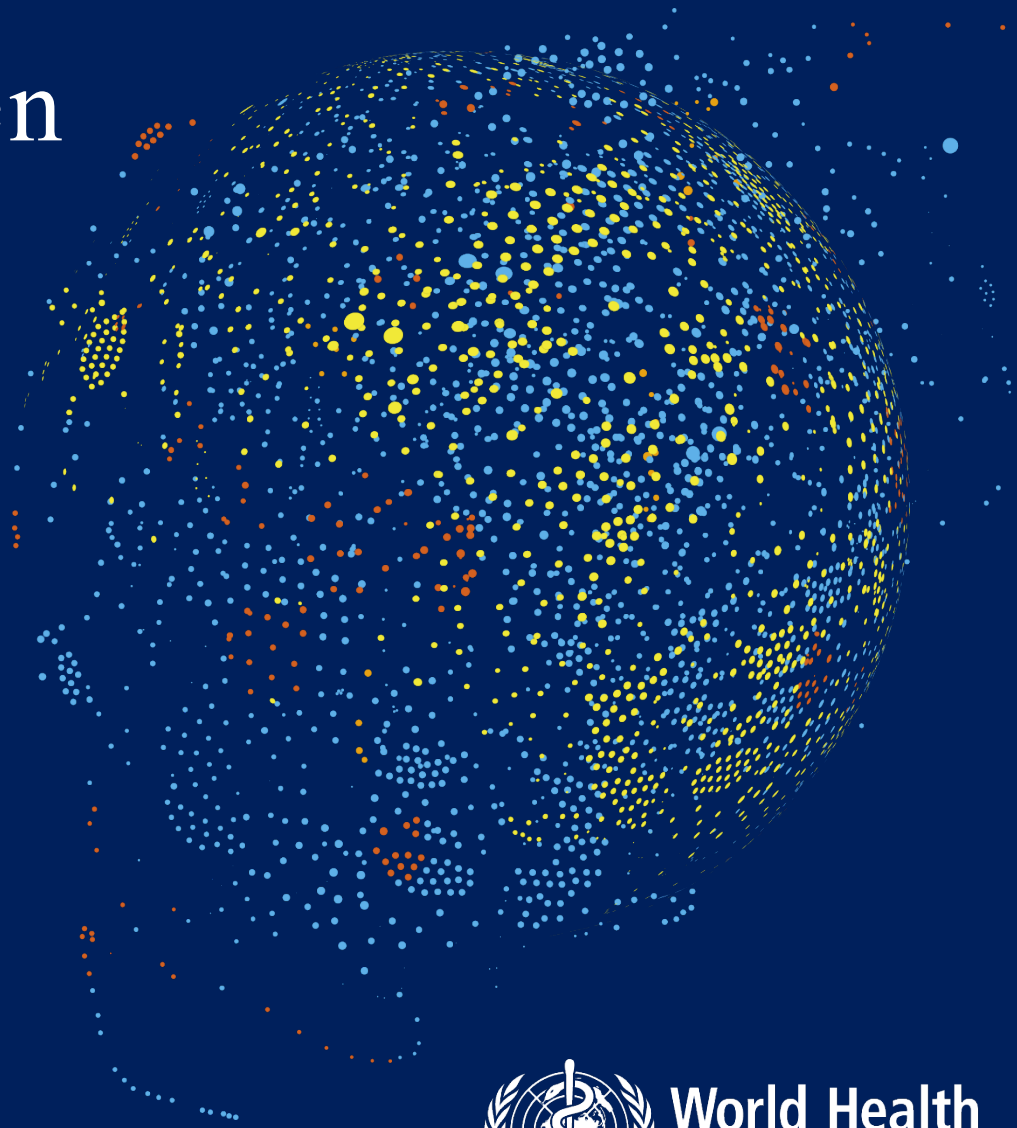
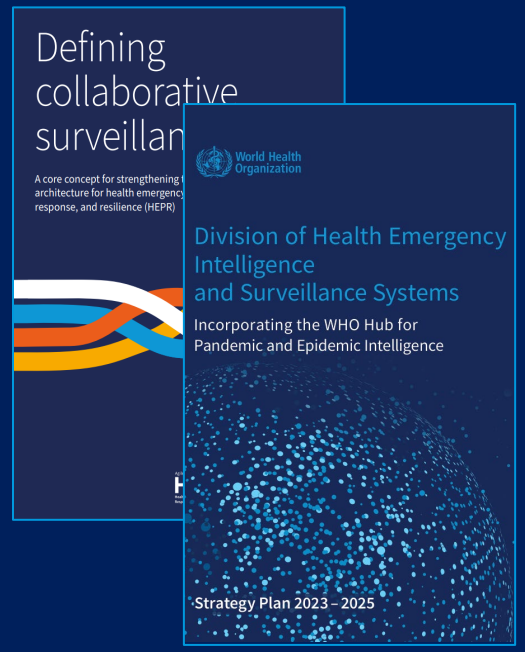
Accelerating the Use of Pathogen Genomics and Metagenomics in Public Health



