Clinical Biochemistry News

ACBI

ACB

September 2022

Newsletter of the Association of Clinical Biochemists in Ireland

and the Association for Clinical Biochemistry and Laboratory Medicine (Republic of Ireland Region)

Kingsley Hotel Cork, venue for the 44th Annual Conference of the ACBI,
Oct 14-15 2022

Contents

Editors: Dr. Martin Healy; Dr. Peadar McGing

A Message from the President of the Association of Clinical Biochemists in Ireland

Dr. Jennifer Brady

Welcome to our latest newsletter. I hope you all had a lovely summer without pandemic restrictions and enjoyed some well-earned time off. Now that we are well into September, final preparations are being made for our annual conference in Cork. The conference committee have an excellent line up of speakers to look forward to. We have really missed being able to meet face to face, networking and catching up with colleagues. This is such an important element of any meeting that we perhaps took for granted in the past. I am certainly looking forward to seeing many of you there. Abstract submission is now open so I would encourage you to submit any of your research or audit activity, or an interesting clinical case. Keep an eye on your emails, the website and our new Twitter account @ACBIrl for conference updates.

Speaking of our Twitter account, we have recently launched this so please follow us if you are a Twitter user. We have a social media policy which was approved by Council and will be available on our website shortly to ensure that all content is consistent with the aims of the organisation.

I am delighted to let you know that the ACBI mentoring programme is now available for clinical biochemist members. Mentoring as a concept is a system which allows less experienced professionals to meet and engage with more experienced professionals to exchange knowledge and offer the mentee advice and guidance to enable them to reach their full potential. The process is completely confidential. For less experienced members of the profession, this is a valuable opportunity to tap into the wealth of experience held by some of our more senior members and seek impartial advice and guidance on your career. The areas that may be considered for mentorship include career development, leadership skills, maximising learning opportunities, interview preparation or research and innovation. A mentor may act as a sounding board for ideas you have or problems you have encountered. The role of a mentor is not to supervise or review educational activity.

A full guideline has been approved by ACBI Council and will be available shortly on the website along with an application form to request a mentor. You can also request an application form by emailing secretary@acbi.ie.

For the more experienced members of the profession, I would encourage you to consider becoming a mentor. The benefits of being a mentor include the personal fulfilment of supporting the career of less experienced members of the profession, the opportunity to help the mentee solve a problem and of course you can earn CPD points. If you are interested in becoming a mentor, please contact me directly or email secretary@acbi.ie and we will include you on our panel.

Turning to our association with EFLM and IFCC, I was delighted to be invited to an interview with EFLM president Prof Tomris Ozben. Look out for it in the upcoming EFLM newsletter. The IFCC has established a Young Member task force. Karen Heverin was appointed as the ACBI representative and will keep you updated on activities of that group. There is currently an opportunity to join an IFCC congress committee so if you have previously organised a conference and would like to contribute your expertise please get in touch.

I am delighted that Caroline Donaghy (the National Drug treatment centre) and James Kelly (the Coombe) volunteered to represent ACBI at the Green Labs collaboration with ACSLM and RCPI. We look forward to hearing their activities. If anyone would like to share a green initiative in your laboratory, please send it to Caroline and James and send it to the newsletter team.

Hopefully I will see many of you in Cork!

Dr Jennifer Brady, ACBI President.

A Selection of Members' Recent Publications

Joyce CM, *Deasy S*, Abu H, Lim YY, *O'Shea PM*, O'Donoghue K. Reference values for C-reactive protein and procalcitonin at term pregnancy and in the early postnatal period. Ann Clin Biochem. 2021 Sep;58(5):452-460. doi: 10.1177/00045632211005807.

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Suen KFK, *Lee GR*, Finnegan M, *Halton K*, *Borovickova I*, *Trench C*, *Fitzgibbon MC*. Total plasma homocysteine measurement: Evaluation of the Abbott immunoassay, comparison with the JEOL ion exchange chromatography and investigation of its clinical utility. Pract Lab Med. 2022 Jul 14;32:e00295. doi: 10.1016/j.plabm.2022.e00295.

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A report on the 24th IFCC-EFLM European Congress of Clinical Chemistry and Laboratory Medicine 2022 The ICM Internationales Congress Center, Munich, Germany

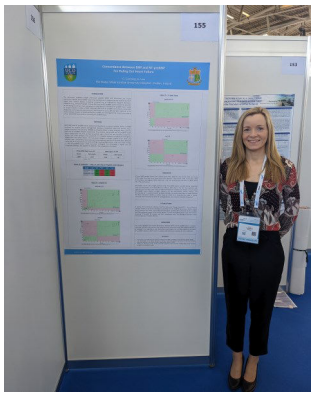
Ciara Cunning, Clinical Biochemist, Mater Misericordiae University Hopitals

After the postponement of the 24th IFCC-EFLM European Congress of Clinical Chemistry and Laboratory Medicine (EuroMedLab) back in November 2021 I was very glad to hear the announcement of new dates for the conference from 10th – 14th April 2022. Luckily Covid19 stayed at bay, and we were finally able to attend the conference in person at the ICM Internationales Congress Center, Munich, Germany. The special day finally came, and I slowly but excitedly walked down the long, narrow aisle to finally hear those magic words I longed to hear for 2 years, "Welcome aboard your Aer Lingus flight". I threw my poster tube with the all-important poster titled "BNP and NT-proBNP Concordance in Ruling Out Heart Failure (Cunning, C and Lee, GR)" above my head and enjoyed a nap.

