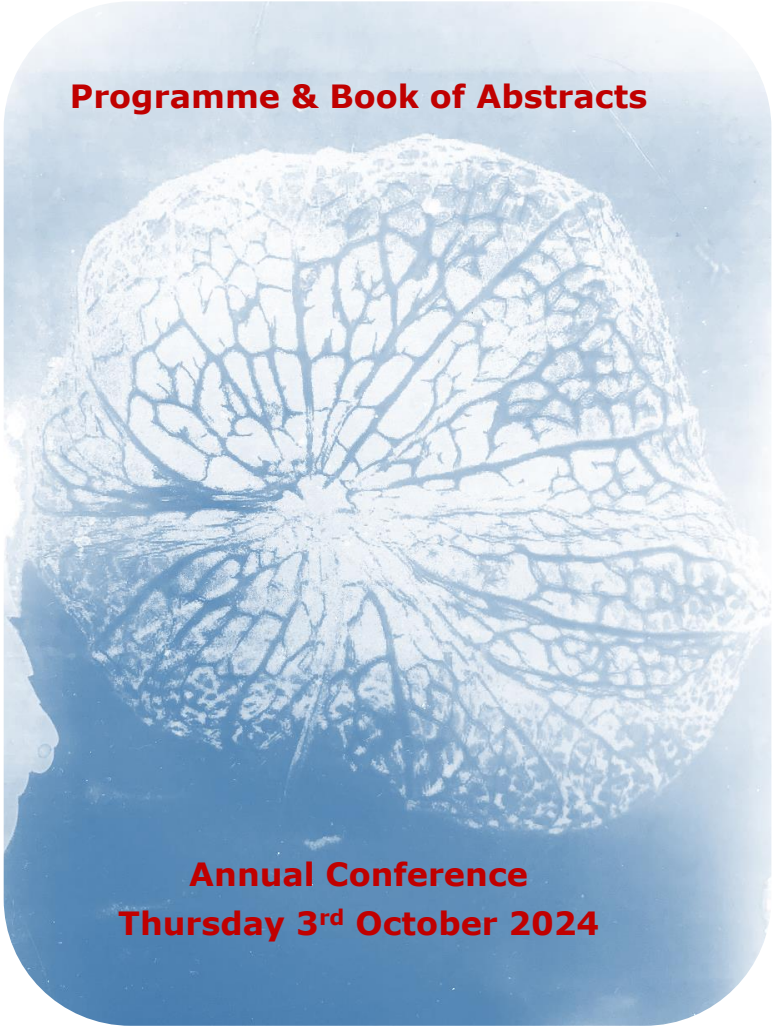
IEQAS

Irish External Quality Assessment Scheme CLG

Programme & Book of Abstracts



Annual Conference

Thursday 3rd October 2024

Contents

Welcome

Welcome to this year's IEQAS Conference. IEQAS is the longest-standing quality initiative in the Irish health service. The IEQAS Annual Conference, is an important event for showcasing commitment to education and improvement in External Quality Assessment (EQA).

IEQAS has been incorporated as a Company Limited by Guarantee (CLG) since November 2022. The Directors are Peadar McGing, Hazel Graham, & Dympna Murphy with Patricia Howley as Company Secretary.

IEQAS is a non-profit organisation overseen by the Directors and a Steering Committee which includes representation from the major professional bodies involved in Irish laboratory medicine:

- **Academy of Clinical Science & Laboratory Medicine**
- **Association of Clinical Biochemists in Ireland**
- **Royal College of Physicians of Ireland, Faculty of Pathology**

We continue to provide EQA schemes for laboratory medicine (including primary care), offering professional advice and guidance as necessary.

The scheme is educational rather than regulatory in nature and provides a means of external audit that operates continuously, thus helping laboratories to achieve their aim of continuous quality improvement.

An increasingly important role for IEQAS is participation in national and international initiatives that have the objective of improving quality of analysis in laboratory medicine.

ISO 9001:2015 EQA QUALITY ASSURED ORGANISATION

EQALM European Organisation For External Quality Assurance Providers in Laboratory Medicine

Irish External Quality Assessment Scheme CLG
Organisation Structure

Directors:

Peadar McGing (Chair)	Formerly Principal Biochemist, Mater Misericordiae University Hospital
Hazel Graham	Formerly IEQAS Quality Manager
Dympna Murphy	Formerly Chief Medical Scientist, Tallaght University Hospital

Company Secretary:

Patricia Howley	Formerly IEQAS Operations Manager

Members: Steering Committee

Peadar McGing (Chair)	Formerly Principal Biochemist, Mater Misericordiae University Hospital
Therese Driscoll (Vice Chair)	Formerly Senior Medical Scientist, Tallaght University Hospital
Hazel Graham	Formerly IEQAS Quality Manager
Dympna Murphy	Formerly Chief Medical Scientist, Tallaght University Hospital
Patricia Howley	Formerly IEQAS Operations Manager
Brendan Byrne	Principal Biochemist, Mater Misericordiae University Hospital
Susan Fitzgerald	Consultant Microbiologist, St Vincent's University Hospital
Anne Kane	IEQAS Scheme Manager
Maria Phelan	IEQAS Scheme and Quality Administrator
Cara Ward	Senior Medical Scientist, Letterkenny University Hospital

Members: Specialist Advisors

Bernadette Jackson	POCT Manager, Naas General Hospital
Padraig Kiernan	Chief Medical Scientist, Connolly Hospital
Marguerite MacMahon	Principal Biochemist, Mater Misericordiae University Hospital
Richard McCafferty	Chief Medical Scientist, St James's Hospital
Deirdre Murphy	Chief Medical Scientist, The Rotunda Hospital
Victoria Murphy	Senior Medical Scientist, Tallaght University Hospital

Additional Specialist Advisors:

Gerard Boran	Consultant Chemical Pathologist, Tallaght University Hospital
Catherine Flynn	Consultant Haematologist, St James's & The Coombe Hospital
Ruth O'Kelly	Formerly Principal Clinical Biochemist, The Coombe Hospital
Niamh O'Sullivan	Consultant Microbiologist, CHI Crumlin & The Coombe Hospital
Erum Rasheed	Consultant Chemical Pathologist, University Hospital Limerick
Phyllis Reilly	NPT Chief Medical Scientist, Tallaght UH

First Plenary Session (Kindly sponsored by ACSLM) Chair: Mr Dermot McBrierty, ACSLM	
09:55	IEQAS Chair's address
10:00	A Draft HSE Outline Strategic Plan for Laboratory Service Reform; Prof Martin Cormican, HSE
10:40 COFFEE (Kindly sponsored by Roche)	
Second Plenary Session Chair: Dr Peadar Mc Ging*	
11:20	Get It Right First Time (GIRFT) Ireland; Dr Ann Leonard & Ms Caroline Murray, Tallaght University Hospital
11:50	A Walk Down Granby Lane - Primary Care for the Homeless & the Role of the Hospital Laboratory; Dr Alana Lawlor, The Granby Clinic, Dublin
12:45 LUNCH (Kindly sponsored by Eurofins-Biomnis)	

