Report of the 19th meeting of the JCTLM Executive Committee
7-8 December 2017, BIPM, Sèvres, France

List of participants:
Dr G. Myers (JCTLM Chairman, IFCC)
Ms R. Robertson (ILAC)
Dr G. Beastall (IFCC, JCTLM WG-TEP Chair)
Dr A. Kessler (IFCC)
Dr R. I. Wielgosz (JCTLM Executive Secretary, BIPM)
Dr S. Maniguet (JCTLM Secretariat, BIPM)
Dr K. Phinney (JCTLM DB WG vice-Chair, AG3)
Dr J. McLaren (CIPM)
Dr G. Jones (ILAC)
Dr. Q. Liu (JCTLM DB WG vice-Chair, AG1)
Ms. Bednarova (ILAC)

Apologies received:
Dr. M. Milton (BIPM)
Dr. W.E. May (CIPM)
Prof. M. Pantheghini (JCTLM DB WG vice-chair, AG2)

Dr Myers opened the meeting and welcomed Ms Bednarova who would be the representative of ILAC at the meeting.

1. Approval of the agenda [JCTLM-EXEC/17-13]

Dr Myers asked the Committee whether any additional points should be considered for the agenda. Dr Jones asked for a discussion of a new concept for defining common criteria for EQAS to be added under agenda point 9.5. Dr Wielgosz asked for a discussion point on JCTLM process for assessment of methods under agenda point 6.3. The changes to the agenda were approved.

2. Report of 18th JCTLM Executive Committee Meeting [JCTLM-EXEC/17-14]

There were no comments on the report of the 18th Executive Committee meeting, which had been finalized in September 2017, and published on the BIPM JCTLM website.

2.1 Review of action points arising from the 18th meeting

Dr Wielgosz summarized the action items from the previous meetings that were still in progress:

Action (A/16-10): Dr Wielgosz to send a request to the IFCC Scientific Division to review the IFCC reference measurement procedures for pH, Blood Gases, and Electrolytes and consider nominating these for listing in the JCTLM database.
Dr Wielgosz would follow up on this action after the meeting and contact the Chairman of the IFCC Scientific Division.

Action (A/16-12): Dr Phinney / Dr K. Lippa (NIST) to draft a proposal which would highlight the key acceptance criteria with respect to ISO 15194 requirements for submission of renewed batches of the certified reference materials.
Dr Phinney reported that key criteria for JCTLM submission of renewed batches of CRMs that were being produced under the same conditions had been discussed at NIST and it appeared from this preliminary review that there was no obvious simplification of JCTLM processes with regards to ISO 15194 requirements for homogeneity, stability and commutability assessment. Some members of the Committee referred to ISO 17034 which included a process for the production of multiple batches of RMs with equivalent properties applying the same procedures, and, anticipated the omission or simplification of homogeneity and/or stability tests under certain conditions.
In the discussion that followed the Committee concluded that a consultation process among other NMIs/DIs producing CRMs in compliance with ISO 17034/ISO 15194 should be conducted in order to gather their views for identifying critical tests for the production of renewed batches of materials.

Action (A/17-02): R. Wielgosz/G. Myers to draft a discussion paper concerning the implementation of the proposed JCTLM requirement for submission of full English version of the certification documents of CRM for presentation at the next JCTLM Members' and Stakeholders' meeting.
Dr Myers said that a first draft of the discussion paper had been produced for describing the benefit of having documentation available in full English version in respect of both producers and users of materials. Dr Wielgosz commented that there was no existing requirement for providing supporting documentation in English in any of the international standards ISO 15194 or ISO 17034 describing the general requirement for competence of material producer. From the discussion that followed, the Committee agreed that an evaluation survey among the NMIs should be made to test their views and concerns on the possibility to produce the certification documentation, in part or full in English, before proceeding further with the drafting of the discussion paper.

Action (A/17-03): Secretariat to draft the fast track process when a NMI submits a CRM listed as a mechanism for service delivery for a CMC published in the database of the CIPM MRA and to circulate it for comment to the JCTLM DB WG and final approval at the next December's JCTLM Executive Committee meeting.
The action was not yet completed and would be discussed under agenda point 6.

Action (A/17-04): Drs Beastall and Jones to set up a proposal for a half-day workshop on 7 December 2017 to consider traceability in haematology area in consultation with ICSH representative, and Review team on blood cell counting and typing.
Dr Beastall reported that the meeting on traceability in haematology area had to be postponed to 2018 due to time constraints, and this would be further discussed under agenda point 3.

Action (A/17-06): G. Jones to finalize the guidance document for publication of method assay after review against concepts described in ISO 17511 standard and consultation with the editor of Clinical Chemistry journal that there were no remaining opened questions.
G. Jones reported that the action was on going. He further added that the final draft of the guidance document for publication of method assay was ready and would be forwarded to the editor of Clinical Chemistry journal in due time.

New Actions

Action (A/17-13): BIPM to conduct a survey among NMIs with CRMs in the JCTLM Database in compliance with ISO 17034/ISO 15194 in order to identify critical criteria for renewing batches of the certified reference materials that would be produced under the same procedures.