* * *

Following breakfast (or in my case lack of) I set off from the hotel towards the Congress Centre. Although it was literally a walk in the park, arriving to the destination was anything but easy. I wandered through a seemingly never-ending path together with a broken poster tube, and a new-found hatred for Google maps and it was when a taxi was being contemplated when, low and behold, I reached the Congress Centre (with some new forming blisters as presents of the ordeal). You will be glad to hear everything went smoother from here on in!

The first symposium of the conference was titled, "Acute Kidney Injury biomarkers: from lab to bedside". This session was full of interesting talks by C. Rondo (Italy), L. Forni (UK), M. Ostermann (UK), T. Van Duijl (The Netherland) and R. Galvan (Spain). The speakers discussed the limitations of creatinine as a marker for AKI and not least that often reminder that as many as 50% of nephrons may be lost before there is a change in creatinine. Several kidney biomarkers were covered and their potential to predict progression of AKI before serum creatinine rises, thus offering opportunities for early interventions to prevent AKI. One such marker discussed was TIMP2, a marker of cellular stress detected in the urine (in the early phase of tubular cell injury) which has a potential role in both the prediction and diagnosis of AKI.



I presented at the first poster session of the conference and received many questions and discussions about the use of NT-proBNP at the Mater Hospital. In between discussions at my poster I spoke with other presenters and paid particular interest to a poster by F. Apple (USA) which reported that whole-blood measurements on a POC hs -cTnI assay (Siemens Atellica) were comparable to plasma measurements from an established central laboratory hs-cTnI assay (Abbott Architect). Of the 1089 patients, 21% (n=230) and 26% (n=287) were identified for rule out using the POC and plasma hs-cTnI assays respectively. Optimized negative predictive values for ruling out were 99.6% (< 4 ng/L) for both whole blood POC and plasma hs-cTnI assays with sensitivities of 98.9% and 98.7% respectively. The implementation of this early rule out strategy has the potential to expedite triaging or facilitate early discharge in selected patients and thus serve as an attractive alternative to the central lab.

The evening's first Viewpoint Session was titled, "Is EGFR the gold standard for evaluating renal dysfunction?" presented by E. Schaeffner (Germany) and C. Mariah (France). The speakers reminded us that estimated GFR (eGFR) is based on endogenous biomarkers (creatinine and cystatin) which are highly influenced by age, sex, muscle mass, body composition, liver cirrhosis etc. In such patients, measured GFR (mGFR) using exogenous markers (inulin, iothalamate, iohexol, DTPA or EDTA) is more accurate and less biased. mGFR however is considered not as easily performed as eGFR thus The European Kidney Function Consortium (EKFC) aims for establishing standardized mGFR protocols to facilitate its incorporation into routine nephrologic analyses.

The last Viewpoint Session of the day was on, "Qualitative mass spectrometry vs immunoassay of clinically relevant peptides and proteins" by C. Birchers (Canada) and S. Lehman (France). The speakers discussed the possibility of MS as an alternative to classical immunoassays for protein biomarkers. However, the sample preparation (protein digestion, peptide purification), relative low turnaround, overall cost and the need to redefine normal and pathological values for this new type of analysis hinders its transposition into the field of in-vitro diagnosis.

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The second morning symposium was titled, "New insights in amyloidosis" with fantastic talks from G. Palladini (Italy), S. O. Schonland (Germany) and B. Private (Spain). The speakers discussed how biomarkers that identify patients at greater risk of developing amyloidosis are highly valuable to monitor pre-symptomatic organ damage (e.g., NT-proBNP and albuminuria for cardiac and renal involvement, respectively). They also discussed how next generation flow cytometry, mass spectrometry (detection and measurement of the amyloid

monoclonal protein is being developed) and fluorescence in situ hybridization (FISH) diagnostics can be used as prognostic factors in amyloidosis.

The second poster session of the conference was as vast and informative as the first, only one of which I will discuss due to personal interest. A fantastic poster by L. A. Scanlon (UK) reported how a machine learning algorithm was used to optimise testing of phosphate in a tertiary oncology centre. The team trained an XGBoost to predict occurrence of abnormal phosphate results from other results in the profile. Results showed a reduction in phosphate tests from 142,627 to 67,873 capturing 1586 of the total 1716 abnormal results with a small risk (<0.1%) of missing an abnormal result. If implemented, this algorithm could equate to an annual cost saving of 20,000 GBP.

