

SCIENTIFIC DIVISION

60th MEETING

Durban, South Africa (October 20 and 21, 2017)

MINUTES (FINAL)

Members:	Abbr.	Term and Time of Office
Philippe GILLERY (FR) (Chair)	PG	1 st 2017 01 - 2019 12
Christa COBBAERT (NL) (Vice-Chair)	CC	1 st 2017 01 - 2019 12
Joseph PASSARELLI (US) (Secretary)	JP	1 st 2015 01 - 2017 12
Konstantinos MAKRIS (GR)	KM	1 st 2017 01 - 2019 12
Tsutomu NOBORI (JP)	TN	1 st 2015 01 - 2017 12
Mario PLEBANI (IT)	MP	1 st 2017 01 - 2019 12
James PIERSON-PERRY (US) (Corporate Rep.)	JPP	1 st 2015 01 - 2017 12
Karen PHINNEY (NIST Representative)	KP	Consultant
Heinz SCHIMMEL (JRC Observer)	HS	Consultant
Gary MYERS (US) (Chair JCTLM)	GLM	Consultant
Chris BURNS (UK) (NIBSC Representative)	CB	Consultant

EXECUTIVE SUMMARY - SCIENTIFIC DIVISION 60th MEETING, Durban, South Africa, October 20 – 21, 2017.

Present: Philippe Gillery (Chair), Joe Passarelli (Secretary), Konstantinos Makris, (Member), Jim Pierson-Perry (Corporate Representative), Karen Phinney (NIST Representative), and Gary Myers (SD Consultant/Chair JCTLM) were in attendance. Apologies received from Christa Cobbaert (Vice Chair), Tsutomu Nobori, Mario Plebani (Members), Heinz Schimmel (JRC Observer), and Chris Burns (NIBSC Representative).

5.4 EUROPEAN FEDERATION of CLINICAL CHEMISTRY and LABORATORY MEDICINE (EFLM):

The EFLM Science Committee and SD leadership once again agreed there should be close liaison and communication between the two groups. Professor Eric Kilpatrick is the EFLM SC chair. The Science Committee is responsible for scientific matters within EFLM and projects which further the scientific development of EFLM. Activities of the Committee particularly focus on promotion of research that translates the scientific results of clinical chemistry and laboratory medicine to clinical applications and improves patient outcomes through the appropriate use and interpretation of laboratory data in clinical practice. Within the EFLM SC there are working groups on cardiac biomarkers, biological variation, test evaluation, personalized laboratory medicine and a number of others but the general consensus of the SD are that these activities do not overlap with the IFCC SD. In fact, the EFLM WG on “Harmonisation of Total Testing Process” (WG-H) could potentially be synergistic with IFCC standardization / harmonization activities and the ICHCLR initiative. Approaches to avoid overlap and work collaboratively are being discussed and explored.

6.1 WORLD HEALTH ORGANIZATION (WHO):

WHO meetings occur each autumn. PG attends and participates as the liaison from the SD. The most recent WHO meeting occurred on October 16-19, 2017 but PG could not attend the annual meeting in Geneva due to the conflict with the Durban meeting. There may be a significant decision on HbA2 with respect to a reference measurement procedure which then might lead to a proposal for a new reference material. Commutability of the WHO material will need to be carefully considered. Beyond this, the SD decided that there were no new projects or collaborations to consider.

6.2 CLINICAL AND LABORATORY STANDARDS INSTITUTE (CLSI):

The complete list of cooperative IFCC/CLSI joint projects is available on the IFCC website. The link to these projects is under CPD: [http://www.ifcc.org/ifcc-communications-publications-division-\(cpd\)/ifcc-publications/clsi-ifcc-joint-projects/](http://www.ifcc.org/ifcc-communications-publications-division-(cpd)/ifcc-publications/clsi-ifcc-joint-projects/).