Action (A/17-14): BIPM to conduct an evaluation survey among the NMIs with CRMs in the JCTLM Database to test their views and concerns on the possibility to produce the certification documentation partly or fully in English.

3. Progress with identifying potential JCTLM Executive Committee Organizations

Drs Beastall and Myers said that they pursued the dialogue with the International Council for Standardization in Haematology (ICSH) in 2017 and had a very constructive meeting on 3 December 2017 with two representatives of the ICSH who also attended the JCTLM Members and Stakeholders' Meeting that week. As a result of this meeting ICSH welcomed the possibility to organize a meeting with JCTLM on the concepts and implementation of calibration hierarchies and metrological traceability in the field of haematology.

In the discussion that followed, the Committee concluded that a leadership meeting between ISCH and JCTLM should be organized and located at the BIPM in 2018 with the view to discuss the technical issues in the field of haematology and how progress could be made and metrological traceability implemented in the field of haematology. It also requested that the experts from the metrology community and JCTLM Review Team for Blood Cell Counting and Typing should be invited to joint this meeting.

The Committee also discussed the need for JCTLM to re-engage the dialogue with the World Health Organization (WHO) and recommended to look at the possibility to organize a leadership meeting with them. Liaison with WHO would be further discussed under agenda point 13.

Action (A/17-15): Dr Myers to draft a proposal for a ICSH JCTLM Meeting at the BIPM to discuss traceability in the field of haematology and how progress can be made and metrological traceability implemented.

On 20 December the date of 14-15 May 2018 was proposed for holding a meeting between JCTLM and ICSH at the BIPM.

4. JCTLM membership

4.1 JCTLM Applications [JCTLM-EXEC/17-28, 31, 33, 34]

Dr Maniguet presented the documents JCTLM-EXEC/17-28, 31, 33 and 34 which included four applications for JCTLM Membership from organizations that applied for a Stakeholder member status. The Committee reviewed all applications and accepted three of these as follows:

- National Center for Clinical laboratories (NCCL) from China which was EQA provider;
- Association for Quality Management in Laboratory Medicine (AQMLM) from United Kingdom which was providing training in quality management throughout all sectors of laboratory medicine;
- UK NEQAS Birmingham from United Kingdom which was an EQA provider in the areas of clinical chemistry, endocrinology, haematinics and antibiotics and other areas of laboratory medicine.

For the remaining organization the Committee requested that it should provide additional evidence on how they worked to reduce between method variability and also clarify how they would anticipate the promotion of the concept of metrological traceability and the implementation of reference measurement system which were applicable to their activities in the field of Point of Care Testing.

Dr Myers informed the members of the Committee that he would follow on with contacting IFCC corporate and full Members including IVD industry and National Societies for Clinical and Laboratory Medicine for promoting JCTLM Membership.

Action (A/17-16): Secretariat to confirm the three of the organizations NCCL, AQMLM, and UK NEQAS Birmingham as new JCTLM Stakeholder members.
Action (A/17-17): Dr Myers to draft a response letter to the remaining organization to request them further supporting information for further consideration by the Executive Committee of their application for a JCTLM Stakeholder member status.
The letter was sent on 2 January 2018 to the organization.

4.2 JCTLM Members activity reports [JCTLM-EXEC/17-15, 16, 29, 30]

Dr Maniguet reported that the Secretariat contacted forty-two JCTLM member organizations to remind them to send their biennial activity reports for consideration by the Executive Committee. As a result of this call twenty-six members returned a written report, and all of these were submitted under documents JCTLM-EXEC17-15 and 16 to the Executive Committee. The Committee acknowledged the quality of the reports provided and also agreed to review and address the issues and questions submitted in these reports.
It further requested that the document for the activity reports should be made available on the public website.

Action (A/17-18): Secretariat to post JCTLM Member organizations' activity reports on the BIPM JCTLM Members dedicated webpage
Action (A/17-19): Dr Myers to draft responses to the questions raised by JCTLM Member Organizations in the biennial activity reports.

5. JCTLM Governance

5.1 Representation on the Executive

Ms Robertson informed the Committee that she would no longer be representing ILAC at the JCTLM Executive Committee after this December meeting. The Committee warmly thanked Ms Robertson for her valuable contribution in support of the JCTLM over the years.

It also welcomed Ms Bednarova as new ILAC representative in JCTLM.

Dr Wielgosz reminded the Committee that the term of the JCTLM President would come to an end at the next Executive meeting at the end of 2018, and that the procedure to elect a new President of the Committee would be followed, which would require the Secretariat to inform the JCTLM sponsoring organizations for the need to nominate candidates for the post of JCTLM President.
He added that the JCTLM Secretariat host organization would need to be re-elected at the same time.

Action (A/17-20): JCTLM Secretariat to contact IFCC, BIPM and ILAC by 1 June 2018 for nominations of JCTLM President and Secretariat.

5.2 JCTLM WG Chairs

Dr Wielgosz reminded the Committee that the term of the Chair and three vice Chairs of JCTLM Database WG as well as the term of the TEP WG Chair would come to an end at the end of 2018.

