members, these resources enable you to learn in your own time and bridge gaps in laboratory medicine training. It's free with your membership so log in and explore!

LEARNING ACADEMY SPOTLIGHT

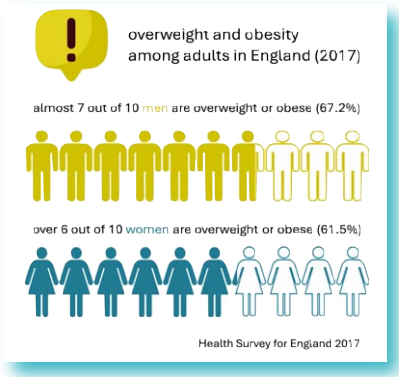
In April our Association's modern and intuitive learning platform is spotlighting clinical content.

by
AVI SURSKAS
LabMed digital learning officer

Obesity assessment and clinical management

author Adrian Park

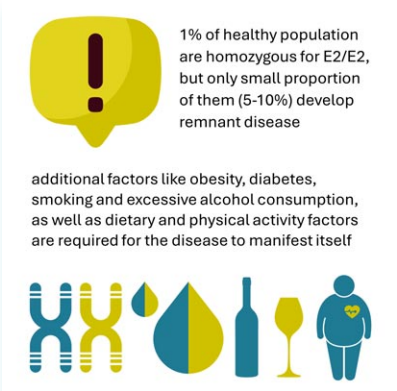
Obesity is a complex and serious condition affecting an increasingly larger portion of the population. The World Health Organisation estimates that since the year 2000, the number of adults suffering from obesity has surpassed 300 million worldwide. This module covers the scientific and medical understanding behind weight gain and obesity, treatment options and effectiveness of available medications.



Lipids and cardiovascular risk

authors Tina Mazaheri and Jaimini Cegla

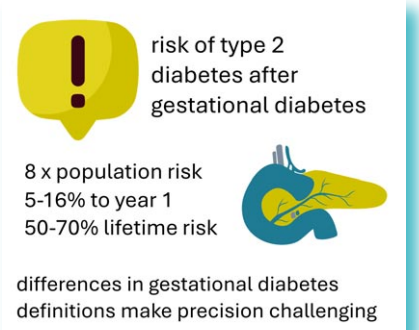
Cardiovascular disease is one of the leading causes of death in the UK. Effective management of high cholesterol is proven to reduce cardiovascular disease. For every 1 mmol/L reduction in LDL-c, there is a 22% relative risk reduction for major vascular events. This module analyses the relationship between cholesterol levels and cardiovascular disease and provides recommendations on cholesterol calculation and dyslipidaemia assessment.



Diabetes in pregnancy

author Claire Meek

Diabetes in pregnancy affects around 20 million women per year and has long-term implications on maternal and offspring health. Babies exposed to maternal hyperglycaemia *in utero* are more likely to have perinatal complications such as being large for gestational age, neonatal hypoglycaemia, shoulder dystocia and respiratory distress. This module examines the background and management strategies for gestational diabetes, type 1 diabetes, and type 2 diabetes in pregnancy.



Created by our members for our members, academy resources address gaps in laboratory medicine training for clinical scientists and doctors. Designed with professional development in mind, the academy allows you to take control of your learning experience. To access all content or learn more please visit our website.

MEET NAOMI GADSBY AND THE MICROBIOLOGY COMMITTEE

Naomi Gadsby began her clinical scientist training and joined the Microbiology Committee in 2008. After becoming a registered clinical scientist, her supervisor encouraged her to engage in the committees' wider activities. Naomi soon identified a role where she could contribute meaningfully, leading her to become the meeting secretary and Naomi has now been a part of the committee for nearly a decade.

Naomi's role

Access to medical training, especially for those based in laboratories rather than hospital wards, can often be quite limited due to microbiology's highly clinical environment. The committee aims to bridge this gap by addressing topics that help trainees build their medical knowledge.

As meeting secretary, Naomi is responsible for overseeing the annual microbiology training day. The training day provides a vital opportunity for trainees to establish professional networks within the specialty, bringing together participants from across the country. Her role involves identifying topics of interest – particularly those that are challenging to access in their training centres – which often revolve around professional issues.

Naomi also organises an annual science-focused meeting open to the wider microbiology community. In recent years, the committee has partnered with the Federation of Infectious Societies (FIS), contributing sessions to their November conference – a major achievement for the committee. This event unites various societies and aims to integrate diagnostic expertise into the broader scientific agenda. By increasing exposure at this level, the committee ensures that the wider scientific community acknowledges the vital contributions of clinical scientists.

In addition to event organisation, the committee plays an active role in shaping examinations, curriculum development, reviewing new standard operating

Naomi Gadsby

procedures (SOPs) and evaluating research projects for the grants awarded by the association.

Looking ahead, Naomi plans to pass on her role as meeting secretary to a new trainee. While Naomi intends to remain involved with the committee in a different capacity, she is eager to see a new generation of trainees take the lead, shaping the role to suit the needs and priorities of training microbiologists.

Value of the committee to members and the profession

The committee represents microbiology members within larger professional organisations, such as the Royal College of Pathologists, the Academy for Healthcare Sciences and the National School of Healthcare Science. By feeding into these bodies, the committee ensures that microbiologists have a voice within broader professional networks, allowing them to directly influence the development and improvement of training in the field.

Naomi emphasises how the last 10 years on the committee have been immensely rewarding, both personally and professionally. It has allowed her to contribute to something larger than her day-to-day role and provided the opportunity to connect with many exceptional colleagues across the UK.

"I would encourage members to consider positions on the committee when they become available because it broadens your perspective on your training and your professional career beyond just the place where you work."

NOMINATIONS OPEN FOR OUR NEXT LEADERS

In accordance with the provision of Articles 11 and 14 of the Association Bye-Laws subsection 6.2, we give notice that all honorary officers have expressed their wish to remain in their posts for the coming year, with the exception of the director of scientific affairs and the director of publications and communications who have reached the end of their respective terms of office. Following an expressions of interest and applications process during the first quarter of the year, the Nominations Committee are delighted to support David Gaze's application for director of scientific affairs. We have received no applications for the director of publications and communications role at present.

Become a national member on LabMed Council

LabMed is seeking a new national member to join the LabMed Council and help shape the future of the Association. This is an opportunity to contribute to key discussions and support the needs of our members. Council members include healthcare scientists and medical practitioners with backgrounds in laboratory medicine including biochemistry, immunology, and microbiology. They represent the voices of our members and play a crucial role in guiding the Association's work.

For this position, we are particularly keen to hear from members who are passionate about equality, diversity and inclusion (EDI). The successful nominee will contribute to LabMed's EDI strategy, ensuring our Association remains inclusive and representative.

The nominations form can be found on page 57 of this issue. Completed forms should be sent by email to sandra@labmed.org.uk by the deadline of **28 April 2025**.

ALAN DEACON JOINS LAB TESTS ONLINE UK AS NEW EDITOR

We are delighted to welcome our new editor for Lab Tests Online UK (LTO), Alan Deacon. LTO is a patient-focused website that provides clear, expert-reviewed information to help people understand clinical laboratory tests.

As the national pathology programme lead within the NHS Wales Executive, Alan brings a wealth of expertise that will help strengthen this vital NHS resource. He will work closely with the editorial team to ensure LTO continues to provide accurate, relevant and accessible content for patients and the public.

"I am thrilled to be joining Lab Tests Online UK as the new editor. This platform plays a crucial role as a trusted resource for patients and healthcare professionals alike, providing accurate, current and accessible information on laboratory testing."

His career so far

With more than 35 years of experience in both public and private healthcare sectors, Alan has dedicated his career to improving pathology services, workforce development and advanced clinical practice.

A fellow of the Institute of Biomedical Science and a chartered scientist with the Science Council since 2004, Alan began his career as a biomedical scientist in cellular pathology. He has held various leadership roles, including serving as chair of the West Midlands Pathology Workforce Planning Committee and contributing to several national and European pathology advisory boards. In 2012, he played a key role in developing the cellular pathology module for Aston University's biomedical science degree.

Since moving to Wales in 2022, Alan has focused on applying systemic leadership to drive positive change in pathology services and the wider healthcare system. Through the national programme, he has worked to enhance the understanding of pathology's vital role in patient care.

Life outside work

Beyond his professional achievements, Alan enjoys endurance running, collecting vinyl records and appreciating Scottish malt whisky.

Making an impact

Alan shares great enthusiasm for this role, aligning with a strong commitment to improving healthcare for all. He is passionate about ensuring patients have access to clear, reliable resources:

"I look forward to continuing our work to improve health literacy and understanding in diagnostics, ensuring clear and readily available information on pathology tests for all."

JOIN THE LAB TESTS ONLINE UK TEAM AS A REVIEWER

To help drive this project forward, we are now recruiting a cohort of reviewers to join our team and assist with reviewing website content. This is a rewarding opportunity to make a meaningful impact on a national scale.

Your expertise could play a vital role in ensuring our content remains accurate, up-to-date and accessible for patients across the country. Alan is looking for reviewers who are:

- Members of the Association for Laboratory Medicine, IBMS or RCPath
- HCPC-registered biomedical scientists at Band 8c or above
- Full FRCPath for clinical scientists and chemical pathologists.

The role of a reviewer is to ensure the website page content reflects current laboratory practices and national guidance. There is no requirement for editorial proficiency, as our team will oversee final checks for style and grammar.

These editorial activities will qualify for CPD points, which can be claimed as self-accredited points under the RCPath or IBMS CPD schemes. This is an excellent opportunity to develop your existing specialist skills while contributing to a nationally recognised resource.

How it works

- You will be emailed a page from the website as a Word document to review and update
- The standard deadline for returning the review is four weeks.

What you are asked to do

- Check for any updates to national guidelines, such as changes from NICE, that need to be reflected
- Look out for any new guidance or information from relevant patient charities
- Make sure the content is UK-specific
- Ensure the language is clear and accessible for patients and the public
- Verify that all hyperlinks are functional and relevant. If a link is broken or outdated, replace it with an alternative. If you're unable to find a suitable replacement, let the editor know.
- Track all edits for the editors to review.

To join the team please email sandra@labmed.org.uk. Your expertise will play a vital role in keeping our content accurate, up-to-date, and accessible for patients.

ANNUAL REPORT FOR 2024

We recently submitted our annual report on LTO activities for last year to the LabMed Board. The headline figures from this included that we had a total number of website hits of 7.4 million, which was an increase of 23% over the previous year. The main driver for this increase was redirected traffic from the NHS App that we were linked to just last year. Clearly, this shows there continues to be the need for LTOL-UK as an independent, easy-to-understand source of information, to help patients make sense of the number stew they might be confronted with when they see their medical records.

WELCOME TO OUR NEW MEMBERS

The association is proud to introduce the following new members who have joined us since the last edition of *LabMed News*. Please extend a warm welcome to:

Larissa Pais, Trainee clinical scientist, Blood Sciences, The Royal Marsden NHS Foundation Trust, London

Carrie Devine, Trainee clinical scientist, Clinical Biochemistry, Royal Liverpool Hospital, Liverpool

Emma Dodd, Trainee clinical scientist, Biochemistry, North Devon Healthcare NHS Trust, Barnstaple

Lydia Ruddick, Principal embryologist, Fertility, Embryology, Cheadle, Manchester

Inesa Iefimova, Specialist biomedical scientist, Biochemistry, Trafford General Hospital, Manchester

Lindsey Taylor, Trainee clinical scientist, Biochemistry, University Hospitals Leicester NHS Trust, Leicester

Iyshwarya Udaya Kumar, Clinical scientist, Blood Sciences, The Royal Marsden NHS Foundation Trust, London

Wing Yee Lai, Student, University of Aberdeen, Aberdeen

Rose George, Trainee clinical scientist, Immunology, University Hospitals Plymouth NHS Trust, Plymouth

Nikolaos Panagiotou, Lab director, Laboratory, Diagnostics 360, London

Rebekah Gilpin, Specialist biomedical scientist, Clinical Biochemistry, Northern Health and Social Care Trust, Antrim

Georgia Carpenter, Trainee clinical scientist, Clinical Biochemistry, NHS Grampian, Aberdeen

Lewis Wickham, Trainee clinical scientist, Clinical Immunology, Cambridge University Hospitals, Cambridge

Christi Ashley-Sing, Trainee clinical scientist, Clinical Chemistry, NHS Royal Bolton Foundation Trust, Bolton

Rahmon Ariwoola, Specialist medical scientist, Histopathology, Beaumont Hospital, Dublin Republic of Ireland

Sneha Roosan, Specialist, Clinical Biochemistry, Mubarak Al Kabeer Hospital, Jabriya, Kuwait

Mert Sanil, Clinical biochemistry consultant, Medical Laboratory, Wellcare Laboratories Ltd, Kyrenia, Cyprus

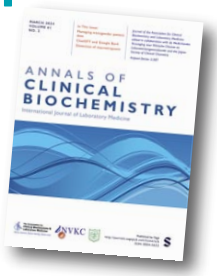
LABMED RESIDENTIAL TRAINING COURSE

We are excited to launch the LabMed residential training course which will take place 19-21 January 2026 in Nottingham. This course has not taken place since July 2023 and places are limited so early booking is advisable. The course is ideal for trainee clinical scientists or clinical pathologists looking to expand their knowledge, or trainees preparing for their FRCPath exams. A wealth of topics will be covered over the three-day period and accommodation and catering is covered within the price. For further information or to book, please visit the website.

