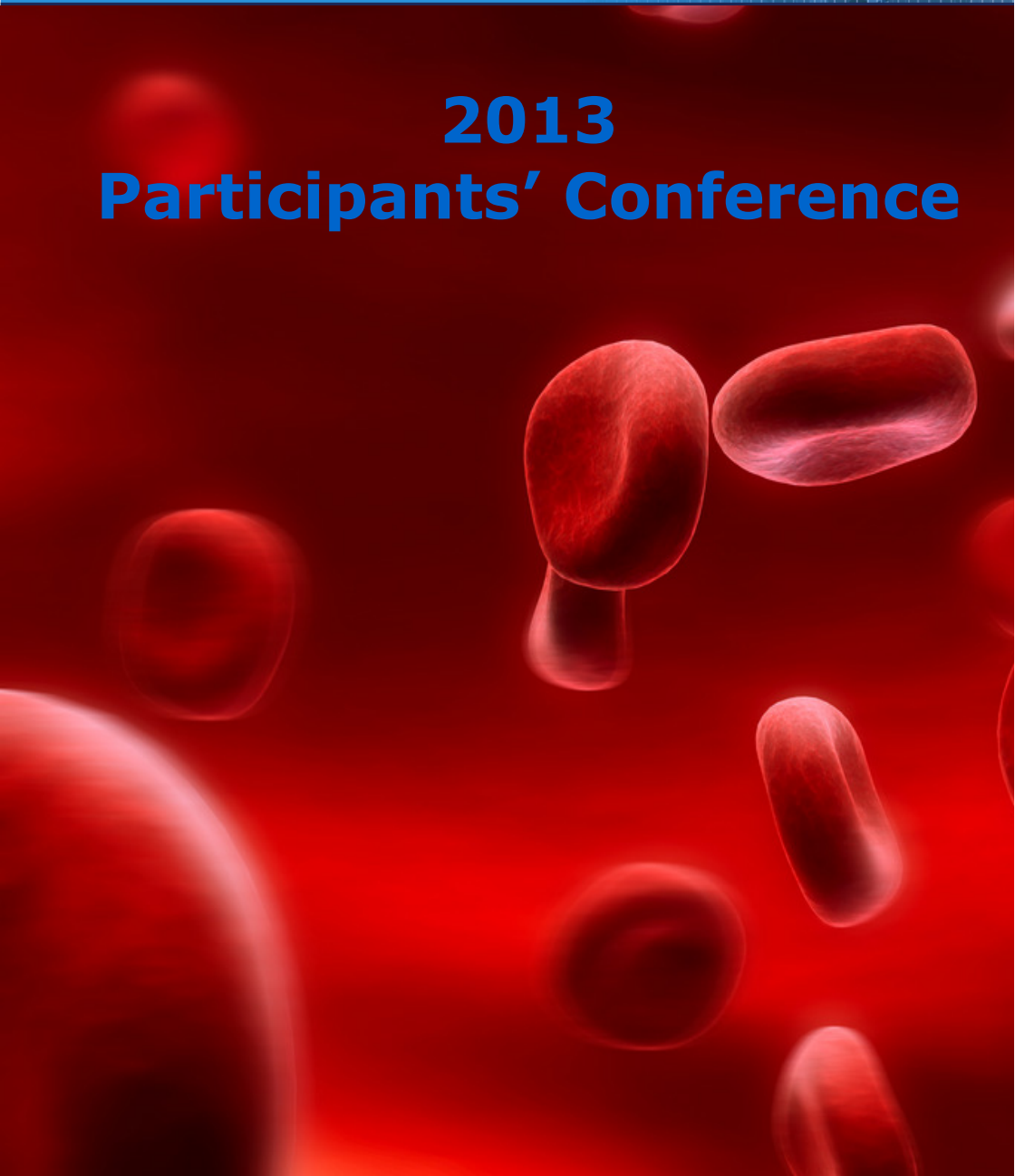
IEQAS

Irish External Quality Assessment Scheme

2013
Participants' Conference



Contents

Welcome

We would like to welcome you to this year's IEQAS Participants' Conference, which continues its focus on quality improvement in Irish laboratory medicine. This year, IEQAS celebrates 32 years of operation, making it one of the longest-standing quality initiatives in the Irish health service.

IEQAS offers External Quality Assessment (EQA) schemes to Irish laboratory medicine, with the aim of achieving and maintaining the best possible quality through a continuous process of monitoring, education, training and support.

IEQAS promotes inter-professional cooperation, with its Steering Committee consisting of nominees from the major professional bodies involved in laboratory medicine in Ireland. Laboratory medicine is a constantly evolving specialty and IEQAS now also provides an EQA service for Point-of-Care testing, taking it outside the traditional laboratory setting.