Dr Myers pointed out to the Committee that in accordance with JCTLM rules the responsibilities of the JCTLM DB WG Chairman would be taken over by the new JCTLM president who would be elected in December 2018.

Dr Phinney and Dr Liu confirmed their willingness to continue to chair the WG Analyte Group 3, and 1, respectively. Prof Pantheghini would be contacted by email to verify if he was still willing to be candidate for WG chairmanship of Analyte Group 2.

Dr Beastall informed the Committee that his term as IFCC representative in the JCTLM Executive Committee would come to an end in December 2018, and that this could also terminate his term as TEP WG Chairman. He said that he would confirm to the JCTLM Executive in due time and after the IFCC Executive Board convened if he would be entitled to continue to lead the TEP WG after 2018, noting however that the position of TEP WG Chairman did not require an affiliation with a JCTLM Executive Committee Organization.

Action (A/17-21): JCTLM Secretariat to contact Prof Pantheghini to verify if he was still willing to be as Chair of the Analyte Group 2 of the JCTLM Database WG.

5.3 Funding of the JCTLM Secretariat

As reported at the previous meeting the running cost for 2018 was estimated as the same as for 2017, corrected for inflation. It was agreed that BIPM and IFCC would again share the JCTLM Secretariat costs on a 50:50 basis for 2018.

5.4 JCTLM Database

Dr Maniguet presented the status of the database as of December 2017 as well as the updates of the data content and web system that had been carried out in 2017.

In February 2017, three entries for certified reference materials, five reference measurement methods, and 15 reference measurement services were published in the JCTLM Database following the approval by the Executive of nominations reviewed during DB WG cycle 13 for materials and methods and cycle 11 for services. In addition, there were two certified reference materials that have been delisted from the JCTLM Database and placed in the PDF file for no longer available materials. These were JRC-EC BCR-410 for prostatic acid phosphatase, and NMIJ CRM 6201-b for C-reactive protein. The producer of the latter material informed JCTLM that a new batch was being produced.

The current status of the database as of December 2017 was as follows:
- 293 certified reference materials (CRMs) amongst which 33 are in List II (i.e. Reference Materials value assigned using an internationally agreed protocol), and 3 are in List III (i.e. Reference Materials for nominal properties),
- 184 reference measurement methods covering 80 analytes, and
- 161 reference measurement services covering 39 analytes. These services were delivered by 17 reference laboratories accredited for compliance against ISO 15195 and IEC/ISO 17025 as Calibration laboratories, and by two National Metrology Institutes (NMIs).

In addition, Secretariat undertook routine maintenance of the database system in consultation with the external company to ensure continuity of the web service during the year 2017.

As a conclusion, an analysis of the numbers of visits using google analytics was conducted for 2017 which showed that the average number of visits reached 800 visits per month.

6. Revision of JCTLM quality manuals

Ms Robertson informed the Committee that ILAC would conduct a survey amongst its full members to update the list of the accreditation bodies offering the service for accreditation for ISO 15195 which was published in the JCTLM Quality Manual webpages for services and dated 2013. The Committee requested that this survey should also address the question of accreditation service to ISO 17034, noting that this was a normative reference in ISO 15194.

Action (A/17-22): ILAC to provide an updated version of the list of ILAC full members providers of accreditation services against ISO 15195 and extended to ISO 17034 for publication on the JCTLM website.

6.1 Nomination process for replacement materials

This point was dealt with under agenda point 2.1. See Action (A/17-13)

6.2 Fast-track process for materials listed as mechanism for CMCs delivery

Dr Wielgosz reminded the Committee that JCTLM had been contacted to study the possibility for establishing a fast track nomination and review process when NMIs/DIs being signatories of the CIPM MRA had calibration and measurement capabilities (CMCs) and subsequently certified reference materials published in the BIPM KCDB as a mechanism for service delivery. He further recalled that the CIPM MRA review process for evaluating CMCs declared by NMIs was based on the evaluation of the performance of an institute having participated in inter-laboratory comparison studies. Whereas the JCTLM review process was assessing the compliance of supporting documentation of certified reference materials with regards to the requirements laid down in international standards. He added that this issue had been discussed at the meeting of Database WG which recommended that a comparison of the review criteria employed in both processes should be carried out for verifying what elements would have already been inherently reviewed within the CIPM MRA review process and would not need to be covered by JCTLM.
The committee supported the Database WG recommendation.

Action (A/17-23): BIPM to conduct a comparison study for the CIPM MRA review process against the JCTLM review acceptance criteria for certified reference materials and if appropriate to draft a proposal for a fast track review process for discussion at the next DB WG meeting.

6.3 Process for comparison of two methods for the same measurand

Dr Wielgosz reminded the Committee that JCTLM process required nominators of methods to provide extent-of-equivalence information in order to comply with the method validation requirements of ISO 15193, noting that this was documented in the procedure JCTLM DB WG-P04 under section 6.1. He however pointed out that there was no process guidance for the case where two methods showed different measurement results. From the discussion that followed the Committee suggested to review the text of the procedure to clarify that it would be the responsibility of potential users of the RMM/P to interpret the significance of the comparability assessment. The committee approved the revised version of the section 6.1 of the procedure which was drafted during the meeting.