CONDOLENCES

It is with regret that we must inform you of the sad news that Professor William Fraser has passed away. Bill joined the Association in 1984 and held a number of roles over the years, including on the Association's Education Committee and as chair of the Scientific Committee (2000-2002). A full obituary will be included in a future edition of LabMed News.

ANNALS OF CLINICAL BIOCHEMISTRY LATEST RESEARCH ARTICLES



Check out these two interesting new articles recommended for reading by the editors-in-chief of the *Annals of Clinical Biochemistry*:

A United Kingdom-wide audit of the laboratory investigation of primary aldosteronism by S Davies, D Cuthbertson, L Ward, W S Wassif, M Gurnell and A Davison; Standardising lipid testing and reporting in the United Kingdom; a joint statement by HEART UK and The Association for Laboratory Medicine by J Kenkre, T Mazaheri, RDG Neely, H Soran, D Datta, P Penson, P Downie, A Yates, K Hayden, M Patel and J Cegla.

Click here to submit your work to the *Annals of Clinical Biochemistry.*

LADMED PODCAST

Life in the Lab, hosted by Kam Chatha, features discussions with individuals in laboratory medicine, clinical science and related fields. In each episode, Kam speaks with a guest about their journey into laboratory work, exploring their background, specialisation and any developments or discoveries they've contributed to. Watch here.

UPCOMING EVENTS IN 2025

- **SWW Meeting and AGM (online) –** 29 May. Click here for further information and to book.
- **NW Regional Audit (online) –** 9 July. Click here for further information and to book.
- **NI Regional Meeting (in person) –** 19 September, Europa Hotel, Belfast
  Click here for further information and to book.

Please take the time to support your regional meetings, especially the in-person events which provide a great chance to network and catch up with colleagues face-to-face. All regional meetings are now provided to members free of charge and online meetings are available to members nationally. Full details on all our events can be found here.

PUBLICATION DATE

LabMed News is published on the 15th of the month. To guarantee publication, please submit your article by the 15th of the preceding month (i.e. 15th May for the June 2025 issue) to: editor.labmednews@labmed.org.uk

We aim to be as flexible as possible and will try to accept articles up to the 1st of the month to be published if space allows. Otherwise they will be held over to the next issue. If we are aware that articles are imminent, this gives us more flexibility and we can reserve space in anticipation. If in doubt, please contact: Gina Frederick, lead editor, via the above email.

TRADE UNION SURVEY: SHAPING THE FUTURE OF OUR ORGANISATION

The Association and the Federation of Clinical Scientists (FCS) National Committee are conducting a survey to determine the future direction of our trade union. This includes a proposal to remove the current rule preventing members from going on strike and a re-evaluation of the name under which we refer to ourselves in local and national forums.

If there is sufficient support for these changes, we will present amendments to our governance documentation at the Annual General Meeting of the Federation on 11 June 2025 for ratification. We strongly encourage all members to participate in this survey and have their say.

The no withdrawal of labour rule

Current rule (Terms of Reference Rule 2):
"Industrial action: Neither the Committee, nor any officer or official of the Federation, nor any grouping of members of the Federation shall be empowered to initiate or be party to the withdrawal of labour of members of the Federation in furtherance of an industrial dispute."

While the FCS can currently take other forms of industrial action – such as working to rule or slowdowns – withdrawal of labour (striking) is not permitted. Amending this rule would make striking an option, though not an obligation.

A survey conducted in 2023 found that 92% of respondents supported action short of withdrawal of labour, while 74% believed the trade union should reconsider its stance on striking.

Legal considerations

Any decision regarding industrial action must comply with existing legislation:

1. **The Strikes (Minimum Service Levels) Act 2023**, which restricts the impact of industrial action on essential services.
2. **Trade Union and Labour Relations (Consolidation) Act 1992** and **Employment Rights Act 1996**, which set out legal requirements for strike ballots:

Have your say

Your input is crucial in shaping the future of our trade union. Please take the time to read more, complete the survey and make your voice heard via the LabMed website.

- A minimum 50% turnout of eligible voters.
- At least 40% of eligible voters must vote in favour.

Failure to meet these requirements could result in legal liability for the Association. Further information is available at ACAS.

Additionally, ensuring the accuracy of membership databases will be crucial, as only full members of the Association for Laboratory Medicine based in the UK qualify for a strike ballot.

If The Strikes (Minimum Service Levels) Act 2023 is not repealed, national-level work will be required to define minimum service levels. If repealed, these levels would be determined locally with guidance from the FCS.

Financial impact of strike action

Strikers forfeit their pay for the duration of industrial action. To estimate individual losses, divide monthly take-home pay by 20.

While some unions maintain a strike fund to mitigate financial hardship, others – including the Chartered Society for Physiotherapy – do not. Establishing a strike fund would require an increase in membership fees. For example, if strike pay were set at £70 per day (as per Unite), covering 1,000 members would cost £70,000 daily, potentially leading to a 20-50% rise in fees.

Other considerations

- **Professional responsibilities:** Members have obligations under the HCPC to protect patients.
- **Personal ethics:** Members should not feel pressured to vote in a particular way.
- **Strategic positioning:** Allowing strike action would align us with other healthcare unions, whereas maintaining the current rule may put us at a disadvantage.
- **Union recognition:** We are not universally recognised as a union across all employers, and work would be needed to address this.

Proposed name change

When the Federation of Clinical Scientists was established, the Association was solely a professional body for Clinical Biochemists and Chemical Pathologists. The FCS provided trade union services for Clinical Scientists in other pathology disciplines. Over time, the Association has expanded to cover the full spectrum of pathology life sciences.

In 2023, the separate Federation-only membership category was closed to new members. All fee-paying individuals now join under a single membership category. As a result, we propose phasing out the FCS name and using the Association for Laboratory Medicine in all forums. Notably, it is the Association – not FCS – that is formally recognised by the Trade Unions Certification Officer.

LABMED POSITION STATEMENT 2025: PATIENT CENTRIC SAMPLING

SOPHIE HEPBURN
Consultant clinical biochemist, NHS Highland

Background

There has been a changing landscape in pathology specimen collection procedures since the COVID-19 pandemic. ISO 15189:2022 encourages continuous improvement in laboratories with a drive towards meeting the needs of patients. The patient is the one who needs the test and yet they often start the process already at a deficit – they require access to healthcare diagnostics. They may rely on public transport to access phlebotomy clinics and take a day out of their schedule to wait patiently for a phlebotomy appointment. We can take the time to listen to what the patient needs.

Patient centric sampling (PCS) allows patients to collect their own samples (with or without assistance) at a site convenient to them. This could include self-collection at home, or attendance at mobile or community collection sites. Sample types that can be self-collected include saliva, dried blood spots (DBS), capillary blood, urine and stool. Several devices are now available for blood collection (DBS or capillary) that make it easy and safe for a patient to collect their own samples.

This approach has already been explored and adopted in the clinical trial space. Clinical laboratories should consider offering this approach to improve access to laboratory services and, where possible, enable health equity.

Self-sampling devices can benefit a number of patient groups, including children, learning disability groups, needle-phobic patients and those living in remote or underserved locations. PCS differs to direct-to-consumer testing (DTCT), tests that an individual can perform themselves and get a result without input from a healthcare provider.

PCS validation and verification

PCS should be undertaken in collaboration with laboratory professionals and other healthcare providers with a system in place to order remote sample collection. Specimen

analysis should then be undertaken in a UKAS-accredited laboratory.

Most clinical laboratory assays have been validated for venous blood testing, so verification is required for the intended use of the assay with non-conventional samples (e.g. capillary blood). Laboratory stewardship covers the total testing pathway and all components should be documented and verified for intended use, including specimen collection, specimen tracking, sample type/volume, sample processing and testing practices. Venous vs capillary concordance must be validated for new analytes if not previously demonstrated for the analytical method of choice.

Laboratory professionals have a duty of care to provide detailed instructions to patients, including information on the purpose of a test, specimen collection methods, possible interferences and the potential risks. In addition, contact information for laboratory personnel should be provided for patient questions and/or concerns.

Pathology reports should identify the primary sample type and accreditation status of the test. Testing needs to comply with GDPR regulations and patient results from PCS should be uploaded to the electronic patient record and reported to the primary or secondary care physician in charge of patient care.

Resource implications

The economics of adding PCS services to the laboratory repertoire need to be considered, including the cost of devices, transport, and environmental impact of single-use devices. This can be outweighed against the reduced wastage of human biological material and reduced sample storage needs. Workflow changes within the laboratory may need to be considered to accommodate the processing requirements of capillary samples alongside routine venepuncture tubes. This may include postal support and changes in manual handling of smaller samples when required.

Patient impact

Involvement of patient groups is essential in setting up a PCS service. PCS can be particularly useful for screening tests, therapeutic drug and chronic disease monitoring. PCS allows patients who might otherwise not have had access to laboratory services to be tested, enabling health equity. However, testing should still be appropriate (the right test at the right time).

We should reimagine the service we provide through the eyes of the patient. The cost and psychological benefits of PCS, including convenience, reduced hospital/GP visits, reduced infectious disease exposure risk, waiting times and other negative healthcare experiences, should be considered.

LabMed position

LabMed recognises the importance of Patient Centric Sampling and supports its implementation in UK laboratory medicine with the appropriate safeguards in place (risk assessments and following of regulatory guidance). Departments should share their experiences, business cases and verification studies to allow wider implementation. PCS enhances patient engagement and access to laboratory services, enabling patients to have autonomy over their own health.

A WARM INVITATION TO MEET AT LABMEDUK25

SARAH ROBINSON

LabMed Director of Events

I am really looking forward to seeing you all at the Bridgewater Hall, Manchester, in June for LabMedUK25. This is such a beautiful and iconic venue in the heart of a city that is close to my own.

Every year that we organise this conference we adapt and evolve in order to meet the needs of our members. This year we asked all members of the association to put forward ideas for sessions and speakers for future conferences in addition to the feedback that we received from conference delegates that attended the conference last year. The response was astounding and we had far too many ideas to implement all at once. The scientific programme this year is made up of these sessions, so thank you to all of those who rose to the challenge. I would encourage you all to have your say for the programme for 2026.

We are also excited to introduce changes to the poster sessions at LabMedUK25 that will help to highlight the variety of excellent work that is occurring throughout our departments. There will be a 'poster of the day' on both Tuesday and Wednesday, voted for by conference delegates through the APP, so make sure you submit your abstracts and your poster PDF to be in with a chance at winning. We are spotlighting the best posters that link into the POCT, Neurology, Immunology and Metabolic Disease themes of the conference and will be selecting authors to give a quick presentation of these during the lunch breaks at the conference. I am looking forward to seeing you all there.

Bridgewater Hall

Bursaries

Here are four ways to access funding:

- **LabMed Regional Bursary**
  apply by 29 April here.
- **LabMed Education Bursary**
  apply by 29 April here.
- **Moira Kaye Education Grant**
  apply if you are attending the Microbiology Training Day here.
- **Freddie Flynn Bursary**
  apply by 22 April here.

For general enquiries regarding LabMedUK25, please contact enquiries@labmed.org.uk

The venue

All LabMedUK25 conference and training day sessions will be held at the Bridgewater Hall, Lower Mosley Street, Manchester M2 3WS, between Monday 9 and Wednesday 11 June 2025. For suggested travel options, including by car, train and local transport, visit our website.

Social events

Welcome evening, Banyan Bar and Restaurant Spinningfields
Conference and Training Day delegates are warmly invited to attend the optional welcome evening on Monday 9 June. Have a complimentary drink between 5.30-7.30pm, chat with fellow delegates and relax before the exciting conference ahead.

