Preparing for the Upcoming Influenza Season & Expanding the Global Influenza Surveillance and Response System (GISRS)

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Global Influenza Programme, WHO
27th October 2022
Seasonal influenza - epidemics coming back

Observations from the Southern Hemisphere 2022 season:

- Influenza epidemics varied in timing and severity among countries, also in comparison with previous seasons
- Overall influenza activity picked up again often to levels of pre-COVID pandemic (or even higher)
Avian influenza – continuous human infections

Throughout the COVID-19 pandemic:

- Zoonotic influenza infections continue to be detected
- Avian influenza viruses evolved and spread
  - China, first human infections with A(H3N8) and A(H10N3) subtypes
  - Russian Federation, first human infections with A(H5N8) subtype
  - UK and USA, human infections of A(H5N1) subtype reported for the first-time

Signals of the threat of an influenza pandemic persisting throughout the COVID-19 pandemic. Countries should never let down alert to such threat and strengthen preparedness for an influenza pandemic.
Protecting from influenza: *Influenza vaccines*

- Influenza viruses **constantly evolving**, the composition of vaccines needs to be updated periodically in order for the vaccines to be effective.
- **WHO issued recommendations** on the composition of influenza vaccine for use in the 2023 Southern Hemisphere season on 23rd September 2022.
- **Safe and effective** vaccines are available and have been used for more than 60 years.
- Immunity from vaccination wanes over time so **annual vaccination** is recommended**
  - **High risk groups** for vaccination (not in priority order): healthcare workers, people with underlying medical conditions, older adults, pregnant women and children.
  - Inactivated influenza vaccine can be **coadministered** with any dose of COVID-19 vaccine using the contralateral limb for injection.

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GISRS: a global network to protect the world against influenza threats

**Global Influenza Surveillance and Response System (GISRS)**

- The global **foundation** for influenza surveillance, preparedness and response
- Global **public health model** for 70 years
- Currently 158 institutions in 124 Member States
- **Institutionalized & functioning capacity** in countries
  - Laboratory & disease surveillance integrated
  - Response mechanisms exercised very season in epidemics
- Enormous commitment from **Member States** and support from international **agencies & partners**
GISRS scope is systematically expanding

- Since 1952: seasonal influenza
- Since 1997: + avian influenza, variant/swine influenza, pandemic influenza
  \[ \text{New subtypes, new genetic & antigenic variants} \]
- Since 2015: ++ RSV
- Since 2020: +++ SARS-CoV-2

115 countries so far

GISRS integrated surveillance of Influenza & SARS-CoV-2

Standardized algorithm
Quantitative guidance
Standardized tools

Trainings
GISRS integrated surveillance* - monitoring co-circulations of respiratory viruses

- Monitor relative (co-)circulations of types/subtypes, lineages/sub-lineages of viruses locally and their relationship to global and regional patterns

- Describe the epidemic seasonality of influenza and SARS-CoV-2 where relevant
- Monitor evolution of the viruses and their prevalence globally

- Establish baseline levels of activity for illness and severe disease to evaluate the relative impact & severity
- Detect signals of unusual activity associated with known or novel viruses

**Early detection of cases for isolation, clinical diagnostics, contact tracing, quarantine and rapid control of clusters and outbreaks are not the primary objectives of sentinel surveillance systems**


https://www.who.int/teams/global-influenza-programme/influenza-covid19

Complexities arising from COVID-19 pandemic

• Increasing global interest in pan-respiratory or all hazards preparedness and response
  • Multiple actors are looking into integrated approaches to epidemic /pandemic threat of respiratory viruses
• The development of parallel systems for surveillance compete for country focus and finances with GISRS, can undermine the GISRS effectiveness
• Countries need coordinated and sustainable approaches to surveil respiratory viruses of public health significance
Broad engagement to inform the GISRS enhancement

- Scoping exercise for an expanded & enhanced GISRS
  - GISRS questionnaire to National Influenza Centres, WHO Collaborating Centres, and epidemiologic focal points (Jul - August 2021)
  - Decision WHA73(14) questionnaire to Member States, industry, Civil Societies Organizations (Jul - Sept 2021)
  - Discussions with Directors of WHO Collaborating Centres and Essential Regulatory Laboratories (Aug 2021, Feb & Sept 2022)
  - Discussions with GISRS (Oct 2021, Sept 2022)
- Member State feedback during EB150 (Jan 2022) and WHA75 (May 2022)
  - Secretariat report on influenza preparedness
Member States feedback

