



Division of Health Emergency Intelligence and Surveillance Systems

Incorporating the WHO Hub for
Pandemic and Epidemic Intelligence

Strategy Plan 2023 – 2025

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PREFACE

About this document

In 2021, the World Health Organization (WHO) established the Division of Health Emergency Intelligence and Surveillance Systems (WSE) as part of its Health Emergencies Programme (WHE) at WHO Headquarters. The Division incorporates the WHO Hub for Pandemic and Epidemic Intelligence (WHO Hub) in Berlin, which was created in September 2021 with support from the Federal Government of Germany, and the Surveillance Systems department in Geneva. WSE was created to bolster efforts by WHO to improve the world's preparedness for future pandemics and epidemics, learning the lessons from the COVID-19 pandemic and harnessing the latest innovations for public health.

In late 2021, the WHO Hub articulated its initial strategic framework and priorities through a document that was shared widely with stakeholders and that guided the first year of the Hub's operations. This document is the result of a new process. It provides a more holistic, detailed, and long-term strategy for the entire Division. It was created through a series of consultations with Division team members, critical stakeholders across all levels of WHO, and partner organisations.

At the 75th World Health Assembly in May 2022, the Director-General of WHO set out a harmonising framework to strengthen the global architecture for health emergency preparedness, response, and resilience (HEPR).¹ Under the proposed global architecture, the ability to prevent, prepare for, detect, respond effectively to, and recover from health emergencies at national, regional, and global levels depends on operational readiness and capacities in five core subsystems: collaborative surveillance, community protection, safe and scalable care, access to counter-

measures, and emergency coordination. Within WHO, the Division is responsible for leading efforts to support the development of improved capacities and intelligence in one of those subsystems, collaborative surveillance.

This document therefore represents WHO's strategy for supporting collaborative surveillance. It should be read alongside the concept paper that defines collaborative surveillance and the national-level competencies it entails: "Defining Collaborative Surveillance: A core concept of the framework for strengthening the global architecture for health emergency preparedness, response, and resilience (HEPR)".¹¹

Target audience

This strategy document was developed for stakeholders, both within and outside WHO, including WHO team members at Country, Regional and Headquarters, Member States, and those working in partner organisations in fields such as academia, civil society, and the private sector. It may be used by stakeholders to:

- Gain a better understanding of how the Division empowers countries, what its value proposition, priorities, and goals are, and the gaps in the surveillance landscape it seeks to fill so that internal and external partners can work on agreed priorities.
- Identify areas for collaboration and see how the Division puts equitable collaboration into practice, such that new solutions and ideas are generated as inclusively and equitably as possible.
- Understand how the Division fits into WHO so that stakeholders understand how the Division adds value within WHO's mandate.

1 EXECUTIVE SUMMARY

In our increasingly interconnected world, pandemics and major outbreaks, which were once regarded as rare occurrences, are now projected to occur more frequently — driven by globalisation, urbanisation, and climate change, among other factors. These complex events can have serious political, economic, social, environmental and ethical consequences. Tackling them effectively requires collaborative surveillance.

This 3-year strategy (2023 – 2025) of WHO’s Division of Health Emergency Intelligence and Surveillance Systems (WSE) is embedded within the WHO Health Emergencies Programme (WHE) and represents WHO’s approach to collaborative surveillance, with the goal of reducing the impact of future epidemics, pandemics, and other emergencies. The strategy contributes to WHO’s Thirteenth General Programme of Work (GPW 13) which seeks to ensure that “One billion more people are better protected from health emergencies”.

Collaborative surveillance is the systematic strengthening of capacity and collaboration

among diverse stakeholders, both within and beyond the health sector, with the ultimate goal of enhancing public health intelligence and improving evidence for decision-making.