Conference reception – Edwardian Hotel
LabMedUK25 conference delegates and invited guests are welcome to attend the conference reception at the end of the first conference day on Tuesday 10 June. Starting from 7.30pm, the event will be held in the Free Trade Hall at the Edwardian Hotel. The evening will begin with a welcome speech and drinks from 7.30pm followed by a hot buffet supper.

SPOTLIGHT ON LABMEDUK25 SPEAKERS

LABMED DEBATE

Spotlight – Ed Wilkes

AI in laboratory medicine: The Emperor's new clothes?

Ed completed his PhD and post-doctoral work at Bart's Cancer Institute, where he developed computational methods for predicting drug response to small kinase inhibitors in cancer models. He went on to train as a clinical scientist in the NHS and is now the Head of Research at Kinomica. His interests primarily lie in predictive modelling, statistics education, systems biology and (phospho-)proteomics.

NEUROLOGY

Spotlight – Nick Armfield

MS, the neuroimmunology lab's role

Nick is a senior biomedical scientist at The Walton Centre for Neurology and Neurosurgery. He gained a BSc (Hons) at Liverpool John Moores University and qualified at Salford Royal biochemistry. Following a specialist role at Liverpool Clinical Laboratories, a MSc at University of Chester and over a decade's experience in NHS laboratories, Nick is now a specialist in neuroimmunology and neurobiochemistry. The Walton Centre Neuroimmunology lab offers insight into neuroinflammation by offering the classical tests oligoclonal bands by isoelectric focussing and CSF index. With the emergence of CSF κ free light chains as a marker of intrathecal inflammation, Nick's recent work has explored the benefits of alternative laboratory markers of intrathecal inflammation. Other professional activities include published and presented works for therapeutic monitoring of ketamine and metabolites.

IMMUNOLOGY

Spotlight – Fadoua El Hiayadi

Optimising patient outcomes in gastroenterology: Point-of-care solutions

Fadoua El Hiayadi is a specialist biomedical scientist with extensive experience in multidisciplinary laboratory sciences, including transfusion, haematology, coagulation and immunology. She has worked in renowned institutions such as Carlos Haya Hospital in Malaga, Spain (2012-2013), and South Hants Hospital (2015-2016), where she worked as a phlebotomist. Currently, she contributes her expertise as a team leader at Southampton General Hospital, focusing on performing advanced laboratory diagnostics and providing clinical support. With a strong academic foundation and years of hands-on experience, Fadoua is committed to advancing healthcare through innovation and excellence in diagnostics.

CURRENT TOPICS IN ADULT AND PAEDIATRIC INHERITED METABOLIC DISEASE

Spotlight – Heather Church

The role of biomarkers in the diagnostic pathway of lysosomal disease

Heather studied biology and chemistry at Goldsmith's College, University of London, graduating in 1987. She then gained a PhD in analytical chemistry from University of Manchester in 1991. Heather worked as a post-doctoral research scientist within the Department of Obstetrics and Gynaecology, University of Manchester from 1991-1999 with a specific interest in cell adhesion and the role of extracellular matrix in human physiology. In 1999 Heather took up the position of clinical biochemist in the Willink Biochemical Genetics Unit, now part of Genomic Medicine, Manchester Foundation Trust with a specialist interest in lysosomal disease. Heather was appointed principal clinical scientist in 2008 and has overseen the introduction of highly specialised laboratory services focussing on the improved diagnosis and monitoring treatment efficacy of pioneering new treatments for patients with lysosomal disease.

BATTERED BRAINS, GERMS AND GENES: TOMORROW'S POCT EMPOWERING ENHANCED HEALTHCARE

Spotlight – Sharman Harris

Genetic POCT – Greater Manchester POCT network experience

Sharman is a consultant clinical scientist and clinical POCT lead at Stockport NHS Foundation Trust. She is also clinical chair of the Greater Manchester POCT Subgroup contributing towards developing the POCT strategy for the network and a member of the North West POCT group. Sharman worked at Betsi Cadwaladr University Health Board in North Wales, before joining the team at Stepping Hill Hospital in March 2021. Prior to this Sharman worked in the North West Region at the Royal Manchester Children's Hospital Willink Unit (specialising in Mitochondrial DNA testing) after completing training at Hope Hospital in Salford. Sharman was chair of the then ACB (Association of Clinical Biochemistry and Laboratory Medicine) Wales region from 2019 to 2021 and was previously secretary of the region from 2015. She was also chair of the All Wales Clinical Biochemistry audit group and North Wales Clinical Biochemist audit lead. Her main interests include point of care testing (POCT), in particular the development of POCT services closer to home and supporting antimicrobial stewardship. Her FRCPath dissertation involved development of a rural community POCT service. Recently she has been involved in setting up the North West and Greater Manchester Acute Respiratory Infection hub POCT pilot and POCT Pathology network group evaluation of genetic POCT with the Genedrive analyser. Sharman has also maintained a keen interest in R&D throughout her career, initially in endocrinology at Hope Hospital in Salford. She represented pathology on the Health Board Research and Innovation committee, being Principal Investigator on a number of studies including for COVID-19 testing. Currently she is Pathology R&I lead at Stockport FT.

COMMON ANALYTES: IS THERE ANYTHING LEFT TO LEARN?

Spotlight – Nuthar Jassma

The impact of accuracy of albumin measurement on clinical decision making

Nuthar is a consultant clinical biochemist, head of the Biochemistry Department at Harrogate and District NHS Foundation Trust and a clinical director of blood sciences departments for a network of three laboratories; Harrogate, Airedale and Bradford. She published over 45 papers and article reviews and over 22 abstract and conference papers. She is known for her interest in harmonisation of postgraduate training across Europe and standardisation of pathology practices within clinical networks. Nuthar has been a member/chair of a number of working groups and committees within the Association for Laboratory Medicine in the UK. She currently chairs the European Federation of Laboratory Medicine (EFLM) Register.

LABORATORY MEDICINE IMPACT ON HEALTH INEQUALITIES

Spotlight – Rue Ball

Results from TransRIHTS: The trans and non-binary reference intervals while on hormone therapy study

Rue graduated as a clinical scientist in 2021. She has worked in routine biochemistry at Synnovis for three years, and during that time has performed audits, research and teaching to improve the care medical laboratories provide to trans and non-binary people. She is co-chief investigator of a forthcoming nationwide study about PSA reference intervals in trans women and non-binary people with a prostate.

FREDDIE FLYNN AWARD

Spotlight – Wiebke Arlt

Steroid metabolomics for personalised diagnosis and treatment

Wiebke Arlt is the director of the MRC Laboratory of Medical Sciences (LMS), one of two intramural research institutes of the UK Medical Research Council. The LMS is dedicated to the investigation of mechanisms underlying cardiometabolic disease and ageing, with a special focus on sex differences. At the LMS, Wiebke leads a multi-disciplinary research group that investigates steroid metabolism and action in health and disease, with a focus on the sex-specific role of androgens in metabolic dysfunction. Wiebke is also an honorary consultant endocrinologist at Imperial College Healthcare NHS Trust with a special interest in adrenal and reproductive disorders. Wiebke's scientific work has attracted major national and international prizes. She was elected Fellow of the UK Academy of Medical Sciences in 2010.

LABMEDUK25 PROGRAMME: MONDAY 9 JUNE

Biochemistry Training Day

9.30am **Effective research design and getting published!**
(shared with Microbiology Training Day)
Speakers: Emma Stevenson, Helen Jopling, Philip Monaghan

11am **Coffee break**

11.15am **Effective research design and getting published!** *continued*

12.30pm **Lunch break**

1.30pm **Subarachnoid haemorrhage and xanthochromia**
Speakers: Emma Stevenson, Sally Hanton

2.45pm **Coffee break**

3pm **Specialist protein assays and interpretation**

3pm **ALP isoenzyme electrophoresis with worked examples**
Vicki Thurston

3.30pm **Lipoprotein electrophoresis with worked examples**
Katie Whitehurst

4pm **A1AT phenotyping with worked examples**
Steve Rimmer

4.30pm **Closing remarks**

Microbiology Training Day

9.30am **Effective research design and getting published!**
(shared with Biochemistry Training Day)
Speakers: Emma Stevenson, Helen Jopling, Philip Monaghan

11am **Coffee break**

11.15am **Medical learning: Radiology and clinical history taking**
Speakers: Naomi Gadsby, Monika Radike, Charlotte Brookfield

12.30pm **Lunch break**

1.30pm **Laboratory topics: Histopathology and mycology**
Speakers: Naomi Gadsby, David Dorwood, Riina Richardson

2.45pm **Coffee break**

3.00pm **Interactive case discussions**
Speakers: Naomi Gadsby, Dominic Haigh, Kate Phillips, Zoie Aiken, Thomas Lamb

4.30pm **Closing remarks**

LABMEDUK25 PROGRAMME: TUESDAY 10 JUNE

9.00am **Welcome from the President**
Speaker: Katharine Hayden

9.15am **International Award Lecture**
Harmonising the post-analytical phase and integrated diagnostics
Speaker: Mario Plebani

9.45am **Coffee break**

10.15am **PARALLEL SESSIONS**
LabMed debate: AI in laboratory medicine: The emperor's new clothes?
Chair: Kamaljit Chatha

AI in laboratory medicine: The emperor's new clothes?
Speakers: Ian Godber and Ed Wilkes

10.15am **Neurology**
Chair: Carrie Chadwick

10.15am **MS, the neuroimmunology lab's role**
Speaker: Nick Armfield

10.45am **Neurofilament light chains tested in a neurology laboratory**
Speaker: Melanie Hart

11.15am **Clinical aspects of the autoimmune nodopathies**
Speaker: Roberto Bellanti

11.45am **Freddie Flynn Award**
Steroid metabolomics for personalised diagnosis and treatment
Speaker: Wiebke Arlt

12.15pm **Lunch and poster spotlight sessions**

12.45pm **Industry sponsored workshops**

2pm **PARALLEL SESSIONS**
Medal Award presentations
Chair: Katharine Hayden

Development of an UPLC-MS assay to measure hydroxycarbazepine, the active metabolite of the anti-epileptic drugs oxcarbazepine and eslicarbazepine acetate
Sally Hanton

Measurement of salivary cortisone by LC-MS, for the exclusion of adrenal insufficiency
Gregory Bulmer

Determination of parathyroid hormone reference interval using laboratory data in a UK paediatric population
Leanne Wherret

Biochemical and novel immunohistochemical markers of steroid resitance in focal segmental glomerulosclerosis
Sara Al Ismaili

Is dysregulated iron homeostasis a risk factor for non-alcoholic liver disease?
Emma Ashley

2pm **Immunology session**
Chair: Catherine Keymer

2pm **Optimising patient outcomes in gastroenterology: Point-of-care solutions**
Speaker: Fadoua El Hiayadi

2.30pm **The clinical impact of therapeutic drug monitoring in inflammatory bowel disease**
Speaker: Zachary Green

3pm **Measurement of anti-drug antibodies in anti-TNF therapeutic drug monitoring**
Speaker: Allan Dunlop

3.30pm **Coffee break**

3.50pm **Plenary Lecture**
Chairs: Katherine Hayden, Tricia Ravalico

Transformative best practices of healthcare excellence as recognised by the UNIVANTS of Healthcare Excellence Award Program

Speakers:
Pilar Gonzalez Romero and Maria Teresa Concepcion Masip
Nobuharu Tamaki and Maki Furuya
Vincent Sapin and Jeannot Schmidt

The above speakers will be presenting their global best practices from the 2025 UNIVANTS of Healthcare Excellence awards.

INTERNATIONAL AWARD LECTURE

Mario Plebani

Mario Plebani is honorary professor of clinical biochemistry and clinical molecular biology at the School of Medicine of the University of Padova; honorary professor at the University of Buenos Aires (Argentina), Facultad de Farmacia y Bioquimica and adjunct professor at University of Texas; President of the European Federation of Clinical Chemistry and Laboratory Medicine (EFLM); member of the Executive Board of the International Federation of Clinical Chemistry and Laboratory Medicine; editor-in-chief of Clinical Chemistry and Laboratory Medicine (CCLM) and co-editor-in-chief of Diagnosis (Dx).
He has published 1,550 full papers, more than 900 abstracts and several books and book chapters, with an h-Index (HI) of 125.