The afternoon symposium on "New developments in diagnosis and therapy of dyslipidaemia and CVD" included talks from B. Nordestgaard (Denmark), M. Langlois (Belgium), C. Cobblers (Netherlands) and A. Von Eckardstein (Switzerland). The speakers discussed that despite the overwhelming evidence that LDL targeted therapies effectively reduce ASCVD, many individuals experience atherosclerosis despite having low or normal LDL-cholesterol concentrations. Therefore, increasing attention is being directed to remnant cholesterol, Lp(a), calculated non-HDL-cholesterol and apoB. The speakers also discussed emerging treatments for lowering lipids, which included antisense oligonucleotide inhibition, small interfering RNA technology and antibody-based technologies.

The day ended on a high with what I would call the most memorable lectures of the conference titled, "Which future for HbA1c as Biomarker of diabetes monitoring?" The speakers highlighted that HbA1c reflects blood glucose over a previous 3-month period and has a detailed clinical history defining target levels whilst continuous glucose monitoring (CGM) provides immediate, direct and practical information which has been shown to be of value in managing hypoglycaemia and pregnancy outcome. G. John (UK) defending HbA1c as the gold standard followed by D. Leslie (UK) who gave a very convincing counter argument believes the future belongs to time in range and continuous glucose monitoring indications. By the end of the one-hour long viewpoint I remained on the fence and believe that both methods have a deserved role for diabetic monitoring.

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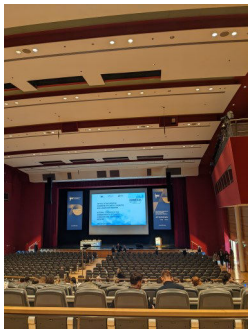
On the third day I attended a symposium titled, "High-sensitivity troponins and beyond" with talks from R. Christenson (USA), P. Collinson (UK) and S. Wittfooth (Finland). The speakers discussed how the high sensitivity of the current troponin assays also reveals myocardial injury in clinical situations other than patients with acute plaque rupture and myocardial infarction (MI). The speakers also discussed gel filtration-based studies that have shown that in the event of a MI, cTnT is first released intact before being degraded into smaller fragments. However, in patients with end stage renal disease or individuals after endurance training, cTnT appears to represent small fragments. These results present interesting possibilities for targeting the molecular forms specifically present in acute MI patients.

The poster I have chosen to discuss from the final poster session of the conference was on macro-B12 by E. Flores (Columbia), one I believe is an emerging hot topic and one of recent study in my laboratory at the Mater. In a core lab of a university hospital, they found that out of 110 elevated serum B12 samples (>1000), 23 (21%) were because of macro-B12 and 4 because of supplementation. Comments were added to the falsely elevated serum B12s stating the large presence of macro-B12 and that monitoring is not required in these patients. My main question from viewing this poster was, "Should macro-B12 testing be implemented in more labs?".

Following lunch, I attended an Educational Workshop held by Abbott titled, "Driving healthcare transformation through Clinical Decision Support (CDS)". Both F. Luyckx and R. Gadisseur (CHU Liege team, Belgium) discussed how they leveraged a CDS with CKD patients. They discussed the benefits of the AlinIQ CDS such as optimised identification of critical patients and an optimised workload. Following the CHU Liege team, J. Cadamuro (Austria) gave his talk titled, "How to tackle laboratory under-using clinical decision support system (CDSS)". J. Cadamuro spoke of the impact of CDS and how it leads to rapid and correct diagnosis/treatment and thus better patient care. He also reported fewer diagnostic errors and unnecessary follow up diagnostics thus leading to reduced costs and more available time to focus on extra-analytics (test selection and interpretation). Both presentations helped me recognise the value of CDS in achieving better healthcare.

To conclude I found EuroMedLab was a great success and a well organised conference with many exciting and thought-provoking topics. I learned a lot and believe I benefited greatly by attending. I am very grateful to the ACBI for supporting my attendance and presentation at this meeting and a special thanks to Dr Graham Lee for his support and giving me this opportunity.

Munich Cathedral



Interior of Conference Centre

International Federation of Clinical Chemistry (IFCC) and European Federation of Laboratory Medicine (EFLM) Update

Compiled by Alison Bransfield

IFCC/EFLM Committee opportunities

There are a number of EFLM committee opportunities open at the moment. Please see www.eflm.eu for info mation on same.
Under the auspices of the EFLM the Innovate Health Initiative (IHI) has launched a call for proposals under a number of different topics. The website is here
The IFCC has opened a call for nominations for secretary and treasurer positions
Please note that applications are to be made through the ACBI council. If you are interested in volunteering for a committee position please contact the ACBI President, Dr Jennifer Brady

CCLM

There is a new issue of 'Clinical Chemistry and Laboratory Medicine (CCLM)' available online from De Gruyter Online: Volume 60, Issue 9. This can be accessed through your EFLM Academy logon

