

International Pathogen Surveillance Network

EURGen-RefLabCap webinar

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The rapid expansion of pathogen genomics since 2019 presents an opportunity to build truly global coverage



Genomic sequencing technology has rapidly developed in recent years allowing lower cost, higher volume pathogen analysis



COVID-19 provided an important test case, leading to a rapid build-out of capacity worldwide



Opportunity to create a network of high-quality pathogen genomics systems, to reduce the burden of endemic diseases and future pandemics

The challenge: pathogen genomics are not optimally deployed to prevent pandemics and reduce endemic burdens

Challenges



Country capacity remains uneven and efforts are increasing but uncoordinated



Lots of innovation and good practices but limited knowledge sharing



Data sharing burdened by problems at all levels (technical, political, bureaucratic)

Implications

1

Decision-making still hampered by poor/incomplete data

2

New pathogens/variants in many geographies and disease areas still unlikely to be detected & shared in real time

The IPSN was conceived by the G7 and adopted by WHO to strengthen pathogen genomics



The International Pathogen Surveillance Network (IPSN) is a global network bringing together the pathogen genomic community to improve public health decision making

Vision

Every country has equitable access to sustained capacity for genomic sequencing and analytics as part of its public health surveillance system

Mission

Create a mutually supportive global network of genomic surveillance actors that amplifies and accelerates the work of its members to improve access and equity

Launched in May 2023

Hosted by the World Health Organization
(Secretariat at WHO Hub in Berlin, Germany)

IPSN **members** and **partners** are national, regional and international organizations

- Laboratory networks and disease programs
- Public health, animal health and environmental agencies
- Academic groups
- Philanthropic and civil society organizations
- International standard organizations
- Private sector business associations

100+ members and partners across all six WHO regions

The IPSN increases pathogen genomic surveillance harmonization, scale and political attention

What will the IPSN deliver?

Increased harmonization and innovation in pathogen genomics

Increased scale and efficiency of country capacity building efforts

Increased political attention and financing coordination and sustainability



What impacts will the IPSN have?

Stronger national, regional and international surveillance systems better able to detect and characterize new threats and reduce disease burden

Health systems are better able to coordinate rapidly during an outbreak to detect and respond to emerging threats



What the IPSN is

- New global network
- Focused on pathogen genomics
- Bringing together pathogen genomic actors
- Supporting countries by engaging all relevant stakeholders
- Convening, facilitating, enabling and supporting countries to plan
- Supporting the development of bioinformatics tools by partners



What the IPSN is not

- Replicating other stakeholder activities
- Limiting its engagement to WHO staff and member states
- Actively implementing PGS programs
- Training country lab/epi staff
- Funding delivery of genomic surveillance systems
- Housing genomic or other data
- Developing software

The IPSN aims to amplify and accelerate the work of its members

IPSN members are already leading many critical pieces of work...

Work at the country level

- Surveillance system planning and budgeting
- Day-to-day running of surveillance systems
- Public health decision making
- National research and innovation programs

Work at the regional level

- Networks to share best practices and pool resources
- Support for country planning and decision making
- Regional reference labs, data analysis support

Global programs

- Global disease programs
- Academic programs
- Standard setting initiatives e.g. PHA4GE, GA4GH
- Bilateral, multilateral and philanthropic funders

... which IPSN aims to amplify and accelerate

IPSN value add (examples):

- Global capacity building framework and investment case
- Accelerating the adoption of data standards
- Sharing best practices and aligning approaches across regions
- Testing innovative approaches in country

Membership process



1

Sign your organization up online

- Go to [who.int/initiatives/international-pathogen-surveillance-network](https://www.who.int/initiatives/international-pathogen-surveillance-network)
- Fill in the form to apply for your organization to join the IPSN as an official member

2

Provide further organizational information

- *Depending on your organization type, you might need to provide more information on your organization's background*

3

Become an official member

- The IPSN Secretariat will confirm your organization's official membership

The IPSN convenes technical, policy and financing communities together to deliver on global priorities

Leadership and convening

Leadership Committee

Secretariat (Berlin Hub)



Operational bodies



Funders Forum



Communities of practice



Country scale-up accelerator



High-level advocacy and comms



Global partners forum

Network engagement

Representatives from philanthropy and government agencies

COP Data with ~50 experts from six WHO regions
New COP on environmental, wastewater and vector surveillance in development

Quarterly meetings to share country experiences
Webinars on special topics

40+ country briefings conducted
Website and membership established
Digital community platform in development

Annual in person meeting for IPSN members to share progress and innovation

The IPSN is supporting members to accelerate technical work

Operational bodies



Funders Forum

Areas of work

- Catalytic Grant Fund of ~\$4m to seed collaboration and knowledge creation among **members** in LMICs



COP Data

- Develop a framework for an open bioinformatics ecosystem with use cases
- Operationalization of the WHO principles for genomic data sharing published in 2022, in close collaboration with WHO EZD