Jim Pierson-Perry is a member of the CLSI Board of Directors and serves as the IFCC liaison to CLSI and the CLSI liaison back to the IFCC Executive Board. There was a meeting with Professors M. Ferrari, H. Morris and CLSI leadership in August in conjunction with the 2017 AACC Annual Meeting in San Diego. There are a number of core and relevant documents that are scheduled to be released next year (EP06, 07, 34, and 25).

6.22.1 Joint Committee on Traceability in Laboratory Medicine (JCTLM):

The SD encourages visiting the JCTLM website (www.jctlm.org) which provides useful resources to illustrate the importance of traceability in laboratory medicine. The website is targeted at non-specialists and is intended to underpin the new JCTLM tag line 'Accurate results for patient care'. Sections include: Latest News, Publications, Resources, Meetings, and Partners.

The JCTLM 2017 nomination cycle for certified reference materials, reference measurement procedures and calibration laboratories that provide reference measurement services for laboratory medicine and clinical chemistry closed May 30, 2017. A total of 46 Certified Reference Materials were submitted along with 11 Reference Measurement Methods/Procedures and 22 Nominations for Reference Measurement Services. The information is being reviewed and assessed by the various Review Teams to be ratified by the JCTLM Executive Committee at the December 2017 meeting and those approved will go on the website in January 2018. The biennial JCTLM Members' and Stakeholders' Meeting will also be held at the BIPM during the Executive Committee meetings in December.

6.22.2 Joint Committee for Guide in Metrology (JCGM):

Report from Working Group 1 (GUM - Expression of Uncertainty in Measurement)

There was no new information made available since the last update/meeting minutes published.

Report from Working Group 2 (VIM – International Vocabulary of Metrology)

Joint Committee for Guides in Metrology Working Group 2: International Vocabulary of Metrology met 16-19 May, 2017, Paris. The major focus of the meeting was a detailed consideration of items proposed for inclusion in VIM-4. JCGM has encouraged WG2 to develop a "committee draft" of the next edition of the VIM by the end of 2018 (before the next JCGM meeting) incorporating the VIM3 annotations and a small number of new entries related to nominal and ordinal properties of current relevance to metrology. The WG2 convenor will report on progress at the next JCGM meeting. A considerable amount of time was spent on discussion of the term "unit of measurement". The WG agreed on a position statement. This is potentially important as a change in definition of "unit of measurement" had also been introduced in the current Draft 9th Edition of the

SI Brochure. The WG position statement has been forwarded to those responsible for the SI Brochure.

The next meeting will be in early December in Paris.

6.22.3 BUREAU INTERNATIONAL DES POIDS ET MESURES (BIPM) Consultative Committees

Consultative Committee for Amount of Substance: Metrology in Chemistry and Biology (CCQM):

There continues to be few topics of relevance in the area of clinical chemistry that the SD should consider.

SD received no correspondence from CCU.

6.31 JOINT RESEARCH CENTER (JRC) – formerly the INSTITUTE FOR REFERENCE MATERIALS AND MEASUREMENTS (IRMM):

The JRC continues to collaborate with numerous SD Cs/WGs on a variety of projects. As a short summary, the certification of three CRMs for Abeta42 is in the final stages, and the materials are expected to be released in the coming months. The autoimmune CRMs for PR3 and MPO ANCA have been released, and work is ongoing for the value assignment of a material for anti-B2GP. For amylase the production of a replacement batch has been started, after a commutability study on different raw materials was performed (manuscript in preparation).

6.33 NATIONAL INSTITUTE OF BIOLOGICAL STANDARDS AND CONTROL (NIBSC)

C. Burns provided an update via email correspondence:

C-peptide:

A paper has been published describing the establishment of C-peptide reference materials: Randie R. Little, Robert I. Wielgosz, Ralf Josephs, Tomoya Kinumi, Akiko Takatsu, Hongmei Li, Daniel Stein, Chris Burns (2017) Implementing a Reference Measurement System for C-peptide: Successes and Lessons Learned. *Clinical Chemistry*, 63 (9).