Mr John Brady, Chairman
Dr Tom Smith, Vice-Chairman
Ms Hazel Graham, Quality Manager
Ms Patricia Howley Operations Manager
Ms Anne Kane, Scheme Administrator

On behalf of the IEQAS Steering Committee

ISO 9001:2008 EQA QUALITY ASSURED COMPANY

EQALM European Organisation For External Quality Assurance Providers in Laboratory Medicine

IEQAS

Steering Committee

Brady, John[1]	Chairman Laboratory Manager, Our Lady's Children's Hospital
Smith, Tom[2]	Vice-Chairman Principal Biochemist, St Vincent's University Hospital
Barrett, Ned[2]	Formerly Consultant Clinical Biochemist, University Hospital, Limerick
Carr, Alan[1]	Senior Medical Scientist, AMNCH Tallaght
Fitzgerald, Susan[3]	Consultant Microbiologist, St Vincent's University Hospital
Graham, Hazel[5]	IEQAS Quality Manager
Griffin, Damian[3]	Consultant Chemical Pathologist, Galway University Hospital
Howley, Patricia[5]	IEQAS Operations Manager
Judge, Gerry[4]	Chief Medical Scientist, AMNCH Tallaght
Murphy, Dympna[4]	Chief Medical Scientist, AMNCH Tallaght
Shirley, Ivan[1]	Chief Medical Scientist, St Vincent's University Hospital

Associated Professional Bodies

[1] Academy of Medical Laboratory Science
[2] Association of Clinical Biochemists in Ireland
[3] Royal College of Physicians of Ireland, Faculty of Pathology
[4]Co-opted by Steering Committee
[5]IEQAS Operations Management

Additional Specialist Advisors

Boran, Gerard	Consultant Chemical Pathologist, AMNCH Tallaght
Byrne, Eileen	Senior Clinical Biochemist, St Vincent's University Hospital
Clarke, Frank	Lecturer, School of Biological Sciences, DIT
Driscoll, Therese	Senior Medical Scientist, AMNCH Tallaght
McGing, Peadar	Principal Biochemist, Mater Misericordiae Hospital
Mulligan, Clare	Chief Medical Scientist, Midlands Regional Hosp Mullingar
O'Gorman, Paudy	POCT Manager, Mater Misericordiae Hospital
O'Kelly, Ruth	Principal Clinical Biochemist, Coombe Women & Infants University Hospital
O'Shea, Paula	Consultant Clinical Biochemist, Galway University Hospital
O'Sullivan, Niamh	Consultant Microbiologist, Our Lady's Children's Hospital / Coombe Women & Infants University Hospital
Perera, Kanthi	Consultant Haematologist, Midland Reg Hosp Tullamore
Quirke, William	Medical Scientist, University Hospital Limerick.
Reece, Rowland	Principal Biochemist, St Vincent's University Hospital

Operations Management

Graham, Hazel (Quality Manager)
Howley, Patricia (Operations Manager)
Kane, Anne (Scheme Administrator)

Plenary Programme

Registration Tea/Coffee from 09:15

First Plenary Session

Chair: Mr John Brady[#], IEQAS

10:00 **Opening**
Mr John Brady[#], IEQAS Chairperson

10:05 **Revision of the EU Directive on *In Vitro* Diagnostic Medical Devices: expected changes**
Ms Áine-Marie O'Hanlon, Irish Medicines Board

10:30 **Minimum Analytical Performance Standards (MAPS)**
Dr Patrick Twomey, UK NQAAP

11:10 **IEQAS annual report**
Ms Patricia Howley[#], IEQAS

11:15 – 11:50 Tea/Coffee

Second Plenary Session

Chair: Mr Tom Smith[#], SVUH

11:50 **National MedLIS Project - an update**
Dr Miriam Griffin, MedLIS Project Manager & Clinical Director

12:20 **NCCP project for harmonisation of PSA assay**
Dr Vivion Crowley, St James's Hospital & Ms Hazel Graham[#], IEQAS

12:45 **Labquality – new schemes for 2014**
Mr Juha Wahlstedt, Labquality

Member of IEQAS Steering Committee * Specialist Advisor to IEQAS

13:00 – 14:15 LUNCH

Afternoon Workshops (parallel)

14:15 – 16:00 (approx)

CLINICAL CHEMISTRY/HbA1c

Chair: Mr Rowland Reece, SVUH*

14:15 **The number of tPSA tests continues to rise and variation in testing practices persists: a survey of laboratory services in Ireland 2008-2010**
Dr Frances Drummond, National Cancer Registry Ireland

14:45 **Case study: Pseudohyponatraemia**
Mr Barry Lyons, OLCH Crumlin

14:55 **An audit of practice: haemoglobin variants incidentally detected using HPLC**
Paula O'Shea*, Galway University Hospital

15:15 **IQC data presentation**
Dr Graham Lee, Mater Misericordiae University Hospital

HAEMATOLOGY

Chair: Ms Dympna Murphy[#], AMNCH

14:15 **Annual Blood Cell Morphology scheme review**
Dr Kanthi Perera*, MRH Tullamore

15:15 **Malaria: refresher and quiz**
Ms Therese Driscoll*, AMNCH

15:45 **Update on harmonisation for units of measurement**
Mr Richard McCafferty, St James's Hospital

MICROBIOLOGY

Chair: Dr Kirsten Shaffer, SVUH & Dr Niamh O'Sullivan, OLCH Crumlin*

Laboratory and clinical aspects of CRE & discussion

14:15 **Laboratory detection of carbapenamases**
Ms Juanita Grogan, OLCH Crumlin

15:00 **A clinical outbreak of CRE imported from 'St. Elsewheres'**
Dr Niamh O'Sullivan*, OLCH Crumlin

NEONATAL & PAEDIATRIC TRANSFUSION

Chair: Ms Patricia Kelleher, AMNCH

14:15 **Testing the baby sample**
Mr Gabriel Hyland, Coombe Women & Infants Hospital

14:45 **Selection of blood for babies**
Ms Mary Deasy, University Hospital Limerick

15:20 **Serological challenges in a maternity hospital**
Mr John Quigley, National Maternity Hospital

Member of IEQAS Steering Committee * Specialist Advisor to IEQAS

IEQAS

Irish External Quality Assessment Scheme

2013 Annual Conference kindly sponsored by

Abbott Diagnostics

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Thanks also to Conference Connections, Accuscience, Bytek & VHI

We also wish to thank all members of the IEQAS Steering Committee and other Specialist Advisors for their continued support and commitment.