Action (A/17-24): Secretariat to update the procedure document DBWG- P04 to incorporate the revised text of section 6.1 which approved by the Executive Committee during this meeting.

7. Discussion on how to address knowledge gap at the AB and assessor level

Ms Robertson reported that this issue of the knowledge gap at the AB and assessor level arose after the review of nominations of reference measurement services failed in previous review cycles. She added that following on from consultation with the Leader of the review team for Enzymes it was agreed that there was a need to raise awareness of assessors on adequate implementation of IFCC reference measurement procedures for Enzymes, and as previously discussed by JCTLM it would be appropriate to organise a technical Workshop at the PPTD in October 2018.
The committee noted the need for training and supported the organization of a technical workshop at the PPTD venue.

8. Report from the JCTLM WG on Traceability Education and Promotion [JCTLM-EXEC/17-25, 35]

Dr Beastall presented the document JCTLM EXEC/17-25 which included the annual report of the TEP WG for the JCTLM Executive Committee and the progress report for each Work Streams' activity. The Committee acknowledged the important work completed by the TEP WG in 2017 and noted the substantial amount of material that had been produced for promoting the concept of metrological traceability for laboratory medicine community and that was already published onto the JCTLM portal (jctlm.org). The outcomes of the TEP WG included a glossary of terms, a series of short webinars, and a bibliographic listing of scientific publications regarding various biomarkers as well as other review articles or meeting presentations on traceability and its importance for IVD industry, EQAS, trainers and patients.

Dr Beastall further reported that the TEP WG held a meeting on 6 December 2017 at the BIPM and highlighted the main recommendations from the meeting discussions.

The TEP WG confirmed G. Beastall as Chair for 2018 and S. Maniguet as Secretary for next two years. Other members agreed to continue to serve as members of the TEP WG. It also agreed that an IVD industry representative would need to be appointed to lead Work Stream 3 after D. Armbruster retired. The WG also recommended the revision of the term for TEP WG membership to include a two-year term of office for the members of the WG, renewable at two-year periods.
The Executive Committee re-appointed G. Beastall as Chair of the TEP WG for 2018 and also agreed with the recommendation from the TEP WG to modify the text for membership for adding a term of two-years for the members of the WG, renewable at two-year periods.

The TEP WG also supported future work items from 2018, and those are summarized below:

- Produce and publish webinars on the following topics: Commutability; Why traceability matters for patients; What is JCTLM; specific topics presented by selected speakers at the JCTLM Members' and Stakeholders' meeting;
- Explore the possibility of publishing articles in news section of Lab tests on Line;
- Translate the 'global significance' review paper published in CCLM into Spanish and Chinese and publish locally;
- Draft a review article on TLM for *Metrologia*;

- Explore ways to include TLM in postgraduate training curricula
- Seek to reach individual trainees through AACC Training Council
- Collaborate with EQALM to promote importance of commutable EQA materials
- Adopt commutability as the topic for future symposia at conferences
- Revise the home page of www.jctlm.org
- Support campaign to increase JCTLM membership
- Survey JCTLM members to establish support they would like
- Explore 'Linked In' as social media outlet for JCTLM
- Explore publication of clinical vignettes to demonstrate value of TLM
- Produce range of support material to demonstrate importance of commutability
- Produce support material to highlight role of TLM when tendering for lab systems
- Explore ways to influence regulators about importance of TLM

Dr Beastall added that an action plan regarding the future activity of the TEP WG for 2018-2019 would be drafted, and a first draft would be circulated for comments to the Executive and WG-TEP in March 2018, with the aim to finalize the action plan in April 2018.

The Committee supported the TEP WG's recommendation for drafting an action plan for the period 2018-2019 and noted that Tony Badrick agreed to serve as the editor of the 2018 Newsletter.

Dr Beastall proposed that as a follow up to the Members' and Stakeholders' meeting, an evaluation form for the meeting be circulated, as well as a request for suggestions for the next meeting in 2019. He further added that as a result of the discussions at the TEP WG meeting, the following topics for session themes in 2019 had been suggested: Commutability, Traceability support for regulators, Educating users about TLM, and Traceability in the developing world
The Committee agreed with his proposal.

9. JCTLM DB WG: Approval of Recommendations

Dr Maniguet presented the summary of the nominations for reference materials, reference measurement methods and reference measurement services with the final review teams' recommendations which had been submitted for review as part of cycle 14 for materials and methods and cycle 12 for services.
There were 46 nominations for reference materials for seven groups of analytes, 11 nominations for reference measurement methods for five groups of analytes which had been submitted for CRM/RMP review cycle 14, as well as 22 nominations for services for four groups of analytes which had been submitted for RMS review cycle 12.

Dr Myers said that the Database WG met on 6 December and successfully completed the review of all review teams' recommendations concerning these 79 nominations. All of these are summarized in the following sub-sections for each group of analytes including final Database WG recommendations.