LABMEDUK25 PROGRAMME: WEDNESDAY 11 JUNE

9.00am **Laboratory Medicine Foundation Award Lecture**
Medical freakonomics
Speaker: Eric Kilpatrick

9.30am **PARALLEL SESSIONS**
Current topics in adult and paediatric inherited metabolic disease (MetBioNet session)
Chair: Ann Bowron

9.30am **Update on NHS Metabolic Genomics Services**
Speaker: Nicole Gossan

10.00am **The role of biomarkers in the diagnostic pathway of lysosomal disease**
Speaker: Heather Church

10.30am **Clinical phenotype, diagnosis and management of sitosterolemia in adults**
Speaker: Elaine Murphy

9.30am **Battered brains, germs and genes: Tomorrow's POCT empowering enhanced healthcare**
Chair: Fiona Riddoch

9:30am **Genetic POCT – Greater Manchester POCT network experience**
Speaker: Sharman Harris

10:00am **AMS for urinary tract infections in the community; a role for point-of-care testing?**
Speaker: Philip Turner

10:30am **Traumatic brain injury POCT**
Speaker: Virginia Newcombe

11am **Coffee break**

11.30am **PARALLEL SESSIONS**
Common analytes: Is there anything left to learn?
Chair: Greg Bulmer

11.30am **The impact of accuracy of albumin measurement on clinical decision making**
Speaker: Nuthar Jassan

12.00pm **Should a single reference interval for parathyroid hormone (PTH) be used in adults, or are age-specific PTH reference intervals necessary?**
Speaker: Tejas Kalaria

12.30pm **Folates and folic acid - Laboratory assessment and mandatory fortification**
Speaker: Nathan Timbrell

11:30am	**Laboratory medicine impact on health inequalities** Chair: Alexandra Yates
11.30am	**Laboratory social science: Building diversity, equity and inclusion into your laboratory** Speaker: Karen Perkins
12.00pm	**Results from TransRIHTS: The trans and non-binary reference intervals while on hormone therapy study** Speaker: Rue Ball
12.30pm	**Estimated GFR and ethnicity: Past, present and future directions** Speaker: Rouvick Gama
1pm	**Lunch and poster spotlight sessions**
1:30pm	**Industry sponsored workshops**
2pm	**LabMed and FCS Annual General Meetings**
3pm	**Impact Award** Speakers: Rachel Marrington and Finlay MacKenzie
3:30pm	**Clinical Cases** Chair: Danielle Freedman
5pm	**Closing Ceremony and Awards**

LABORATORY MEDICINE FOUNDATION AWARD

Eric Kilpatrick

Eric Kilpatrick is a consultant in chemical pathology at Wythenshawe Hospital in Manchester. He is also an honorary professor of clinical biochemistry at Hull York Medical School. He is a past president of the Association for Clinical Biochemistry and Laboratory Medicine and previous Chair of the Science Committee of the European Federation of Clinical Chemistry and Laboratory Medicine (EFLM). He has a long-standing research interest in laboratory medicine and diabetes and has published over 200 papers on these and other topics.

GREEN CHAMPIONS

-70°C IS THE NEW -80°C

Clinical laboratories use ultra-low temperature (ULT) storage to preserve temperature-sensitive biological samples and reagents, ensuring their long-term viability and integrity for research, clinical studies and other applications. This process is incredibly energy intensive, with freezers set to -80°C shown to use 16-22 kWh per day. To put this into context, the average daily electricity use of a standard home is only 8-10 kWh. Numerous publications suggest that increasing the temperature of ULT freezers from -80°C to -70°C significantly reduces energy consumption and increases freezer lifespan, whilst still safeguarding the long-term integrity of clinical samples and other materials.

CALLUM GOOLDEN

Clinical scientist (virology) – Manchester Medical Microbiology Partnership (MMMP); and Association for Laboratory Medicine Green Champion

The Freezer Challenge

"The Freezer Challenge" is a free international competition co-ordinated by not-for-profit organisations MyGreenLab and the International Institute for Sustainable Laboratories (I2SL) with the aim of promoting best practice in cold storage management. The competition runs from January to July 2025 and claims to have resulted in 76.5 million kWh of energy savings since its conception in 2017. Both academic and clinical labs are encouraged to sign up and are provided with a selection of carefully crafted resources to assist laboratory teams to optimise their practices. Results of the programme are uploaded via an online score sheet, with points awarded for various actions. Select laboratories demonstrating the greatest efficiency saving are eligible for prizes.

Infographic of Freezer challenge components.
Image from http://freezerchallenge.mygreenlab.org/

Our experience

As a large tertiary referral centre, MMMP Virology receives and processes a vast number of clinical samples for both virological diagnoses and public health surveillance. This volume of specimens necessitates substantial ULT storage capacity which is a major contributor to the overall energy consumption of the service.

After reviewing the large body of published evidence and obtaining consensus agreement, the decision was made to evaluate the potential switch of all ULT freezers to -70°C. As part of this small project, the annual electrical efficiency, financial cost and greenhouse gas savings would be estimated.

The electrical consumption of select freezers was measured at -70°C vs -80°C for seven days using a plug-in power meter. The obtained value was extrapolated to estimate annual electrical consumption and efficiency savings over a 12-month period. Annual cost savings were calculated using the local electricity tariff. The potential carbon savings were estimated using the UK Government GHG Reporting Conversion Factors.

By switching 19 freezers from -80°C to -70°C we were able to demonstrate potential electricity savings of 13,728 kWh (19.6%), a cost saving of £3,020 and an annual CO_2e saving of 2842.49 kg CO_2e (equivalent to 12,291 road miles in a small petrol car).

Conclusion

It is clear that the vast majority of clinical laboratories still have huge work to do to ensure the environmental sustainability of their services. One relatively minor, but significant change labs can make is to optimise their ULT storage to reduce energy use. Resources are readily available via the Freezer Challenge website to help guide those unsure what practices to adopt or how to implement them. The Freezer Challenge website also houses a repository of evidence which provides assurance that the change in practice will not negatively affect the integrity of high-value clinical specimens and laboratory reagents.

Darren Livsey, virology equipment officer next to one of the freezers we have successfully adjusted to -70

Our findings at MMMP align well with published data and will hopefully provide the impetus for other departments within the Division of Laboratory Medicine, and perhaps readers of this article, to adopt similar changes in their cold storage.

References

1 The Freezer Challenge. Available at: http://freezerchallenge.mygreenlab.org/

2 -70°C database. Available at: https://freezerchallenge.mygreenlab.org/resources?showResource=negative-seventy-c-database

Plug-in power meter. These devices are simple to operate and can be cheaply purchased from popular online marketplaces.

HOW YOU CAN INTRODUCE MORE AUTOMATION INTO YOUR LABORATORY

LORENZ BECKER
Senior clinical scientist, Royal Bolton Hospital; and

RUE BALL
Principal clinical scientist, Synnovis Analytics

From the Spinning Jenny all the way to modern smartphones and computers, automation is the process of replacing cumbersome manual processes with machine-driven equivalents, minimising or removing human assistance. Applied correctly, automation gives humans more time and space to focus on things that require human attention. Automation has already replaced manual chemistry assays with standardised auto-analysers that host dozens of assays. Yet despite the heavy impact of automation on clinical laboratories, in the authors' experience, laboratories are still very 'analogue' despite their digital and automated components, because they rely on people to perform actions that could be performed faster and more reliably by a computer. There is untapped potential for laboratory staff to automate cumbersome duties and so contribute to the digital shift envisioned for the future of the NHS.

Laboratory staff who try to automate more of their work do face barriers. Common points of friction are concern over the safety of automation, maintenance of the automation tools and cybersecurity concerns over external software. However, there are also opportunities. Most laboratory staff have foundational IT skills that can be further developed, and many of the skills needed to program a computer overlap with those needed to write a SOP, such as breaking down a task into steps and describing them unambiguously. Widely available software (such as Microsoft Excel) can be used for automation, and most organisations will allow you to install automation tools such as Python (https://www.python.org/), R (https://www.r-project.org/) and Visual Studio Code (https://code.visualstudio.com/), all of which are available free of charge.

There is a shortage of people who can teach advanced IT skills, but some free training is available, such as through the NSHCS Clinical Data Science Programme, or the NHS-R Community, in addition to common

resources such as YouTube and StackOverflow. In the authors' experience, formal training is not essential to learn automation and most of the authors' IT skills were acquired by attempting to automate necessary and predictable but tedious everyday tasks. We will give some examples of how the authors have automated everyday laboratory tasks, to illustrate how you too could introduce more automation into your laboratory.

Automation using Excel formulas

Learning to use a wider variety of formulas and functions in Microsoft Excel is an accessible way to automate some tasks. For example, Rue automated most of the data analysis for a project to compare the effect of ALT interference on two different ammonia methods. This required cross-tabulation of results, a common and time-consuming task when done by hand. Instead, Rue exported the results from the LIMS as Excel files, then used Excel's INDEX, MATCH and VLOOKUP functions to do the cross-tabulation. They helped Excel to plot the results by removing the units using the text functions LEFT and FIND. The online Microsoft documentation is a good place to look for instructions to use these functions.

Automation using programming languages

Programming languages allow you to automate a wider variety of tasks than are possible with Excel formulas. However, their disadvantages are that they are more complicated and require more practice to become competent. Excel itself contains a programming language – Visual Basic for Applications (VBA). One example of using VBA is when Lorenz used it to automate inserting screenshots into IT testing documentation, a process that would have taken hours if done manually.

R is a programming language designed to analyse and present data. It is most useful for calculating statistics or visualising data that would be slow or impossible to do in Excel. For example Rue used it to create all of the tables and figures in an *Annals* paper about a national audit (https://doi.org/10.1177/00045632231195484). Good places to start learning R are the NHS-R Community's free workshop 'Getting started with R and RStudio' (https://nhsrcommunity.com/getting-started.html), or the free book Hands-On Programming with R (https://rstudio-education.github.io/hopr/).

Python is a more general-purpose programming language that can be used to analyse data, but it is also particularly good at interacting with other programs, like a LIMS, thanks to the plentiful reusable code written by other people to help you (Python calls these 'packages'). For example, Lorenz has used Python to connect to and test the order communication system NPEx and the TelePath LIMS (https://github.com/LKBecker/ProfX).

Artificial intelligence

Note that we have not given any examples of automation using the "artificial intelligence" (AI) products that have been marketed since late 2022, which promise enormous ease of use for an improbably wide breadth of problems. This is because these products are very vulnerable to making things up, a phenomenon called "hallucination". If their output is accepted without critical revision or oversight, their hallucinations may lead to clinical or operational errors. This makes them unhelpful for most laboratory tasks, where it is essential for the answers to be reliable.

Whether you're just starting to use formulae in Excel, or you are an experienced programmer, automation has the potential to save you time to do other parts of your job that require human attention. We hope our experiences can help you make better use of automation in the future.

LABMED TRAINEES/ FREDDIE FLYNN DAY

On 14 November 2024 the LabMed Trainees/Freddie Flynn Day was hosted at the Royal College of Pathologists in London. Trainees from across the country working in laboratory medicine at pre-consultant level attended and provided a valuable opportunity to explore some key topics in the field, share knowledge and network with peers.

Morning session

After registration and welcoming, Ian Godber opened the day with an overview of the long-term LabMed strategy. Dr Godber outlined key areas of focus and highlighted several useful resources available that we could access as trainees to support our career progression.

Next, attendees participated in an engaging interactive session on rare and unusual samples received in the medical laboratory. This was an enjoyable and challenging task with samples ranging from those that had not been centrifuged correctly, to those that had been stored at the wrong temperature, and further unusual samples that many of us had not come across before. This highlighted several common odd samples to look out for and highlighted the importance of being vigilant when handling atypical samples. We also completed a quiz on 'common' medical abbreviations, which proved to be quite the challenge with many abbreviations having multiple meanings. This was quite thought-provoking and made the point of how abbreviations can sometimes be unclear and ambiguous in laboratory test requests.

JACOB BETTS

Trainee clinical scientist (biochemistry), Derriford Combined Laboratory, University Hospitals Plymouth NHS Trust

Annie Cook

Kevin Deans delivered an insightful talk from an examiner's perspective on the FRCPath exams, in which he broke down the components of the exams, offering valuable guidance on preparation and strategies for approaching questions. As a first year STP trainee in clinical biochemistry, this was quite daunting, however it was helpful to gain an understanding of what lies ahead and how I can prepare to get there.

The morning session was tied up with presentations from trainees in laboratory medicine. This included a case presentation on paediatric Addison's disease, as well as discussion on testing and diagnosis of multiple myeloma. We were also taken through an interesting case of microbiological testing, relating to a patient who contracted an infection from a common microbe found in the oral microbiome of their cat. This was a fantastic opportunity for trainees to share work, receive feedback and stimulate discussion in a supportive and friendly environment.

Afternoon session

After a lunch break and an opportunity for networking with colleagues, the Freddie Flynn Lecture was delivered by Jai Cegla on the fascinating topic of lipoprotein(a) (Lp(a)) testing. Dr Cegla discussed the rationale for Lp(a) testing, with reference to the Lp(a) risk calculator and the use of this to determine risk of heart attack or stroke. They also explored the idea of more widespread Lp(a) testing, as well as the management of people with elevated Lp(a) and how this can be treated.