Insulin:

Project ongoing – Parallel studies launched to characterize the candidate International Standard. One study will look at its performance in immunoassays and the other will look at its utility as a higher order standard for the calibration of secondary/pharmacopoeial standards for therapeutic insulin products.

AMH:

Using recombinant human AMH donated by Professor Patricia Donahoe (Director) and Dr David Pépin of the Pediatric Surgical Research Laboratories, Massachusetts General Hospital, a candidate standard has been prepared which will be evaluated by immunoassay methods in a collaborative study. It is anticipated that the study will be initiated in 2018. Traceability of current assays is unclear and engagement of manufacturers will be required.

Prostate Specific Antigen:

Through collaboration with UK NEQAS, trial preparations of complexed and non-complexing PSA have been measured on multiple immunoassay platforms alongside the WHO International Standards, in order to identify a formulation which closely replicates the current ratio and can therefore be introduced with minimal impact on patient measurements. Collaborative studies to evaluate candidate preparations for the replacement of the WHO International Standards for PSA (90:10) and PSA (free) are to be launched imminently. This timescale will still allow establishment by the WHO in 2018.

6.37 NATIONAL INSTITUTE FOR STANDARDS AND TECHNOLOGY (NIST):

NIST continues to collaborate with numerous SD Cs/WGs on a variety of projects. Dr. Karen Phinney has been appointed as NIST Representative to the SD EC in place of Dr. David Bunk.

8.2 MAIN ACTIVITIES OF COMMITTEES:

8.2.6 C-NOMENCLATURE, PROPERTIES AND UNITS (C-NPU):

The committee continues to focus in the following areas:

- The NPU Steering Committee continues to clarify and formalize NPU governance.
- The NPU Scientific Committee continues as the vehicle for work projects and expert review of technical queries in relation to the terminology and related metrology issues that are frequently asked of our members.
- Efforts to more closely align the NPU with the much larger SNOMED-CT medical terminology.
- Review and addition of Molecular Pathology terms with the NPU terminology.
- Creation of a more flexible (online) and up-to-date NPU User Manual.
- Wikipedia presence for the NPU: (https://en.wikipedia.org/wiki/NPU_terminology) and the NPU Website.
- Various publications related to informatics and eHealth. One of these is a manuscript that was published in 2016 in CCA: "Understanding the 'Silver Book' — an important reference for standardized nomenclature in clinical laboratory sciences.

Professor Howard Morris has replaced Professor Graham Beastall as IFCC representative to the NPU Steering Committee.

8.2.11 C-MOLECULAR DIAGNOSTICS (C-MD):

The committee has been active in establishing a network in this area and continues to focus in the following areas:

- Website updates: The committee has submitted updates for the EQA page. The committee will request a separate webpage for "Expert Laboratories".
- Expert Laboratories: The requirements for Expert laboratories are under discussion specifically regarding the previous requirement for accreditation.
- EQA or Alternate Assessment: The committee is reviewing a checklist to make available to molecular diagnostic laboratories to support sample exchanges for alternative assessment between laboratories.
- Standardization/Harmonization efforts: The committee designed and captured data pertaining to the harmonization of the Molecular report. Sixteen laboratories participated from Asia, Europe, Middle East, North and South America.
- Manuscript published: Payne DA, Baluchova K, Peoc'h KH, van Schaik RHN, Chan KCA, Maekawa M, Mamotte C, Russomando G, Rousseau F, Ahmad-Nejad P. Pre-examination factors affecting molecular diagnostic test results and interpretation: A case-based approach. Clin Chim Acta. 2017 Apr;467:59-69. doi: 10.1016/j.cca.2016.06.018. Epub 2016 Jun16.

8.2.23 C-TRACEABILITY IN LABORATORY MEDICINE (C-TLM):

The following are some of the highlights of the current focus and activities of the C:

1. IFCC External Quality Assessment for Reference Laboratories:

RELA ring trials are currently provided for 36 measurands. The results of RELA 2016 are published on the website (www.dgkl-rfb.de:81). 48 laboratories participated in RELA 2016 and the organizer received 361 results from these laboratories.