9.1 Approval of outstanding Cycle 13 Methods and Cycle 11 Service [JCTLM-EXEC/17-17]

There were two nominations for reference measurement methods and one nomination for a reference measurement service for non-peptide hormones that were outstanding from the

previous review cycle of JCTLM. All had been reviewed and were being recommended for listing in the JCTLM Database.
The Executive Committee approved the Database WG's recommendations for listing two methods including an ID/LC/MS/MS reference measurement method for total 17beta-estradiol in blood serum, and another 2D-UPLC-MS/MS reference measurement method for testosterone in blood serum, and a cortisol reference measurement service.

9.2 Approval of Cycle 14 RM and RMP and Cycle 12 RMS

9.2.1 Drugs [JCTLM-EXEC/17-18]

There was one nomination for a high purity tacrolimus certified reference material. This had been reviewed and was being recommended for publication in the JCTLM database providing that producer of the material would respond to two observed major non-compliances with regards to the ISO 15194:2009 requirements concerning the lack of detailed information of qNMR study and instructions for use of the material.
The Committee approved the DB WG's recommendation for the Drugs material and requested that the producer would be given a deadline of two months to respond to the review team's observations and return suitable supplemental data for further review by the review team.

There was another nomination for a LC-MS/MS based candidate reference method for the quantification of carbamazepine in human serum. This had been reviewed and the recommendation for listing this new measurand method was pending the confirmation that suitable information was given in the publication for allowing other laboratories to reproduce the method, and that the extent of equivalence information with an existing routine procedure was available.

The Committee approved the Database WG's recommendation to defer the recommendation for this method until awaiting confirmation that the two cited key requirements had been met.

Action (17/25): Secretariat to amend the review report for the certified reference material to inform the producer that material publication would be deferred until the major non-compliances would be resolved.

9.2.2 Electrolytes [JCTLM-EXEC/17-19]

There were eighteen nominations for certified reference materials, five nominations for reference measurement methods and three nominations for reference measurement services that have been reviewed by the review team for Electrolytes.

There were eighteen nominations covering three multi-element materials in serum, none of these were being accepted for inclusion in the JCTLM database.

There were also five nominations for methods including four ICP MS reference measurement methods for Calcium, Magnesium, Potassium and Sodium in human serum, and another ICP-MS reference measurement method for the quantification of sweat chloride for which the nominating laboratory submitted suitable information that adequately addressed all the non-compliances observed during last year's review cycle. All of these methods were being recommended for listing in the JCTLM Database.

There were finally three remaining IC based reference measurement services for Calcium, Potassium and Magnesium in serum from a calibration laboratory that have been reviewed and were being recommended for inclusion in the JCTLM Database.

The Committee approved the DB WG's recommendation for Electrolytes nominations.

9.2.3 Enzymes [JCTLM-EXEC/17-20]

There were seven nominations covering a multi-enzyme certified reference material and fourteen nominations for reference measurement services that have been submitted by two calibration laboratories for Enzymes. All nominations had been reviewed and of these seven nominations for reference measurement services from a calibration laboratory were being accepted for listing in the JCTLM Database.

The Committee approved the DB WG's recommendation for Enzymes nominations.

9.2.4 Metabolites and Substrates [JCTLM-EXEC/17-26]

There were ten nominations for certified reference materials for Metabolites and Substrates that had been reviewed and required corrective actions from the producers of the materials in response to the non-compliance observed by the review team. Nominations for two certified reference materials for creatinine in serum at two levels that were being recommended for approval and publication in the JCTLM Database with the provision that the producer correct the non-compliances concerning the hierarchical position of the reference material, and the statement of intended used of the material in the certificate of the material. There were a second set of eight nominations covering two materials for glucose, creatinine, uric acid and urea in serum at two levels that were being recommended for approval and publication in the JCTLM Database with the provision that the producer correct the non-compliances observed concerning the commutability statement.

There were two nominations for reference measurement methods for Metabolites and Substrates that had been reviewed, and of these one was recommended for publication in the JCTLM Database.
There was a nomination for an IDMS reference measurement method for the determination of amino acid in blood which was not accepted for publication in the JCTLM database.
There was a nomination for an ID LC-MS/MS reference measurement procedure for glucose in serum/calibration solution which was being recommended for listing in the JCTLM Database after the minor non-compliance regarding the lack of limit of detection would be corrected and added in the SOP document.

There were four nominations for reference measurement services for Metabolites and Substrates, and all were being recommended for approval and publication in the JCTLM database.

The Committee approved the DB WG's recommendation for Metabolites and Substrates nominations.

9.2.5 Non-Peptide Hormones [JCTLM-EXEC/17-24]

There was one nomination for a certified reference material for a testosterone calibration solution which was not accepted for inclusion in the JCTLM Database. The producer resubmitted certification documents for this testosterone material in response to review comments after last year's review process and concerns regarding the uncertainty calculation which would need to be rectified prior resubmission to JCTLM. The Database WG requested

that the first observation of the review report concerning the number of ampoules used for the homogeneity study should be reclassified as a minor non-compliance.

The Database WG noted that it could be valuable to provide further guidance and training to JCTLM Stakeholders, in particular on how to calculate uncertainty budget when a producer was assigning certified values to a reference material.