This was followed with a captivating talk by Peadar McGing on the topic of atypical fluids, covering fluid types such as pleural effusions and ascitic fluid. Dr McGing emphasised the importance of these samples in diagnostics and also shared some useful pre-analytical considerations relating to these samples, as they are not easily repeatable, compared to blood and urine.

The final talk of the day was given by Stephen Morley, who discussed the laboratory requirements and compliance for releasing samples to the police or coroner. Given the use of laboratory sample testing in recent court trials and the fact this is not a routine occurrence, the talk was most helpful in how to navigate sample release with an emphasis on the protocols and best practice that should be followed.

This event was a fantastic opportunity to hear such insightful talks, gain a wider appreciation for the repertoire of laboratory medicine and to network with my fellow trainees. A special thanks to Annie Cook, Monika Jankute and Kathryn Price from the Trainees' Committee for their fantastic organisation, all the speakers for their informative presentations and the Royal College of Pathologists for hosting this event. I look forward to attending the next Trainees' Day in November this year.

Harry Cobb presented an interesting case of adrenal insufficiency

TRADITIONAL AND EMERGING ROLES IN CLINICAL MICROBIOLOGY

IJEOMA OKOLIEGBE

Clinical scientist, Department of Infection Prevention and Control, Aberdeen Royal Infirmary

Healthcare Science Week is a time to celebrate the expertise, dedication, innovation and invaluable contributions of healthcare scientists to modern medicine. As in previous years, the celebration, which ran from 10-16 March, was a unique opportunity to highlight the invaluable contributions of healthcare scientists in driving world class innovation, improving patient outcomes and ultimately supporting the healthcare systems. The 2025 annual celebration offered the opportunity to mark another year of progress and resonate even more with the evolving roles developing within our profession. The week-long celebration was designed to embrace and raise awareness of the diverse (>50) scientific specialisms and professional groups which make up the healthcare science workforce. In microbiology, clinical scientists make up the healthcare science workforce where they play a critical role across the entire spectrum of patient care, diagnostics and public health.

Traditionally, clinical scientists play an integral role in patient management where they provide rapid and precise diagnostic information. In emergencies such as sepsis or severe infections, prompt and precise diagnostic information provided by healthcare scientists is essential for making crucial, life-saving decisions. This is carried out as a collaborative approach within multidisciplinary team discussions due to the complexity of these cases. During these discussions, the clinical scientists consider the patient's history, the potential for sample contamination and the clinical symptoms when interpreting results to ensure laboratory results hold significant clinical relevance, while directly impacting treatment decisions. Therefore, by engaging in clinical discussions and providing further insights during case discussions, clinical scientists assist clinicians in comprehending complex patient presentations. This collaboration fosters trust between the laboratory and clinical services, ensuring that diagnostic data is not viewed in isolation but as a crucial piece of the overall patient puzzle during management.

In the laboratory, clinical scientists play a crucial role in the evolution of testing methods during evaluation, verification and validation of new tests used in clinical diagnostics. In recent times, diagnostics have progressed from conventional culture techniques to include advanced technologies such as polymerase chain reaction (PCR) including single/multiplex PCR, next-generation sequencing (NGS), whole genome sequencing and mass spectrometry. These techniques improve pathogen detection, enhance the understanding of antimicrobial resistance and shorten turnaround times which are pivotal in managing acute patient care. The clinical scientist role is pertinent in the implementation and audit of these clinical diagnostics, especially with the introduction of the updated ISO 15189:2022 – Medical Laboratories – Requirements for quality and competence standard. This is a risk-based patient-focused standard which is designed to ensure the risk to patients is central to the ethos of the laboratory's quality management design and processes.

A quality management system is the bedrock of laboratory accreditation. The quality of laboratory results is maintained through stringent quality control processes. Clinical scientists ensure that all diagnostic tests and treatments meet regulatory standards and are both safe and effective. Harnessing their expertise in designing, implementing and interpreting scientific methods, they play an integral role in quality assurance where they contribute to developing robust protocols which meet regulatory standards and also drive innovation in healthcare. Therefore, in addition to the traditional role, an emerging role for clinical scientists in quality assurance is the development of validation protocols for new technologies such as whole genome sequencing, metagenomics and for the syndromic approach in clinical diagnostics.

Beyond routine diagnostics, clinical scientists engage in research aimed at understanding pathogens and developing knowledge on the control of pathogens. Traditionally, clinical scientists can be found in public health microbiology where they play a crucial role in public health initiatives by analysing epidemiological data, monitoring disease trends and providing policy recommendations. By collaborating with epidemiologists and healthcare administrators, clinical scientists insights contribute to the development of surveillance programs and guide targeted public health responses.

In recent times, clinical scientists have an emerging role in the infection prevention and control teams where they conduct ongoing monitoring of microbial populations which helps in early detection of outbreaks and the tracking of antibiotic-resistant strains. Similarly, the use of the laboratory's data is essential for developing effective infection prevention strategies. By identifying trends in pathogen resistance and prevalence, clinical scientists collaborate closely with infection control teams to enhance cleaning protocols, isolation measures and antibiotic stewardship programs. This proactive approach is essential in curbing healthcare-associated infections. Indeed, advancing technologies which the field of microbiology is set to benefit further from are the advancements in genomic sequencing, machine learning and bioinformatics. These innovations promise to unlock deeper insights into microbial behaviour and resistance mechanisms, paving the way for more personalised and effective therapeutic strategies and understanding of outbreak factors. Thus, as technology evolves rapidly, so does the need for continuous professional development. Clinical scientists must acquire new skills in data analytics and computational biology to remain effective. Investment in education and training is

crucial to ensure that the laboratory workforce is well-prepared for future challenges and roles.

Celebrating Healthcare Science Week was also a moment for self-reflection. Over the years, I have observed major progress in diagnostic technologies and have experienced how our responsibilities are growing in new roles. The joy of being part of patient care, taking part in innovative research and getting involved in quality improvement projects keeps me motivated. The culmination of the celebration was the Scottish Chief Scientific Officer (CSO) Healthcare Science Awards 2025 virtual ceremony which was hosted by the Scottish CSO Catherine Ross. Professor Ross highlighted the tough competition for this year's award as the number and calibre of nominations were exceptional. She further stated that the commitment and dedication to healthcare science and drive to improve the health of Scotland's population shone through in all the supporting statements that were submitted to the judging panel this year. Similarly, Jeni Minto (MSP Minister for Public Health and Women's Health) emphasised that every nomination represented the highest standard of practice in healthcare science, while Neil Gray (Cabinet Secretary for Health and Social Care), in a recorded message, offered his special congratulations to the nominees, those shortlisted and the award winners.

He spoke about how the work performed by healthcare scientists is vast in scope and complexity and that this is an opportunity to recognise their exceptional achievements throughout the last year. These messages filled my heart with gratitude when I was shortlisted for two awards and won the category of "Quality in Action".

Looking ahead, I am confident that the future is promising. With ongoing integration of digital health solutions, emerging roles and new clinical diagnostic technology, clinical scientists are well-positioned to drive innovations that will benefit not only individual patients but also the broader community. Our commitment to excellence, research and continuous improvement ensures that healthcare science will remain at the forefront of medical progress. We will continue to celebrate not only our technical contributions but also the collaborative spirit and relentless pursuit of excellence that defines our profession. In a rapidly changing world, healthcare scientists remain a cornerstone of modern medicine driving improvements in patient care, advancing research, and safeguarding public health for generations to come.

CLINICAL IMMUNOLOGY FRCPATH TRAINING DAYS

RACHEL DALE
Senior clinical scientist, Immunology, Addenbrooke's Hospital

The clinical immunology training days for medics and clinical scientists preparing for FRCPath exams are a collaborative effort from immunology teams at regional hospitals, which are run two to three times a year and are facilitated by the British Society for Immunology and Association of Clinical Pathologists. The most recent training days, held on 23-24 January, were hosted by Ania Manson and Matt Coles, consultant immunologists at Addenbrooke's Hospital, Cambridge. The training days were well attended by both medics and clinical scientists from across the UK and Ireland.

Professor Coles delivered a series of fascinating talks on a variety of topics covering monogenic causes of systemic lupus erythematosus, an introduction to genomics for the clinical immunologist, and NFκB signalling pathways in health and disease. He somehow managed to make the hugely complex NFκB pathway understandable through using illustrative examples of inborn errors of immunity that arise from defects along the pathway.

Two presentations were specifically aimed at preparing candidates for the FRCPath Part 2 Oral exam. In the first talk, consultant immunologist Dr Thaventhiran gave general advice on how to prepare for the 'recent advances' viva question, namely to be abreast of the recent literature to the level of being able to knowledgeably discuss with a patient, any questions they may have about their condition and its management.

The examiners will be looking for the candidate's ability to apply first principles of fundamental immunology and come up with a plausible explanation.

The second talk was specifically tailored towards how to approach viva question three: Laboratory troubleshooting, and was delivered by me (clinical scientist), Victoria Barnard (laboratory manager) and Dr Manson (clinical lead for the laboratory). Using a real-life example of an assay failure, we talked through a systematic approach to root cause analysis, risk assessment, corrective and preventative action, and the importance of clear communication with key service users. Whilst it felt a little like we were publicly confessing our laboratory issues, the audience (in particular the clinical scientists!) were able to empathise and appreciate the systematic and safe approach we took to dealing with the problem.

Other topics covered by experts in the field included systemic lupus erythematosus, chronic granulomatous disease, TB, food allergy, monogenic susceptibility to mycobacterial infection, STAT3 signalling, and a series of paediatric immunology vignettes covering 22q11 deletion syndrome complicated by Omenn syndrome, newborn screening for severe combined immunodeficiency, Wiscott Aldrich syndrome and CTLA4 haploinsufficiency.

Overall, it was a brilliant set of training days covering a breadth of topics in immunology which were relevant not only for exam preparation but also for general practice as a clinical scientist in a regional immunology laboratory. I really enjoyed the opportunity to present to my peers and colleagues and our talk stimulated ongoing discussion over lunch. Attendance at these training days is free for members of the British Society for Immunology. For more information visit their website here.

EVER WONDERED WHAT AN FRCPATH LEAD EXAMINER DOES?

Calling all consultant immunologists (scientist or clinician)! Are you helping as an examiner of the Royal College of Pathologists exams? Have you ever wondered what the lead examiners do, or what it involves? This article is for you! And if you have passed the exam and are not yet an examiner, read on…

RACHEL WHEELER

Lead examiner for the Part 2 Practical Exam in Immunology; and consultant clinical scientist in immunology, South West London Pathology, St George's University Hospitals NHS Foundation Trust

I have been lead examiner for the Part 2 Practical Exam in immunology since the latter half of 2020 alongside Zoe Adhya. Taking this on during the COVID-19 pandemic certainly came with its challenges and a very steep learning curve but we have found it a rewarding experience. We are now looking to recruit our successors. We still have more than a year to go and would like to be able to work alongside our successors for a smooth and straightforward transition.

How does the immunology FRCPath exam work?

The three parts of the exam (Part 1, Part 2 Practical, Part 2 Viva) are very different in terms of what is involved in creating and running the exam. This article is only about the practical exam.

There are two exam sittings each year – in spring and autumn. For each sitting, the lead examiner for immunology, Sofia Grigoriadou, assigns a team of examiners to the practical exam approximately six months before the exam. All consultants in immunology, scientists and clinicians are expected to start being an examiner one year after completing the FRCPath exam, initially helping with the Part 1 written exam and then the Part 2 components. For the practical exam, the examiners are each responsible for writing a station (there are six stations in the practical exam), assigning pass marks for all stations, marking two stations and discussing the final outcomes.

What does the practical exam lead examiner do?

The role of the lead and deputy examiners for the practical exam is to deliver a successful exam – six stations of questions that cover the breadth of the curriculum, delivered in a format that presents material clearly to the candidates, that effectively test whether candidates have sufficient knowledge to be a consultant in immunology. To do this, we create the schedule for

delivering the practical exam, outline the topics to be in each station (we have a rolling calendar for this), assign tasks and coordinate the examiner team, review the stations to get them exam ready, contribute to the marking, review the collated marks, finalise the results and write a final report on how the sitting went.

This may sound daunting, but you will learn to do this alongside us. It takes time to learn what makes a good exam question – we learn something new every sitting, but I have found this process in itself fascinating. Questions that seem straight forward when written are then interpreted completely differently by candidates under exam conditions in ways that we just didn't expect. This is where our question bank is useful because we can improve questions for future sittings.