2. Collaboration between RELA and CCQM Key Comparisons:

The international Consultative Committee for Metrology in Chemistry and Biology has 10 working groups, two of which are relevant to C-TLM, the Organic Analysis (OAWG) and Protein Analysis (PAWG) working groups. The OAWG has completed a comparison of metrology institutes with Vitamin D (D3 and D2) reference measurement procedure capabilities; this covered 7 institutes and will be published soon.

The PAWG has mapped out a model system to look at the different types of pure

peptide/protein types with respect to different challenges for purity assessment, i.e. looking at level of cross-links and modifications versus size.

3. HbA1c Network:

As in previous years the network organized 2 intercomparison studies with participation of the approved and candidate network laboratories and the designated comparison method networks in the US, Japan and Sweden. The aim was a) to re-approve the network laboratories, b) to approve candidate laboratories, and c) to confirm the master equations with the harmonization systems. All approved network laboratories kept their approval and master equations were confirmed. Candidates Reference Institute for Bioanalytics in Bonn, Germany and Fleury Laboratories in Sao Paulo, Brazil passed criteria and gained the status of approved network laboratory. There are now 18 approved network laboratories.

8.2.24 C-REFERENCE INTERVALS AND DECISION LIMITS (C-RIDL):

The C-RIDL continues to work to establish regional reference intervals. The committee held a two day meeting during the EuroMedLab Congress in Athens 2017. The multicenter indirect reference intervals study in Turkey, the harmonization of reference intervals study in Canada and integration of indirect reference intervals into laboratory information systems and pediatric reference intervals in Germany are ongoing projects. These countries will continue to work on these studies and inform the committee at the next meeting. The indirect data obtained from the Turkish study will be used to compare the direct and indirect methods.

Planned publications:

1. Indirect reference intervals
2. Publication of Reference Interval Studies - Advice for Authors and Editors
3. The validation of reference intervals
4. The clinical decision limits versus reference intervals

The Committee decided that after C-RIDL published their works for reference interval calculations, the attempts for updating the CLSI C28A3 guideline will be initiated as a CLSI-IFCC joint project.

8.2.25 C-STANDARDIZATION OF THYROID FUNCTION TESTS (C-STFT):

Two manuscripts describing the results of the final method comparisons, the outcome of the recalibration exercises and proof-of-concept studies (= reference interval studies), one for TSH, one for free T4 have been published in Clin Chem. (see

<http://clinchem.aaccjnl.org/content/63/7/1248> and

<http://clinchem.aaccjnl.org/content/63/10/1642>):

1. Thienpont LM, Van Uytendaele K, De Grande LAC, Reynders D, Das B, Faix JD, MacKenzie F, Decallonne B, Hishinuma A, Lapauw B, Taelman P, Van Crombrugge P, Van den Bruel A, Velkeniers B, Williams P on behalf for the IFCC Committee for Standardization of Thyroid Function Tests (C-STFT). Harmonization of Serum Thyroid-Stimulating Hormone Measurements Paves the Way for the Adoption of a More Uniform Reference Interval. Clin Chem 2017; 63:1248-60.
2. De Grande LAC, Van Uytendaele K, Reynders D, Das B, Faix JD, MacKenzie F, Decallonne B, Hishinuma A, Lapauw B, Taelman P, Van Crombrugge P, Van den Bruel A, Velkeniers B, Williams P, Thienpont LM on behalf for the IFCC Committee for Standardization of Thyroid Function Tests (C-STFT). Standardization of free thyroxine measurements paves the way for the adoption of a more uniform reference interval. Clin Chem 2017;63:1642-52.

The activities of 2017 to establish a network continue. Four laboratories have joined so far. The laboratories of the established network will annually prove that they measure in sufficient agreement, so that each of them is entitled to offer services to the IVD industry, when needed.