This concept builds upon the foundations of robust public health surveillance, health service monitoring, and laboratory surveillance, drawing insights from other data sources and applying advanced data and analytical approaches to enable the generation of contextualised intelligence. Collaborative surveillance emphasises collaboration itself as a key capability – building intentional collaboration across diseases and threat surveillance systems, sectors, geographic levels, and emergency cyclesⁱⁱⁱ. However, many barriers to collaborative surveillance remain in all countries and at all levels. Resources are constrained, technology has not yet been fully harnessed to suit the full range of public health contexts, and the different systems have not yet been able to combine their strengths and information to give better insights.

CONTEXT OF WSE STRATEGY WITHIN WHO



Better data.
Better analytics.
Better decisions.

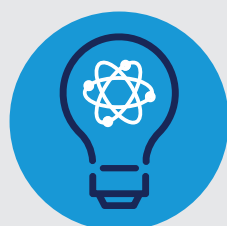


WSE was established in 2021 to address these challenges. It comprises one team working across two campuses: the WHO Hub for Pandemic and Epidemic Intelligence (WHO Hub) based in Berlin, and the Surveillance Systems Department (SRV) at WHO Headquarters in Geneva. The Division fosters global collaboration to detect, understand, and manage threats across the global health emergency landscape by enabling better data, better analytics, and better decisions.

The WHO Surveillance Systems department is charged with leading WHO's established

mandate of jointly developing strategies, norms, standards, and guidelines for surveillance, establishing competencies for field epidemiology, and supporting WHE and other WHO divisions to strengthen surveillance.

As part of our efforts, the WHO Hub is designed as a "sandbox", with a mandate to take risks, incubate new initiatives, and drive innovation by reaching beyond WHO's traditional stakeholders and putting communities of practice in charge for the development of new solutions. The 3-year strategy (2023-2025) is grounded in WSE's vision and mission:



VISION

A world 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

THE DIVISION IS WORKING TO ACHIEVE THREE OBJECTIVES:

- OBJECTIVE 1** Actors are aligned around top priorities for transforming collaborative surveillance.
- OBJECTIVE 2** Effective solutions to country needs are introduced and adapted to solve key surveillance challenges.
- OBJECTIVE 3** The most successful solutions to surveillance barriers are scaled up widely.



EXAMPLES OF INITIATIVES AND PROJECTS

OBJECTIVE 1:

- Collaborative surveillance implementation
- Strengthening Emergency Preparedness and Response in Member States through National Public Health Agencies (NPHAs)
- Health-Security Partnership to Strengthen Surveillance in Africa
- Pandemic and Epidemic Intelligence Innovation Forum
- Research priorities for collaborative surveillance

OBJECTIVE 2:

- Epidemic Intelligence from Open Sources (EIOS)

- International Pathogen Surveillance Network (IPSN)
- Collaboratory
- Knowledge Representation and Reasoning (KR²)
- Integrated Outbreak Analytics (IOA)

OBJECTIVE 3:

- Contact tracing guidance
- WHO outbreak toolkit
- One Health Field Epidemiology Competency Framework
- Strengthening public Health Intelligence Competencies

Within objective 1, WSE will:

- Set global priorities for collaborative surveillance.
- Mobilise political, technical, and financial support for collaborative surveillance across institutions at all levels.

Within objective 2, WSE will:

- Improve the analysis and sharing of public health intelligence by catalysing transformative tools and incentives.
- Enhance decision-making through the integration of information from a broad

range of sources by pioneering innovative approaches.

Within objective 3, WSE will:

- Modernise and develop global standards for surveillance data and procedures
- Develop instruments and provide guidance for countries to tailor and modernise surveillance systems based on local needs
- Support countries to develop field epidemiology capacity for surveillance, risk assessment and response

THE STRATEGY PROMOTES FIVE PRINCIPLES THAT GUIDE HOW THE DIVISION WORKS AND MAKES DECISIONS:

WE INNOVATE: We channel the best minds and innovations toward serving the needs of countries and communities across all levels.

WE COLLABORATE: We pioneer innovative forms of collaboration by convening atypical actors from around the world and empowering them to take the lead.