Session 6: Envisioning the Future of Pathogen Genomics
National Academies of Sciences, Engineering, and Medicine
23 July 2024

World Health Organization

Our Strategy



Vision

Aworld where **collaborative surveillance empowers countries and communities** to minimise the **impacts of pandemic and epidemic threats**

Mission

We catalyse **transformation** in collaborative surveillance **across all levels and serve countries** by **connecting, innovating, and strengthening** capabilities to produce **better data, analytics, and decisions**

Roles

- Connect
- Innovate
- Strengthen

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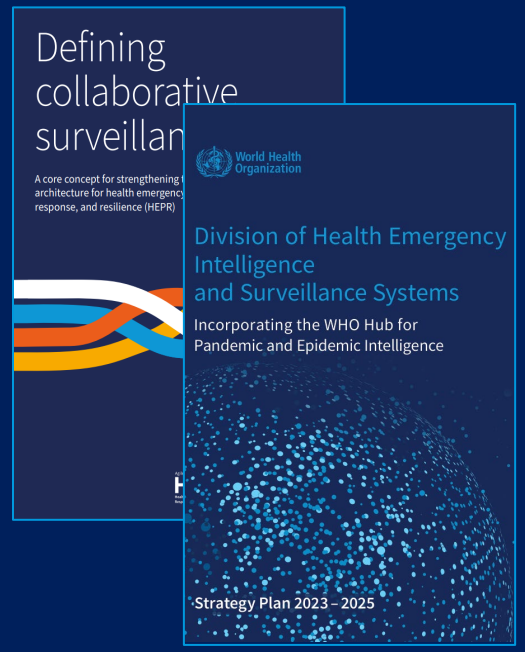

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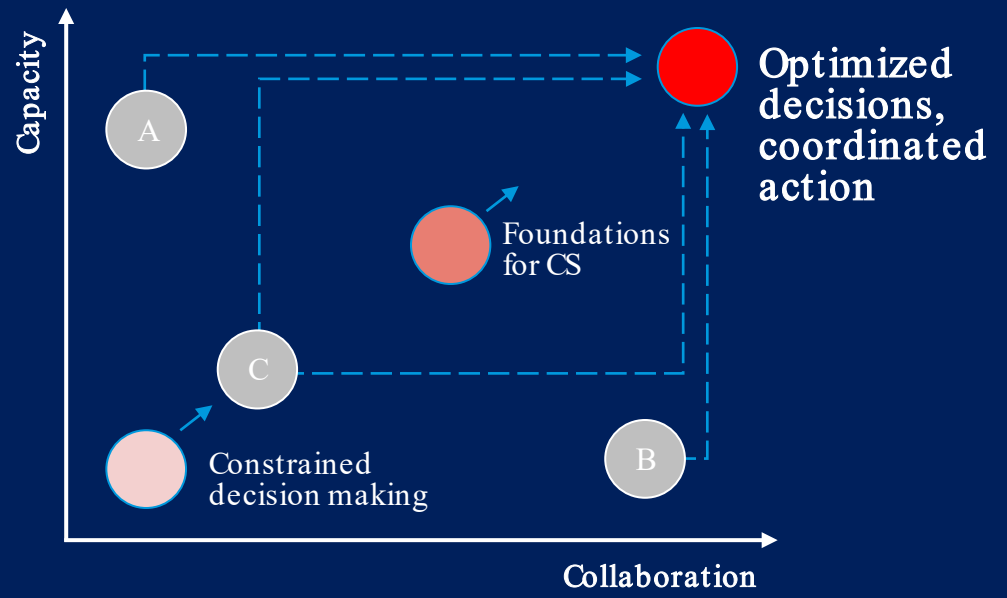
Enhancing decision making through Collaborative Surveillance