In addition, C-STFT and IVD industry are in close contact with the FDA to comply with the regulatory requirements upon implementation of the recalibrated immunoassays. For most TSH assays the changes after harmonization will be within 10% and within the limits for acceptable changes currently set by the manufacturers. No date for final implementation has been fixed. Next, the sustainability of the new traceability basis needs to be considered. It was noted that for the US FDA, it is a requirement that the sustainability of the new traceability basis be demonstrated.

8.2.26 C-HARMONIZATION OF AUTOIMMUNE TESTS (C-HAT):

The Committee will continue on the activities previously done within the WG-HAT with broader scope. The C has already had one conference call and a face-to-face meeting is planned in the near future. The discussion focused on materials currently available, important questions and considerations, and interfaces to relevant organizations such as EULAR. The chair has already received some news from EULAR that they may be interested to contribute, collaborate and participate. Certainly the collaboration with EULAR is very helpful as they have access to very large patient cohorts and bring in the clinical aspects.

The committee has identified the following terms of reference:

- to evaluate what are the main causes of variability for a number of diagnostically critical autoantibodies.
- to identify autoantibodies where a common calibrator could reduce the inter-assay variability
- to identify or produce commutable materials that could be used as interim calibration material for autoantibody assays.
- to produce well-characterized pure antibody preparations with known concentration and identity and use these to transfer values to a matrix preparation.
- to evaluate the impact of new reference materials on the variability of autoantibody tests and identify areas where further harmonization would improve diagnostic accuracy.

8.3 MAIN ACTIVITIES OF WORKING GROUPS:

8.3.35 WG - STANDARDISATION OF HEMOGLOBIN A2 (WG-HbA2):

A joint committee with ICHS (The International Council for Standardization in Hematology) has been formed. The method developed is an HPLC-IDMSMS measurement procedure based on peptide mapping and calibration with recombinant expressed HbA0 and HbA2 standard materials, traced back to SI units. The experimental work for the validation of the candidate reference measurement procedure assessing various target tryptic peptides has been completed. The data demonstrated very good reproducibility (between-run CVs approximately 1.7-1.8 %) with recovery and linearity across the whole physiopathological range. A scientific publication of the work is in progress. The results obtained so far also prove that the calibration by commutable control materials is able to reduce inter-method differences of current high-performance methods for HbA2 from 6.7 % to 3.7%. A second manuscript is under preparation. Certified reference materials will be prepared for HbA2 by the JRC once the RMP is published.

8.3.36 WG - STAND. OF CARBOHYDRATE-DEF. TRANSFERRIN (WG-CDT):

The WG has been very active and has accomplished most of the Terms of References but not complete. The WG will continue for the next 1 – 2 years to finish all activities with a new chair - Dr. Jean Deenmamode. The following is a summary of the current focus / projects of the WG:

- Maintaining an international network of reference laboratories
- Supporting worldwide standardization of commercial methods against the RMP

- Obtaining JCTLM approval for the standards developed by the WG
- Promoting the use in national and international EQAS programs
- Promoting the use of the RMP and the IFCC approved URL and cut off by national societies involved in alcoholism diagnosis
- Supporting the proper use of CDTIFCC in national guidelines concerning driver checks and workplace checks

At the moment the CDT WG is busy with the second draft of an announcement about CDT standardization for the IFCC News bulletin.

8.3.39 WG – STAND. OF ALBUMIN ASSAYS IN URINE (WG-SAU):

All activities of the WG-SAU are a joint effort with the Laboratory Working Group (LWG) of the National Kidney Disease Education Program (NKDEP), USA. A manuscript describing recommended total allowable error, precision and bias goals for UA was published:

Standardization of Urine Albumin Measurements: Status and Performance Goals: Miller WG, Seegmiller JC, Lieske JC, Narva AS, Bachmann LM. The Journal of Applied Laboratory Medicine, Sep 2017, jalm.2017.023614; DOI: 10.1373/jalm.2017.02361. The recommendations are based on published data for intra-individual variation, and precision/bias data generated from the WG-SAU urine albumin harmonization study.