WE TAKE RISKS: We move with speed and do not restrict ourselves to projects with guaranteed success from the start, embracing failure as part of innovation.

WE LEARN EVERY DAY: We harness open-mindedness, humility, and creativity in tackling common problems, taking each day as an opportunity to learn and grow.

WE EMBRACE COMPLEXITY: We take a multidisciplinary and multisectoral lens to tackle technologically and politically complex challenges.

WSE cannot achieve these objectives alone but relies on partnerships within and outside WHO. It seeks inclusive collaboration based on equity and trust.

2 CONTEXT

Public health emergencies are occurring with increasing frequency and complexity, each exposing weaknesses in the adequacy of current surveillance to inform decision making at all levels. Effective national surveillance is the foundation of global public health security, with all activities to prevent and mitigate the impact of emergencies dependent on our surveillance capabilities. The complex challenges highlighted by COVID-19 emphasise the need to rethink our approach to surveillance while building upon the momentum of substantial recent investments in public health capacity.^{iv}

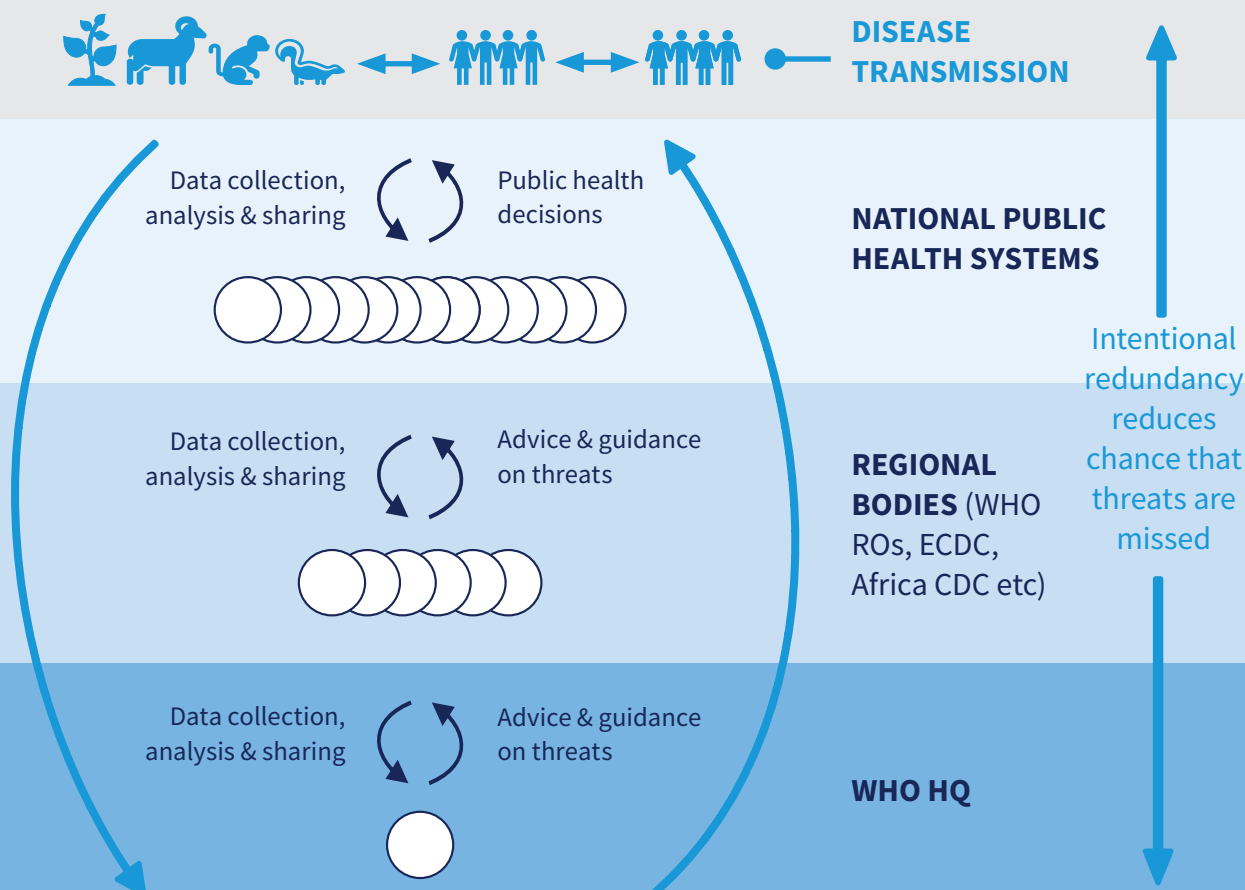
The WHO Health Emergencies Programme (WHE) is ultimately responsible for ensuring that all countries and partners are better prepared for all-hazards health emergencies. At the core of WHE is a multi-layered system, which relies on countries taking the lead in preparing for, preventing, detecting, and responding to disease outbreaks and other health emergencies. At all levels of this system, alert and response teams act as additional safety nets by analysing risks and notifying countries and partners. This collaboration and intentional redundancy reduce the chance of missing threats. However, in a world of health emergencies of increasing frequency and complexity, the system is often taken over by ad hoc responses and has limited resources to develop and integrate new tools, approaches, and solutions.

