World Health Organization

CoViNet WHO Coronavirus Network Newsletter #1

24 March 2025 (reports on 2024 activities)

CoViNet overall goal

To bring together surveillance programs and reference laboratories to support enhanced epidemiological monitoring and laboratory assessment of coronaviruses of public health importance

CoViNet objectives are to:

(i) Support and ensure early and accurate detection of SARS-CoV-2, MERS-CoV and novel coronaviruses of public health importance;

(ii) Support surveillance and monitoring of the global circulation and evolution of SARS-CoV-2, MERS-CoV and novel coronaviruses of public health importance through strengthening of existing initiatives such as eGISRS recognizing the need for a One Health approach;

(iii) Provide timely risk assessment for SARS-CoV-2, MERS-CoV and novel coronaviruses of public health importance, to inform WHO policy related to a range of public health interventions and medical countermeasures; and

(iv) Support capacity building of laboratories and epidemiologic investigations relevant to the needs of WHO through providing specific expertise in SARS-CoV-2, MERS-CoV and novel coronaviruses of public health importance

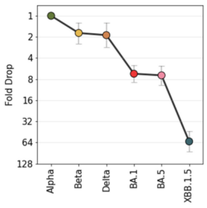
SARS-CoV-2 antigenic characterization for timely risk assessment facilitated by the WHO BioHub

Objective

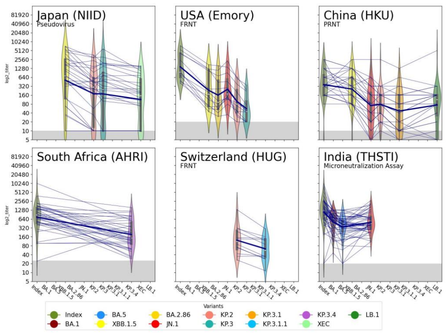
Ensure SARS-CoV-2 population immunity is monitored globally to facilitate appropriate decision-making on COVID-19 vaccine composition.

Key results

- CoViNet led a collaborative global comparison of SARS-CoV-2 antigenicity data generated across 15 laboratories using standardized sera (NIBSC) and virus isolates (WHO Biohub), showing excellent data consistency across laboratories using the same reagents, including between pseudovirus and live virus neutralisation assays.
- At the December 2024 COVID-19 vaccine composition meeting, CoViNet presented relevant data generated by 5 WHO regions to the TAG-CO-VAC experts.



Fold-change reduction of XBB.1.5 compared to Alpha. From Brangel et al *Viruses* 2024 DOI: 10.3390/v16121936



SARS-CoV-2 antigenic characterization from Japan, US, China PDR, South Africa, Switzerland and India.

Acknowledgments: Barnabas Pinter, Derek Smith, Leo Poon, Bart Haagmans, Kadija Khan, Isabella Eckerle, Mehul Suthar, Jayanta Bhattacharya , Hideki Hasegawa

Building advanced diagnostic capacity

Objective

Build capacity for coronavirus neutralization assays in Ghana and Pakistan

Key results

By establishing advanced diagnostic capabilities, Pakistan and Ghana take a significant step toward a resilient health system. CoViNet provides technical expertise, training and guidance and resources, such as equipment and reagents, to support this transition. CoViNet fosters global collaboration by harmonizing methodologies, data sharing, and accelerating scientific progress, enhancing preparedness worldwide.

Prince Adom Nartey, Scientist at the Noguchi Memorial Institute for Medical Research, Ghana

Ronald Kiiza, Lab Technologist at Uganda Virus Research Institute, Uganda

Nazish Badar and her team at the National Institute of Health, Pakistan

Boosting sequencing in Africa

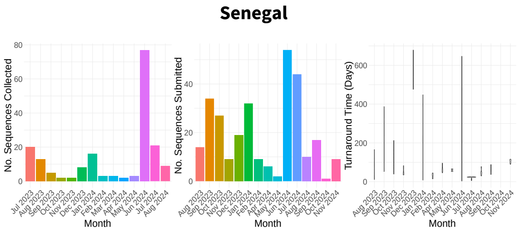
Objective

Provide insights into SARS-CoV-2 circulating variants in Africa

Key results:

- 5-fold and 20-fold increase in sequence submission to publicly available databases (pre-versus post-CoViNet funds) in Senegal and Uganda, respectively
- Decreased turnaround time:
  - Senegal
    - Apr-May (prior to support): median TAT of 62 day
    - Jul-Aug (post-support): median TAT of 24 days
  - Uganda
    - Feb-May (prior to support): median TAT of 350 days
    - Aug (post-support): median TAT of 90 days
- Support to Senegal aided the rapid sequencing of the Hajj pilgrim returnees
- Uganda supported South Sudan in the generation of sequence data (otherwise South Sudan would not have submitted any sequence data in 2024 in 2024)
- Sequencing results revealed a shift from JN.1 to JN.1.16 and sublineages in Senegal, Uganda and South Sudan, with no circulation of KP.2/KP.3, dominant in other regions (e.g. Europe and the Americas)

Senegal



Uganda