Why should I consider being a lead examiner?

Being a lead examiner is a real privilege; the exam is one part of the gateway through which candidates must pass in order to become a consultant. The role therefore sets the standard of lab knowledge required for consultants. In my opinion, this has become increasingly important as medical trainees spend less and less time in the laboratory. I have found it very rewarding to create an effective exam that reflects current laboratory practice. In addition, it is an insight into each group of candidates – where they are at in their knowledge and understanding. It is also an opportunity to contribute to the national conversation about training – whether trainees are getting enough of the right experience, particularly in the HSST (scientist) and new ACLI (medical) training programmes. It is also an opportunity to practice your leadership skills in a rather non-conflicting environment outside the NHS.

Being involved in the exam contributes to my own learning – it is a great way to keep my knowledge up-to-date and refreshed. I should mention at this point that this activity is rewarded with a large number of CPD points, as well as plenty of reflective learning opportunities. It has also improved my leadership skills, working with teams of consultants and the College team to create and deliver the exam, as well as expanding my professional network. I now know many of the immunology consultants from around the UK and Ireland.

What's the catch?

The hard reality is that this work is done in my spare time. Surveys of my fellow examiners suggest that almost all examiners are doing this in their spare time too. The role is unpaid and to date the only recognition of this by the College is offers to write letters of support to heads of department. However, as the clinical lead for my own department, I know that in our department at least, it is not a lack of will but an overwhelming workload that prevents consultants being given dedicated time to deliver the exam.

So why did I take on this role? I wanted to do my bit for our immunology community; I wanted to promote high quality laboratory standards; I know that without this essential process, trainees cannot complete their qualifications and join the consultant workforce. Someone has to do this work, so why not me?

I have found it a privilege to work with teams of my fellow consultants from across the UK and Ireland. Although this felt daunting at first, I was met with support and a willingness to work together. There is the added benefit of being able to set the schedule. The lead and deputy examiners agree the exam date (within the College exam window) and set the deadlines for each step of the process, making it slightly easier to juggle the work alongside everything else.

My personal view

I personally think that it is essential that the lead examiner for the practical exam is a

consultant clinical scientist. We work full time in the lab, though our individual roles may vary, and this really is our bread and butter. However, it is equally important that the deputy lead examiner is a clinician to ensure the content is appropriate for clinicians too. There is considerable discussion required to create an exam that tests the candidates' laboratory knowledge and ability to apply that knowledge to clinical scenarios, in a way that is appropriate for both scientists and clinicians.

Who can apply?

You need to be a consultant in immunology. You need to have completed the FRCPath exam, including the written component and you should have been an examiner for at least one part of the exam already. In terms of skills, it helps to have a good eye for presentation and be comfortable working with Word, Excel and Powerpoint.

What can I expect?

Other than the undying gratitude of the entire Immunology community? Initially, you would meet with myself or Zoe to run through the whole process in detail. You would also meet with the other lead examiners. You would then work alongside me and Zoe through at least the next two sittings helping to deliver the exam and learning the ropes.

I'm not even an examiner yet

If you have passed the exam, please contact Sofia Grigoriadou or myself to sign up as an examiner. It comes with full training, loads of CPD points and keeps your knowledge refreshed. You don't have to be a member of the College and we really need everyone to help out to deliver this crucial part of the immunology training pathway.

How do I find out more?

If you are at all curious, please contact me to chat about it. If you are not eligible but have any questions about helping with the exam, please contact me too. I can be contacted by email on rachel.wheeler@stgeorges.nhs.uk or call me on 0208 725 5106.

I REMEMBER WHEN ...

THE USE OF EPONYMS IN CLINICAL BIOCHEMISTRY

CHARLES VAN HEYNINGEN

Eponyms are commonly used in medicine and science and a recent study has identified >300 eponyms in clinical biochemistry with 97 in common use on PubMed. Their use has been declining over the last half century and a debate continues for and against abandoning them. It is argued that they are no longer appropriate because they lack scientific accuracy and cause confusion, whilst others believe they are a colourful reflection of medical history and provide a convenient short hand for the professions.

Here are some well known eponyms in my specialty, originally from the 19th and 20th centuries.

The citric acid cycle or sometimes named 'Krebs cycle', was identified in 1937 by Hans Krebs and W. A. Johnson working in Sheffield and for which Krebs received a Nobel Prize. Krebs was a German-British biochemist and physician and was a pioneer scientist in the study of cell respiration.

The Van Den Bergh reaction is a chemical reaction used to measure bilirubin and was pioneered by the Dutch physician A. A. H. Van den Bergh (1869-1943). In 1916, he found that two forms of bilirubin could be distinguished and that these correspond to two types of jaundice, the 'liver form' and the 'blood form'.

King-Armstrong units, first used in 1954, are an obsolete measure of blood alkaline phosphatase enzyme activity. The units were named after Canadian born biochemist Earl Judson King (1901-1962) who, when at the Hammersmith Hospital in London in 1953, founded the Association of Clinical Biochemists.

Bence Jones protein is a monoclonal immunoglobulin found in urine in multiple myeloma and named after Henry Bence Jones (1813-1873), a chemist and physician at St George's Hospital in London. He described this protein in 1848 as "a new substance occurring in the urine of a patient with *mollities ossium*".

The Jaffe reaction is a colorimetric method used to determine creatinine levels in blood and urine. It is the oldest method in clinical laboratories still used today. The method was described in 1886 by Max Jaffe, a 19th-century German biochemist, pathologist, pharmacologist and professor of medicinal chemistry.

Maud Menten (1879-1960) a Canadian doctor and chemist, together with German biochemist Leonor Michaelis (1875-1949), introduced the Michaelis-Menten equation in 1913, advancing the field of enzymology by relating enzyme reaction rate to substrate concentration. She was one of the first Canadian women to qualify in medicine and because women were not able to undertake research in Canada at the time, she moved to Germany to work with Michaelis.

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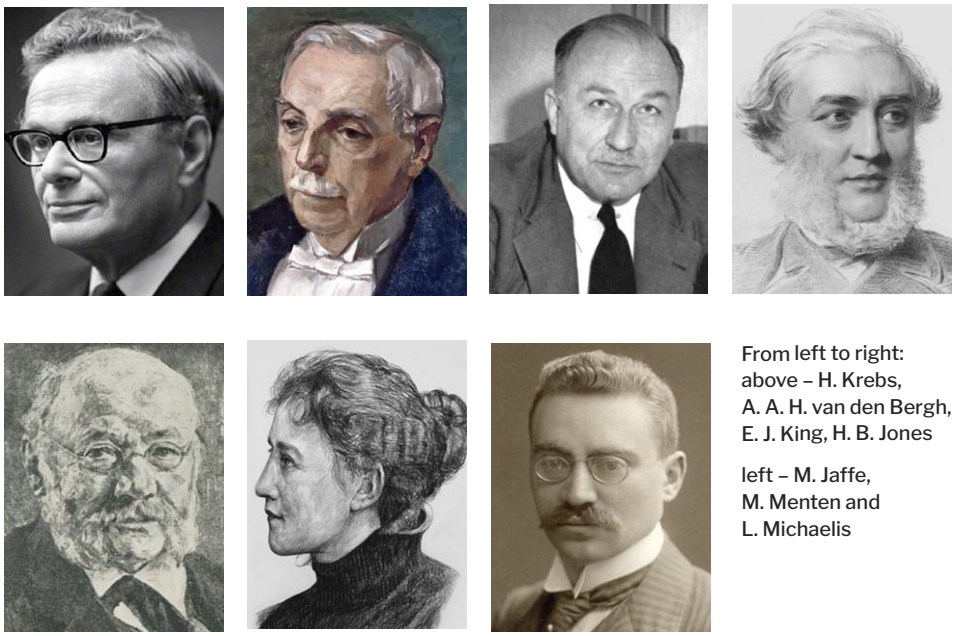


From left to right: above – H. Krebs, A. A. H. van den Bergh, E. J. King, H. B. Jones

left – M. Jaffe, M. Menten and L. Michaelis

HM (70) 50 – BACK TO THE FUTURE!

MIKE HALLWORTH

Retired consultant clinical scientist, Royal Shrewsbury Hospital

Of all the paperwork that spewed out of the Department of Health and Social Security (DHSS, as it was then) in 1970 there can't be much that's still relevant over 50 years later, but Health Memorandum (70) 50 – HM (70) 50 to its friends – definitely qualifies. Released in August of that year, it sets out to "make suggestions for the more efficient and economical organisation of hospital laboratory services"[1] and was a vital document for advancing our profession in the UK (OK, England and Wales – don't write in!) in the latter part of the 20th century.

It began by defining the chief functions of hospital laboratory services, which is worth reproducing as an excellent blueprint for what laboratory medicine is all about:

"Generally, to provide a service of laboratory medicine [sic – even in 1970!] for a community, to meet hospital, local health authority and general practitioner needs. This will require the development of efficient and agreed management practices in the laboratory, in order to provide the fullest possible range of services consistent with agreed priorities and available funds and resources, and, at the same time, firm control of unnecessary demands from any source. (…)

In particular:

i. To provide a consultant advisory service, supported by adequate scientific diagnostic facilities, in the laboratory, at the bedside, in the out-patient department and in the home, covering all aspects of laboratory investigation including the interpretation of results and advice on further appropriate investigations.

ii. To meet requests for laboratory investigations either locally or by referral to specialist laboratories, and to do this as speedily, efficiently and economically as possible.

iii. To monitor individual patients when requested and provide laboratory control of therapy where appropriate.

iv. To collaborate in the development, study and laboratory control of new methods of treatment.

v. *To provide laboratory facilities for, and advice on, approved research projects undertaken by clinicians, etc.*

vi. *To undertake fundamental or applied research on pathology problems.*

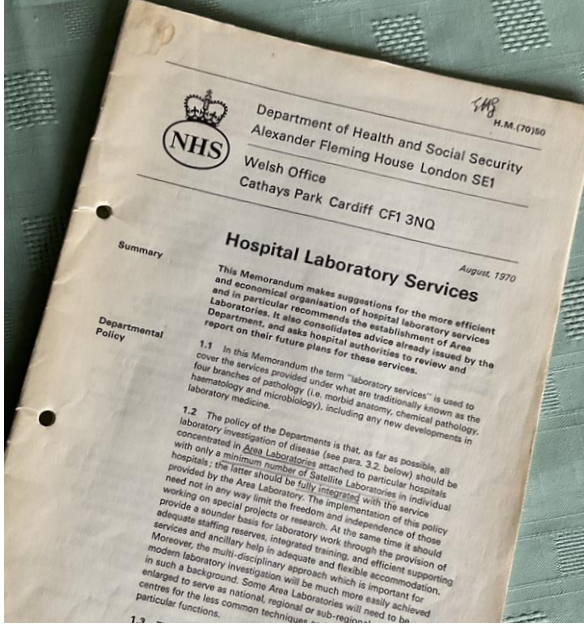
vii. *To collaborate in systematic education and training for all members of the laboratory staff and for others both in the hospital service and outside, for example general practitioners and public health staff."* [1]

It really is difficult to improve on that 55 years later! Save it on your phone for the next time you are asked to give an account of what you do!

The memorandum built on the Bonham Carter Report (1969) on the functions of District General Hospitals covering a population of 200,000–300,000, and recommended a network of area laboratories, serving users within a range of 20 miles or one hour's travelling time, whichever was less, coupled with the closure of small or inadequate laboratories or their retention as satellite laboratories for urgent work only where essential.

In terms of senior staffing, the circular stated that "area laboratories should have at least one medical consultant (or, if appropriate, senior non-medical scientist) in each of the four main departments", which strengthened the position of clinical scientists and helped to pave the way for the Department's advice in 1974 that the head of a department "may be a medical consultant or a non-medical scientist of equivalent standing".[2]

HM (70) 50 also noted the recommendation of the Committee on Hospital Scientific and Technical Services (the Zuckerman Report, also 1970) which recommended the integration of other hospital scientific services such as medical physics, applied physiology and biomedical engineering with pathology services to comprise a Hospital Scientific Service. This proposal was unpopular with some groups of staff, and in


H.M.(70)50

NHS

Department of Health and Social Security
Alexander Fleming House London SE1
Welsh Office
Cathays Park Cardiff CF1 3NQ

August, 1970

Hospital Laboratory Services

Summary

This Memorandum makes suggestions for the more efficient and economical organisation of hospital laboratory services and in particular recommends the establishment of Area Laboratories. It also consolidates advice already issued by the Department, and asks hospital authorities to review and report on their future plans for these services.