IFCC/EFLM News

The current issue of "EuroLabNews", the bi-monthly EFLM newsletter, is available online: https://www.eflm.eu/upload/docs/2022-Jul-Aug-EuroLabNews.pdf

The EFLM Task-Force Green Labs has developed the 2EFLM Guidelines for Green and Sustainable Medical Laboratories" which can be accessed here

EFLM Academy:
All ACBI members should now have received their EFLM Academy login details. If you have not yet received yours please contact secretary@acbi.ie
Please note that EFLM Academy membership includes access to CLSI documents
The new EFLM e-learning academy has now launched and is a comprehensive educational resource

The current issue of "IFCCNews", is available online: https://www.ifcc.org/media/479527/ifccenewsjuly2022.pdf

The current issue of "eJIFCC" ,Volume 33-no2 is available on line:
https://www.ifcc.org/ifcc-communications-publications division-cpd/ifcc-publications/ejifcc-journal/

Upcoming Meetings/Events

EFLM

EFLM has established a series of webinars covering different diseases and their diagnoses using biomarkers. The leaflet is available here https://www.eflm.eu upload/docs/Leaflet-lessons-in-immunochemistry.pdf

EFLM live webinars are available here: https://www.eflm -elearning.eu/site/live-webinar
Previous webinars available at https://www.eflm elearning.eu/site/on-demand-webinar
AACC Learning Lab is now available free of charge for details see https://area9lyceum.com laboratorymedicine/

EFLM has established the Task-Force "Green Labs". For more information click here

3rd EFLM online Postgraduate course 'How to write and publish a good scientific and professional article'
26th October to 15th November 2022
Brochure_3rd_EFLM_online_Postgraduate_Course.pdf (mzevents.it)

Laboratory Medicine for Mobile Societies **2nd – 5th October 2022** (hybrid conference) https://lm4ms.gr index.php/event-registration

XXV IFCC-EFLM WORLDLAB EUROMEDLAB ROMA 2023 **May 21st – May 25th 2023.** Early bird registration closes on 31/Mar/2023 https://2023roma.org/

IFCC

Professional Exchange Programme

The IFCC is expanding its Professional Exchange Programme, where scientists can spend up to 3 months in a clinical laboratory or IVD centre. Any member wishing to be involved can contact ACBI Council for details
Webinars:

IFCC complimentary webinar "Importance of the Preanalytical Phase in different areas of the Laboratory"will be held on September 7th 2022 Register EFLM Lessons in Immunochemistry - Heart failure andnatriuretic peptides **13th September 2022** Register

Meetings:

XXV IFCC WORLDLAB Roma 2023
May 21st – May 25th 2023
http://2023roma.org

IFCC/EFLM websites
http://www.ifcc.org/
https://www.eflm.eu/

ACBI Mentoring Programme for Clinical Biochemists

Would you like support with your career development as a Clinical Biochemist? The ACBI is pleased to announce the launch of a pilot mentoring programme. Clinical Biochemists may apply for a short period of mentorship to discuss ideas and options relating to their career development amongst other topics.

Further information and application forms can be found on the member's area of the website.

Mentors: Would you be interested in being giving some time to support the career of less experienced members? If so, please consider signing up to become a mentor on the ACBI mentoring programme. Contact the president or secretary for more information.

ACBI 2022: The 44th Annual Conference of the Association of Clinical Biochemists in Ireland

The venue for this year's Conference is The Kingsley Hotel, Carrigrohane Road T12 P680, Cork.

The meeting will take place on Friday the 14th and Saturday the 15th of October next.

A Training Day (focusing on calculations) will take place on Thursday the 13th October.

You can register for ACBI 2022 annual conference via the Eventbrite link here.

Early bird registration for ACBI members and non-members is open until 23:59 on 23rd September 2022.

Tickets for the training day and conference dinner can be purchased from the 21st of September onwards.

Abstract submission is now open. All abstracts should be submitted to acbiconference2022@gmail.com by 17:00 on September 30th. Accepted abstracts will be published in a future issue of CCLM.

A provisional conference programme with the poster submission guidelines can be found on the ACBI website www.acbi.ie.

Please don't forget to follow the guidelines closely, and to indicate in your submission email if you would like to be considered for an oral presentation.

The conference website and app are currently under development and will be made available over the coming weeks, along with the finalised programme.

(please note that the programme may be subject to change)

Recent guidelines and publications of interest

The AACC recently released updated guidelines for the laboratory investigation of Acute Kidney Disease (AKI) (link below).These include clinical indications for the investigation of AKI and a detailed analysis of traditional and emerging biomarkers.
(See also Ciara Duggan's meeting review on page 4).

AACC Guidance Document on Laboratory Investigation of Acute Kidney Injury.