- Broad support for GISRS Plus from MS across all six WHO regions
  - Integrated surveillance should be further explored
  - Influenza surveillance and collaborations should not be negatively impacted
  - Influenza surveillance can benefit from capacities built during COVID-19
  - Inclusion of ORVs should have clear public health objectives

- Access and benefit of non-influenza virus sharing must be thought through transparently

- Specific request for additional information on technical, financial and administrative implications of GISRS Plus
Goal of GISRS Plus

- An efficient global system of integrated surveillance and response to influenza and other priority respiratory viruses with epidemic or pandemic potential.

- **Priority respiratory viruses are defined as those that:**
  - are a known *pandemic threat* or are an emerging novel threat of pandemic potential, *Or*
  - are a known *epidemic threat* where surveillance can directly inform prevention & control

  *And*

  - can be integrated effectively and seamlessly into the existing GISRS operation

Primary focus: capacity-building at national and regional/global levels for the integrated surveillance of influenza and other respiratory viruses through the existing GISRS system *(infrastructure, workforce, trust and confidence)*
Objectives of GISRS Plus

1. Integrate sentinel surveillance & monitoring of influenza, SARS-CoV-2, and other priority respiratory viruses as defined at national, regional, and global levels

2. Build, expand, and enhance national capacities & capabilities of end-to-end integrated surveillance

3. Build, expand, and enhance relevant regional & global expertise and capacities

4. Ensure an effective global coordination mechanism to support, facilitate and strengthen integrated surveillance and risk assessment; and

5. Strengthen policy, strategy, advocacy and communications efforts to further engage GISRS in the WHO long-term programmatic goals to the fullest extent
Modular approach & Operation model

**Modular approach:**
- Maintain the influenza foundation
- **Country priorities** inform actions
- **Quality** over Quantity
- **Broad capacity** building

**GISRS Operation Model**
- Broad connections & engagement with specialized entities
Initial feedback on administrative and financial implications

- Survey conducted on 27 Sept 2022 among National Influenza Centres (NICs) attending a global GISRS meeting
- 22 NICs representing AFRO (7), AMRO/PAHO (1), EMRO (3), EURO (6), SEARO (2), and WPRO (3)
  - Sources of funding: ~ 60% internal, 40% external
  - Status of integrated surveillance:
    - 22/22 (100%) incorporated SARS-CoV-2 into GISRS sentinel surveillance
    - 20/22 (91%) incorporated RSV into GISRS sentinel surveillance
- New costs related to integrated surveillance

<table>
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<th>Cost category</th>
<th>No increase</th>
<th>0-25% increase</th>
<th>26-50% increase</th>
<th>50-75% increase</th>
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<td>9</td>
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Two Task Forces to guide consultative process

- Define formal consultative process
- Identify and address key technical and policy questions
- Guide development of strategic action plan and country pilots

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<tr>
<th>Sample questions</th>
<th>Technical Task Force</th>
<th>Policy Task Force</th>
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<tbody>
<tr>
<td>What is the current landscape of GISRS capacities &amp; capabilities?</td>
<td>How does GISRS Plus formally integrate epidemiological aspects of the network?</td>
<td>How to ensure influenza foundation of GISRS not impacted negatively?</td>
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<td>How can countries strategically select additional respiratory viruses?</td>
<td>How should we update case definitions?</td>
<td>What additional advisory functions are needed for GISRS Plus?</td>
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<tr>
<td>Potential sub-task forces</td>
<td>Pathogen selection &amp; prioritization, Laboratory considerations, Epidemiological considerations</td>
<td>Coordination and operation structure, Finance &amp; sustainability, Monitoring &amp; evaluation</td>
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Sample questions:
- What is the current landscape of GISRS capacities & capabilities?
- How does GISRS Plus formally integrate epidemiological aspects of the network?
- How can countries strategically select additional respiratory viruses?
- How should we update case definitions?
- How to ensure influenza foundation of GISRS not impacted negatively?
- What additional advisory functions are needed for GISRS Plus?
- What tools are needed for NICs to monitor administrative and financial impacts of integrated surveillance?
GISRS Plus development plan