Abstracts

Revision of the EU Directive on *In Vitro* Diagnostic Medical Devices: expected changes

Ms Áine-Marie O'Hanlon, Irish Medicines Board

Abstract

In September 2012 the European Commission adopted a proposal to introduce a Regulation to strengthen the European Union's *in vitro* diagnostic medical devices regulatory system. The proposed *in vitro* diagnostic Regulation will replace the *in vitro* diagnostic medical device directive (Directive 98/79/EC).

A number of key changes have been introduced in the proposed Regulation, including an expansion of the scope of the regulation to include medical software, companion diagnostics and devices manufactured and used within a healthcare setting.

The most significant change within the proposed IVD Regulation is the proposal for a rules based risk based classification system for IVDs replacing the existing positive listing system. This new system, which is aligned with globally agreed models, proposes four risk classes A, B, C and D (lowest to highest risk) for IVDs. The assignment to one of these risk classes will be based on 7 classification rules. The conformity assessment route available for an IVD is proportionate to the risk class and the new proposal envisages notified body assessment for IVDs in risk classes B to D. This will undoubtedly mean that more and more IVDs will be subject to notified body assessment in the future.

The proposed IVD Regulation also defines and places some specific requirements around 'companion diagnostics' which are used to determine how responsive a patient will be to a particular medicinal product or therapeutic regimen and to try to establish whether they are at increased risk of particular side effects. The proposed IVD Regulation changes the requirements for IVD tests manufactured within healthcare institutions. These products are currently exempted from the existing legislation, however the new proposal is that IVDs in risk classes A to C will continue to be exempted provided that the healthcare institution is accredited to a recognised laboratory standard or equivalent. IVDs in risk class D will be subject to a number of provisions of the legislation.

Another key element of the proposed Regulation is the re-enforcement of clinical evidence requirements for IVDs to include

data to demonstrate scientific validity, analytical performance and clinical performance. There will also be specific requirements for certain types of clinical studies involving in-vitro diagnostic devices.

Biography

Áine-Marie O'Hanlon has been working as Scientific Officer in the medical devices vigilance and compliance section of the Human Products Monitoring Department of the Irish Medicines Board (IMB) for 5 years. In this role, Áine-Marie deals with vigilance and compliance issues relating to *in vitro* diagnostic medical devices (IVDs) and general medical devices. Prior to joining the IMB, she worked in the National Virus Reference Laboratory for 4 years. Áine-Marie has an Honours degree in Industrial Microbiology and an MSc in Biomedical Science. Áine-Marie is also a member of the Academy of Medical Laboratory Science.

Minimum Analytical Performance Standards

Dr Patrick Twomey, Consultant Chemical Pathologist, UK NQAAP

Abstract

All EQA "schemes should be designed with the purpose of ensuring patient safety as their primary aim". The review of cellular pathology governance, breast reporting and immunohistochemistry at Sherwood Forest Hospitals NHS Foundation Trust also stated that "EQA schemes should not simply pursue technical accuracy for the sake of accuracy, but should focus on the clinical question being asked". To do this, EQA schemes must ensure that their specimens are appropriate:

1. Accuracy & recovery, especially at clinically relevant cut-offs, and their stability over time
2. Precision, especially at clinically relevant cut-offs, and their stability over time
3. Functional sensitivity/limit of quantification and their stability over time
4. Commutable, stable and heterogeneous

The Minimum Analytical Performance Standard (MAPS) concept specifically addresses the accuracy & recovery of assays at clinically relevant cut-offs. However, precision, functional sensitivity, and sample specific issues also will be indirectly covered by the Minimum Analytical Performance Standard concept. Furthermore, Minimum Analytical Performance Standards allows a common currency in which the performance in different EQA schemes can be compared. This then helps address the issue of where a multiplicity of scheme providers may result in labs having the possibility of choosing "an 'easy' EQA scheme".

Biography

Patrick Twomey is consultant chemical pathologist at the Ipswich Hospital and the West Suffolk Hospital. He obtained an Intercalated BSc in Biochemistry from University College Cork before being awarded his MB BCh BAO in 1995. He trained in chemical pathology, in Dublin, at St James' Hospital, and later in Edinburgh before being appointed to the Ipswich Hospital in 2004 and the West Suffolk Hospital in 2009. As a Fellow of the Royal College of Pathologists, he is an examiner, an assessor and is also a member of its Credentials Panel.