A candidate Reference Measurement Procedure for UA based on isotope dilution liquid chromatography tandem mass spectrometry (ID-LC-MS/MS) is under development by the Mayo Clinic Renal Function Laboratory and NIST. It is anticipated the NIST procedure will enable assessment of the molecular forms of albumin in urine that may be of importance in the specificity requirements for routine measurement procedures.

To facilitate standardization of routine methods, NIST SRM 3666 is currently being developed based on the specifications recommended by the WG-SAU and the LWG of the NKDEP.

8.3.40 WG – STAND. OF PREGNANCY-ASS. P-PROTEIN A (WG-PAPPA):

Over the last few months the WG has been quite active. In addition, several companies (Beckman, Perkin- Elmer, Roche, Siemens, etc.) are involved. The chair finishes her first term at the end of 2017 and will be reinstated for a second term.

The goal of PAPP-A standardization phase 3 is to study whether pooled 3rd trimester or 2nd trimester serum can be used for harmonization of the commercial PAPP-A tests. Each participating company will test the same set of samples with its own assay method. A comparison between results given by the tested methods will be made and the validity of the use of 3rd or 2nd trimester pregnancy serum for harmonization will be evaluated.

Furthermore, the study will give information on suitable diluent of the serum pools and on the ability of the assays to detect PAPP-A in free and complexed form (3rd trimester vs. 1st trimester serum). Each company is provided with a sample panel of 47 ready-to-use PAPP-A containing solutions. The use of at least two reagent/kit lots is recommended. Key data from studies described above will finish end February 2018.

8.3.41 WG – GROWTH HORMONE (WG-GH)

The composition of members, terms of reference and current projects have now been identified and can be found on the IFCC website. The key term of reference is to achieve standardization of growth hormone through secondary reference materials and a reference measurement procedure by:

- defining the analyte/measurand to be measured
- testing the feasibility of serum pools as secondary, commutable reference preparations
- preparation of secondary reference preparation for GH (3 serum pools)
- development of a LC/MS/MS based reference method for GH

The inclusion of a term of reference for IGF-1 standardization is still being considered by the WG and the SD. This will be further defined in the coming months.

8.3.42 WG – STANDARDIZATION OF INSULIN ASSAYS (WG-SIA)

This is a joint project between ADA/EASD and IFCC. Establishment of a reference measurement procedure for serum insulin is on-going. Several labs are currently testing samples with the candidate reference method. At the same time the WHO has been investigating a reference material via C. Burns at NIBSC. This material is now available and has been value assigned. This material will be used as calibrator for the mass spec procedure to assign values. The plan is to use the mass spec method, reference material, samples or pools or some combination of these to bring the immunoassays closer together.

The next meeting is planned for in October in conjunction with the 2017 WorldLab in Durban.

8.3.43 WG – STANDARDIZATION OF TROPONIN I (WG-TNI)

Dr. Rob Christenson has been appointed to serve as the new chair effective July 2017. Since then the WG has been quite active. The chair has been in contact with NIST to identify a replacement for the previous chair – Dr. David Bunk since it is essential that any commutable materials that the WG recommends will need full NIST advocacy and support. The chair has also spoken to other experts in the field to consider joining the WG along with its existing members. The chair plans to meet with Dr. Mark Lowenthal from NIST to discuss the exact status of the protocol for collection of samples for the commutable SRM material. The protocol will be distributed to the entire committee for their comments and feedback well before the end of 2017.

It should also be noted that the AACC Academy (formerly NACB) and the Task Force on Clinical Applications of Cardiac Bio-Markers of the International Federation of Clinical Chemistry and Laboratory Medicine have put together “Clinical Laboratory Practice Recommendations for the Use of Cardiac Troponin in Acute Coronary Syndromes”. This guidance has been submitted for publication and is currently in the late stages of peer review. A main recommendation is Recommendation 8: Commutable materials must be developed for the use in harmonizing and standardizing cTn measurements. This document supports the work of this WG, and will add visibility and further credibility to its efforts.