> Systematic strengthening of **capacity and collaboration** among diverse stakeholders, both within &beyond the health sector, with the ultimate goal of enhancing public health intelligence and improving evidence for decision making

Increasing the coverage & quality of surveillance

Building collaboration across four dimensions



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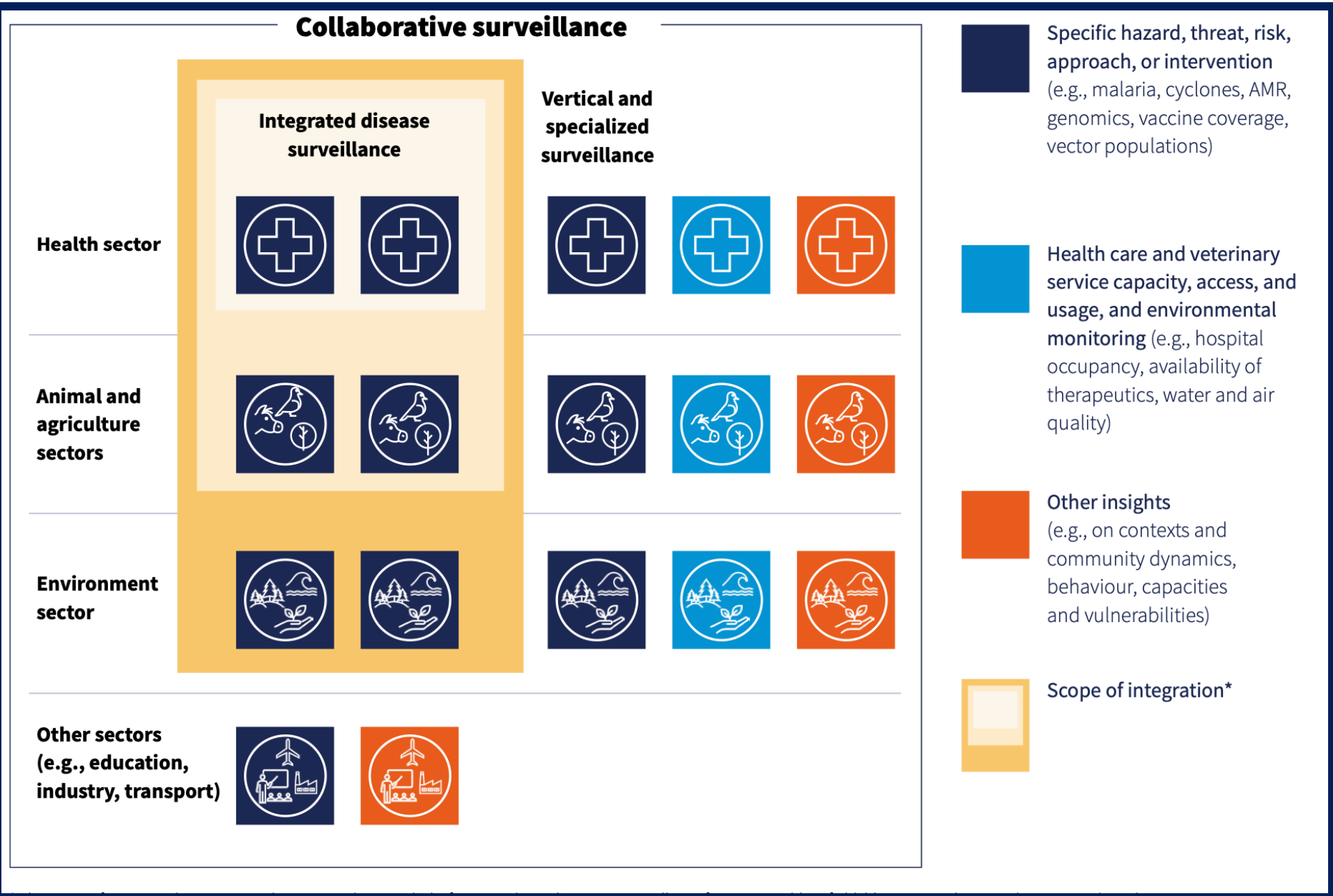