The Committee approved the DB WG's recommendation for Non Peptide hormones.

9.2.6 Non-Electrolyte Metals [JCTLM-EXEC/17-21]

There was one nomination for a reference measurement method for Non-Electrolyte Metals which had been reviewed and was not accepted for inclusion in the JCTLM Database due to observed critical non-compliances with regards to ISO 15193: 2009 requirements.

The Committee approved the DB WG's recommendation for Non-Electrolyte Metals nominations.

9.2.7 Proteins [JCTLM-EXEC/17-22]

There were seven nominations for certified reference materials, two nominations for reference measurement methods and one nomination for reference measurement services for Proteins that had been reviewed and of these one HbA1c reference measurement service from a calibration laboratory was being recommended for approval and publication in the JCTLM Database.

There was a first nomination for a certified reference material containing certified value of immunoglobulin G proteinase 3 anti-neutrophil cytoplasmic autoantibodies in human serum as measured by immunoassays, and this was being recommended for listing in the JCTLM Database if the producer provided appropriate additional information on the results from the commutability study. The Database WG also required clarification regarding the metrological traceability model applicable for the material and whether it was a conventional calibrator with value assigned by protocol.

There was a second nomination for a reference material with a certified value for insulin in human serum solution which was being recommended for inclusion in the JCTLM Database providing that the producer clarified the scope of the material, its intended use and also provided commutability data/information.

There were five remaining nominations for certified reference materials including two HbA1c primary reference materials, and three HbA1c in human hemolysate buffer materials certified at three levels, and these were not being recommended for listing in the JCTLM database. Critical elements concerning commutability study and demonstration of extent of equivalence with other materials listed in the JCTLM Database needed to be addressed and resolved prior resubmission to JCTLM

There was a first nomination for an HPLC reference measurement method for CDT biomarker which was not being recommended for inclusion in the JCTLM Database. Critical elements in the characterisation of the primary calibrator, uncertainty and recovery needed to be addressed and resolved prior resubmission to JCTLM.

There was a second nomination for a Mass Spectrometry based procedure for quantification of Aβ1-40 in cerebrospinal fluid which was not being recommended for inclusion in the JCTLM Database. Critical elements in validation needed to be addressed and resolved prior resubmission to JCTLM.

The Committee approved the DB WG's recommendation for Proteins nominations.

9.2.8 Vitamins [JCTLM-EXEC/17-23]

There were two nominations for certified materials with certified quantities of both 25-hydroxy vitamin D2 and 25-hydroxy vitamin D3 in a stable lyophilized form that had been reviewed and were accepted for inclusion in the JCTLM Database. The Committee noted that this recommendation resulted after all concerns had been properly addressed and rectified by the producer in submitting documents over the past three years.

The Committee approved the DB WG's recommendation for Vitamins nominations.

The Committee also agreed that there was a need for providing adequate guidance to the JCTLM stakeholders with regards to the ISO 15194 and 15193 for clarifying key requirements and how to implement certain concepts such as commutability study, method validation, extent of equivalence demonstration. In the discussion that followed it was agreed that a training workshop could be organized at the next PPTD conference in Chengdu and this would be discussed under agenda point 15. In addition, it was agreed to develop suitable examples for CRM and RMP nominations for inclusion in the JCTLM Database Quality Manual.

Action (A/17-26): Secretariat to publish the nominations recommended for publication in the JCTLM Database by end of January 2017 and send out the report on the outcome of the review to the nominating organizations.

9.3 Update on IFCC EQAS results

Dr Kessler gave an update on EQAS RELA exercise and drew to the Committee's attention that the limits of equivalence were shown on the graph for RELA results and consequently provided a visual tool to assess equally the results of the laboratories regardless of the method used. She also pointed out that the number of laboratories participating in RELA EQAS Scheme has doubled since the inception of the Scheme in 2003, and 35% of these laboratories appeared in the JCTLM database, and this was highlighted in the table of RELA results.

9.4 Progress/ plans for Cycle 15 for RMs and RMPs and Cycle 13 for RMSs

In accordance with the generic time schedule of the JCTLM review cycle, it was agreed that the next call for nominations for Reference Materials, Methods, and Services would be launched on the 1st of February 2018 with a deadline for submissions in May 2018.

9.5 Discussion on new concept for establishing EQAS defined criteria

Dr Jones informed that Committee that he consulted EQAS representatives who attended the JCTLM Members' and Stakeholders' meeting and could verified that they were interested in the concept of establishing a project on defining communal key requirements/criteria for EQAS providers. He added that the goal was not to establish a new EQAS programme but to use key information available in existing EQAS programmes worldwide so that an expert body (governance to be defined) would be reviewing suitability

of these data and distributing it to other interested parties, providing that all EQAS contributors would be use commutable materials within the framework of their EQAS.

The Committee supported this new project, noting however that the governance for that EQAS Expert Body was a critical issue that would need to be resolved when this project is implemented. It further recommended that a feasibility study should be conducted before taking any further actions.

Action (A/17-27): Dr Jones to coordinate a pilot study for EQAS and to report back to the Executive Committee.