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Two recent guideline publications update clinical and laboratory investigation and diagnosis of diabetes. The first was published by NICE in 2015 and updated in 2022. The second is an in-depth look at various aspects of diabetes care and diagnosis published as a supplement to the journal Diabetes Care and containing 17 articles. The third related link below is to one these articles examining laboratory aspects of the diagnosis of diabetes.

Type 1 diabetes in adults: diagnosis and management (nice.org.uk). Updated 2022

Volume 45 Issue Supplement_1 | Diabetes Care | American Diabetes Association (diabetesjournals.org)

2. Classification and Diagnosis of Diabetes: Standards of Medical Care in Diabetes-2022.

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New Osteoporosis Guidelines from NOGG (the National Osteoporosis Guideline Group-UK). See link below.

This guideline was prepared with the support of numerous stakeholders including the Association for Clinical Biochemistry and Laboratory Medicine. It reviews current thinking on the assessment and diagnosis of osteoporosis including the use of bone turnover markers in monitoring treatment and their possible roles in risk assessment.

Clinical Guideline for the Prevention and Treatment of Osteoporosis

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Non-fasting samples for lipid analysis? The Viewpoint below puts the argument in favour and outlines the benefit to both patients and phlebotomy services. The article emanates from Australia but cites international evidence for the proposal.

Non-fasting lipids: A change in practice

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Many professional societies recommend high sensitivity cardiac troponin (hs-cTn) as the preferred biomarker for the evaluation and diagnosis of acute chest pain. The publication below gives detailed guidance in the use and interpretation of (hs-cTn) to assist with triage, diagnosis, and risk stratification of patients with suspected acute coronary syndrome.

High-Sensitivity Cardiac Troponin and the 2021 AHA/ ACC/ASE/CHEST/SAEM/SCCT/SCMR Guidelines for the Evaluation and Diagnosis of Acute Chest Pain

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An estimated 1 billion people worldwide are deficient in vitamin D. Its association with both innate and adaptive immunity and its proposed role in COVID-19 pathogenesis pre- and post-infection has generated much publicity. However, its role in human biology is thought to be far wider with an estimated 5% of the human genome interacting with the vitamin through specific cell receptors. Although evidence for its role in bone biochemistry is well established much of the evidence linking vitamin D to human physiology end-points is observational. In recent years a number of randomised controlled trials have been performed with both positive and negative findings. The structure of some of these trials has been criticised, however, with the suggestion that there may have been a bias towards the null hypothesis. It is safe to say that there are still quite a few known unknowns regarding the biological roles of the vitamin. Interpretation of published work is further complicated by disagreements about what constitutes a 'normal' vitamin D and its safe circulating upper limit.
The paper below reviews one very interesting aspect of vitamin D physiology i.e. its suggested importance in pregnancy, foetal health, neonates and children. Evidence for and against a role for the vitamin are discussed in relation to pregnancy related medical conditions and foetal, neonatal and childhood bone health. There are also suggestions that prospective metabolic diseases in later life (e.g. type 1 diabetes) could be associated with low foetal vitamin D levels although this has been disputed.

Vitamin D: Before, during and after Pregnancy: Effect on Neonates and Children

A Couple of Useful Websites

The Medical Biochemistry Page
Extensive resorce of medical biochemistry topics subdivided into specialized headings and including an alphabetical list of diseases/ disorders

Clinical Chemistry Podcasts
915 (to date) podcasts of varying topics from management issues to instrument evaluations to clinical topics. From Clinical Chemistry/AACC

The European Federation of Clinical Chemistry and Laboratory Medicine (EFLM) Academy

For those pursuing further studies in clinical Chemistry or just interested in keeping their knowledge up to date the EFLM Academy is an excellent resource. It is freely available if you are a member of a clinical chemistry professional body such as the ACBI. Log-in details have been sent to ACBI members. If you haven't received yours contact the ACBI Secretary (secretary@acbi.ie).

The overarching aim of the Academy is to to support the education, training and continuous professional development of laboratory medicine practitioners in Europe to to support the case for recognition of Specialists in Laboratory Medicine under EU Commission Directive 2013/55/EU – *the Recognition of Professional Qualifications.*

An extensive Syllabus Revision Course consisting of 40 modules and over 300 lectures is available through the Academy website. Click here for details.

For more general Academy information click here.

Also this YouTube video by the 2020/2021 EFLM President gives the rationale behind the Academy as well as information on European Registration.

And finally, EFLM's Twitter account is another

Green Labs

Clinical laboratories consume significant amounts of energy, generate large quantities of waste including plastic and consume copious amounts of water. An estimated 3-6 times more energy is used per unit surface area in a laboratory compared to a typical office building[1]. By pursuing sustainable energy-efficient models clinical laboratories worldwide can contribute to the fight against global warming and associated environmental consequences. With this in mind some new initiatives have been developed. The EFLM, for example, have published a Green Lab Guide with criteria and recommendations for laboratory sustainable practices in energy and waste conservation. It can be found here. In addition, they have established links with professional societies, including the ACBI, to inform and consult on implementing these practices.

