TECHNICAL WORKING GROUP (TWG) ON THE SHARING OF INFLUENZA
GENETIC SEQUENCE DATA
TERMS OF REFERENCE

I) BACKGROUND

The PIP Framework

The PIP Framework is an international arrangement, adopted in 2011 by the 194 Member States of the World Health Organization (WHO), that seeks:

i) to improve and strengthen the sharing of influenza viruses with human pandemic potential (‘IVPP’) through a WHO-coordinated network of public health laboratories (known as ‘GISRS’), and;

ii) to promote the fair and equitable access, by developing countries, to the benefits arising from such sharing.

Under the PIP Framework, IVPPs are part of a broader set of materials called ‘PIP Biological Materials’ or ‘PIP BM’, which include human clinical specimens, influenza virus isolates, extracted RNA, cDNA, and influenza candidate vaccine viruses developed from IVPPs by GISRS laboratories. Under their Terms of Reference, GISRS laboratories must share PIP BM in a “rapid, systematic and timely manner [with] other qualified laboratories, to facilitate public health risk assessment, risk response activities and scientific research”.

Additionally, the PIP Framework requires that GISRS laboratories submit IVPP genetic sequence data (“GSD”) to “GISAID and GenBank or similar databases in a timely manner”. The Framework recognizes “that greater transparency and access concerning influenza virus genetic sequence data is important to public health” and that “there is a movement towards the use of public-domain or public-access databases”.

Benefit Sharing

The sharing of PIP BM gives rise to tangible and intangible benefits, which include, for example, pandemic risk assessment and pandemic influenza vaccines, both of which are essential for pandemic preparedness and response. Access to benefits is secured by WHO through 2 key mechanisms:

1) Legally binding contracts – known as ‘Standard Material Transfer Agreements 2’ or ‘SMTA2’ – concluded with all non-GISRS entities that receive from GISRS; and

2) The Partnership Contribution, an annual payment made to WHO by influenza vaccine, diagnostic and pharmaceutical manufacturers that use the WHO GISRS.

Genetic sequence data and the PIP Framework

During PIP Framework negotiations, Member States recognized the importance of genetic sequence data for pandemic preparedness and response and requested that the Director-General seek advice

---

1 See PIP Framework Section 4.1
2 See e.g. PIP Framework Annex 4, paragraph 8.
3 See e.g. PIP Framework Annex 4, paragraph 9.
4 See PIP Framework Section 5.2.2.
5 See Annex 2 of the PIP Framework.
6 See PIP Framework Section 6.14.3.
from the PIP Advisory Group\(^7\) on the “best process for further discussion and resolution of issues relating to the handling of genetic sequence data from H5N1 and other [IVPPs] as part of the Pandemic Influenza Preparedness Framework.”\(^8\)

The matter has gained importance given the recent development of synthetic biology technologies which allow the production of influenza candidate vaccine viruses, and influenza virus proteins or antibodies ***using only genetic sequence data***. These developments raise questions about the broader implications of sharing and using IVPP GSD, notably with respect to benefit sharing under the PIP Framework.

**Advisory Group Guidance on the best process for further discussion and resolution of the issues relating to the handling of GSD**

In light of the foregoing, the PIP AG decided in October 2013 to begin its examination of the issues relating to the handling of GSD under the PIP Framework. Given the PIP AG’s limited expertise in the subject-matter, it established a Technical Expert Working Group (‘TEWG’) to provide it with background and technical information. Following submission of the Final report of the TEWG in October 2014\(^9\), the Advisory Group held a technical consultation with six database representatives to gather information on electronic databases that house IVPP GSD. In its report to the Director-General\(^10\), the PIP AG made the following observations:

- a. Laboratories should continue to share [IVPP GSD] as soon as it becomes available because it is necessary for timely and comprehensive pandemic risk assessment and response. 
- c. The objective of benefit-sharing may be met by mechanisms related to monitoring products generated using influenza GSD, rather than by monitoring use of GSD and/or tracing GSD, noting that source identification is critical.
- d. Closer collaboration regarding open sharing of influenza GSD among the many different databases is desirable.”

Thus, in its guidance to the Director-General, the PIP Advisory Group recommended a process to identify “the optimal characteristics of a system for the handling of IVPP GSD under the Framework, including consideration of data sharing systems that are best suited to meet the objectives of the Framework considering obligations and timeliness of data submission, quality assurance of data, completeness of data annotation, ease of access to data, sustainability and security of the system”.

**II) SCOPE OF WORK**

The Technical Working Group will undertake the following activities:

---

\(^7\) Under the PIP Framework, the Advisory Group is a group of 18 international experts that provides “evidence-based reporting, assessment and recommendations regarding the functioning of Framework” to the Director-General. (see PIP Framework Section 7.1.2 (iii)).

\(^8\) See PIP Framework Section 5.2.4.


1. Develop a draft document, for the consideration of the PIP Advisory Group, defining the optimal characteristics of a GSD sharing system that is best suited to meet the objectives of the Framework. The characteristics would identify features that promote the rapid, timely and systematic sharing of IVPP GSD as well as fair and equitable access to benefits generated using IVPP GSD, including means to identify end-products and support for streamlined regulatory approvals. The document should include best practices for operationalizing such a system.

2. Share the draft document with relevant stakeholders (e.g. GISRS labs, industry associations, databases, academia and civil society organizations) and request input.

3. Revise the draft document for Advisory Group final review.

III) COMPOSITION OF TECHNICAL WORKING GROUP
The Technical Working Group will comprise individuals from GISRS, genetic sequence databases, and institutions that use influenza GSD, with expertise in relevant fields, such as influenza research, bioinformatics and regulatory policy, as well as 3 members from the Advisory Group. Members will be expected to contribute actively to discussions, interact with other relevant stakeholders, and provide written contributions for the draft document.

IV) MEETINGS
- The first meeting of the Technical Working Group will take place in July 2015. Following meetings will be convened as needed, either virtually or in person.

V) DELIVERABLES
- Prior to the October 2015 Advisory Group meeting, the TWG will submit the first draft of the document defining the optimal characteristics of a GSD sharing system.
- The draft of the document will be provided to the Advisory Group, for its consideration, by the end of February 2016.