He runs clinical metabolic services for dyslipidaemia, obesity, nutrition and biochemical abnormalities. His research interests include lipidology and nutrition as well laboratory quality, mathematics and IT. While he has authored book chapters and over 70 original publications in the fields of clinical biochemistry, metabolic medicine, lipids and nutrition, most of these are from the viewpoint of a jobbing chemical pathologist. He is a member of the editorial board of the Journal of Clinical Pathology, The British Medical Journal Case Reports, World Journal of Biological Chemistry and ISRN Pathology. He won the British Hyperlipidaemia Association Young Researcher of the Year award in 2001.

He has been a member of the Chemical Pathology Panel (National Quality Assurance Advisory Panel) since 2009 and chair since 2012. He is also a member of HEART-UK's Medical & Scientific Committee (the UK cholesterol charity) and until earlier this year was Chair of the Chemical Pathology section of the Association of Clinical Pathologists and, Vice-Director of the Clinical Practice Section of the Association for Clinical Biochemistry.

IEQAS annual report 2012/2013

Ms Patricia Howley, Operations Manager, IEQAS

Schemes

This year marks the 32nd anniversary of IEQAS.

Currently, 76 different institutions participate in schemes with IEQAS, of which 55 are hospitals; others include private laboratories, health screening organisations and pharmacies.

We have participants in 81 different schemes run either by IEQAS directly or in collaboration with other European EQA schemes: Labquality (Finland), WEQAS (Wales) and NOKLUS (Norway). We also provide occasional surveys organised by EQALM (European Organisation for EQAP in Laboratory Medicine) to our participants.

In addition, we are now administering a Histopathology EQA scheme, on behalf of the Faculty of Pathology, Royal College of Physicians of Ireland, with over 80 members.

The 81 current schemes are:

ABO & Rh grouping
Alcohol in serum
Angiotensin Converting Enzyme
Antibody screening/compatibility testing
Antiglobulin test, direct
Antistreptolysin titre
APTT, fibrinogen
Bilirubin Conjugated
Blood Cell Morphology
Blood culture
Blood Culture Screening
Blood Gas
Bordetella pertussis antibodies
Borrelia burgdorferi antibodies
C Reactive Protein
C. difficile, cult & toxin detection
Chlamydia pneumoniae, antibodies
CSF Culture screening
D-dimer
DNA Analysis
Drug abuse screen & confirmation in urine
Drug abuse screen in urine
Drug monitoring (therap drugs)
ESR
ESR for Alifax users
Faecal Blood
Full Blood Count
Fungal culture
General Bacteriology
General Clinical Chemistry
Gram stain Blood culture –
Gram stain Blood culture +
Gram stain colonies
H. pylori antibodies
H. pylori antigen detection
Haemoxymeter
HbA_{1c}
Herpes simplex 1 & 2 antibodies
Hormones/Haematinics
Human T-Cell lymphotrophic virus antibodies
Infectious mononucleosis
Influenza virus A&B antigen
Lipids and Lipoproteins
LMW-Heparin/antiFXa
Measles virus antibodies
Mumps virus
Mycobacterial culture & smear
Mycobacterial smear
Mycoplasma pneumoniae, antibodies
Myocardial Markers
Myocardial Markers + CRP
Natriuretic peptides, B-type
Neisseria gonorrhoea culture

Parasites in Faeces
Parathyroid Hormone
Parvovirus
POCT Lipids scheme
Post Analytical Automated HT
Pregnancy Test
Protein in CSF
PSA
PT (INR)
Rotavirus & adenovirus, antibody detection
RS virus, antigen detection
S. pneumoniae antigen in urine
Synovial fluid crystals
Throat strep culture
Thyroid gland antibodies
TSH Receptor antibody
Tumour Markers
Urine strip test B
Urine, quantitative chemistry
Urine Culture, quantitative screening
Urine Culture, quantitative screening, ID & susceptibility
Varicella zoster virus

<u>New for 2013</u>

EBV specific antibodies
Ethylene glycol in serum
N. gonorrhoea nucleic acid amplification method
Protein electrophoresis
Syphilis serology
Urine, ID cells & other particles

Achievements and Plans

ISO 9001:2008: In January 2013, IEQAS passed a surveillance audit with no citations. Our annual participant satisfaction surveys provide very useful feedback to help us improve and are published on our website.

Histopathology EQA scheme: IEQAS is now administering a Histopathology EQA Scheme on behalf of the Faculty of Pathology, Royal College of Physicians of Ireland. There will be two circulations each year, currently with 84 participating Histopathologists.

NCCP Harmonisation of PSA assay: IEQAS is assisting the National Cancer Control Programme with this project.

EQALM Coagulation survey: On pre-analytical practices in routine testing has been recently forwarded to all coagulation laboratories.

HbA1c consensus comment: Following a 2012 survey led by Dr Tom Smith, and discussion with Dr Diarmuid Smith, Clinical Lead, HSE National Clinical Programme for Diabetes, IEQAS finalised a recommended comment when reporting HbA_{1c} in patients with a haemoglobin variant.

Haematology Units of Measurement: Following a survey facilitated by IEQAS, with data presented by Richard McCafferty at the 2012 IEQAS Conference, a position paper is now available on IEQAS and AMLS websites.

Anaerobes online!: New practical online course from Labquality in the cultivation and identification of anaerobic bacteria was run in autumn 2012. Five Irish labs participated.

