

---

**Summary of discussions and recommendations of  
The 18th Informal Consultation of the Global Polio Laboratory Network  
28<sup>th</sup>-29<sup>th</sup> June 2012  
WHO Headquarters, Geneva, Switzerland**

**Preamble**

The World Health Organization convenes an annual informal consultation with participants representing six geographical regions and 20 percent of the 146 member laboratories of the Global Polio laboratory Network (GPLN). Focused discussions were held on laboratory issues of relevance to the Polio Eradication Initiative (PEI) and policies and technical priorities are established to ensure that the network operates with accuracy and efficiency to confirm the locations in which Polio Viruses (PVs) are transmitted. Effective collaboration among surveillance, laboratory and immunization personnel is vital to target efforts to achieve the polio eradication goal. This is particularly true at this stage of the Programme since the WHA has declared that the eradication of polio is a programmatic emergency for global public health. On another hand, a new polio endgame strategic plan 2014-2018 is being finalized and one of the major components involving the GPLN at the forefront is the design and introduction of new diagnostic tests and approaches to better detect and characterize circulating vaccine-derived polioviruses (VDPV).

**Summary of discussions:**

The GPLN performance was addressed during seven sessions dedicated to following topics:

- Progress towards interruption of wild poliovirus (WPV) transmission
- VDPV detection and molecular epidemiology
- Laboratory data management
- Update on GPLN's quality assurance programme
- Initiatives to improve testing and quality control
- Environmental surveillance for polioviruses
- Laboratory perspectives in an emergency context

The Consultation concluded that the GPLN operates with high accuracy and efficiency. A wide range of projects aimed at improving testing efficiency and biosafety are on track. The GPLN has capacity to fulfil its mission in the context of programmatic emergency for global public health to eradicate polio. The following recommendations were made.

## Recommendations

### 1. WPV and viruses of programmatic importance

- Following evidence presented by CDC, USA, on the molecular evolution and genetic distance (>15%) between the I and B clusters of the WEAFF-B genotype, the GPLN has agreed to the splitting of this genotype into three genotypes, to be named WEAFF-B1, WEAFF-B2 and WEAFF-B3.
- As the new cluster designations of all circulating genotypes is still ongoing,
  - o CDC should propose new (shorter) names for genetic clusters belonging to the WEAFF-B genotypes
  - o ERC Mumbai should work closely with CDC to allow comprehensive analysis of latest SOAS genotypes of WPVs isolated in India; appropriate actions regarding clusters and genotype splitting should be taken.
- There is a need to provide assistance to the Programme to develop guidelines for response to viruses from non-AFP sources.

### 2. VDPV classification (and response)

- EMR has written guidelines regarding VDPV classification and response (edited in 2008), Guideline on VDPV classification and response should be revised in the light of changes in definition, classification based on epidemiological and virological findings, and response strategies i.e. field investigation, diagnosis, immunization, follow up activities, reporting and data management.
- Considering that the GPLN has agreed on the fact that VDPV classification and response issues are mainly linked to population immunity status, it should be reminded that one aVDPV in a place with low immunization profile needs a response (investigation and appropriate immunization).
- The guideline should elaborate on the level of responsibilities both, structural and functional, to classify VDPVs: Surveillance focal points, National Laboratory, WHO/Polio Regional and HQ offices (Laboratory and Surveillance focal-points)
- The GPLN has reviewed the definition and virological data on VDPVs and proposed changes for circulating VDPV classification, which can be incorporated into the guideline:
  - o Current definition for cVDPV:
    - 2 genetically linked VDPV found in two AFP cases
  - o Proposal to amend current definition by adding one additional criterion:
    - 2 genetically linked VDPVs from individuals who are not HH contacts, and not necessarily AFP cases.

### 3. Quality Assurance

- Criteria for on-site accreditation visits should be revised and a pool of experts from outside the network (e.g. clinical virology labs) should be trained to increase the availability of reviewers for timely accreditation visits.
- The categorization of laboratories as sub-NL, NL, RRL and GSL based on the level of testing (viral isolation, ITD, sequencing) is obsolete due to recent changes in methodologies and

capacities. It is recommended that the SWG work on a proposal regarding the categorization based on the test performed which will be validated during next GPLN meeting (June 2013).

- WHO HQ and Regional Laboratory Coordinators should develop assessment criteria and establishment process for adding new sequencing laboratories to the GPLN.
- Regarding the maximum limit, mentioned in supplement to Polio Laboratory Manual version 04.10, over which both L20B and RD cells should not be used for virus isolation, the data provided by the Indian laboratory network need to be examined by the SWG, along with other issues e.g. level at which the cells sensitivity are tested. Based on discussions and findings, change can be made in Polio Laboratory Manual Supplement n°2. In the meantime, regional laboratory coordinators (RLC) should work with Global Specialized Laboratories to ensure that laboratories distributing cells in their Region have low passaged RD and L20B cells in stock.
- Acknowledging increasing difficulties in shipping proficiency tests panels, reagents, specimens, etc., it is important to emphasize that there is need for a better communication between laboratories (senders and receivers). Heads of laboratories are reminded that they are accountable for ensuring that all necessary administrative and regulation needs are fulfilled.
- To ensure smooth roll-out of the first sequencing proficiency panel in Q3-2012, it is recommended that RLC communicate with CDC regarding the appropriate time for shipment.
- Finalized accreditation checklists will be available for use in accrediting sequencing laboratories (Q3-2012)

#### **4. Data management and sharing**

- The GPLN should support continued development and implementation of integrated surveillance data systems (LDMS, ISIS, and POLIS) that include laboratory and epidemiological data.
- Polio nucleotide sequence database: The GPLN recommends that the proposal of building a polio nucleotide database analogous to the Measles nucleotide sequence database (MeaNS) be moved forward and submitted to the GPEI steering Committee and Polio Oversight Board for endorsement (by end of Q3-2012).

#### **5. Biosafety/Biosecurity and Bio-risk management**

- GPLN should work with IHR/LBS team in WHO to add other topics relevant to polio laboratory work on the current Biosafety training video materials.
- Requirements for duplicating and using biosafety training materials outside the GPLN should be assessed and results communicated to the Laboratories.

#### **6. Environmental Surveillance (ES)**

- Drafted two-year strategic plan for ES of poliovirus should be submitted in Q4-2012 and shared with RLC and members of the GPLN Small Working Group in early 2013, later it should be circulated to laboratories for their comments before finalization.
- In the meantime, Laboratory and Surveillance experts should gather and rapidly develop guidelines highlighting criteria to set-up and implement ES of polioviruses (end of Q3-2012).

#### **7. Impact of the new endgame strategy on Polio laboratories**

- Considering the new endgame strategy timeline, the laboratory coordinators and focal-points for Certification/Containment (HQ/RO) should revisit strategic, technical and financial implications of such process on the laboratories.
- The GPLN need to follow closely upcoming recommendations of the SAGE regarding the pre-requisites to switch from tOPV to bOPV and OPV cessation, in order to assess the need to refine the poliovirus diagnosis process.