Chemistry Workshop (Kindly sponsored by ACBI) Chair: Dr Graham Lee, ACBI		Haematology Workshop (Kindly sponsored by Cruinn Diagnostics) Chair: Ms Therese Driscoll*	
13:45	Renal Stone Analysis; Dr Lucille Kavanagh, Mater UH	13:45	BCM Case Study Presentation; Dr Catherine Flynn, St James's Hospital
14:15	Evaluation of the implementation of the new Roche Elecsys sFlt1/PIGF ratio in the diagnosis and management of pre-eclampsia in Letterkenny University Hospital; Ms Lorraine McGovern, Letterkenny UH	14:45	An interesting case; Mr Selvin Nakka, SJH
14:35	Near Patient Testing Quality Improvement Project.... the challenges and the successes; Ms Noreen Montgomery, Sligo UH	15:10	Evaluating the Methods of Investigation of Pseudothrombocytopenia; Mr Jack Molloy, Final Year Student, TUD & SVUH
		15:25	Method comparison of Lupus insensitive reagents with current test methods for detection of Lupus Anticoagulant in the MMUH & review of reference ranges for DRVVT and SCT Screen and Confirm; Ms Gaby Couch, Final Year Student,TUD & MMUH

14.55	When the Biochemist becomes the Patient; Dr Peadar McGing, IEQAS		
15.20	IEQAS EQA Reports; Ms Ber Jackson*, Naas General Hospital		
Microbiology Workshop Chair: Dr Suzy FitzGerald*		**Transfusion Workshop (Kindly sponsored by Brennan & Company)** Chair: Ms Deirdre Murphy*	
13:45	Antimicrobial stewardship accreditation: how we (and the lab) did it; Ms Claire McSherry, St Columcille's Hospital	13:45	MedLIS in Beaumont Hospital – the BT experience; Ms Anne Geaney MedLis BT & Mr Paul Sheridan, Beaumont Lead
14:15	Ireland v South Africa: not just the rugby; Dr Nicki Rees, St Vincents University Hospital	14:25	Major incident planning for Blood Transfusion; Ms Cathy Leddy, Connolly Hospital
14:45	Implementing Covid, Flu A and B testing at the Point of Care in microbiology: the Beaumont experience'; Ms Gemma O'Brien, Beaumont Hospital	14:45	The Blood Transfusion National Children's Hospital Project; Ms Martina Williams, CHI Crumlin
CLOSE 15:15 -16:00			

*****IEQAS Steering Committee Member or Specialist Advisor

Kindly Sponsored By:

ACBI, ACSLM, Brennan & Company, Cruinn Diagnostics, Eurofins Biomnis, Labquality, Roche

IEQAS Annual Report 2023

IEQAS continues to provide and expand a wide-ranging EQA service to its members. Our national schemes include Clinical Chemistry, Full Blood Count, Blood Cell Morphology and HbA1c. We currently have participants in over 107 different schemes, provided either by IEQAS directly, or in collaboration with Labquality, the Finnish EQA scheme. We are the partner in Ireland for this international EQA provider, which has 4500 laboratories, from more than 50 countries, participating in their programme of >150 different schemes. IEQAS has ISO 9001:2015 certification.

Irish External Quality Assessment Scheme CLG was incorporated in November 2022 and currently Peadar McGing, Hazel Graham and Dympna Murphy are Directors with Patricia Howley as Company Secretary.

We wish to thank the Directors, Steering Committee and other IEQAS Specialist Advisors for their continued support and commitment.

Thanks also to the staff in the labs in Tallaght UH, Mater UH, Children's Health Ireland (CHI) at Crumlin, St James's Hospital, Letterkenny UH and UH Waterford, for facilitating IEQAS with sample collection, storage and distribution.

We would like to welcome Yvonne Burke, BComm, BSc, MSc, as the new IEQAS Operations Manager who has recently taken over from Patricia Howley who is (finally) retiring after 25 years with IEQAS.

We also welcome Phyllis Reilly, Tallaght UH as a Specialist Advisor to the HbA1c Review Group and Vikki Murphy, Tallaght UH, as a Specialist Advisor.

Activities 2023

- **Fresh material for IEQAS Schemes:** Such material provides valuable information and will be continued where possible. Fresh material was used in our Clinical Chemistry scheme in Feb, May, July & Nov 2023; HbA1c, all 5 distributions and Full Blood Count, March 2023. All 6 Blood Cell morphology slides were donated.

- **IFCC EurA1c-project for HbA1c:** In Oct 2023, two fresh pooled blood samples were distributed simultaneously via multiple EQA organisers to establish a European-wide picture of HbA1c performance (expanded to now include Asia, America & Africa). IEQAS has been participating in this project since it was established in 2016. The Irish participants' results were once again put forward for inclusion in this important project. The EurA1c 2022 report was issued in September 2023 and a copy was sent to all participants. This project is planned again for late October 2024.

- **EQALM:** IEQAS is a member of the European Organisation for EQA Providers in Laboratory Medicine; IEQAS contributes to many EQALM surveys, which assist in suggesting improvements for EQA schemes across Europe.

- **National POCT Committee:** IEQAS are represented on this committee. The published Guidelines for safe and effective Near Patient Testing (NPT) 2021, are available on the IEQAS website.

- **Reference Interval Harmonisation Project Group**: IEQAS assist on this National Clinical Programme for Pathology project.

- **ICSH:** Jointly with the ACSLM, IEQAS are affiliated with the International Council for Standardisation in Haematology; Richard McCafferty is the Irish representative.

- **Health Products Regulatory Authority:** IEQAS have regular contact with the HPRA. Individual participant performance is never discussed and remains the responsibility of the participant.

- **Suppliers:** IEQAS maintains good relations with many suppliers and assists with problems and issues as they arise.

Our online annual re-order forms for 2025 will be emailed to all participants shortly. A summary of all schemes offered by IEQAS, and the changes to Labquality Schemes for 2025, are included with this booklet. A copy of the Labquality Product Catalogue 2025 can be found on the IEQAS website at https://www.ieqas.ie/index.php?route=information/information&information_id=22

Labquality schemes, repeat and replacement samples should be ordered directly from IEQAS and we are delighted to assist you with any queries you may have throughout the year.

Patricia Howley BSc, MSc, IEQAS Interim Manager

IEQAS Programme 2025

IEQAS provides schemes directly and from Labquality, our Finnish EQA partner

- IEQAS deal with all your orders & queries, incl. Labquality
- Prices in Euro
- Local advice & expertise
- Special Surveys
- Pre-order Conference places 2025

IEQAS National Schemes$

www.ieqas.ie -> Participant Info -> IEQAS Schemes

IEQAS National schemes

Blood Cell Morphology

- One stained blood film, distributed every 2 months
- Educational (not scored)
- Annual review at IEQAS Conference
- Participants are encouraged to supply interesting cases

Clinical Chemistry (general)

- One sample, distributed monthly
- Human – based samples
- Minimally processed patient pools (3/year)
- Reference Values quoted (>1/year)

Full Blood Count

- Two samples, distributed every 2 months (analytes include RDW)
- Annual Fresh Blood Survey (Incl. Full Differential &PLT-F)

HbA_{1c} Scheme

- Two samples, distributed 5 times/year
- Minimally processed patient pools
- Participation in EurA1c, (Annual survey since 2016 in Europe and now including Asia/Africa and America)
- Scored vs Reference Value (ERL)
- Suitable for Laboratory and NPT

[$]Anonymised IEQAS participant data may be used for research purposes to assist with improvement in EQA services nationally and/or internationally.