Departmental Policy

1.1 In this Memorandum the term "laboratory services" is used to cover the services provided under what are traditionally known as the four branches of pathology (i.e. morbid anatomy, chemical pathology, haematology and microbiology), including any new developments in laboratory medicine.

1.2 The policy of the Departments is that, as far as possible, all laboratory investigation of disease (see para. 3.2, below) should be concentrated in Area Laboratories attached to particular hospitals with only a minimum number of Satellite Laboratories in individual hospitals; the latter should be fully integrated with the service provided by the Area Laboratory. The implementation of this policy need not in any way limit the freedom and independence of those working on special projects or research. At the same time it should provide a sounder basis for laboratory work through the provision of adequate staffing reserves, integrated training, and efficient supporting services and ancillary help in adequate and flexible accommodation. Moreover, the multi-disciplinary approach which is important for modern laboratory investigation will be much more easily achieved in such a background. Some Area Laboratories will need to be enlarged to serve as national, regional or sub-regional centres for the less common techniques or particular functions.

HM (70) 50

1979 the Royal Commission on the NHS conceded that it had proved impossible to implement and recognised the separate development of medical laboratories, physiology and physical sciences.[3] Common professional regulation through the Health Professions Council (now HCPC) and the establishment of the Academy for Healthcare Science has helped to bring the scientific professions closer together in recent years, although organisational integration remains unlikely.

The memorandum also describes the role of two advisory groups, the Laboratory Automation Trials Group (LATG) and the Laboratory Equipment and Methods Advisory Group (LEMAG), and contains progress reports on their work, plus a list of the members – a roll call of the gros fromages of UK clinical science in the 1970s – giants such as Broughton, Gaddie, Lathe, Mitchell, Neill, Whitby, Whitehead and Wootton from biochemistry (four of whom taught me when I started training in 1974), and Crawford, Lewis, Taylor and Williams from other disciplines.

The LATG report describes the pioneering use of off-line (not interfaced) laboratory computers in Belfast, Birmingham, Dundee,

Elliott 903 Computer
(from Centre for Computing History)

Edinburgh, London (Hammersmith and UCH), Manchester and Warwick, and a new project interfacing computers directly to laboratory analysers ('on-line use' – at that time!) to be rolled out in those sites plus Poole, Sheffield and two more in London (St Stephen's, Chelsea and King's). These systems were mostly based on the GEC Elliott 903 computer (pictured) which boasted a central processor with 8K of memory and a paper tape reader so you could tell it what to do. It's incredible to think that a modern automatic pipette has more processing power than that!

The LEMAG summary reports the commencement of evaluations of the Vickers M300 and the Technicon SMA 12/60 multichannel analysers (both of which I have used – and have the scars to prove it!!). It also describes the novel concept of a National Quality Control Scheme for Biochemistry, involving "sending a sample of human serum to each participating laboratory at regular intervals. The samples are analysed and the results returned. … This allows the participants to determine how their own results differ from those obtained throughout the country"…

Truly the beginnings of the modern clinical lab – and a document worth preserving.

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2. In: Broughton P. G., Lines J. G. *The Association of Clinical Biochemists – the First Forty Years.* London: ACB Venture Publications, 1996. p57.
3. *Ibid*. p61

What were the glory years in clinical biochemistry?

by Christopher Pitt, Associate editor, LabMed News

Mike writes about the 70s. This was the start of automation and external QC material in which we moved on from using in-house patient samples to using bought-in material. EQA started as well. There was still scope for manual assays and for setting up new methods. Immunoassay was popular. Even radioactive immunoassay. You'd have measured your metals by atomic absorption. Labs led the way with computers even if they were somewhat primitive. In the absence of a web, actual books were used. My lab still has a full collection of cloth-bound Bergmeyers. Troponin hadn't been invented in any of its forms so cardiac markers were CASTLE. Remember? Training in clinical biochemistry was offered at Newcastle, Manchester and Guildford.

What do you think were the glory years for biochemistry? Please email the editorial team at LabMed News with your thoughts: editor.labmednews@labmed.org.uk

NATIONAL AUDIT DAY

by
HANNAH FEARON AND NICOLA BARLOW
LabMed regional audit leads

On 15 November 2024, the National Audit Day was held at the Royal College of Pathologists. It provided an excellent platform for clinical scientists, medical staff and laboratory professionals to share insights into recent audits and review current practices in laboratory medicine.

The meeting was a key opportunity to explore audits in the areas of diabetes, haemochromatosis and Wilson Disease, as well as to discuss emerging trends and future audits.

Dr Wassif, national audit lead, opened the day by welcoming over 110 delegates to the meeting which was being held for the first time in a hybrid format. As well as the presentations, we also welcomed poster displays which could be viewed in the lunch break.

Poster prize winners Thomas Bancroft and Gemma Hunter with Dr Wassif and Louise Ward

Mark Strachan, Funmi Akinlade, Phil Newland-Jones, Alistair Lumb and Dr Wassif

Audit highlights – click on the title to see the relevant report

National audit on diabetes mellitus
Funmi Akinlade, Barking, Havering and Redbridge University Hospitals NHS Trust

The national audit on diabetes mellitus aimed to assess laboratory practices, diagnostic methods and consistency in the diagnosis and monitoring of diabetes across the UK.

Diabetes: Current and future management
Phil Newland-Jones, Southampton General Hospital

Phil Newland-Jones presented on the evolution of diabetes management. His talk was highly informative and well received.

C-peptide testing in diabetes
Mark Strachan, Western General Hospital, Edinburgh

Mark Strachan's presentation focused on the utility of C-peptide testing in distinguishing between Type 1 and Type 2 diabetes.

Hybrid closed loop systems
Alistair Lumb, Oxford, UK

Alistair Lumb discussed the advancements in hybrid closed-loop systems for managing Type 1 diabetes and highlighted future development in this area.

Delegates viewing posters

Short presentations of the top scored two audits were given:

Clinical audit of primary care ACR: Requesting at Airedale Hospital
Thomas Bancroft, 3rd Year STP, Airedale NHSFT Hospital

This audit aimed to evaluate whether the assessment and management of chronic kidney disease (CKD) at Airedale NHS Foundation Trust met the standards set by NICE guidelines (NG203).

Audit of immunoglobulin monitoring and hypogammaglobulinemia after B-cell targeted therapy
Mohammed Yousuf Karim, Sidra Medicine, Doha

Mohammed Yousuf Karim presented the findings of an audit assessing immunoglobulin (Ig) monitoring in patients receiving B-cell targeted therapies (BCTT) for autoimmune diseases and haematological malignancies.

Wilson Disease national audit
Nicola Barlow, Black Country Pathology Services and Chris Harrington, Berkshire and Surrey Pathology Services

Wilson Disease is a rare disorder of copper metabolism, which is often difficult to diagnose, requiring effective multidisciplinary working to obtain the best possible outcomes for patients.

Clinical aspects, assessment of and management of Wilson Disease
Aftab Ala, Royal Surrey NHS Foundation Trust

Professor Aftab Ala, a hepatologist and clinical Wilson Disease expert from King's College, London, gave a thought-provoking summary of the clinical challenges of Wilson Disease through a series of case presentations.

Aftab Ala

National audit on iron overload and HFE mutation

Dimitris Grammatopoulos, Warwick Medical School

This audit aimed to capture current practice in the assessment of iron overload (serum ferritin and transferrin saturation) and the use of targeted analysis of specific mutations of the HFE gene (C282Y and H63D).

Hyperferritinaemia and haemochromatosis: The clinical perspective

Jeremy Shearman, South Warwickshire University NHS Foundation Trust

Consultant gastroenterologist and hepatologist, Jeremy Shearman, delivered an excellent clinical perspective on hyperferritinaemia and haemochromatosis.

Metabolic dysfunction-associated steatotic liver disease

Kevin Fernando, North Berwick Health Centre

A lively final talk, 'NAFLD to MASLD, what's in a name', neatly tied together the themes of the day.

Feedback and closing remarks

W Wassif, national audit lead

In his closing remarks Dr Wassif thanked all the speakers for their excellent educational content, extended thanks to the delegates for their participation and commended the LabMed Office for their excellent organisational efforts. Feedback from delegates was outstanding and overwhelmingly positive, with many highlighting the educational value and the engaging nature of the discussions. We look forward to seeing everyone at future meetings and continuing our shared efforts to improve laboratory practices and patient outcomes.

Louise Ward, Dr Wassif, Nicola Barlow

PATIENT CENTRICITY: CHANGING OUR APPROACH TO SPECIMEN COLLECTION

SOPHIE HEPBURN
Consultant clinical biochemist, NHS Highland

On 11 February 2025, key stakeholders (scientists, clinicians, regulators, manufacturers and big pharma) gathered for the LabMed-hosted UK Patient Centric Sampling (PCS) Symposium in Liverpool. This meeting came about when three likeminded people met for coffee; 12 months later, the event became a reality! The three co-organisers were Neil Spooner (The Patient Centric Sampling Interest Group; www.pcsig.org), Karen Perkins (principal clinical scientist, University Hospitals, Morecambe Bay NHS Foundation Trust), and myself (as chair of the LabMed pre-analytics SIG).

The key themes were:

1) Putting patient needs first and considering patient groups with poor access to standard specimen collection.
2) Successful case studies employing PCS.
3) Regulatory/accreditation requirements.

Putting the patient first

We started the day gaining perspectives and insights on patient experience and the impact of PCS. Patients should be involved in the total testing pathway and it is essential to involve them from the very start!

- How can we make sampling easier and/or convenient for patients?
- How can we reach vulnerable and under-served populations?
- How can we utilise digital ethnography? (If you don't know about it, Google it).

Many of us may not be aware of the commercially available devices that enable sampling to be a less painful/scary/time-consuming experience for patients. Patient preference cannot be transposed onto other patients. The potential for positive impact was illustrated via a case study where a patient with learning disabilities and a progressive health condition was able to have her blood taken for the first time in six years. This could be done in the familiar

Neil Spooner from The Patient Centric Sampling Interest Group

Julia Smith (GP Partner) and Sarah Duffin (Trainee Advanced Clinical Practitioner) providing the patient perspective from the Learning Disability community

surroundings of her home and where she felt most comfortable – in the bath!

Have a look here at these patient/staff testimonials for inspiration.

Verification and implementation of alternative sample types

Most clinical laboratory assays have been validated for venous blood testing, so verification is required for analysis of capillary blood or other non-traditional samples. Examples of what to consider are listed in the table below.

Regulation and accreditation

MHRA: The MHRA regulates PCS devices, including collection kits/apparatus. Medical device incidents must be reported via the Yellow Card scheme. Under the Northern Ireland Protocol, different rules apply in Northern Ireland to those in Great Britain. Medical devices that are used in the same health institution in which they are made are exempt from requirements under the health institution exemption.
See: Operation of the health institution exemption (HIE) – IVDR and MDR (Northern Ireland) – GOV.UK

UKAS: Laboratory testing using sample types not validated by the manufacturer can be accredited following verification activities and must be verified for their intended use e.g. screening/monitoring. However, patient sampling activities cannot be accredited.

Verification studies

- Specimen volume required (consider the amount of surplus venous blood we normally throw away each month!)
- Sample stability
- Matrix effects (if changing to capillary samples; consider haematocrit and the blood-to-gel ratio)
- Sample storage
- Assay interference (e.g. hand creams)
- Reference intervals
- IQC/EQA
- **Cost-benefit:** consider reduced hospital/GP visits versus cost of devices/packaging/ logistics/transport

Implementation

- Patient questionnaires (e.g. use the Likert scale)
- Environmental impact of single-use devices
- System to order remote bloods
- Specimen quality (written/video instructions and tutorials/video calls)
- E-consenting
- Transport/packaging (will specimens sit in a post-box for several days?)
- Manual sample preparation steps
- Operational throughput (do you need different sized centrifuge buckets?)
- Help desks for lost packs and missing content
- **Reporting:** How will you identify the primary sample type? How will patients receive their results?

Joseph Burt (Head of Diagnostics & General Medical Devices, MHRA) providing information on UK regulatory guidance

Tim McDonald (Clinical Director Blood Sciences, Royal Devon & Exeter NHS Foundation Trust) giving us a rundown on successful implementation of PCS in the NHS

The Future

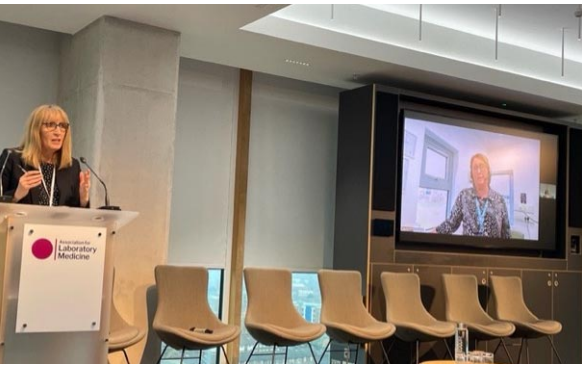
This meeting generated an enormous amount of enthusiasm and proposed activities. The next steps will include guidance on preparing business cases, how to access funding, sharing of case studies and also verification studies (we do not need to reinvent the wheel).