While not minimising the task the EFLM has suggested that achieving sustainability within hospitals and clinical laboratories will be an important contribution towards implementing the European Green Deal (EDG) Investment Plan. The EDG hopes to achieve climate neutrality in Europe by 2050.

An update on the status and activities of the EFLM Task Force "Green Labs" can be found at this link.

1. Reducing the Environmental Impact of Clinical Laboratories

Upcoming IEQAS Conference

The IEQAS Annual Participants' Conference resumes as a hybrid meeting on Thursday, 06 October 2022 with the in-person conference taking place in the Aisling Hotel, Dublin plus a zoom option.

The link to full programme and registration is at https://www.ieqas.ie/Conference-2022.

The morning Plenary Sessions (with coffee break in the middle) comprises four presentations, as follows:

The Rise of Lab Greening as a Climate Action: Dr Una Fitzgerald, NUI Galway

Paediatric Hepatitis: Dr Cillian O'Maoldomhnaigh, CHI Crumlin/Temple St

An overview of The Laboratory Programme, an Acute Services/eHealth key strategic: Mr. Thomas Walsh, (Laboratory Programme Manager) HSE

CAR-T cell therapy: Professor Larry Bacon, St James's Hospital

Following lunch, the usual four workshops will take place.

LABQUALITY MEETING, APRIL 2022 - HELSINKI

DR. PEADAR MCGING

I got to the airport early, to be on the safe side. Well you can't take chances with EQA, so by extension I couldn't risk missing my flight to Helsinki for Labquality Days international conference. I was looking forward to a day and a half of quality speakers discussing really interesting topics, and, spoiler alert, I was not to be disappointed.

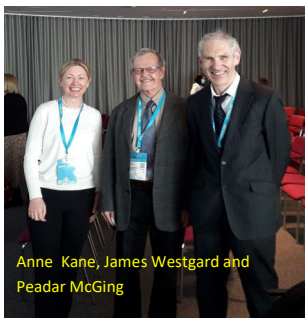

The Helsinki Messukeskus Convention Centre

After a long day's journey, via Stockholm for the trip out, I checked into my hotel late on Tuesday evening. Then I headed out for a short walk to look for food, which I eventually managed to find despite most places being closed by that time. Next morning after Anne Kane and I enjoyed an appetising breakfast we headed for the conference venue, the Helsinki Messukeskus.

Despite a slight detour, having been misled by Google maps, we arrived in good time for registration and the Plenary Lecture '***Future, megatrends and life after Covid-19***' given by Elina Hiltunen. She gave an interesting talk on a number of major issues affecting the world's future. She said these issues are often what are termed 'gray rhinos', big and obvious but ignored. 'The problem is not weak signals, but a weak response to signals' she told us. 'As well as climate change, population increases and structure changes, globalisation, and inequality, she also focussed on 'eco-crisis and lack of resources'. She had some interesting revelations on this topic, which she felt was the biggest challenge of all. Lack of biodiversity is one such problem, which she blamed as one of the causes of the Covid pandemic. Lack of resources like fresh water and sand was another, and I was amazed to hear that in parts of Asia criminals are stealing islands, yes I did say islands, for the sand. 'The future is what we make of it', she exhorted us at the end, pointing out that the ozone hole problem did get fixed.

Elina Hiltunen

The 'Past and Future of EQA and QC' session opened with a talk on '***History / Evolution of QC Planning***'. This was delivered by a man who himself is a huge part of that history, James Westgard. He described the evolution of quality control rules through the initial development of 'Westgard Rules', through sigma, and various planning models. He told us that the term 'Westgard Rules' didn't come from him but was used by lots of people as a quick and easy way to refer to his paper. The practicalities of QC rules are a big focus of his now, particularly the need to relate performance to practical objectives for workload and reporting strategies in the lab. Like everything else QC management needs to keep evolving and not be 'we do what we do because that's what we did'. Two very satisfying aspects of this talk, from a personal point of view, were that he is a big fan of using Hagar the Horrible cartoons in his lectures (ditto this writer) and also that he remembered me from when he was a speaker at ACBI (which I was not expecting, but is one benefit of being the conference photographer).


Anne Kane, James Westgard and Peadar McGing

'***Improving EQA Through International Cooperation***' was the title of the next talk, delivered as a recorded presentation by Prof. Sverre Sandberg, Director of Noklus (the Norwegian Organization for Quality Improvement of Laboratory Examinations). Prof. Sandberg began his talk by listing three main purposes of EQA – (1) to inform a laboratory of its results compared to other laboratories using the same measuring systems (MSs); (2) to inform IVD manufacturers and the laboratory community regarding the metrological traceability of their MSs; (3) special EQA surveys performed to inform laboratories and IVD manufacturers regarding the influence of interfering substances and selectivity for a certain measurand on results. The speaker then stated that point 1 is what we mainly do, often with non-commutable materials, but point 2 is where we need to act now. He then went on to discuss international efforts to achieve metrological traceability, one such effort being the IFCC working group on commutability.