LABQUALITY DAYS

International Congress on Quality in Laboratory Medicine & Health Technology

Labquality Days is one of the largest international congresses in Northern Europe focusing on quality in laboratory medicine and health technology. The inspiring atmosphere of the annual scientific congress gathers medical laboratory and health technology professionals together to exchange ideas and meet colleagues in Helsinki, Finland. This time, a new program track covering clinical investigations has been added!

More information at **www.labqualitydays.com**

Under the auspices of

ifcc International Federation of Clinical Chemistry and Laboratory Medicine

EFLM

Labquality EQA Programme 2025

2025 Labquality EQA Product Catalogue

New schemes and products

- 5850 Brucella antibodies
- 5687 HBsAg and HCVAb POCT
- 5251 Interferon Gamma Release Assay (IGRA) for Mycobacterium tuberculosis - whole blood sample
- 5686 Norovirus, antigen detection
- 2755 Holotranscobalamin (HoloTC) and Methylmalonic Acid

Changes in distribution schedule

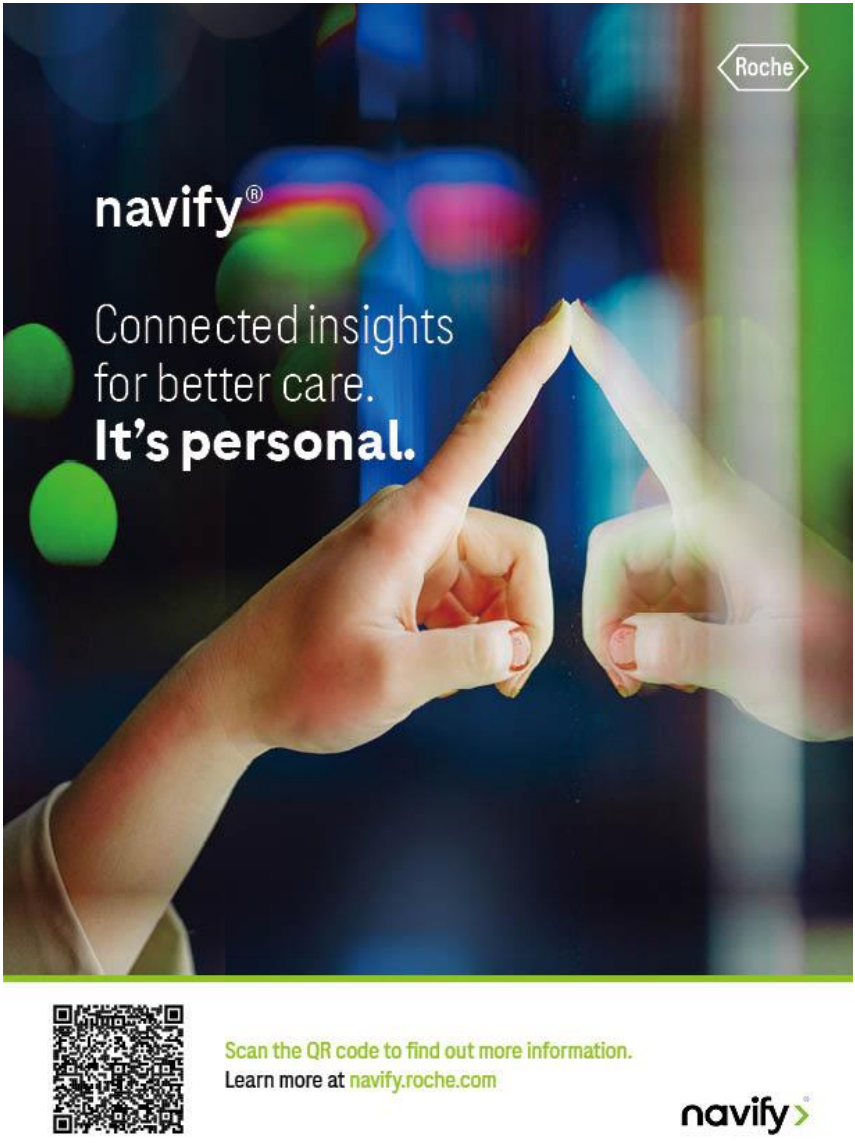
- 5682 Hepatitis E, antibodies (April and October)
- 5636 Zika virus, antibodies (April and October)
- 5300 Respiratory infections multiplex, nucleic acid detection (February, May, September and November)
- 5304 Gastrointestinal viral multiplex, nucleic acid detection (4 rounds/year)
- 5254 Mycoplasma genitalium, drug resistance, nucleic acid detection (4 rounds/year)
- 5651 CMV and EBV, nucleic acid detection, quantitative (March and October)

Changes in scope, specimens or parameters

- 6600 Immunohistochemical staining methods: 3 slides/round

2025 Planned pilot schemes: Pilot studies are EQA schemes under development. Information about pilot studies and schedules are updated on our website: https://www.labquality.com/external-quality-assessment/new-schemes/

Roche: Kindly sponsoring Morning Coffee & Pastries



Plenary: Abstracts & Biographies

A Draft HSE Outline Strategic Plan for Laboratory Service Reform

Prof Martin Cormican, Clinical Lead, Laboratory Services Reform Programme, HSE

Abstract

The HSE is working to develop an Outline Strategic Plan for Laboratory Services 2025-2034. This process is at an advanced stage, but the HSE Senior Leadership Team have not, at this point, given final approval to the Draft Plan. The draft states that the mission of the HSE and HSE funded laboratory services is to provide quality analytical and interpretive services in a sustainable manner, as a foundation for health and healthcare. The draft plan addresses clinical diagnostic laboratories, reference laboratory services, Public Analyst Laboratories and Public Health Microbiology Laboratories (PALs and PHMLs are grouped as Health Protection Laboratories in the Draft Plan).

Some key opportunities and challenges include rapidly growing demand for services, maximising benefits of scientific and technological developments, responding to HSE organisational change, recruitment and retention of people with essential skills, service integration, infrastructure, maintaining quality systems and ensuring preparedness for public health emergencies. This is the first HSE Strategic Plan for all laboratory services.

The plan was developed with extensive consultation with key stakeholders. It includes a series of principles and detailed recommendations under 15 headings. To guide the timelines for implementation each of the recommendations is categorised as now (years 1 and 2), next (years 3 to 5) or future (years 6 to 10). While the plan acknowledges each Health Region has specific opportunities and challenges that will require an approach tailored to its needs.

