Biennial activity report from JCTLM Member organizations

All JCTLM Members are invited to attend the Members' and Stakeholders’ Meeting, which is held once every two years, and submit a report of their activities in support of traceability in laboratory medicine over the preceding period.

For that purpose this template document provides guidance to JCTLM Members for drafting their biennial activity report. Organizations are invited to provide the information below for submission to the Executive Committee.

Organization: National Center for Clinical laboratories (NCCL)
JCTLM Member status: Stakeholder Member
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Period covered: 2018 – 2019

1. Major achievement(s) in support of standardization in laboratory medicine

(Please describe what activities your organization has undertaken related to the implementation of reference measurement systems in laboratory medicine during the last two years, including but not limited to information on: the production of certified reference materials; the development of reference measurement methods; or the establishment of calibration (reference) measurement services. Outline the measurement area(s)/measurands covered, and, provide a listing of the relevant technical/scientific publications.)

- **Nominations for JCTLM database**
  — NCCL ID LC-MS/MS reference measurement procedure for glucose in blood serum has been accepted for listing in the JCTLM Database in 2018. Identification Number: C14RMP11.
  — NCCL CRM GBW 09181a & 09182a & 09183a “Glycated Hemoglobin in Human Hemolysate buffer” have been accepted for listing in the JCTLM Database in 2018.
  — The nominations of reference service for Glucose, Sodium, Potassium, Magnesium, Calcium, total cholesterol, Total thyroxine (TT4) as well as reference measurement procedure for total triglyceride was submitted for listing under JCTLM database in 2019.

- **Trueness-verification Program**
  NCCL continues to run the national trueness verification Program once a year. The total number of participating laboratories is 2001 in 2019.
  Currently available for:
  - Lipids and lipoproteins (TC, TG, HDL, LDL)
  - Metabolites (Glu, Creatinine, UA, urea)
  - Total protein
  - HbA1c
  - Enzymes (ALT, ALP, AST, AMY, CK, GGT, LDH)
- Electrolytes (Potassium, Sodium, Calcium, Magnesium, Chlorine)

A pilot trueness verification Programs for non-peptide hormones was organized in 2019. 50 clinical laboratories using routine methods and 60 laboratories using mass spectrometry methods were invited to take part in the survey.

2. Planned activity(ies) in support of standardization in laboratory medicine
(Please outline R&D project(s) and/or programme(s) planned by your organization in the next two years including information on: new measurement area(s)/meaurands of interest for your organization; new CRMs and renewals of materials; development of methods (new measurands and improved measurement technique/principle); and extensions of your calibration measurement service(s) portfolio.)

• Development of reference systems
  — A candidate reference measurement procedure for 17-OH progesterone were developed and this method is under review for method validation
  — The commutability study in certified reference material “Progesterone, cortisol, testosterone and estradiol in frozen human serum” GBW 09197a, 09198a and 09199a is in progress. The CRMs will be nominated for JCTLM database when the work is done.

• Trueness verification for steroid hormones, Vitamins and thyroid hormone
  — National trueness verification for Steroid hormones, Vitamins and Thyroid hormone will be formally open to public in 2020.

• IFCC certification of Manufacturers for HbA1c
  In cooperate with IFCC Network, NCCL plan to carry out the IFCC certification of Manufacturers for HbA1c in 2020.

3. Promoting traceability in laboratory medicine
(Please describe activities your organization has undertaken during the last two years for promoting traceability in laboratory medicine including but not limited to a listing of your publication(s), presentation(s) and other communication(s) on traceability at international and national conferences or congresses, or other forums for clinical laboratory medicine)

• Publication


**4. Reference laboratory networks/collaborations focusing on developing/implementing reference measurement systems**  
(Please describe your participation in laboratory networks, forums or professional/technical committees linked to reference measurements system development/implementation, and contributions to JCTLM Working Group activities.)

**• External Quality Assessment for Reference Laboratories (EQARL)**  
— NCCL continues to run the External Quality Assessment for Reference Laboratories (EQARL) once a year. There were 16 reference laboratories in China participated in the program in 2018 and 2019 for the reference measurements of Lipids and lipoproteins (TC, TG, HDL, LDL), Metabolites (Glu, Creatinine, UA, urea), Total protein, HbA1c, Enzymes (ALT, ALP, AST, AMY, CK, GGT, LDH), Electrolytes (Potassium, Sodium, Calcium, Magnesium, Chlorine), non-peptide hormone (Progesterone, cortisol, testosteron and estradiol, aldosterone, 17-OH progesterone), Thyroid hormone(TT4 and TT3) and vitamins (25-OH-D3).

**• IFCC External Quality Assessment Scheme for calibration laboratories in clinical chemistry (RELA)**  
— NCCL yearly participates in the RELA inter-comparison. In 2018, we successfully participated for Calcium, Chloride, Magnesium, HbA1c,17OH-Progesterone, Cortisol, Estradiol, Aldosterone, Progesterone, Thyroxin, Creatinine, Uric acid, Total protein, 25-OH-Vitamin D3, AST, GGT, LDH.

**• IFCC HbA1c Network**  
— NCCL participates annually in IFCC network inter-comparison for HbA1c.

**• JCTLM Database Working Group**  
— Prof. Wenxiang Chen is currently serving as the member of Metabolites and Substrates, Non-Peptides Hormones Review Team in the JCTLM Database Working Group.

— Dr. Tianjiao Zhang is appointed as a member of the review teams for Metabolites & Substrates, Non-Peptide Hormones and Vitamins & micronutrients in 2019.
5. Open questions and suggestions to be addressed by JCTLM

(Suggestions on issues related to standardization and metrological traceability that should be considered by the JCTLM)

None.

Note: The information of this report will be accessible publicly on the relevant JCTLM Members webpage, unless the author of the report states otherwise. In the case the organization does not authorize the publication of the report in part or full, the author will add a statement to clarify which part(s) of the report will/will not be rendered public.