A special interest group is being formed under LabMed SACP. The time is ripe to move this up the political agenda – can you help?

Resources

- For patient involvement/engagement see MediPaCe.com
- Check out this ground-breaking and collaborative project involving two UK universities (Dundee and Newcastle): IHI Project-COMFORT. Output from this project may help drive PCS forward in UK clinical laboratories.

We would like to thank all our speakers and session chairs for their time and input into a successful day. We can all make a difference when we take the time to chat over a cup of coffee.



Kath Hayden with Debra Padgett (Past-President IBMS) on-screen (thanks to National Rail!) speaking about navigating clinical pathways with PCS

Brian Keevil (Consultant clinical scientist, Manchester University NHS Foundation Trust) providing an update on immunosuppressant drug monitoring using finger prick blood collection

THE DIGGLE MICROBIOLOGY CHALLENGE

Question 46 from the February issue

Which of the following statements about *Mycoplasma pneumoniae* is correct?

A) It possesses a rigid cell wall containing peptidoglycan.
B) It uses flagella for motility.
C) It produces a toxin called Community Acquired Respiratory Distress Syndrome (CARDS) toxin.
D) It is easily visible under light microscopy.
E) It cannot survive intracellularly in host cells.

Answers

The following answer is correct:

C) *Mycoplasma pneumoniae* produces a unique virulence factor known as CARDS toxin, which likely aids in colonisation and leads to inflammation and airway dysfunction.

The following answers are incorrect:

A) *M. pneumoniae* lacks a cell wall and instead has a three-layered membrane containing sterols for structural support.
B) *M. pneumoniae* uses gliding motility instead of pili or flagella.
D) *M. pneumoniae* colonies are too small to be visible under light microscopy and require a stereomicroscope for observation.
E) *M. pneumoniae* can replicate intracellularly which may contribute to latent or chronic disease states and help evade the host's immune response.

These questions, set by Mathew Diggle, are designed with trainees in mind and will help with preparation for the microbiology part 1 FRCPath exam.

Question 47

Which of the following statements best describes the pathogenesis of measles virus infection?

A) The virus initially infects epithelial cells in the respiratory tract and then spreads to regional lymph nodes.
B) Measles virus primarily targets hepatocytes, causing systemic infection through the bloodstream.
C) The virus first infects alveolar macrophages or dendritic cells, followed by lymphoid tissue infection and systemic spread.
D) Measles virus enters the body through the gastrointestinal tract and spreads to the respiratory system.
E) The virus directly infects neurons, causing neurological symptoms before spreading to other organs.

The answer to this question will appear in the next issue of LabMed News.

DEACON'S CHALLENGE REVISITED

NO 36. ANSWER

A specimen of spinal fluid from a patient who had suffered head trauma was noted to be bloodstained. The CSF protein was found to be 1,183 mg/L on clear colourless supernatant after centrifuging (no scan done). The CSF contained red cells 10,200 cells per cubic millimeter.

As the diagnosis was not clear, the doctors looking after the patient wondered how much of the CSF protein may have come from the traumatic tap. On the same day, the patient's serum total protein was 73 g/L and the RBC from the full blood count was 4.5 x 10^{12} cells/L.

Estimate the percentage of the measured CSF protein that may have come from the serum.

When blood leaks into CSF, the proportion of red cells and protein added to the CSF remains constant. This is regardless of whether the blood in the CSF arises by trauma during collection or from a subarachnoid haemorrhage. i.e.

$$\frac{\text{Red cell count in CSF}}{\text{Red cell count in blood}} = \frac{\text{Protein concentration in CSF arising from blood}}{\text{Protein concentration in blood}}$$

It is important that the units used should be the same for blood and CSF. Converting the units in CSF to those used for blood:

$1\,L = 1000\,cm^3 = (10\,cm)^3 = (100\,mm)^3 = 1{,}000{,}000\,mm^3 = 1.0 \times 10^6\,mm^3$

Therefore, CSF red cell count $= 10{,}200\,cells/mm^3 = 1.02 \times 10^4\,cells/mm^3$

$= 1.02 \times 10^4 \times 1.0 \times 10^6 = 1.02 \times 10^{10}\,cells/L$

(Note that when multiplying numbers which are in exponential form, the exponents are added, not multiplied)

For CSF protein concentration:

1 g = 1,000 mg, therefore 1 mg = 0.001 g

so that 1,183 mg/L $= \frac{1{,}183}{1000}$ g/L = 1.183 g/L

Substituting these values into the equation relating CSF and blood ratios:

$$\frac{1.02 \times 10^{10}}{4.05 \times 10^{12}} = \frac{\text{CSF protein derived from blood}}{73}$$

$$\text{CSF protein derived from blood} = \frac{73 \times 1.02 \times 10^{10}}{4.05 \times 10^{12}}$$

$$= \frac{73 \times 1.02}{4.05 \times 10^{2}} = \frac{74.46}{405} = 0.184 \text{ g/L}$$

$$\text{\% CSF protein derived from blood} = \frac{\text{CSF protein derived from blood (g/L)} \times 100}{\text{Measured CSF protein (g/L)}}$$

$$= \frac{0.184 \times 100}{1.183} = 15.55\ \% \text{ (}\mathbf{16\%}\text{ to 2 sig figs)}$$

Question 37

Calculate the least significant difference for a change in cholesterol if the intra-individual coefficient of variation for cholesterol is 4.7% and the analytical coefficient of variation, 2.4%. A patient was changed from Atorvastatin 80 mg to Rosuvastatin 40 mg and the total cholesterol fell from 6.9 to 5.9 mmol/L.

Calculate the percentage change in cholesterol and state whether this is significant.

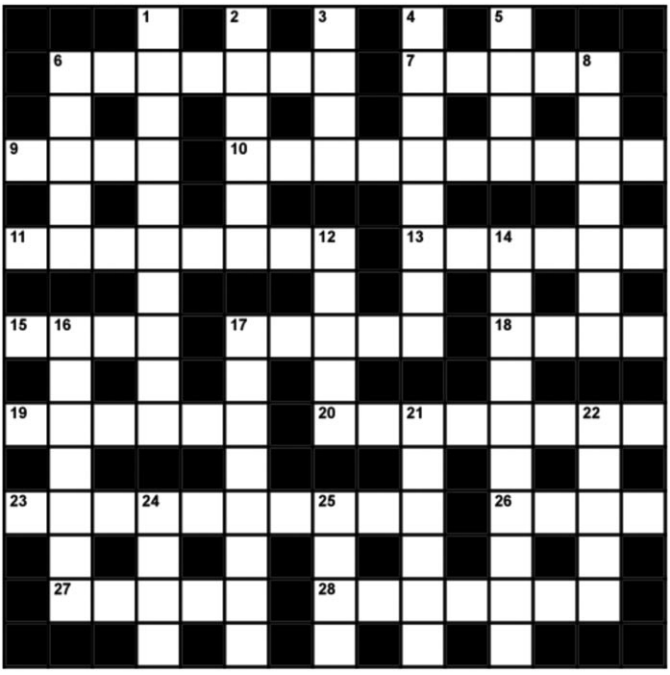
THE CROSSWORD BY RUGOSA

Across

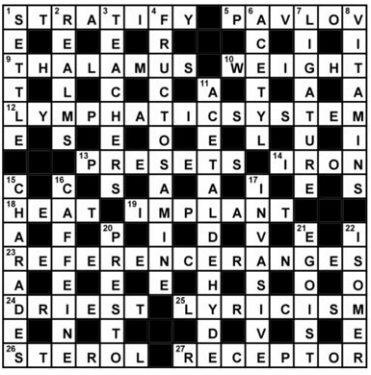
6 Estimate from student given an easy problem (7)
7 Police substitute a drug (5)
9 Most frequently observed fashion (4)
10 Where French signed in twister as native (10)
11/13/17 Our mobile program turns postnatal blues eye-opening pink! (3,5,6,2,3)
15 Superiority in hedgefunds (4)
17 See 11
18 Deliberately holding back bitterness (4)
19 Milk-derived cocktail mixture not OK (6)
20 Bitter denunciation from family following return of assistance (8)
23 They comply with revision of cell name (10)
26 Rent wrench (4)
27 Go to this world to hide (5)
28 Forged signatures no use for this polypeptide (7)

Down

1 Energy transferred by altering physical state of exceptional tan athlete (6,4)
2 No double first for poor analysis of causes of cell disruption (6)
3 Metal tip (4)
4 Get older company for this demographic (3,5)
5 Narrative thread (4)
6 Scent produced by non-sterile Alstroemeria (5)
8 Could end urinal use taking place during daytime (7)
12 Reportedly remained sober (5)
14 Royal orb at restoration establishment for tests (10)
16 Derive yield as separate molecules in solution (7)
17 Strip: male relative rings hot production (8)
21 Images giving rise to a form of discrimination (6)
22 Strike head scholar (5)
24 Separate element (4)
25 A gentile turned up for Hindu practice (4)



SOLUTION FOR FEBRUARY'S CROSSWORD



SUDOKU ... THIS MONTH'S PUZZLE

	I		C		B		E	
		T				R		
		E		A		T		
C	B		M		E		A	I
		U		B		M		
		A				B		
	E		I		A		M	

SOLUTION FOR FEBRUARY

I	R	H	Y	T	M	E	C	S
Y	M	S	E	C	H	R	I	T
T	E	C	I	S	R	Y	H	M
S	T	I	C	H	E	M	R	Y
H	Y	R	M	I	S	T	E	C
M	C	E	T	R	Y	H	S	I
C	H	Y	S	E	T	I	M	R
E	I	T	R	M	C	S	Y	H
R	S	M	H	Y	I	C	T	E

ASSOCIATION FOR LABORATORY MEDICINE HONORARY OFFICERS NOMINATION FORM

We, the undersigned, being members of the Association nominate:

Name .....

Address .....

.....

.....

For election as director of publications and communications*; or national member
(delete as appropriate)

Name 1 .....
Capitals Signature

Name 2 ....
Capitals Signature

Name 3 ....
Capitals Signature

I am willing to undertake the duties and responsibilities of this office if elected.

.....
Signature Date

*Please note only those in the Member and Honorary Member categories may be nominated for the position of National Member. If there is more than one nominee for this position, a ballot will be held with all voting members (see Bye-Laws of the Association items 2 & 3 and 9).

This form, duly countersigned, to be returned by email or by post to The Association for Laboratory Medicine, 130-132 Tooley Street, London SE1 2TU no later than **28 April 2025.**

LabMedNews

Lead editor
Gina Frederick
Pathology laboratory
Royal Derby Hospital
Email: gina.frederick1@nhs.net

Associate editors
Sophie Barnes
Department of clinical biochemistry
Charing Cross Hospital
Email: sophiebarnes@nhs.net

Nicola Merrett
Department of laboratory medicine
University Hospital Southampton
NHS Foundation Trust
Email: nicola.merrett@uhs.nhs.uk

Christopher Pitt
Department of biochemistry
NHS Ayrshire & Arran
Email: christopher.pitt@aapct.scot.nhs.uk

Jenny Hamilton
Department of clinical chemistry
Southern Health & Social Care Trust
Email: jenny.hamilton@southerntrust.hscni.net

Elizabeth Ralph
Immunology, Camelia Botnar laboratories
Great Ormond Street Hospital
Email: e.ralph@nhs.net

Stephen Kidd
Department of microbiology
Hampshire Hospitals NHS Foundation Trust
Email: stephen.kidd@hhft.nhs.uk

Ijeoma Okoliegbe
Department of medical microbiology and virology
Aberdeen Royal Infirmary
Email: ijeoma.okoliegbe@nhs.scot

Philip Wood
(retired)

Situations Vacant advertising
Please contact the Office:
Tel: 0207-403-8001
Email: admin@labmed.org.uk

Advertising
Jason Brown, advertising manager
Email: jason@labmed.org.uk

Design and layout
Nikki Williams

Headquarters
Association for Laboratory Medicine
130-132 Tooley Street
London SE1 2TU
Email: admin@labmed.org.uk

President
Kath Hayden
Email: president@labmed.org.uk

CEO
Victoria Logan
Email: victoria@labmed.org.uk

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http://www.labmed.org.uk

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