Key recommendations include implementation of the previously developed Postgraduate Training Programme for Medical Scientists, development of an integrated Clinical National Reference Laboratory Service (CNRLS) and development of a HSE Central Laboratory Campus management. Health Protection Laboratory Services should

be managed as a single national service, development of Laboratory Networks (Hub and Spokes) within the Health Regions, integration of quality systems, development of a laboratory service management team for each Health Region, investment in automation of all stages of sample preparation and processing. This should include Digital Pathology and other new technologies, implementation of electronic order communications and inter-laboratory electronic transfer of information, systems and processes to provide patients with secure access to their own laboratory data.

The development and extension of phlebotomy services is also an integral part of the laboratory service, career progression opportunities for Medical Scientists and other Scientists including advanced and autonomous practice, expansion of the role of Laboratory aides and opportunities for progression and all grades of staff should contribute as necessary to the delivery of service outside of normal working hours. If adopted the strategic plan is a beginning not an end point. Implementation will be challenging.

Biography

Martin Cormican graduated from the School of Medicine in University of Galway in 1986. He worked in Ireland, UK and USA before appointment as Consultant Microbiologist in GUH and Professor of Bacteriology in University of Galway in 1999. He has served in various clinical leadership roles as Laboratory Director, Clinical Director in GUH and HSE National Lead. Since November 2023 he is Clinical Lead for the Laboratory Services Reform Programme (incorporating the National Clinical Programme for Pathology).

Get It Right First Time (GIRFT) Ireland

Dr Ann Leonard & Ms Caroline Murray, Tallaght UH

Abstract

A. Leonard[1,2], C. Murray[1]

[1]*Laboratory Medicine Innovation Hub, Tallaght University Hospital, Dublin 24, Ireland*
[2]*Clinical Biochemistry Unit, School of Medicine, Trinity College Dublin, Ireland*

In 2021 the National Health Service (NHS) in England undertook a comprehensive review of the Pathology services under the auspices of the GIRFT program. The review involved an initial survey followed by a subsequent deep data dive, with individual laboratory services across all disciplines. This study culminated in a comprehensive pathology report in May 2022 which included a review of the significant findings across, acknowledgement of exceptional service and a series of recommendations covering all phases of the Total Testing Process. In 2024 the Laboratory Medicine Innovation Hub (LMIH) at Tallaght University Hospital (TUH), in conjunction with Peri-Analytic and Laboratory Medicine Society (PALMSoc), committed to repeating the survey of Pathology practice in Ireland and initiated a pilot in the summer of 2024.

Methods: LMIH met with the NHS GIRFT team to go through process for data collection, review and follow up deep dive in spring 2024. The audit tool used in NHS (kindly provided by the NHS GIRFT team) was adjusted for an Irish context and reviewed for comprehension by an IEQAS expert. A clinical and scientific team was established for project governance and it was agreed that a pilot project would be initiated to initially cover Clinical Chemistry only. Six large teaching hospitals across the country were invited to participate. Audit tool was sent to all participants in July 2024. Participants were requested to return completed survey on 24th July. A reminder email was sent a week before deadline.

Results: All 6 pilot sites completed and returned audit tool. Data was reviewed for completeness and checked for accuracy. The team followed up with a number of the sites for further elucidation and extrapolation. Data was compiled and analysed. All participating

sites were initially reviewed in the context of trends identified in Ireland. Subsequently data was compared to trends and issues identified in the NHS report.

Conclusions: The data reviewed to date has proved very interesting. A number of important trends and issues has been identified. There is significant potential and opportunity for improvement with a cross-hospital approach. The team are planning follow up interviews with each participating hospitals in late autumn 2024. It is planned to extend the audit of Clinical Chemistry across additional Hospitals across the country. In addition, the team hope to extend the review to all disciplines across the pathology services.

Anyone interested in participating or helping with this audit please contact us through **PALMSoc@tcd.ie**

Biography

Ann Leonard works at Tallaght University Hospital as the Research & Innovation Chief Medical Scientist. Ann is Senior Clinical Lecturer, Research Fellow and Course Co-ordinator at the MSc in Clinical Chemistry at TCD Dublin.

Ann established the first Laboratory Medicine Innovation Hub (LMIH) at TUH in 2019, the first of its kind in Europe. She has led out on and been involved in numerous projects over the last number of years including but not limited to; COVID -19 Antibody study in Healthcare workers at TUH (TABS), TUH Academy of Phlebotomy (TAP), Centrifugation At Source (CAS), PALMSoc, CELTIC Ranges, FerrTest, Six Sigma methodology, development of ICU dashboards and GIRFT Ireland.

Ann is passionate about continual improvement and innovation and her goal is to make the LMIH the best innovation hub for Laboratory medicine in Ireland and Europe. She is inspired by the following quote from *Harriet Tubman*…

"Always remember, you have within you the strength, the patience, and the passion to reach for the stars to change the world."

Caroline Murray works at Tallaght University Hospital as Senior Medical Scientist in the Laboratory Medicine Innovation Hub and Clinical Chemistry lab.

Caroline is a very experienced medical scientist and has been involved in numerous projects such as the introduction of new instrumentation, analytes and method verification. She has also participated and led out on numerous continual improvement projects and is part of the management team on the GIRFT Ireland project. Caroline also played a key role in one of the most significant projects in the Clinical Chemistry laboratory in the last decade; development of a "one stop clinical service" service for outpatients, with development of an offsite laboratory at the Robert Graves Institute on the TUH Campus.

Caroline is quickly becoming one of the foremost scientists in the developing area of Data Science. She has significant experience and expertise in data wrangling and visualisation. She recently has focused on the development of significant skill and expertise in the area of analysis of large data groups through use of such tools as SPSS, R and Rstudio.

A Walk Down Granby Lane - Primary Care for the Homeless & the Role of the Hospital Laboratory

Dr Alana Lawlor, The Granby Clinic, Dublin

Abstract

The Granby Centre provides primary care to marginalised patients, particularly the homeless and those needing addiction services. This presents huge challenges, and makes demands not seen in other health care areas.

In this presentation I will paint a picture of the real world scenario and discuss the issues we face in helping our patients. These include problems with homelessness such as follow up, with addiction such as previous poor experiences, literacy issues in all groups, migration issues including language barriers and ascertaining previous medical history, and specific issues relating to clinical laboratory testing.

Laboratory services are crucial to the care of our patients, but this population presents additional service challenges. Aspects such as sampling and result follow up will be discussed as well as future developments such as an infectious disease surveillance unit. Point of care testing, in particular, will be a key component of the proposed unit.

Biography

Alana Lawlor is a GP working with people in addiction, in homelessness or otherwise socially marginalised. With Austin O Carroll and Mark Murphy, she runs the Granby Clinic, where they provide free primary care, on a walk in basis, five days a week.