Master Comparisons scheme for Clinical Chemistry: 4 Irish labs participated in this new Labquality initiative for 8 analytes (using 20 commutable single-donation sera.

Parasites in Blood (virtual microscopy): This Labquality pilot scheme was offered free of charge; 5 Irish labs participated in the first distribution last February.

EQA Award: Hazel Graham received an award for Managing, Developing and Co-operating in EQA Programmes at the Labquality Conference last February.

POCT Lipids: Patricia Howley gave presentations on EQA for POCT Lipid testing at several training days for pharmacists, organised by the Irish Heart Foundation and the Irish Pharmacy Union.

IT Upgrade: We have made significant upgrades to our website, IT system and custom software over the past year.

We wish to thank all members of the Steering Committee and other IEQAS Specialist Advisors for their continued support and commitment. We welcome to the Steering Committee, Dr Susan Fitzgerald and Dr Damian Griffin as new nominees from the Faculty of Pathology, RCPI. Many thanks to both Dr Gerard Boran and Dr Niamh O'Sullivan for many years of dedicated work for IEQAS as previous Faculty nominees; both have agreed to remain with IEQAS as Specialist Advisors.

We would like to thank the laboratories and staff in AMNCH, SVUH, Mater Misericordiae and OLCH Crumlin for facilitating IEQAS with sample preparation, storage and distribution.

Biography

Patricia Howley BSc, MSc (Quality & Safety in Healthcare Management), joined IEQAS in 1999 as Scheme Administrator. She became Operations Manager in 2007.

National MedLIS Project - an update

Dr. Miriam Griffin, Consultant Histopathologist & Cytopathologist, MedLIS Project Manager & Clinical Director

Abstract
An update on the National MedLIS project.

Biography
Dr. Miriam Griffin MB MMedSc FRCPC FFPathRCPI is the Project Manager & Clinical Director of the National MedLIS (Medical Laboratory Information System) Project. Dr. Griffin received both her primary medical degree and her postgraduate Masters degree in Medical Science (Pathology) from UCD. Her postgraduate training in pathology was in Memorial University of St. John's, NFLD, Canada with a Fellowship in Anatomic Pathology from the Royal College of Physicians of Canada. Dr. Griffin was an Associate Professor of Pathology in Memorial University, St John's, NFLD and practised Histopathology and Cytopathology for 10 years in Canada prior to her return to Ireland in 1999. She is currently Clinical Director of the Department of Pathology in Cavan General Hospital with a part time secondment to the MedLIS project.

NCCP project for harmonisation of PSA Assay

Dr Vivion Crowley, St James's Hospital & Ms Hazel Graham, IEQAS

Abstract
In January 2013 the National Cancer Control Programme (NCCP) established a project board to address issues relating to PSA standardisation which had been highlighted in a recently published study (Forde JC et al. BJU Int 2012:110;644-50). The board acknowledged that harmonisation of PSA assays within the Republic of Ireland was a matter of priority and could lead to better clinical decision-making, particularly for PSA results in the narrow 3-7 µg/L range.

The remit of the board, which consists of laboratory medicine professionals including Consultant Chemical Pathologists and Consultant Clinical Biochemists from representative NCCP designated cancer centres, and staff from IEQAS and NCCP, is to further elucidate the issues pertaining to PSA harmonisation as they relate to pre-analytical, analytical and post analytical stages of the testing process and to recommend a best practice approach.

Surveys of laboratories in NCCP designated cancer centres were undertaken by IEQAS on behalf of NCCP, to collate data on current practice and to assess analytical imprecision and bias using EQA and IQC data. Results were discussed at a recent NCCP PSA Harmonisation workshop with representatives from the surveyed laboratories. Initial recommendations to all laboratories will be presented. In addition, a pilot QA programme using common IQC and EQA material is planned within the NCCP designated cancer centres, on successful completion of which will follow a more extensive nation-wide roll out.

Biography
Dr Vivion Crowley is Consultant Chemical Pathologist in the Biochemistry Department, St James's Hospital. He is Chair of the NCCP PSA Standardisation Project Board.

Hazel Graham has worked with IEQAS since 1992 and is currently the Quality Manager. Previous work experience included various laboratory/management roles in the diagnostics and pharmaceuticals manufacturing sectors. She has an honours degree in Biochemistry and a post graduate Diploma in Quality Control, both from Trinity College Dublin.

Labquality - new schemes for 2014

Mr Juha Wahlstedt, Labquality

Abstract

Labquality is providing new EQA schemes for preanalytics in 2014. New schemes are designed for the laboratories and also for the phlebotomists and point of care users. These new schemes will help laboratories to control specimen collection, delivery and storing procedures and compare their routines to other laboratories inside the country and internationally. Labquality has also several new schemes for microbiology laboratories. Most interesting are HIV, HBV and HCV schemes for nucleic acid methods and multidrug resistant bacteria surveillance schemes.

Biography

Juha Wahlstedt BS, is head of sales and EQA solutions specialist for Labquality in Finland.

Clinical Chemistry Workshop

The number of tPSA tests continues to rise and variation in testing practices persists: a survey of laboratory services in Ireland 2008-2010

Dr Frances Drummond, National Cancer Registry Ireland

Abstract:

*Frances J Drummond[1], Edward Barrett[2], Richeal M Burns[3], Ciaran O'Neill[3], Linda Sharp[1]

[1] National Cancer Registry Ireland, [2]Mid Western Regional Hospital, Limerick & [3] J.E. Cairnes School of Business & Economics, NUI Galway

Background: Ireland had the highest incidence of prostate cancer in Europe in 2008, due to widespread PSA testing.

