

PROMOTING REGIONAL COOPERATION IN METROLOGY IN THE ASIA-PACIFIC REGION

MEDEA 2.0

Metrology - Enabling Developing Economies in Asia

MEDEA SURVEY RESULTS

Experiences and needs of Members in tackling Covid-19 challenges

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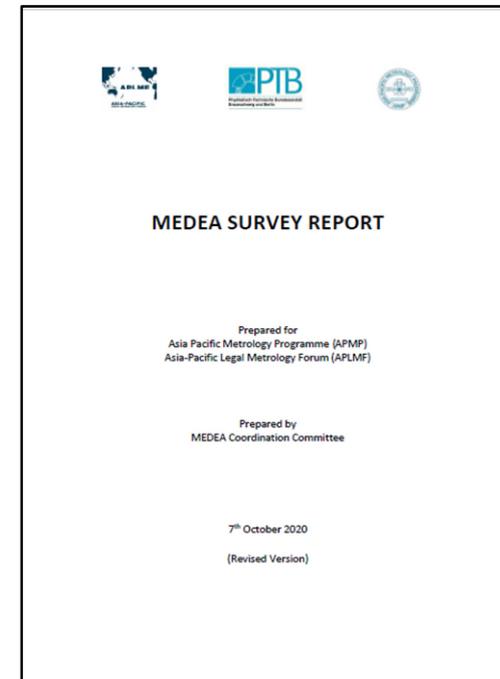
MEDEA SURVEY June 2020

The MEDEA survey aims to capture APMP and APLMF members' inputs on the following topics:

- 1) Readiness for virtual communication;
- 2) Availability of e-learning materials for sharing;
- 3) **The impact of COVID-19 pandemic on institutions;** and
- 4) The UN's 2030 Agenda for Sustainable Development Goals (SDGs) initiatives relevant to their economies.

The final tally of the MEDEA survey is as follows:

- a) Total number of respondents: 77
- b) Number of respondents from Developed Economies: 15
- c) Number of respondents from Developing Economies: 62
- d) Number of institutes (NMI, LMAs and DIs) providing inputs: 34



OBJECTIVE OF MEDEA COVID-19 SURVEY

To understand how institutes are dealing with the consequences of Covid-19 pandemic - issues that have emerged, support being provided to domestic stakeholders, lessons learned, etc., as well as how APMP and/or APLMF could support them.

QUESTIONS THAT HAVE BEEN ASKED

- 1) What have been the main challenges for your institute in terms the impact of the COVID-19 outbreak?
- 2) Can you share any lessons learned with respect to this?
- 3) Is your institute playing a role to help your country address the challenges of the current health crisis? Are you pursuing new activities related to this?
- 4) Is your institute able to maintain critical functions/calibration services?
- 5) Have you identified new services that need to be established?
- 6) What can APMP/APLMF do to support your institute regarding the impact of the COVID-19 outbreak?
- 7) Would your institute be interested in participating in an information exchange forum for institutes on COVID-19 issues?
- 8) What would you like the forum's content to be?

QUESTIONS POSED TO PARTICIPANTS OF CABUREK ASIA-PACIFIC

- 1) How are you personally dealing with the COVID-19 pandemic situation?
- 2) How is your NMI/LMA maintaining the service provision and / or operation?
 - 2.1 Which are the main challenges for NMI/LMA?
 - 2.2 Which strategies and approaches your NMI/LMA has developed to overcome these challenges?
- 3) How is your institute contributing to the control and mitigation of the effects from the COVID-19 pandemic situation in your economy

CABUREK = Capacity Building Using Regional Experience and Knowledge

HAVE YOU IDENTIFIED NEW SERVICES/ACTIVITIES THAT NEED TO BE ESTABLISHED?