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Opportunity: Rapid expansion of pathogen genomics since 2019

Genomic sequencing technology has rapidly developed - lower cost &higher volume pathogen analysis

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

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Challenge: pathogen genomics are not optimally deployed

Challenges

Country capacity remains uneven; 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 &disease areas still likely to be detected &shared late

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1 Norms and Standards

2 Convene Stakeholders

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WHO genomic surveillance strategy (2022)

Improve access to tools

Maximize connectivity to surveillance architecture

Strengthen the workforce to deliver at speed, scale and quality

Maintain readiness for emergencies

Enhance data sharing and utility

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The International Pathogen Surveillance Network (IPSN)

Vision

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

Mission

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

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IPSN convenes technical, policy and financing communities

Who is the IPSN?

A network of pathogen genomic communities, including:

- ✓ National and regional public health systems
- ✓ Animal and environmental sectors
- ✓ Policy makers and donors
- ✓ Academic groups
- ✓ Private sector business associations
- ✓ Civil society
- ✓ International standard organizations

What does the IPSN do?

Communities of Practice to solve common challenges

Country Scale-up Accelerator to enable exchange &amplify country voices

Catalytic grant fund to support member projects

Advocacy & communications to keep pathogen genomics high on the agenda

Convene partners to share progress and innovations

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Convened and supported by a Secretariat led by the WHO Hub for Pandemic and Epidemic Intelligence

IPSN partners span all regions of the globe – 200 partner organizations across 71 countries engaged in the last year

IPSN launch
35 partners
18 countries

Global Partners Forum 2023
94 partners
48 countries

TODAY
200 partners
71 countries

*Countries in which active IPSN partner organizations are located, *excl. countries in which global/regional organizations are HQ*

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IPSN is developing a toolkit that will include:

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IPSN is supporting members to accelerate technical work

IPSN core bodies of work	Progress so far	Next steps
 Catalytic grant funding	• Donors have approved grants to create a catalytic grant fund of ~$4m to seed collaboration and knowledge creation	• First call for proposals will be released in Q1 2024
 Communities of practice to solve common challenges	• Data COP has been established • New COP on environmental, wastewater and vector surveillance in development	• Piloting innovative approaches in country (leveraging the grant fund) • First COP data meeting next week
 Country scale-up accelerator	• Country capacity framework developed and is being consulted on • Country scale-up accelerator has formally convened twice	Products being developed: • Definitions of use cases for PGS • Country capacity framework for PGS
 High-level advocacy & comms	• IPSN successfully launched • 40+ country briefings conducted • Website and membership established	• Public dissemination of products e.g., global investment case for PGS • Further expansion of membership
 Global partner forum	• First partners forum held	• Lessons learned and follow up

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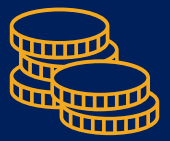
IPSN is developing key global goods

The Country Capacity Framework

- A framework that lays out the **different archetypes** that countries can occupy at **different budget levels,** to ensure equitable access to PGS as part of their public health system



The Global Investment Case

- A powerful, **fact-based case for the investment** needed in pathogen genomic surveillance at the global level, based on analysis of the additional costs required, and the impact of these investments

PGS Use Cases

- A comprehensive definition of the uses for pathogen genomic surveillance to identify patterns, gaps and examples that support country-level implementation and advocacy

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Accelerating the Use of Pathogen Genomics and Metagenomics in Public Health

Only possible if we can find the intersections between …

- ✓ National and regional public health systems
- ✓ Animal and environmental sectors
- ✓ Policy makers and donors
- ✓ Academic groups
- ✓ Private sector business associations
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- ✓ International standard organizations

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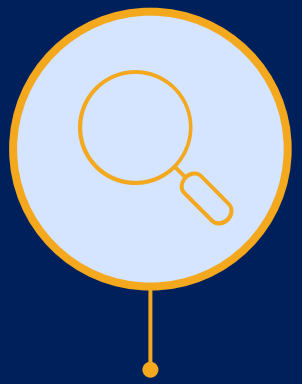
Thank you!



Watch this space for ways to get involved

Become a member of the IPSN if you aren't already

IPSN International Pathogen Surveillance Network

who.int/initiatives/international-pathogen-surveillance-network

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