Another initiative is the HALMA project that aims to collect and aggregate results from different EQA providers that use commutable samples. However, for many measurands it will be difficult, or impossible, to produce commutable control material.

Lunch break was early, 12 to 1. By skilful manoeuvring Anne and I got fed with a little time to spare to visit some of the stands before returning to Lecture Hall 208 in time for Mario Plebani's talk which had the interesting title '***Do We Really Measure the Quality of the Laboratory***?'. Unfortunately Prof. Plebani could not travel for this meeting and so gave his talk remotely. A key message of his talk was the imprecision of laboratory measurements, a trait he pointed out is also present in all aspects of medicine, e.g. radiology, history, etc. He quoted from McCormack and Holmes (BMJ, 2020) that 'unfortunately, because test results are typically reported as a single static number without any statement of uncertainty…, clinicians may fall into the assumptions that laboratory results are exact. This can lead to over-interpretation of an apparent change in what is measured.' I was very happy to hear him make this point as one of my pet hates is that modern systems insist on giving the same apparent degree of accuracy to a small number and to a large number (the product of dilution), unlike 'in the old days' when we reported only a certain number of significant figures. So whereas now you report HCG of say 2.8 or a high one of say 45,178.6 that latter figure gives a very false sense of accuracy. Prof. Plebani also stressed the importance of measuring outcomes, and appealed to laboratory scientists to become more involved in multi-disciplinary teams.


Exhibition Area

Our next speaker was Christa Cobbaert, Professor in Clinical Chemistry and Laboratory Medicine at Leiden University Medical Centre, who delivered her talk on '***The Future of EQA: Embracing Pathological Diversity of Protein Biomarkers***'. She began by reminding us that laboratory tests can have many purposes, and therefore our quality assessment should reflect that. An important function of lab testing is that we contribute to reducing the uncertainty about the medical diagnosis. In the lab we should know the clinical pathway so we know how our tests are being used. The analytical specifications we set for tests should reflect the multiple uses of those tests. She also asked us to remember that high analytical performance does not guarantee high quality clinical action or patient outcome. The reverse also applies in that poor tests may not be clinically adverse. On this subject the Netherlands EQA scheme has a scoring system that looks at both analytical stats and clinical importance. Finally she told us she could not understand how some labs still do Jaffe for creatinine just because it's cheap when it can have such effects on patients.


Christa Cobbaert

The final lecture of the Quality in Laboratory programme for Wednesday was given by Tony Badrick, who as CEO of RCPAQAP had made the long journey from Australia. He began his presentation '***Future Visions of EQA and Quality Control – Integrating IQC and EQA?***' by suggesting that the only difference between IQC and EQA is timing [damn – there goes at least three slides from my EQA lectures]. With EQA often labs only look at getting same results as other labs, but without considering the patient. In respect of pre-analytical errors he particularly pushed that we should be measuring risk to patients rather than numbers of incidences. In Australia they have harmonised reference intervals for about a dozen analytes (including Sodium) and he advocated that maybe manufacturers could set factors into their methods to allow harmonisation of more tests, and this process could pushed along by EQA providers through commutable samples. However, one must always be


Tony Badrick

aware that individual patients may have matrix issues. During discussion time at the end of his talk the question of POCT came up and he stated this was "a completely different kettle of fish". IQC, he told us, is about the batch of cartridges, whereas EQA is about the operator. For this reason he strongly disagrees with lab people going out from the lab to do the EQA on POCT instruments.

After the main session there was a short awards ceremony for the two e-posters selected by a judging panel prior to the conference. It was a very pleasant surprise to find that one of these winning authors was from Ireland. James Harte, from the Department of Haematology in Cork University Hospital, presented his paper on 'A Panhaemocytometric Approach to Covid-19'. The other winning e-poster was about a TMPT Pilot EQA for Equalis (the Swedish EQA provider).

I won't report in any detail on the buffet dinner held after a short break. However, I can assure you I enjoyed the food and also the conversation which ranged over a wide variety of topics (not exclusively EQA) and with a variety of interesting people.