- Provided on the BIPM webpage. [Australia \(NMIA\)](#)
- Infrared Body Thermometers and Ear Thermometers; Biomedical equipment calibrator/simulator calibration. [Philippines \(NML\)](#)
- Service for calibration and testing of infrared medical thermometers. [Mongolia \(MASM\)](#)
- 1. Calibration services on temperature ; moisture for storage rooms / cold rooms in food industry.
 2. Examine the weights and measures of retailers visiting villages during the Covid-19 pandemic.[Sri Lanka \(MUSSD\)](#)
- Regulated equipment on temperature measurements and collaborate with Ministry of Health.
[Malaysia \(NMIM\)](#)
- 1. Calibration of thermal imagers and clinical thermometers
 2. Testing of respiratory mask for covid-19[Singapore \(NMC\)](#)
- 1. Development of Quantitative Polymerase Chain Reaction (qPCR),
 2. Discovery of approved drug candidates for COVID-19,
 3. Free provision of ABCI (AI Bridging Cloud Infrastructure) for the research on COVID-19, and
 4. Release of a report “Augmented Telework -Technologies for a New Workstyle in a Post-Corona Society”[Japan \(NMIJ\)](#)

HAVE YOU IDENTIFIED NEW SERVICES/ACTIVITIES THAT NEED TO BE ESTABLISHED?

- NIM mainly focused on research activities to support the national response against COVID-19:
 1. Development of two types of CRMs for SARS-COV-2 testing, including SARS-COV-2 RNA reference materials and SARS-COV-2 immunoassay reference materials.
 2. Development and provision of standard blackbodies to ensure the calibration of infrared thermometry at local level metrology institutes.
- NIM has developed new reference materials for coronavirus RNA testing, antibody, antigen, etc. [China \(NIM\)](#)

CABUREK Project: Calibration of Infusion Pump A Project by the NML Philippines

Metrology Awareness

Capacity Building in Technical and Scientific Organizations (CABUREK) in Asia-Pacific
 Loreibelle N. Abian
 National Metrology Laboratory of the Philippines

Working Group 1: Metrology Awareness Raising
 Awareness Program on the Calibration of Infusion pump used in Health Care Institutions

Objective: Reduce the risk of medication error in the use of infusion pump

Challenges:

- Limited exposure of calibration during survey
- Language barrier
- Time constraints due to other duties
- Consistent on-site facilities providing the calibration due to pandemic
- Light subject due to pandemic

Awareness Activities: Forum, Publication in press, Webinars, Posters, Instructional, Webpage

Remember: "The difference between a medicine & poison is dosage." Hence, health institutions must monitor that medical devices are calibrated to ensure accurate measurements.

SWOT Analysis: Increased knowledge & perception on the significance of the calibration of medical devices.

Dispersing error occurs in medical devices that measure flow & volume such as infusion pumps

CABUREK
 4th Workshop Philippines, September 1st-3rd, 2020

Logos: PTB, APLMP, NML

New Metrology Service

NML Project Name: Development of a Microflow Reference Standards for the Calibration on of Infusion Pump Analyzer
 Participant: Jose Marco D. Latosa
 Institute: National Metrology Laboratory of the Philippines

INFUSION PUMP

Infusion pump is one of the most important medical devices in a hospital's Intensive Care Unit (ICU) and emergency rooms. It is used to deliver fluids, such as nutrients and medications, into a patient's body in controlled amounts. This device has to be calibrated using an infusion pump analyzer.

CHALLENGES IN THE MEDICAL FIELD

Around 100,000 people around the world die every year because of medication errors.
 SOURCE: "The Human Building Super-Health System", 2017

A NEED FOR A PROJECT

- harmonize calibration method of infusion pump in the Philippines
- develop traceability of infusion pump

SUPPORT FROM CABUREK

Workshops, SWOT Analysis, Systematization Of Project, Capacity Building, Inquiry, Working Groups, Coaching, Needs Assessment, Regional Cooperation

PROJECT CHALLENGES:

- BUDGET
- COVID-19
- PAN-RESPONSE DURING SURVEY
- INSUFFICIENT RESPONSE

Improved health care services using medical devices

CABUREK 4th Workshop
PTB
APLMP ASIA-PACIFIC

What can APMP/APLMF do to support your institute regarding the impact of the COVID-19 outbreak? **DEVELOPED ECONOMIES**