<table>
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<tr>
<th>Milestones</th>
<th>Target Date</th>
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<td>Recruit policy and technical task forces</td>
<td>Q4 2022/Q1 2023</td>
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<tr>
<td>First draft of strategic action plan developed</td>
<td>Q1 2023</td>
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<tr>
<td>Global and regional consultations held to inform development of strategic action plan</td>
<td>Q2 2023</td>
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<td>Member State briefing</td>
<td>Q2 2023</td>
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<td>Public comment period</td>
<td>Q3 2023</td>
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<tr>
<td>Strategic action plan piloted in countries</td>
<td>Q3 2023</td>
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<tr>
<td>Finalize strategic action plan based on pilots</td>
<td>Q4 2023</td>
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Meanwhile continue ongoing GISRS end-to-end integrated surveillance of influenza and SARS-CoV-2, as well as RSV, and associated capacity building
A framework for resilient surveillance for respiratory viruses of pandemic potential

Dr Joshua Mott
• Sentinel systems are one component of many essential surveillance systems.

• Global need for a strategic framework to guide countries on how respiratory viruses of pandemic potential should be resiliently detected and monitored using coordinated surveillance systems

• No surveillance system can be “everything to everyone”
Data ≠ Knowledge

→ each system must be targeted to high priority local objectives /decisions, and, fit-for-purpose to be resilient
Engaging countries and regions: flexible approach

- Alignment with other surveillance guidance, strategies and frameworks
- Country inputs gathered using regional surveys, online country-level surveys, focused country discussions, regional country consultations
- Consolidated results then served as the foundation for a WHO global consultation in May 2022, with attendees from countries, WHO, and external partner and donor organizations
- Inputs on draft documents
- Public comments period on WHO web

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<tr>
<th>WHO REGIONS</th>
<th>AFR</th>
<th>EMR</th>
<th>EUR</th>
<th>AMR</th>
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World Health Organization
A framework for resilient surveillance for respiratory viruses of pandemic potential: “CRAFTING THE MOSAIC”

Aim 1
Identify priority unmet surveillance objectives, and the systems that may be used to meet those objectives in a resilient manner over time.

Aim 2
Prioritize needed surveillance enhancements drawing on lessons from the COVID-19 pandemic.

Aim 3
Develop implementation plans to enhance surveillance according to their context and needs.

Aim 4
Strengthen synergies between surveillance systems to meet different objectives and enhance response.

Aim 5
Prioritize local and international partner technical assistance and financial investments.
• Is there an emerging respiratory virus of pandemic potential in my country?
• Does this emerging virus spread easily in humans?
• How severe is the clinical presentation of this emerging virus?
• Who are the high-risk groups for infection and severe complications?

• Are we moving into an epidemic period or season for virus circulation?
• Is this season or a “bad season” compared to others?
• Are my health care systems coping?

What are the genotypic and phenotypic characteristics of circulating viruses?
• What are the clinical and epidemiologic characteristics associated with infection? Have they changed?
• What is the impact in high-risk groups and settings?

• Are current vaccines and medications effective?
• How can we improve our clinical care?
• Is the vaccine well-matched to viruses in our country?
• Have PHSM affected the transmission of viruses in our country?
• What is the uptake of current interventions and are there adverse events?
Mosaic framework: build on existing systems- enhance connections
• does not supersede other guidance, but provides context for their use

Global architecture:
HEPR
“Collaborative Surveillance”

“Crafting the mosaic”:
A framework for resilient surveillance for respiratory viruses of pandemic potential
Timeline for framework development

- **Feb**: Concept note Outline of Strategy
- **March**: Ongoing consultations with internal and external experts, groups and agencies
- **April**: Regional/Country Consultations
- **May**: Global Consultation (10-12 May, Face to face + virtual)
- **June/July**: Strategy Finalized
- **Aug/Sept**: Revision, and discussions with TWG members
- **Oct/Nov**: Further revision and discussions, country piloting
- **Dec**: Public comment period (WHO web)
- **Finalization, collaboration on implementation**
Thank You