Aims: To investigate practices and costs of PSA testing in Ireland, 2008-2010

Methods: Postal laboratory questionnaire. Results were compared with 2006 and 2007 surveys.

Results: Response rate was 95% (42/44). In 2010, 37 laboratories measured tPSA; 10 measured fPSA. Eight assays were used and cut-offs to define 'normal' tPSA varied widely. There was a 9.9% annual increase in the number of tPSA tests and a -31% annual decrease in the number of fPSA, 2006-2010. A hundred-fold difference in tPSA workload was observed across laboratories. In 2010 the estimated cost of PSA testing was €3,649,984 (95%CI €2,532,745-€4,767,222).

Conclusions: Health service costs of PSA testing are significant. The number of tPSA tests continues to rise, fPSA use fell by almost one-third. Inter-laboratory variation in testing practices persists. These have potentially important clinical consequences for men and need to be addressed.

Biography

Frances joined the National Cancer Registry in 2005. Since then she has coordinated a number of all-Ireland research projects. These include studies investigating: trends in prostate cancer incidence; the effect of prostate cancer diagnosis and treatment on men's health-related quality-of-life and the cost-effectiveness of PSA testing. She holds a PhD in Biochemistry from University College Cork.

An audit of practice: haemoglobin variants incidentally detected using HPLC

Paula O'Shea, Consultant Clinical Biochemist, Galway University Hospital

Abstract

Haemoglobinopathies consist of structural variants of haemoglobin which arise from mutations in the globin genes. While more than 900 haemoglobinopathies have been described only a small number will have clinical significance. The identification of haemoglobin variants has increased in Ireland due to the immigration of individuals from areas with a high incidence of haemoglobinopathies, such as Africa and Southeast Asia. The rate haemoglobin variants incidentally detected using HPLC has increased in tandem.

HbA_{1c} formed when glucose binds specifically to the N-terminal valine of the β chain of haemoglobin, is used for the diagnosis of diabetes and assessment of glycaemic control. However, the presence of a haemoglobinopathy can make the use of HbA_{1c} inappropriate. In persons with diabetes, a haemoglobinopathy may be suspected when the patients' HbA_{1c} result is different from expected, e.g. relative to routine capillary glucose monitoring, or when HbA_{1c} results are very low (< 28 mmol/mol) or very high (> 105 mmol/mol). In April 2013, IEQAS recommended the following as the minimum comment that should be attached to the report when a haemoglobin variant is detected, "Haemoglobin variant detected, interpret HbA_{1c} result with caution. Do not use this result for diagnosis or to assess concordance with glycaemic targets." We present an audit of our practice with respect to this recommendation.

Biography

Paula O'Shea FIBMS, MSc, FRCPath, EurClinChem is a Consultant Clinical Biochemist at Galway Roscommon University Hospital Group.

IQC data presentation

Dr Graham Lee, Principal Biochemist in Clinical Biochemistry & Diagnostic Endocrinology Mater Misericordiae University Hospital, Dublin

Abstract

The presentation will cover the IQC programme which has been rolled out in the Mater and our experiences. This will include assigning and changing IQC targets, review of daily and monthly IQC performance, assessing comparability of performance between instruments (when analytes are run on >1 machine). It will include the Westgard rules we use, how to put such theory into practice and responses to IQC rule failures.

Biography

Graham Lee is Principal Biochemist in Clinical Biochemistry & Diagnostic Endocrinology at the Mater Misericordiae University Hospital, Dublin (2010 to present).

Pre-registration training years (4yrs) in Belfast Trust (Royal Victoria & City Hospitals) & Royal Derby Foundation Trust before HPC registration as Clinical Scientist in Biochemistry in 2009. Fellow of the Royal College of Pathologists since 2010. Research interests include Cardiomyocyte Hypertrophy (PhD); Microvascular complications of Diabetes (Post-Doctoral Research Fellow); Phaeochromocytoma and biochemical diagnosis; Cardiac biomarkers.

Graham has the position of ACB regional tutor (Jan 2013) & tutor with School of Biomedical Sciences (Current tutoring modules: MSc in Clinical Chemistry and Post-graduate Diploma in Clinical Biochemistry).

Haematology Workshop

Blood Cell Morphology Scheme review 2012-2013

Dr Kanthi Perera, Consultant Haematologist, Midland Regional Hospital, Tullamore

Abstract

During the last year IEQAS circulated 6 morphology cases. The presentation will review some of the morphological abnormalities in each case with a brief review of the diagnosis, to include how you could arrive at the diagnosis.

Biography

Dr Kanthi Perera graduated from the Faculty of Medicine, University of Colombo, Sri Lanka, initiated her post-graduate training in Sri Lanka and completed it at The Royal London Hospital in England. She was appointed as the first Consultant Haematologist in the National Cancer Hospital in Colombo and gave the leadership for the establishment of the first stem cell transplant unit in the country at the National Cancer Hospital. Dr Perera was hugely involved with both undergraduate and postgraduate teaching in the country. She moved to Ireland in 2001 and held a temporary consultant post in Mid-Western Regional Hospital, Limerick for 3 years and in UCH Galway for 9 months and is now Consultant Haematologist at the Midland Regional Hospital in Tullamore. Dr Perera carries out regular morphology teaching for SpRs and is a member of IEQAS Haematology Review Group.