- ❑ We hope APMP/APLMF will provide an effective and user-friendly online system with sufficient security in order to facilitate communication among the member economies including NMs.
[Japan \(NMIJ\)](#)
- ❑ Harmonization of international metrology effort. Information exchange regarding latest development in metrology. [Singapore \(NMC\)](#)
- ❑ To solve the global issue, such as the COVID-19, the international cooperation is needed. APMP/APLMF may serve as the good platforms to bring stakeholders together. [Chinese Taipei \(CMS\)](#)
- ❑ Facilitating more remote ways of working and implementing the CIPM-MRA that don't require travel.
[New Zealand \(MSL\)](#)
- ❑ Sharing experiences across both forums would enable NMIA to identify opportunities for collaboration as well as consider how it could support regional counterparts in addressing identified issues.
[Australia \(NMIA\)](#)
- ❑ We hope APMP/APLMF can consolidate technical resources existing in member NMs, and provide Webinars and online trainings to facilitate communication among NMs and help with capacity building. These resources should be shared between APMP and APLMF. Some joint activities are also welcome. [China \(NIM\)](#)

What can APMP/APLMF do to support your institute regarding the impact of the COVID-19 outbreak? **DEVELOPING ECONOMIES**

We are eager to participate in any project related to COVID-19 with international organisations, if involved in. **India (NPL)**

Awareness the importance of metrology in society and dissemination of technical requirements required by stakeholders. **Malaysia (NMIM)**

Capacity building in the development of calibration methods for critical medical devices. **Indonesia (SNSU-BSN)**

Provision of expert advice / consultancy on the 'Establishment of a Biomedical Testing and Calibration Facility'. **Philippines (NML)**

Guidelines for testing /verification of test equipment or PPE. **Thailand (NMIT)**

Deliver and support Working standard for calibration and testing of Ultra red medical thermometers **Mongolia (MASM)**

Assisting with the following activities:

1. Using existing e-learning platforms to strengthen metrology education
2. Developing a video learning platforms to maintain social distance during the Covid-19 epidemic
3. Establishment of a Metrology App. to assist in the operation of all sections of the Department

Sri Lanka (MUSSD)

If it is possible, provide trainings or work attachments and documents/videos that we can download. **Kiribati (MCIC)**

OTHER OPERATIONAL ISSUES

- Work from home
- Personal protection (3Cs)
- Limited days in the laboratories
- Back-log of calibration work
- COVID-19 safety of shipment and cargo
- Management monitoring of staff working from home
- Recalibration of national measurement standards
- Stoppage of on-site calibration and verification work
- Remote assessment to maintain accreditation of laboratories
- Limited reliable and cheap internet services

FEEDBACK FROM WORKSHOP REGISTRATION

Staffing	23 Participants	
Calibration of reference standards (internal or external)	24 Participants	
Delays in the processes of submission of CMCs	14 Participants	
New government policies that affect NMI budgeting	26 Participants	
Other	4 Participants	<p>New Zealand (MSL) Delays in scientific and technical laboratory work and in building construction work due to country in lockdown</p> <p>Egypt (NIS) Delay in purchasing equipment</p> <p>Hong Kong, SAR (SCL) Difficult to conduct peer review. Recommend remote assessment</p> <p>Singapore (NMC) Continuation of services to the industry</p>

SUMMARY

- ❑ Available information indicates that a lot of work has been done on infrared thermometers, respirators, PPE, reference materials, etc.
[Refer to the BIPM website for global information.](#)
- ❑ Increase in the need to apply technology in metrology activities.
Examples: work from home, on-site work, customer handling.
- ❑ Need to upgrade to reliable internet services, especially for developing economies.
- ❑ Success in using virtual platforms (zoom and others) for webinars, meetings and trainings.

Thank you for providing inputs to the survey