In 2023, the Granby Clinic saw an average of 100 patients a day. Alana is clinical lead of the Mobile Health Unit, which provides primary care to rough sleepers, in and around Dublin, three nights a week. She is the Assistant Scheme Director for the North Dublin City GP Training Scheme. Alana studied medicine at UCD and trained in the Mater Hospital and is pleased to be invited to speak today.

Eurofins-Biomnis: Kindly sponsoring Lunch

Workshop Abstracts & Biographies Clinical Chemistry:

Renal Stone Analysis

Dr Lucille Kavanagh, Mater UH

Abstract

An estimated 10-15% of people in Western populations will have formed at least one stone by 70 years of age. Overall the prevalence is increasing, and the average age of onset is decreasing. Without preventative measures, relapse rates are estimated to be up to 50% within 5-10yrs. Identification of the stone composition, can help to elucidate the underlying metabolic cause of stone formation. It can inform patient management, with the aim of preventing future stone formation. The European Association of Urology Guidelines on Urolithiasis (2024) recommend that renal stone analysis be performed on all first-time stone formers. NICE Guidelines [NG118] noted that stone analysis together with serum calcium testing, allows the diagnosis of treatable conditions such as cystinuria, uric acid stones and primary hyperparathyroidism, and as such they advise that stone analysis be considered for adults with ureteric or renal stones. Wet chemical analysis is now considered obsolete and the preferred analytical methods are infrared spectroscopy or X-ray diffraction. MMUH is a referral laboratory for Renal Stone analysis in Ireland and this presentation gives an overview of that service.

Biography

Lucille Kavanagh-Wright BSc, PhD, DipRCPath, completed her primary honours degree in UCD, and then undertook a PhD with the Endocrine research group in the Education & Research Centre, St Vincent's University Hospital/UCD. Her PhD produced a number of publications highlighting the impact of Macroprolactin interference in common analytical methods. In 2018 she contributed to the National Laboratory Handbook - Laboratory Testing for Hyperprolactinaemia. She began working in clinical laboratories in 2002, and has worked as a clinical biochemist in biochemistry and endocrine labs in SVUH, Beaumont Hospital and is currently a Principal Clinical Biochemist in Mater Misericordiae University Hospital (MMUH). One of her responsibilities as Principal Biochemist in MMUH, is leading the Renal Stone analysis service.

Evaluation of the implementation of the new Roche Elecsys sFlt1/PIGF ratio in the diagnosis and management of pre-eclampsia in Letterkenny University Hospital

Ms Lorraine McGovern, Letterkenny UH

Abstract

Background: Pre-eclampsia (PE) is a multiorgan disorder which causes significant morbidity and mortality to the mother and the foetus in affected pregnancies. Current clinical practice guidelines issued by the HSE and Institute of Obstetricians and Gynaecologists recommend diagnostic methods which are non-specific and insensitive in diagnosing and predicting the onset of pre-eclampsia. The sFlt-1 (soluble fms-like tyrosine kinase) and PlGF (Placental Growth Factor) ratio is increased in patients who develop pre-eclampsia. New diagnostic guidelines DG49 published by NICE in the UK support the measurement of the sFlt-1/PIGF ratio to allow diagnosis and stratification of patients into low-risk and increased risk of developing pre-eclampsia. This study aimed to evaluate the effectiveness of the ratio in the diagnosis of pre-eclampsia in obstetric patients in Letterkenny University Hospital.

Methods: The study was performed in two phases. Phase I involved the installation and verification of the two assays on the Roche Cobas 801 in accordance with ISO 15189 standards and CLSI guidelines for assay verification. Analytical performance was assessed by imprecision studies and method comparison studies including appraisal of bias and trueness and assessment of the clinical agreement of the analysed ratio results. In phase II post-verification, the ratio was made available to the obstetrics team in real-time on a pilot basis and was included as a component of the primary PET (pre-eclampsia toxaemia) panel of tests performed on query pre-eclamptic patients >20 weeks gestation. Data from each patient tested including their demographics, parity, gestational age at testing, diagnoses and the results from their standard diagnostic investigations were collected. The clinical performance of the ratio cutoffs was evaluated by assessing the sensitivity, specificity, NPV, PPV and by receiver operator characteristic curves. Secondary outcomes assessed included time to delivery post-testing and mode of delivery in pre-eclamptic versus non-pre-eclamptic patients. The potential economic impact of the ratio to the pathology and obstetrics department was also estimated based on the data collected.

Outcomes: 57 query pre-eclamptic patients were tested during the study. The prevalence of pre-eclampsia (PE) was 3.7% in the cohort. Our data showed that the median sFlt-1/PlGF ratio was significantly higher (53) in pre-eclamptic patients compared to non-pre-eclamptic patients (11) ($p<0.001$). In our study a ratio of <39 ruled out the diagnosis of pre-eclampsia for 4 weeks post-testing with a negative predictive value of 99% and a sensitivity of 78%. All patients who developed PE within 4 weeks had a ratio >38 at diagnosis and were greater than the gestational specific ratio indicated to rule in PE by NICE diagnostic guideline DG49.

Our collected data showed the ratio's diagnostic accuracy in pre-eclamptic patients to be excellent, with an AUC ROC (Area Under Curve) of 0.9. Our data is consistent with the findings reported by Zeisler *et al.* (2016) in the PROGNOSIS study (Prediction of Short-Term Outcome in Pregnant Women with Suspected Preeclampsia Study) and by Cerdeira *et al.* (2019) in the INSPIRE (Interventional Study Evaluating the Short-Term Prediction of Preeclampsia / Eclampsia In Pregnant Women With Suspected Preeclampsia) UK RCT and confirms the efficacy of the ratio in the prediction of PE.

Conclusion: The results indicate that the assay would be a beneficial adjunct to the pre-eclampsia diagnostic algorithm at Letterkenny University Hospital. Knowledge of the ratio could enable the care team to target those with a ratio >38 at risk of early delivery for increased surveillance while reducing unnecessary admission of low-risk patients.

Biography

Lorraine Mc Govern has been employed as a medical scientist in the Biochemistry department of Letterkenny University Hospital since 2019. She completed an undergraduate BSc in Biomedical Science from the Dublin Institute of Technology in 2010 and in 2023 was awarded an MSc from the University of Ulster in Biomedical Science, with a specialisation in Clinical Chemistry.

Near Patient Testing Quality Improvement Project.... the challenges and the successes

Ms Noreen Montgomery, Chief Medical Scientist, Clinical Biochemistry, Sligo UH

Abstract

As the global pandemic emerged in 2020, Sligo University Hospital had 13 new Blood gas analysers installed. Moving from 4 instruments to 13 at the time required a lot of effort ensuring the accuracy and quality of the testing.

Since March 2020 more than 800 staff have been trained and deemed competent in the use of the ABG analysers Further to the verification and training audits, poor compliance was indicated, where patient identifier (PCNs) were being omitted. In Jan 2022 the findings suggested that as many as 124 patients were processed in ED without demographics.