Malaria: refresher and quiz

Ms Therese Driscoll, Senior Medical Scientist, AMNCH Tallaght

Abstract

Malaria is the most important vector borne disease in the world. It is estimated that Malaria afflicts between 350-500million people annually (WHO). Malaria has been a notifiable disease in Ireland since 1948, however it was only in January 2004 that EU legislation made it a legal requirement for both laboratory directors and clinicians to notify cases to the Health Protection Surveillance Centre (HPSC).

Malaria causes a flu-like illness which if left untreated may lead to severe complications and frequently to death. In 2010 an estimated 660,000 people died, most in the African Region (CDC).

The laboratory plays a vital role in the diagnosis of malarial infections with the examination of thick and thin films remaining the "gold standard". This talk aims to provide a short refresher on the morphology of the different species of malaria endemic to man and to test that knowledge in a fun quiz.

Biography

Therese Driscoll graduated as a Medical Scientist from C.I.T later obtaining an MSc in Biomedical Science from the University of Ulster in Coleraine in 1993. She has been employed as a Senior Medical Scientist in the Haematology Laboratory in Tallaght Hospital since 2000 where she has a particular interest in blood film morphology.

Therese has been involved with IEQAS since 2004 serving as a Specialist Adviser and is also a member of the IEQAS Haematology Review Group.

Update on harmonisation for units of measurement in Haematology

Mr Richard McCafferty, Chief Medical Scientist, St James's Hospital, Dublin

Abstract

The UK Pathology Harmony Project established in 2007, agreed with the UK professional bodies under the auspices of the Department of Health, to work towards the goal of standardisation of pathology testing, to include reporting units and reference intervals. This was driven by a perceived danger that variation in test names, units and reference intervals can cause confusion among service users that poses a risk to patients. Furthermore it was considered desirable that clinicians can directly compare pathology results from various service providers. In haematology, the reporting units of the extended Full Blood Count (FBC) and differential were the initial focus of the harmonisation group. The most significant changes in practice agreed were the adoption of SI units to report Haemoglobin and mean cell haemoglobin concentration (MCHC) (i.e., as g/L instead of as g/dL). It was also agreed that the differential white cell count, reticulocyte count and nucleated red blood cells (NRBCs) should be reported as absolute numbers (x 109/L) rather than as percentages, as or numbers per 100 white cells, respectively. UK laboratories were asked to adopt these reporting by March 2013.

This UK initiative was considered by the Haematology Advisory Body of the Academy of Medical Laboratory Science (AMLS) and by IEQAS in regard to implications for practice in the Republic of Ireland. A survey of Irish laboratories was carried out in the last quarter of 2012, the results of which were reported at the IEQAS and AMLS annual meetings. A collaborative meeting between the Irish professional bodies, the HSE, AMLS, IEQAS, the Irish Haematology Society, the Royal College of Physicians of Ireland and the College of General Practitioners was held in April 2013 to consider the issues and the survey findings.

A further initiative aimed at standardisation of reporting units in haematology worldwide, has been adopted by the International Committee for Standardisation in Haematology (ICSH) and the data from the Irish survey was fed into an international survey conducted by the ICSH.

An update will be given on the outcome of the joint meeting of the Irish professional bodies, the worldwide ICSH survey, the UK

experience since introduction of the new reporting units, and on the next steps planned in the Republic of Ireland.

Biography
Richard McCafferty has been Chief Medical Scientist in Haematology at St James's Hospital since 1997 and has over 20 years experience at a senior level in haematology laboratory management.

He has been Chair of the Haematology Advisory Body of the Academy of Medical Laboratory Science since 2006 and has led the organisation of blood cell morphology workshops and seminars or short courses in haemostasis, diagnosis of haematological malignancy, haemoglobinopathies and flow cytometry, presented by Irish and international speakers.

Microbiology Workshop
Laboratory and clinical aspects of CRE

Laboratory detection of carbapenamases

Ms Juanita Grogan, Chief Medical Scientist, OLCH Crumlin

Abstract
This talk will provide an introduction and a brief overview of the commonly encountered carbapenamases including historical aspects of dissemination. The evolution of current diagnostic methods for the detection of these organisms will be reviewed. Difficulties inherent in the recognition and detection and potential solutions will be discussed. The best solution to overcome these caveats will be described. Future challenges linked to continuing evolution of these organisms and their resistance mechanisms will also be considered.

Biography
Juanita Grogan (FAMLS- 1987) has 30 years medical microbiology experience. She participated in the 2000-2001 working party of the Academy of Medical Laboratory Science and the Irish Society of Clinical Microbiologists on the adoption of standardized susceptibility testing in Clinical laboratories in Ireland. From 1997 to 2002 she was a member of the Microbiology Advisory Committee of the Academy of Medical Laboratory Science. From 2002 to 2005 she gained considerable experience in molecular microbiology including real-time PCR assay design, and nucleic acid extraction and amplification techniques. From April to September 2005 she held the position of Acting Chief Medical Scientist in Microbiology. She was responsible for the implementation and introduction into use of the Containment Level 3 facility and for ensuring that all documentation and procedures were in place in order for the laboratory to achieve full CPA accreditation. In 2008 she completed the National University of Ireland Diploma in Healthcare management. From 2008 to 2011 she had responsibility for quality in microbiology and also for testing and validating the upgrade to the LIMS. In June 2011 she was appointed Chief Medical Scientist in Microbiology.

