



ASIA PACIFIC  
PANDEMIC  
PREPAREDNESS AND RESPONSE  
REGIONAL FORUM



WORLD BANK GROUP



Ministry of Economy  
and Finance

# PARTNERSHIPS & INNOVATIONS IN THE HEALTH SECTOR: **SHARING EXPERIENCES**

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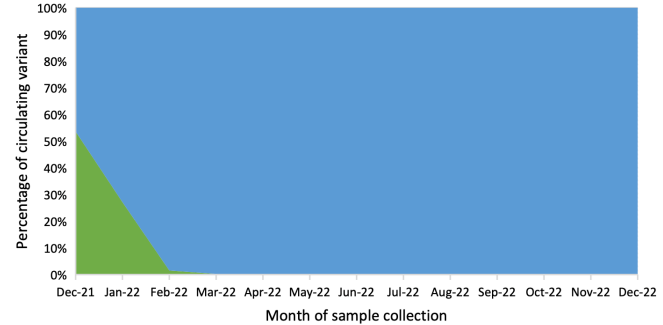
# COVID-19 TESTING: LAB PREPARATION, RESPONSE, & PARTNERSHIP

- Laboratory preparations in IMR for pandemic started in **2011 (post pandemic H1N1)**: molecular assays development (e.g., Ebola, monkeypox), staff training, procure more PCR machines
- **COVID-19 (mid Jan 2020)**: With access to SARS-CoV-2 genomic information, we immediately designed primers & probes to detect & confirm first cases of COVID-19
- WHO recommended a **ratio of 1 pos case to 10-30 tests** for sufficient testing. Cases in Malaysia reached between 20,000 cases (Delta Wave) to 30,000 (Omicron wave) → need to do between 200,000 to 900,000 tests per day.
- Expanding molecular testing to **more MOH hospitals** (including Sabah & Sarawak)
- Enable outsourcing testing to **private labs**: site visits, blinded panel testing, accreditation

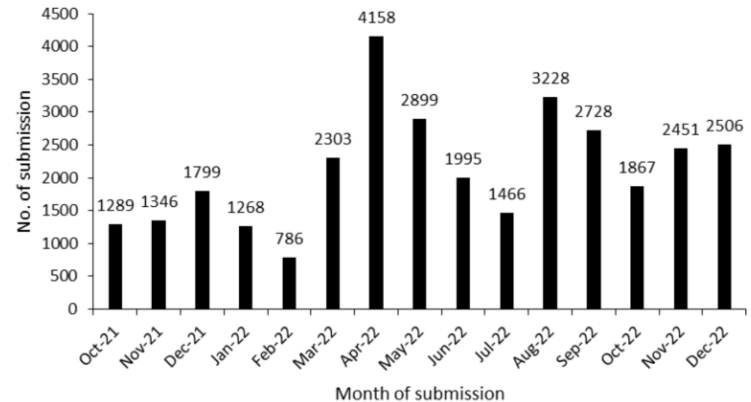


## COVID-19 GENOMIC SURVEILLANCE: PUBLIC- PRIVATE PARTNERSHIP

- Aug 2021: **National genomic surveillance consortium** (led by MGVI)
- WHO: WGS on **5%** of all pos cases each mth
- Jan 2022: **Omicron wave**, 3000 cases/day (= 90000 cases/mth) → target 4500 sequences/mth
- **Consortium expansion** (7 to 11 members) → Capacity 2564 seq/mth
- **Outsourcing to private labs** for WGS



Number of GISAID submission (Oct 2021-Dec 2022)





## OTHER CHALLENGES & COLLABORATIONS

- **RTK-Ag replaced RT-PCR as primary diagnostic tool (Mac 2022):** IMR evaluated methods to recover SARS-CoV-2 RNA from pos RTK-Ag cassettes for WGS (18/33 samples achieving >80% genome coverage & assigned lineage) → Sharing protocol to other labs for WGS
- **Points of Entry testing stopped (1 Apr 2022):** Massive drop in clinical samples received for WGS → IMR collaborated with private labs to obtain residual COVID-19 pos samples
- **Influenza-like Illness (ILI) surveillance:** MOH & private clinics
- **Severe Acute Respiratory Infection (SARI) surveillance:** MOH hospitals, private lab, & university medical centres

## LOCAL VACCINE DEVELOPMENT

- National Vaccine Development Roadmap (PPVN) was launched on 31 Oct 2021, led by MGVI.
- In IMR, currently two types of vaccine platform (Inactivated & mRNA): both still in pre-clinical stage
- To proceed to First-in-Human (FIH) Clinical Trial, the vaccines must be produced in a GMP facility accredited by National Pharmaceutical Regulatory Agency (NPRA), MOH
- No local NPRA-accredited GMP facilities for vaccine manufacturing until recently