The presentation will outline the Quality Improvement plan that was undertaken, the challenges along the way, and the successful multidisciplinary collaboration that resulted in a "culture" change in ED evidenced by >90% reduction in non-compliance rates by July 2024. Real and lasting change takes time and engagement. The laboratory has a central role is ensuring patient safety and, in the leadership and coordination of NPT activities.

Biography

Noreen Montgomery is currently Chief Medical Scientist at the Clinical Biochemistry Department of Sligo University Hospital (SUH). A graduate of GMIT Medical Laboratory Science, Noreen began her career in 1992 as a Trainee Biomedical Scientist at the Clinical Biochemistry Dept of King's College Hospital, London. She continued her studies in the UK, completing the University of London MSc in Clinical Biochemistry. She moved to the Clinical Chemistry Laboratory at Antrim Area Hospital in Northern Ireland for five years. Noreen is a member of the ACSLM Advisory Body for Clinical Chemistry and is involved in the work of the Research & Education Foundation at SUH. She is presently undertaking study at the RCSI graduate school of Healthcare Management.

When the Biochemist becomes the Patient

Dr Peadar McGing, Chair IEQAS*

Abstract

It has long been a concern of mine that as Clinical Biochemistry laboratories process more and more samples in a factory-like manner, it can become too easy to forget that each and every sample comes from a patient, and that each and every result, 'normal' or 'abnormal', can be of major importance to that individual.

After nearly 40 years of carrying out analyses and reporting results I found myself on the other side of the conversation. This talk is part of my effort to share my experience with fellow laboratory scientists. In March 2023 I fortuitously discovered a problem with my vision which, when investigated, led to the identification of a brain tumour, a craniopharyngioma. That was promptly removed via transsphenoidal surgery. Although benign (happily), this tumour has a strong tendency to regrow, and so I also underwent 6 weeks of daily radiotherapy.

This short presentation will cover how biochemistry and other laboratory tests contributed to diagnosis and monitoring of my condition, including detection of side effects. Results of sodium, lactate, glucose, cortisol and other pituitary function tests, potassium, and magnesium had a particular impact and will be discussed. My knowledge of my own pre-diagnosis baseline levels was also of value.

While I would have preferred not to gain this degree of personal insight into the value of clinical laboratory testing, I hope sharing some of the insight I gained will be of value to those attending this workshop.

Biography

Dr.Peadar McGing worked in the Mater Hospital clinical biochemistry and endocrinology labs for almost four decades, the majority of that time as a Principal Clinical Biochemist. Dr.McGing is a Fellow of the Royal College of Pathologists, and following his retirement he was awarded Fellowship of the Association for Clinical Biochemistry & Laboratory Medicine. This is an award recognising "individuals who have made an outstanding contribution to the practice of clinical biochemistry and laboratory medicine". Although retired from the Mater, Dr.McGing is Chair of IEQAS, Co-editor of the ACBI newsletter

Clinical Biochemistry News, and is currently updating the ACBI guidelines on Fluids and on Tumour Markers.

Peadar has a strong interest in history and is co-author of the IEQAS 40-year history. He is also an active participant in Masters Athletics and is the current holder of a number of Irish titles and records in his age-group.

IEQAS EQA Reports

Ms Ber Jackson, Naas General Hospital*

Abstract
IEQAS endeavours to provide clearly presented reports for its Clinical Chemistry scheme. The presentation will explain the information available in these reports and review a selection.

Biography

Bernadette Jackson is a Fellow of the Academy of Clinical Science and Laboratory Medicine (ACSLM). She has a Higher Diploma in Training and Education and an MBA in Healthcare Management.

Bernadette trained in Children's University Hospital Temple St, was a Staff Grade Medical Scientist in St Vincents University Hospital Metabolic Unit and Senior Medical Scientist in the Rotunda Hospital for 21 years. Bernadette then became Senior Medical Scientist, Naas General Hospital (NGH), in the Clinical Chemistry Department and is currently the Point of Care Manager there.

She was former President of ACSLM, Chairperson of the Point of Care Advisory Body and former adjudicator of the Presidents Prize. Bernadette is also a Member of the National Point of Care Consultative Group, National Serosurveillance Steering Group and a CORU Registration Board member.

Workshop Abstracts & Biographies Haematology:

Blood Cell Morphology Scheme - Annual Review

Dr Catherine Flynn, Consultant Haematologist, St James's Hospital*

Abstract

IEQAS Blood Cell Morphology Review.

Biography

Speciality: Myeloid Malignancies and Bone marrow failure

Dr Catherine Flynn currently holds the position of consultant haematologist at St. James's Hospital and Coombe Women and Infants University Hospital since 2007.

She holds a Bachelor of Medicine, a Bachelor of Surgery and a Bachelor of Obstetrics from the Queens University of Belfast (1995). She completed specialist haematology training in Dublin. Her training took her from Ireland to the University of Minnesota, Minneapolis, United States where she started a haematology fellowship with a subspecialty interest in stem cell transplantation (2003-2006). She completed her MD on haematopoietic stem cells and haematopoiesis in the Katholieke Universiteit of Leuven, Belgium. She returned to Dublin in 2007 and works as a consultant haematologist. She is clinical lead for the National Adult Bone Marrow Transplant Program.

Dr Flynn's clinical interests include malignant myeloid diseases (myeloid leukaemia and myelodysplasia), transplantation, bone marrow failure syndromes and haematological diseases during pregnancy. Her research interests include myeloid diseases, aplastic anaemia and haematological disease in pregnancy. Dr Flynn has published in these areas.

Catherine was appointed as Clinical Associate Professor in TCD in June 2022.

An interesting Case: A Case Report of Lead Poisoning Caused by Ayurvedic Medicine

Mr Selvin Nakka, St James's Hospital

Abstract

We report the case of a 46-year-old man presenting with acute confusion and general malaise, where peripheral blood smear examination proved to be a key investigation that suggested and led to accurate diagnosis and successful treatment. Lead, a ubiquitous toxicant emitted from environmental and industrial sources, causes multiple adverse effects following acute or chronic exposure. Lead poisoning is seen in all age groups and the majority of published cases of lead poisoning come from occupational exposures but some traditional remedies may also contain toxic amounts of lead.

Investigations carried out during the admission showed haemoglobin levels of 9.2 g/dl, reticulocyte count of 8.2%, NRBCs & basophilic stippling seen on peripheral blood smear and deranged liver function tests. Differential diagnoses included encephalopathy, encephalitis, methanol poisoning, carbon monoxide poisoning and other metabolic acidosis.

Due to history of prolonged ayurvedic medicine usage, he was subjected to heavy metal screening, which revealed elevated blood lead level (BLL) 230.7 µg/dl (normal <4.8 µg/dl). The patient was subjected to chelation therapy and after repeated course of chelation therapy, patient's symptoms resolved and laboratory abnormalities normalized. This case highlights that some ayurvedic medicines may contain potentially harmful levels of heavy metals and people who use them are at risk of developing associated toxicities. It also highlights the continuing importance and value of peripheral blood smear morphological findings among other laboratory investigations.