10. Update on Gap Analysis Studies

Dr Jones said that the latest version of the gap analysis concerning the content of the JCTLM database which highlighted complete/incomplete reference measurement systems had been published in the April 2017 JCTLM Newsletter. The Committee thanked him for this contribution which was of added value for all parties involved in research and development of CRMs, methods and providers of reference measurement services in laboratory medicine and clinical chemistry.

In the discussion that followed it was agreed that the complementary gap analysis which was looking at cross-linking the biomarkers covered by JCTLM Database with those frequently measured in Dr Jones' clinical laboratory would also be useful information and requested that this information should be made accessible for that same community when the next gap analysis is updated. It was anticipated that updates could be conducted every three years.

11. Liaison with ISO TC 212

Dr Wielgosz reported that the previous meeting of the ISO TC 212 WG2 has been held in Brussels (Belgium) on 1-3 December 2017, and the status of the drafting of the documents developed or revised by ISO-TC212/WG2 were progressing.

11.1 Update of revision of ISO 17511:2003

The new draft of the revised text of the ISO 17511 was in preparation and was foreseen for being circulated for comments by February 2018. The DIS registration of the standard was anticipated by October 2018 with the possibility to have the revised IS published in October 2019. Similar time line was expected for the publication of the international standard on requirements for international harmonization protocols.

11.2 Other work items in ISO TC 212

The final draft of the revised text of ISO 15195 would be finalised by February 2018 and the DIS registration was expected by April 2018.

The final draft for the paper on the guidance document on the estimation of uncertainty would be finalized by July 2018, and its publication was expected in November 2018.

Dr Wielgosz drew the members of the Committee's attention that the systematic revision of ISO 15193:2009 and 15194:2009 could be anticipated for 2019. The Committee decided that this review should be discussed at the next meeting in December 2018 so that JCTLM could bring forward proposals for improvements to these standards, noting for instance the need to address the case when method results lead to a shift compare to another existing published method.

12. Liaison with the EC

12.1 Update on revision to the IVD Directive

The Committee noted the presentation on the impact of the new European Regulation 2017/746 related to *in vitro* diagnostic medical devices that was given at the JCTLM Members' and Stakeholders' Workshop on 4 December by a representative of LNE-GMED, a French Notified Body which would undertake CE conformity assessment of IVD medical devices in accordance with this regulation. The main topics discussed in this talk were the time line for implementing the new regulation which came into force on 5 April 2017 and would be applicable on 22 May 2022, the new classification of risk of CE-IVD devices and the rules of this classification containing four categories of risk, and the statements for metrological traceability requirement in the text of the Regulation.

As a result of the discussion that followed the Committee suggested that appropriate guidance could be provided to the IVD manufacturers on the usefulness of the JCTLM database with regards to the requirement for metrological traceability of value assigned to suitable materials and/or methods of a higher metrological order stated in the text of the EU Regulation. It was agreed that an action plan should be drafted for conducting a review on how the traceability requirement laid down in ISO 17511 align with the regulation and undertaking an analysis of the coverage of the JCTLM Database with regards to the biomarkers in the four classes of risk defined in the Regulation.

Action (A/17-28): Dr Myers to draft an action plan for a comparison review of ISO 17511and the regulation with regards to metrological traceability requirement, and an analysis of the coverage of the JCTLM Database with regards to the biomarkers in the four classes of risk defined in the Regulation.

13. Liaison with the WHO

Dr Wielgosz reported that the BIPM has continued during 2017 to develop good working relation with various technical experts at NIBSC within the framework of the BIPM scientific work programme. He further added that as part the Memorandum of Understanding signed between the CIPM and the WHO in 2002, the BIPM could approach the Director of WHO, and that it would be appropriate for other JCTLM sponsoring organizations to be involved in this discussion. The Committee welcomed his proposal and suggested that a discussion paper on traceability be drafted with a focus on the impact of traceability on patient safety and adequate implementation of standardize reference measurement systems.

Action (A/17-29): Dr Wielgosz and Dr Beastall to work on the possibility to liaise with WHO and draft a discussion paper.

14. Reports related from related activities/meetings

There were no reports submitted in 2017.

15. Future meetings of the JCTLM

The Committee agreed that the next Database WG Meeting would be held at the BIPM on Wednesday 5 December 2018 and would be followed by the 20th meeting of the Executive Committee Meeting on 6 and 7 December 2018.

It was also agreed to hold a teleconference meeting of the Executive Committee on Thursday 26 April 2018 for discussing a preliminary programme for next JCTLM Members' and Stakeholders' Meeting and reviewing any action items of this meeting

15.1 JCTLM meetings 2019

The Committee decided to organize the next JCTLM Members' and Stakeholders' meeting at the BIPM on 2 and 3 December 2019. This would be followed by a TEP-WG meeting in the morning on 4 December, before the Database WG meeting on that same day. The annual meeting of the JCTLM Executive Committee would be held on 5 and 6 December 2019.