8.3.48 WG-PARATHYROID HORMONE (WG-PTH):

The WG met in August in conjunction with the 2017 AACC annual conference in San Diego and had a productive meeting. At the meeting, Dr. Hubert Vesper reported on the progress with development of the candidate reference measurement procedure.

Additional developmental work that may be relevant to increasing the analytical sensitivity of the procedure is being undertaken by Dr. Karen Phinney's group at NIST.

A commutability study is planned with the WHO materials but this has not started yet.

Importantly, there is also the interest to develop a MS reference method for PTH 1- 84.

Efforts to raise funds to support development of the reference measurement procedure are actively progressing through links to the nephrology community.

The protocol for the commutability study is nearing completion and ready for circulation for comment in early Fall. In parallel, contacts have been made with UK nephrologists who are willing to collect the EDTA plasma samples that will be required for the study.

The Working Group plans to hold its next formal meeting at the 2018 AACC in Chicago, where it is anticipated that it will be possible to report significant experimental progress with the project.

8.3.49 WG – CSF Proteins (WG-CSFP):

Three reference materials have now been produced for A β 42, with high, middle and low A β 42 concentration. Homogeneity and stability have been verified, long-term stability (1

year) is acceptable. Value assignment is on-going, with four LC-MS datasets received and being analyzed. A β 1-42 CRM is almost complete and will become available at the end of the year. The WG is also developing a SRM mass-spec method for A β 1-42 in CSF, to qualify as a reference measurement procedure (RMP). The WG will continue to refine these materials and procedures as well as for A β 40 which is gaining interest clinically. In addition, activities continue on the tau RMP.

8.3.50 WG – Standardization of Bone Marker Assays (WG-SBMA):

This is a joint activity with the International Osteoporosis Foundation. The National Bone Health Alliance (NBHA) also has a WG focused on bone marker standardization. All three organizations will be working collaboratively on this project.

The comparability study of the two major clinical assays for CTX and PINP have been completed at four European centres including data on the effects of serum or plasma specimen, fasting or non-fasting subjects and males and females presenting to osteoporosis clinics on the comparability of the results of assays from two manufacturers used by clinical laboratories. Draft manuscripts are being finalized in preparation for submission to an appropriate peer-reviewed journal. Manuscript will also be completed including an algorithm for the harmonization of the results from each assay.

The current Chair of the WG will step down at the end of 2017 (since Professor Morris is the incoming IFCC President) and Professor Etienne Cavalier will be appointed the new Chair.

8.3.51 WG – Commutability (WG-C):

The WG determined the intended audience for their work output was the following groups as beneficiaries of advancing understanding and assessment of commutability of reference materials: patients, clinical laboratory, IVD industry, reference material providers, and EQA organizations.

Three manuscripts have been submitted to Clinical Chemistry as a series for inclusion in the same issue and are under review. The titles are:

1. IFCC working group recommendations for assessing commutability part 1: general recommendations for experimental design for assessment of commutability.
2. IFCC working group recommendations for assessing commutability part 2: commutability assessment based on the difference in bias between a reference material and clinical samples.
3. IFCC working group recommendations for assessing commutability part 3: commutability assessment based on the calibration effectiveness of a reference material.

The WG is continuing to develop recommendations that will become three additional manuscripts and are likely to be submitted in 2018. These topics need additional development by the WG to be ready for publication:

1. Adjustment of the value assigned to a reference material for non-commutability bias with a specific measurement procedure.
2. Validation of commutability for a replacement batch of reference material – an abbreviated validation design.
3. Approaches to establish criteria.