Biography

Selvin is currently working as a Medical Scientist in the Haematology Department, St James's Hospital and has over 20 years of experience in medical science. Having graduated from CMC Vellore, India in 2002 with an honours degree in Medical Laboratory Technology, he worked as a Haematology Lab. Tutor in Gifford Memorial Hospital, Nuzvid, India. In 2005, Selvin moved to Manchester to travel and pursue a Master's degree in Medical & Molecular Microbiology from the University of Manchester. He later

moved to Ireland in 2007 and was appointed Medical Scientist in the Haematology Laboratory at St James's Hospital.

Selvin has an avid interest in blood cell morphology and reporting peripheral blood films and also has extensive experience in the diagnosis of malaria. He is a tutor in both these areas for both TU Dublin undergraduate students and Medical Scientist colleagues at St James's. His other roles in the Haematology department include reporting EQA morphology schemes and as Health & Safety Officer. Selvin has a real passion and commitment to the clinical team and laboratory team for the delivery of patient centred care.

Evaluating the Methods of Investigation of Pseudothrombocytopenia

Mr Jack Molloy, Final Year Student, TUD & SVUH

Abstract

Pseudothrombocytopenia (PTCP) is a relatively common laboratory-diagnosed condition that interferes with platelet counts (PCs) carried out by automated haematology analysers. It can lead to erroneously reduced PCs that warrant unnecessary, possibly invasive and iatrogenic, further testing and treatment.

This study aimed to evaluate aspects of the PTCP investigation pathways of SVUH Haematology. The goal of the study was to produce evidence for procedural changes that might streamline these pathways. The performance characteristics of the "Platelet Clumps?" Q-Flag were calculated.

The efficacies of Sysmex' © three available platelet enumeration channels were also assessed. Finally, a vortex-based platelet "de-agglutination" method was evaluated. Both normal and PTCP samples acquired over a three-week study period were used. In total, 1461 samples were initially included. The "Platelet Clumps?" Q-Flag was found to exhibit poor PPV (64.9%) and sensitivity (36.4%), which became increasingly worse as the PC increased.

In the evaluation of the platelet enumeration channels, PLT-F was found to be the most robust channel in terms of enumerating the PC in PTCP samples. The vortex "de-agglutination" method produced promising results but its broader effects on the FBC profile require further study. The findings of this study prompted the proposal of an SOP change as well as the implementation of a PLT-F-based reflex rule. These changes aim to reduce the labs deference to the "Platelet Clumps?" Q-Flag, particularly at higher platelet counts where PTCP is less clinically relevant, and where the Q-Flag is more ineffective.

Biography

Jack Molloy hails from Blanchardstown, Dublin 15 and is a recent graduate of the TU Dublin Medical Science programme. During his undergraduate degree, he specialised in Haematology and Clinical Immunology and carried out his final year research project in the Haematology laboratory in St. Vincent's University Hospital. The

project focused on pseudothrombocytopenia (PTCP), a relatively common laboratory-diagnosed condition that interferes with automated platelet counts and can lead to unnecessary further testing.

The goal of the study was to produce evidence for procedural changes that could streamline these investigative pathways. In total, 1461 samples were included. The 'Platelet Clumps?' Q-Flag was found to exhibit poor PPV (64.9%) and sensitivity (36.4%), which became increasingly worse as the platelet count increased. PLT-F was found to be the most robust channel in terms of enumerating platelet counts in PTCP samples. The vortex 'de-agglutination' method produced promising results but its broader effects on the FBC profile require further study.

The findings of this study prompted the proposal of an SOP change as well as the implementation of a PLT-F-based reflex rule. Jack currently works in the shared Haematology and Blood Transfusion laboratory in James Connolly Memorial Hospital, Blanchardstown.

Method comparison of Lupus insensitive reagents with current test methods for detection of Lupus Anticoagulant in the MMUH and review of reference ranges for DRVVT and SCT Screen and Confirm

Ms Gaby Couch Final Year Student, TUD & MMUH

Abstract

Lupus Anticoagulant (LA) testing involves a lot of variation due to various assays and reagents employed across different laboratories. The current guidelines state that the Dilute Russell's Viper Venom Time (DRVVT) is the recommended test which should be carried out alongside an LA-sensitive activated partial thromboplastin time (APTT) assay. This study was carried out to investigate the utility of an alternative APTT reagent pair using SynthASil and LA-insensitive Actin FS and whether it can be used as a rapid screening tool for LA where a prolonged APTT using SynthAsil has been detected.

A group of 61 platelet-poor plasma aliquots from the MMUH were recruited for this study. The clotting times were assessed using photo-optical detection on the ACL TOP 550 analyser for SynthASil, Actin FS, DRVVT screen and confirm and SCT screen and confirm. The newly derived cut-off for the SynthASil/Actin FS reagent pairing was 1.26. This reagent pairing had a 29% (9/31) LA-positive detection rate. Chi-square analysis had a P-value of 0.627 (> 0.05). The re-verified DRVVT and SCT cut-offs were 1.2 and 1.05, respectively. SynthASil is relatively insensitive to LA, resulting in a low detection rate of LA-positive samples. As a result, this reagent pair performed poorly and will not be introduced in the MMUH. Using an LA-sensitive reagent e.g. Actin FSL would be a better option and make a more specific screening test. Chi-square analysis identified no significant association between the new APTT assay and the recommended DRVVT assay, demonstrating the huge variability within LA testing. The DRVVT cut-off was correctly reverified at 1.2. However, the SCT failed to reverify at 1.16 (1.05). As a result, further investigations beyond this study into this assay are required.

Biography

Gaby Couch has just graduated from Biomedical Science at Technological University Dublin (TUDublin). In her final year, Gaby majored in Haematology and Transfusion Science, completing my final year research project in the Haematology laboratory at the Mater Misericordiae University Hospital (MMUH).

Workshop Abstracts & Biographies Microbiology:

Antimicrobial stewardship accreditation – How we (and the lab) did it

Ms Claire Mc Sherry, St Columcille's Hospital, Loughlinstown

Abstract

The British Society for Antimicrobial Chemotherapy (BSAC) launched the Global Antimicrobial Stewardship Accreditation Scheme (GAMSAS) in September 2022, with the purpose of reviewing, mentoring and accrediting hospital Antimicrobial Stewardship (AMS) programs based on established standards.

The AMS team at St.Columcille's Hospital, Loughlinstown (SCHL) included AMS accreditation as a key priority in their AMS annual plan in 2023.On completion of an online screening questionnaire and virtual meetings with the GAMSAS team, the AMS team was accepted ono the scheme. Once funding was secured from hospital management, the AMS team began the journey through the accreditation process.

In October 2023, SCHL was awarded Level 3 BSAC GAMSAS accreditation, which represents the highest achievable level of accreditation.

Biography

Claire Mc Sherry is a Senior Antimicrobial Pharmacist at St Columcille's Hospital, Loughlinstown, Co. Dublin. She graduated from Trinity College Dublin with a BSc. (Pharm) (1994) and completed a MSc. in Clinical Pharmacy in 2002 at Queens University Belfast.