A clinical outbreak of CRE imported from 'St. Elsewheres'

Dr Niamh O'Sullivan, Consultant Microbiologist & Director of Pathology, OLCH, Crumlin, & Consultant Microbiologist, Coombe Women & Infants University Hospital

Abstract
The first CRE isolates detected at OLCHC were imported from abroad. The host hospital was alerted but failed to detect CRE in their patient cohort and advised that OLCHC had sent the problem to them! The international diplomacy required to resolve the issue will be outlined. The implications for OLCHC will also be considered. The necessity for comprehensive screening of all patients repatriated following medical care abroad will be emphasised.

Biography
Niamh (MD 1998) has extensive experience in the fields of epidemiology and surveillance pertaining to clinical pathogens, with an emphasis on infection prevention and control of cross-infection. In 2002, she was instrumental in the development of a Molecular Microbiology Laboratory service at Our Lady's Children's Hospital, Crumlin. The work of the laboratory focuses on the use of modern molecular techniques for the detection of infectious diseases caused by a host of bacteria, fungi and viruses through the design and development of bespoke molecular assays. In 2008, the laboratory tested more that 2000 specimens by real-time PCR.

Dr. O'Sullivan and staff at the Molecular Microbiology Laboratory are currently undertaking a 3-year research project (jointly funded by The Children's Medical and Research Foundation and The Health Research Board) investigating the early detection and molecular profiling of *Pseudomonas aeruginosa* isolates in paediatric Cystic Fibrosis patients.

Niamh's specialist activities include: Member of Regional Infection Control Committee; Chair Hospital Infection Control Committee; Hospital Drug & Therapeutics Committee; Catheter Related Infection Working Group, chaired by HPSC; HIQA Hygiene Standards Committee; Faculty of Pathology; President, Irish Society of Clinical Microbiologists; IEQAS Specialist Advisor and Editorial Board, Epi Info – monthly surveillance bulletin from HPSC.

Neonatal & Paediatric Transfusion Workshop

Testing the baby sample

Mr Gabriel Hyland, Coombe Women and Infants University Hospital

Selection of blood for babies

Ms Mary Deasy, Haemovigilance Officer, University Maternity Hospital Limerick

Abstract

Two centres supply blood to the blood transfusion laboratories in Ireland; the Irish Blood Transfusion Centre in Dublin and the Munster Regional Transfusion Centre in Cork.

The aim of this presentation is to explore what red cell components are selected for transfusion to babies nationally. The study looks at selection of red cells in both the emergency and routine situations in neonates and children less than one year. Blood transfusion laboratories throughout the country were surveyed to provide the information.

Biography

Mary Deasy is the haemovigilance officer for the University Maternity Hospital Limerick. Her background is a medical scientist in blood transfusion.

Serological challenges in a maternity hospital

Mr John Quigley, Medical Scientist, National Maternity Hospital

Abstract

ABO and Rh blood grouping, even though a simple laboratory examination, remains the most important test in any blood transfusion laboratory. Discrepancies in blood group serology are not uncommon in routine transfusion practice. Resolving these discrepancies / anomalies and interpreting the results can often be a huge challenge to medical scientists, particularly in the absence of appropriate clinical information.

In the blood transfusion laboratory, discrepancies may occur when reactions in the forward group do not match the reactions in the reverse group, when expected reactions are weak or negative, or when a current blood group is conflicting with historical records.

In addition, problems may arise where an unexpected blood group does not fit into any of the categories that define blood group anomalies. The effect of certain medical interventions in pregnancy and the outcome of neonatal blood group serology is a classical situation where this can potentially occur.

This presentation will outline examples of some unusual cases where the serological blood group did not match what was expected and seemed to be unlikely at the time, until the full clinical picture was revealed.

Biography

John Quigley is a Medical Scientist in the field of Blood Transfusion & Immunohaematology. Since qualifying in 2005 with an honours degree in Medical Laboratory Science, John has worked as a Medical Scientist in the Blood Transfusion Laboratory of The National Maternity Hospital, Holles Street. John has also successfully completed a Masters Degree in Blood Transfusion & Transplantation Science through the University of Bristol in the UK. In 2012 John was elected to the Academy of Medical Laboratory Science Council and the Academy's Transfusion & Transplantation Science Advisory Board. He is an active representative on the Academy's Continuous Professional Development Program and Educational sub-committee. John sits on the NHS Learnpro editorial board and has contributed significantly to the development and progression of their online courses and is a keen advocate of the program. He also sits on the editorial board for the journal of haematology and thromboembolic diseases and the AMLS Converse magazine. John has guest lectured on both degree

and masters programmes on the topic of Blood Transfusion. He has been actively involved in the development of local Massive Obstetric Haemorrhage guidelines for The National Maternity Hospital and is currently involved in local obstetric and perinatal research. His main interests are in maternal alloimmunisation and fetal medicine.

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