8.3.53 WG – Immunosuppressive Drug (WG-ID):

This new WG will be headed by Drs. L. Langman and C. Seger. They have submitted a list of potential members. Overall, many stakeholders within the IATDMCT (International Association of Therapeutic Drug Monitoring and Clinical Toxicology) are willing to contribute to the workgroup. In addition, there is good regional / global representation but so far no industry members have expressed interest. This will be addressed. Proposed terms of references have also now been submitted for consideration by the SD. The WG is devoted

to the establishment of candidate reference procedures and reference materials for immunosuppressive drugs (ISDs) as Analytes – cyclosporine, sirolimus, tacrolimus, everolimus, and MPA mycophenolic acid (MPA). Demonstration of the current state of the art in ISD – TDM by measurement comparison will define the need for standardization or – if feasible – harmonization of measurement services.

Project 1: Regulatory framework

Project 2: Production of reference materials to be listed in the JCTLM data base

Project 3: Establishment of reference methods / procedures to be listed in the JCTLM database

Project 4: Establishment of a reference measurement service network

Project 5: Education / outreach

Project 6: State of the art assessment: measurement comparison initiatives

8.3.54 WG – Apolipoproteins by Mass Spectrometry (WG-APO MS):

The WG is progressing very well and investigating both reference materials and reference methods. The WG is focused on two projects/directions:

1. Firstly, three calibration labs (Leipzig, CDC and Leiden) are setting up a common accuracy base method/procedure for serum apo quantification based on bottom up proteomics.
2. Secondly, work on the development of reference materials (RMs) is ongoing. Both SIL-peptide calibrators and SIL-intact proteins are considered in the discussions. CDC may help with the production of lyophilized, value-assigned peptide calibrators (to be worked out with JRC and LNE). Via Prof. Kostner's network, the WG will obtain Lp(a) c.q. intact apo(a) from transgenic pigs with a defined number of KIV-2. As soon as the material is available it will be characterized in pilot experiments.

On 15 December 2017, a meeting is planned in Leiden to exchange the data from RMP development and RM characterization.

8.3.55 WG – Pancreatic Enzymes (WG-PE):

The WG met in Athens on June 14, 2017 at EuroMedLab. The WG was established in the beginning of the year and is the result of the closure of the previous C-RSE and has established the following Terms of Reference:

- To develop a primary reference method for pancreatic Lipase in Serum
- To develop a primary reference method for pancreatic Amylase in Serum
- To support EC-JRC (Joint Research Centre, Directorate F – Health, Consumers and Reference Materials, formerly IRMM) in case of studies and certification of reference materials for enzymes.

Essentially, it has been decided to limit / stop activities to develop a primary reference method for lipase in serum as all efforts to get a robust RMP have failed. The WG has changed the focus more specifically on the development of a primary reference method for pancreatic amylase in serum.

The next meeting of the WG will likely take place sometime in 2018 in conjunction with an international conference.

8.3.56 WG – Fecal Immunochemical Testing (WG-FIT):

The WG met in Athens in June in conjunction with EuroMedLab. The meeting was very well attended: 12 group members and 9 corporate members (from 5 companies) - total of 21 people.

Key outcomes of the first meeting;

- Development of a reference material/ method for FIT: a reference lab in Belgium to collate information via surveying all the FIT companies. This has been carried out and results to be discussed at the next FIT meeting in October 2017 to enable progression.

- Challenges of EQA schemes include the pre-analytical variation of a stool sample being loaded into a collection device so the group has discussed making a formal recommendation that EQA schemes have two parts (1) sample pre-loaded to only assess the performance of the analyzer (2) provide sample to assess whole pathway from sample loading to result. This needs further discussion and ratification at the next meeting.
- A second meeting is scheduled for Thursday 26th October 2017 in Barcelona. This coincides with a World Endoscopy Organization (WEO) meeting. Agenda to include discussion of the above two topics, clarification of terms of reference of the WG, and how sponsorship funds should be allocated.

8.19 MEETINGS

- 8.19.60 60th SD Meeting – Durban, South Africa, October 20 – 21, 2017
- 8.19.61 61st SD Meeting – Milano, Italy, May 25 – 26, 2018
- 8.19.62 62nd SD Meeting – tbd. (in conjunction with the IFCC General Conference)
- 8.19.63 63rd SD Meeting – tbd.