Claire joined St Columcille's Hospital as a Clinical Pharmacist in 2014 and began to work closely with the Consultant Microbiologist to further develop the antimicrobial service at the hospital. Claire has a keen interest in antimicrobial stewardship and was officially appointed as Senior Antimicrobial Pharmacist at St. Columcille's Hospital, Loughlinstown in 2021.

Ireland v South Africa: not just the rugby

Dr Nicki Rees, St Vincents University Hospital

Abstract

The practice of clinical microbiology is highly contextual. Variations in epidemiology, available technology and political environments impacts laboratory practices. Here we will explore the differences and similarities between South African and Irish clinical microbiology with a focus on laboratory medicine and diagnostics. I will share some my insights from my time working in South Africa and contrast with my experiences so far in Ireland. Shamrocks versus Springboks; may the best lab win.

Biography

Dr Nicki Rees graduated from the University of the Witwatersrand Medical School, Johannesburg, South Africa in 2014. She completed her internship training and two years of independent practice before starting specialty registrar training in clinical microbiology. In 2023 she was admitted as a fellow to the Colleges of Pathologists of South Africa and achieved her master's in medicine in clinical microbiology. Nicki is now pursuing microbiology in a new context as a registrar at St Vincent's University Hospital, where she aims to gain broader experience. Her interest areas include antimicrobial and diagnostic stewardship, neglected tropical diseases, the human microbiome and health education.

Implementing Covid, Flu A and B testing at the Point-of-Care in Microbiology: The Beaumont experience

Ms Gemma O 'Brien, Beaumont Hospital

Abstract

Point- of- Care Testing (POCT) provides rapid, accurate and precise results that facilitate diagnosis and patient management. POCT for infectious agents can allow for timely infection prevention and control interventions and informs decisions around safe patient placement.

POCT implementation requires a careful governance structure as the service is primarily operated on a day to day basis by non-laboratory staff with limited prior education on quality of laboratory testing, quality control performance and quality assurance processes. Both clinical and operational governance is essential in managing the service.

Here, we detail our experiences in Beaumont Hospital (a large tertiary referral hospital) in implementing Covid, Flu A and B POCT in the emergency department during the height of the COVID- 19 pandemic. We describe collaborative governance between pathology and clinical specialities, quality assurance, testing (volume and positivity rates), impact on patient flow and focus on lessons learnt during implementation that should be incorporated into revised pandemic preparedness planning.

Biography

Gemma O'Brien has a total of 20 years' experience working as a Medical Scientist in the fields of Clinical Chemistry and Near Patient Testing (NPT). She has worked in various large teaching hospitals

across Dublin and, since Dec 2020, she has been based in Beaumont Hospital working as Chief in NPT.

Since 2016, Gemma has dedicated her work to the field of NPT. Her experience has involved introducing and developing NPT accredited services across a multitude of laboratory disciplines including Clinical Chemistry, Haematology and Microbiology.

In 2018, Gemma successfully achieved ISO accreditation for the blood gas service in Tallaght University Hospital. In 2020, during the Covid 19 pandemic, Gemma adapted her service quickly, dramatically and safely in order to facilitate the many challenges that came hand-in-hand with small NPT departments and Covid 19.

Since joining Beaumont Hospital, Gemma has implemented the Roche Cobas Liat Sars-CoV-2 & Influenza A/B service in its Emergency Department (ED), working closely with Microbiology Laboratory and Hospital Management. This service has proven hugely successful in benefitting patient care and facilitating smooth patient flow through the ED.

Most recently, in August 2024, Gemma has lead Beaumont Hospitals NPT department in being the first NPT service in Ireland to have all its services electronically integrated to the National Medical Laboratory Information System (MedLIS).

Workshop Abstracts & Biographies Transfusion:

MedLIS in Beaumont Hospital – the BT experience

Ms Anne Geaney, MedLis BT & Mr Paul Sheridan, Beaumont Lead, Beaumont Hospital

Abstract
Concise overview of Cerner Millenium with particular focus on Pathnet Blood Transfusion and our implementation experience.

Biography
Anne Geaney is the Blood Transfusion and Data Migration lead on the MedLIS project. Previous to that role, Anne was a Senior Medical Scientist, with responsibility for IT, in the Blood Transfusion Dept in St James's Hospital.

Paul Sheridan is a Senior Medical Scientist in Blood Transfusion Beaumont Hospital. Paul has 15 years of experience in Blood Transfusion, most recently as the Blood Transfusion MedLIS Lead and previous experience having responsibility for Quality and Training.

Major incident planning for Blood Transfusion

Ms Cathy Leddy, Connolly Hospital

Abstract

A Major Incident is defined as any incident usually with little or no warning, which overwhelms our ability to respond, and requires the activation of specific additional procedures and the mobilisation of additional resources, to ensure an effective coordinated response. In this presentation, I will discuss the Connolly Hospital experience of our Major Incident Planning, which includes three major incident drills, completed in conjunction with North Dublin hospitals, Dublin Fire Brigade and a CHB hospital wide drill. We will focus on the learning outcomes obtained from these drills and improvements to be made in both Major Incident Plans, future drills and training improvements in the Blood Transfusion Laboratory.

Biography

Cathy Leddy has been a Medical Scientist in the joint Haematology/ Blood Transfusion Laboratory in Connolly Hospital Blanchardstown since 2016. Prior to this, she worked as a Medical Scientist in St. Vincent's University Hospital since graduation from Kevin Street DIT in 2009.

The Blood Transfusion National Children's Hospital Project

Ms Martina Williams, CHI Crumlin

Abstract

The Blood Transfusion National Children's Hospital Project involves the merging of two laboratories in a new purpose build state of the art hospital facility. A new Blood Transfusion Laboratory Information System will be implemented at the same time. The presentation focuses on the work to date and discusses the ongoing challenges for the team in maintaining two laboratories throughout this project.

Biography

Martina Williams is the Chief Medical Scientist for both the Crumlin and Temple St Blood Transfusion laboratories in Children's Health Ireland. During her career Martina has worked in a number of laboratories, including the National Maternity Hospital, the Coombe Women's Hospital and Peaumont Hospital. She spent ten years in the Irish Blood Transfusion Service before moving to Crumlin in 2001. She took up her cross-site role in 2022.

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ACKNOWLEDGEMENTS
2024

ACBI	Chemistry Workshop
ACSLM	Plenary 1
Brennan & Co At the heart of innovation	Transfusion Workshop
Cruinn Cruinn Diagnostics Limited	Haematology Workshop
eurofins | Biomnis	Lunch
LABQUALITY	Name Badges/Advertisement
Roche	Mid-morning coffee & pastries
Maria Phelan	Editing & Cover Image

IEQAS
Irish External Quality Assessment Scheme CLG

Unit B06, Nutgrove Enterprise Park
Nutgrove Way
Rathfarnham, Dublin 14
D14 DC83

Tel: 01 495 7356
Email: info@ieqas.ie
Web: www.ieqas.ie

Academy of Clinical Science & Laboratory Medicine

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