Country scale-up accelerator

- Country Capacity Framework
- Use-Cases for Pathogen Genomic Surveillance
- Global investment case for pathogen genomic surveillance

The IPSN established a catalytic grant fund to support members in pathogen genomic surveillance



Members can propose projects that support the IPSN mission and bodies

- Around 10 grants per year, \$50,000 - 250,000, to fund projects for approx. one year in duration



Funding will support equitable participation in IPSN projects and events

- Funds will go towards supporting global, regional and country-level IPSN projects



IPSN members can apply for funding as a consortium or individually

- Lead applicants must be from LMICs
- HICs can be part of a consortium



Funds are available for IPSN members to apply for from 2024

- Review of applications for the first funding cycle is ongoing

BILL & MELINDA
GATES foundation



The IPSN secretariat supports AMR-related projects

RKI, WHO Hub and WHO/HQ collaboration

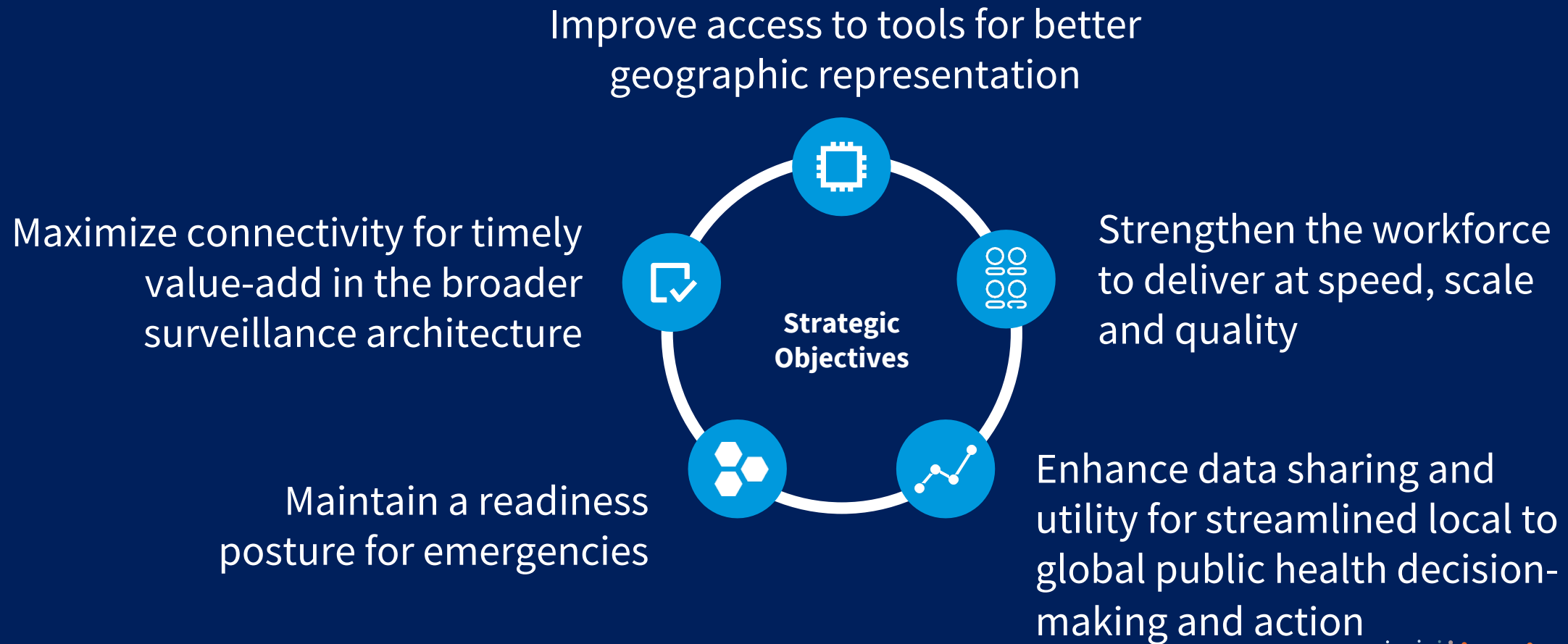
- Reporting of emerging AMR threats in the context of the WHO Global Antimicrobial Resistance and Use Surveillance System (GLASS-EAR)
- Promotion of integrated surveillance of HAI, AMR, and AMU as well as monitoring of IPC process indicators
- Improved analyses of global AMR burden.

WHO/AMR collaboration

- Integrated reporting of genomic AMR data into GLASS
- Genetic Variants Associated with Antibiotic Resistance

WHO global genomic surveillance strategy for pathogens with pandemic and epidemic potential 2022–2032

WHO Department of Epidemic and Pandemic Preparedness and Prevention (Geneva, Switzerland)
WHO Public Health Laboratory Unit (Lyon, France)



Thank you for your attention

For more information

<https://www.who.int/initiatives/international-pathogen-surveillance-network>



Contact us: ipsn-secretariat@who.int