15.2 JCTLM events in 2018 and 2019

The second edition of the international conference on Protein and Peptide Therapeutics Drugs (PPTD-2018) with a focus on measurement standard and quality & safety was announced at the JCTLM Members' meeting. This would be organized by the BIPM and NIM China under the auspices of the JCTLM and would be held on 10, 11 and 12 October 2018 in Chengdu in China. The Committee agreed that this would be the adequate venue to organize a JCTLM Workshop for JCTLM Stakeholders and to deliver a training session looking at the conformity of reference materials and reference measurement methods with appropriate international documentary standards ISO 15194 and 15193, respectively, and the requirement for the implementation of IFCC Enzymes reference measurement procedures in Calibration laboratory.
Dr Wielgosz in consultation with Database WG Chairs agreed to draft a proposal for JCTLM Workshop in conjunction with the PPTD 2018.

Dr Beastall pointed out to the Committee that the next IFCC General Conference would be an excellent opportunity to promote the concept of metrological traceability in the in vitro diagnostics sector, and the implementation of the European Community Regulation on IVD Medical Devices. The Committee welcomed his proposal and Dr Beastall agreed to draft a proposal for JCTLM Workshop.

Action (A/17-30): Dr Wielgosz to draft a proposal for JCTLM Workshop at the PPTD 2018 which would include a training session on international documentary standards used by the JCTLM process.
Action (A/17-31): Dr Beastall/Dr Myers to contact the organizing committee of the 2018 IFCC General Conference to verify if it would be possible to organize a JCTLM Workshop on the implementation of the EU IVD MD Regulation.

16. Close

The Chairman closed the meeting on 8 December at 13:00.

Annex 1: Summary List of Actions

Actions from the 19th Executive Meeting:

Action (A/17-13): BIPM to conduct a survey among NMIs with CRMs in the JCTLM Database in compliance with ISO 17034/ISO 15194 in order to identify critical criteria for renewing batches of the certified reference materials that would be produced under the same procedures.

Action (A/17-14): BIPM to conduct an evaluation survey among the NMIs with CRMs in the JCTLM Database to test their views and concerns on the possibility to produce the certification documentation partly or fully in English.

Action (A/17-15): Dr Myers to draft a proposal for a ICSH JCTLM Meeting at the BIPM to discuss traceability in the field of haematology and how progress can be made and metrological traceability implemented.

On 20 December the date of 14-15 May 2018 was confirmed for holding a meeting between JCTLM and ICSH at the BIPM.

Action (A/17-16): Secretariat to confirm the three of the organizations NCCL, AQMLM, and UK NEQAS Birmingham as new JCTLM Stakeholder members.

Action (A/17-17): Dr Myers to draft a response letter to the remaining organization to request them further supporting information for further consideration by the Executive Committee of their application for a JCTLM Stakeholder member status.

The letter was sent on 2 January 2018 to the organization.

Action (A/17-18) : Secretariat to post JCTLM Member organizations' activity report on the BIPM JCTLM Members dedicated webpage

Action (A/17-19) : Dr Myers to draft responses to the questions raised by JCTLM Member Organizations in the biennial activity report.

Action (A/17-20): JCTLM Secretariat to contact IFCC, BIPM and ILAC by 1 June 2018 for nominations of JCTLM President and Secretariat.

Action (A/17-21): JCTLM Secretariat to contact Prof Pantheghini to verify if he was still willing to be as Chair of the Analyte Group 2 of the JCTLM Database WG.

Action (A/17-22): ILAC to provide an updated version of the list of ILAC full members providers of accreditation services against ISO 15195 and extended to ISO 17034 for publication on the JCTLM website.

Action (A/17-23): BIPM to conduct a comparison study for the CIPM MRA review process against the JCTLM review acceptance criteria for certified reference materials and if appropriate to draft a proposal for a fast track review process for discussion at the next DB WG meeting.

Action (A/17-24): Secretariat to update the procedure document DBWG- P04 to incorporate the revised text of section 6.1 which approved by the Executive Committee during this meeting.

Action (17/25): Secretariat to amend the review report for the certified reference material to inform the producer that material publication would be deferred until the major non-compliances would be resolved.

Action (A/17-26): Secretariat to publish the nominations recommended for publication in the JCTLM Database by end of January 2017 and send out the report on the outcome of the review to the nominating organizations.

Action (A/17-27): Dr Jones to coordinate a pilot study for EQAS and to report back to the Executive Committee.

Action (A/17-28): Dr Myers to draft an action plan for a comparison review of ISO 17511and the regulation with regards to metrological traceability requirement, and an analysis of the

coverage of the JCTLM Database with regards to the biomarkers in the four classes of risk defined in the Regulation.
Action (A/17-29): Dr Wielgosz and Dr Beastall to work on the possibility to liaise with WHO and draft a discussion paper.
Action (A/17-30): Dr Wielgosz to draft a proposal for JCTLM Workshop at the PPTD 2018 which would include a training session on international documentary standards used by the JCTLM process.
Action (A/17-31): Dr Beastall/Dr Myers to contact the organizing committee of the 2018 IFCC General Conference to verify if it would be possible to organize a JCTLM Workshop on the implementation of the EU IVD MD Regulation.