Having again indulged myself with a pleasant breakfast, negotiated the now familiar way to the conference centre, and deposited my suitcase in the cloakroom, I headed for lecture Hall 204-205 for the session on '***Quality Control and EQA in Different Disciplines***'. Mathias Karlsson, CEO of Equalis gave the opening presentation 'EQA of Point of Care – Challenges and Opportunities'. Our speaker was well qualified to address this issue having served the health service as nurse, general physician, lab physician, and in management. During winter 2022 Equalis was commissioned to describe how POC is implemented and operated in the Swedish healthcare regions. A nice surprise for Anne and myself was that in introducing his definition of EQA he said "today I borrow this from our Irish friends" and put up a slide taken from our IEQAS website. His talk described the increasing use of POCT in Sweden and the efforts being made to ensure quality testing, including use of EQA. He stated that a device for near-patient testing is a device not intended for self-testing but one intended for use by a health professional. However, it is very important to remember that a health professional may not be familiar with bias and various other quality issues. For a nurse the emphasis is on logistics and anything that takes away time is considered bad. However, the nurse is interested in the patient so we need to help them. He told us that the only place EQA is discussed is in the lab and it can be very hard to communicate EQA importance to other healthcare users. I'm happy to report that Equalis is making concerted efforts in that regard, particularly in the manner EQA is reported to such users. In questions at the end I asked who should do the POCT EQA and he also was adamant that it should be the people doing the tests, but with oversight from the lab.

'***Quality Control of Qualitative Tests: Trends and Developments***' was delivered by Paulo Pereira, Head of R&D at the Portuguese Institute of Blood and Transplantation. In defining the two types of testing he defined quantitative testing as measuring and reporting the value of the characteristics of a property of clinical samples. In contrast, qualitative examinations of clinical samples report characteristics of a property by placing them in categories: binary, unordered (nominal), and ordered (ordinal) characterizations. While reporting binary results such as positive / negative may seem simple the issues of quality are very similar to quantitative testing. Dr. Pereira discussed the validation and verification of such tests and the mathematics behind this process. Once again that word 'uncertainty' came up, with 'uncertainty of proportions' being an important newer tool. He warned of the danger of errors in precision and bias on trueness of the cut-off and of the risk of misclassifying weak signals. The recent Covid-19 pandemic certainly brought to our attention the importance of getting quality right in qualitative tests as we watched the rapid development of tests for the virus and their mass utilization for laboratory and for self testing.

I skipped the talk on 'EQA in Developing Countries' in order to refresh tired brain cells, and after some tea and fresh air. I returned to the lecture hall for Labquality's Jonna Pelanti's presentation '***Experience in Preanalytical EQA***'. In recent years increasing recognition of the importance of pre- and post-analytical error has led to attempts


Jonna Pelanti

to introduce EQA for these processes and to the formation of a special Working Group of EFLM for pre-analytics. Labquality's standard EQA schemes have recently incorporated an integrated pre-analytical EQA component which has shown success with reducing errors in common tests but also shown up some very poor performance in other tests. I was quite interested in seeing they have introduced a Preanalytics Pneumatic Tube Transport EQA whereby test samples are sent via the hospital's pneumatic tube system from ward to lab and the sample analysed for K, LDH, and AST. From their schemes she concluded that 'when measured, the important H, I, and L indexes varies among instruments'. Also, analytical measurements on different instruments are affected differently by interferences. Finally, on the post-analytical side, a great variance in comments and in release / withholding of results was seen, and there was concern that this would directly influence a clinician's opportunity to diagnose their patients.

With our flight due to depart at 16:00 Anne and I had calculated we had time for lunch and for the first lecture of the afternoon's session 'Is Perfect the Worst Enemy of Good', to be delivered by Finlay MacKenzie of UKNEQAS on '***EQA Visions / Are We Measuring Too Few QC Samples – or Too Many?***'. Not having noticed Finlay around the venue we had assumed he was wasn't there, which was disappointing as he's always interesting to chat with. Sure enough his lecture was delivered remotely as he had an unfortunate clash of meetings. I'm sure regular readers of this newsletter will be very familiar with the various aspects of results presentation by the UKNEQAS Birmingham schemes, and these were discussed. On the question in the lecture title he stated 'My assertion is that you need sufficient data to allow you to spot potential issues as they present themselves, notwithstanding EQA is already retrospective.' You need to look at the whole picture within a distribution and across distributions. He stressed that EQA is not a secondary calibration service and it should also address pre- and post- as well as analytical aspects. Labs all say they are focussed on the patient but he questioned the degree of that. One aspect of patient focus is the use of single cut-offs in guidelines, 'if they ever mention lab tests at all', where he implored us to 'support them in their naivety by indeed making all the values the same'. One of his final comments was to complain about 'penny pinching to be doing things on the cheap in EQA'. That certainly resonated with this writer who cannot understand why ALL labs in the Republic of Ireland are not members of the IEQAS Clinical Chemistry and Haematology schemes, supporting the Irish scheme and getting extra help with quality on a local level rather than counting the tiny extra cost of IEQAS registration.

Once the chairman closed off the link to Finlay's talk Anne and I headed for the train station and we were soon on route to Helsinki Airport. The 46th Labquality meeting was well worth attending and we were among over 900 attendees from 38 countries who attended. As well as the International programme there was a parallel local meeting and Anne Kane had also represented IEQAS at a meeting for partner EQA schemes on the Tuesday. I certainly will have new material for any future EQA lectures I give.

Dr. Peadar McGing

Chair, IEQAS

Secretary, ACBI