To ensure that the world is better prepared for future emergencies, WHO published a Health

Emergency Preparedness, Response and Resilience (HEPR) framework for Member States to establish and integrate the required capabilities^v. HEPR consists of five interconnected subsystems: collaborative surveillance, community protection, safe and scalable care, access to countermeasures, and emergency coordination. Collaborative surveillance^{vi} is the systematic strengthening of capacity and collaboration among diverse stakeholders, both within and beyond the health sector, with the ultimate goal of enhancing public health intelligence and improving evidence for decision making. This concept builds upon the foundations of robust public health surveillance, health service monitoring, and laboratory surveillance, drawing insights from other data sources and applying advanced data and analytical approaches to enable the generation of contextualised intelligence. Collaborative surveillance emphasises collaboration itself as a key capability – building intentional collaboration across disease and threat surveillance systems, sectors, geographic levels, and emergency cycles.

WHO'S HEALTH EMERGENCY RESPONSE SYSTEM

Status quo of the country, regional and global surveillance system



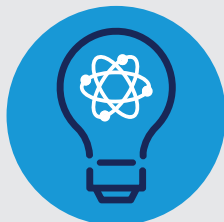
The WSE is responsible for leading WHO's efforts to strengthen the subsystem of collaborative surveillance, to serve the needs of surveillance actors at all levels and improve data, analytics, and decision making. Being

part of the WHE, its work directly relates to strategic priority 2 of WHO's Thirteenth General Programme of Work (GPW 13), ensuring that "One billion more people are better protected from health emergencies"^{vii}.

3 WSE'S STRATEGY FOR IMPLEMENTING COLLABORATIVE SURVEILLANCE

3.1 Vision and mission

WSE works towards a world where collaborative surveillance reduces the negative impact of health threats.



VISION

A world 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

3.2 Principles

The Division has set out five principles that define its culture and guide the way it works and the decisions it makes:



Pursuing innovation is critical to adapt to the complexity and uncertainty of health emergencies as well as the dynamic nature of digital and data science fields. The Division employs agile approaches, supported by

innovators, and recognises that any innovation is only valuable if it serves the needs of countries and communities.



WSE acknowledges that it cannot achieve its goals alone. The Division pioneers new collaborations with stakeholders, including 'unusual suspects' across sectors, disciplines, geographies, and disease areas. It aims to foster knowledge sharing, test new ideas, and find ways of working that enable sustainable collaboration.



Pursuing fundamental improvements in the surveillance and intelligence landscape requires that the Division does not restrict

itself to projects that are guaranteed to succeed from the start. However, if ideas or projects fail, they should do so quickly and result in valuable lessons.



There is a complex system of interconnected and interactive data pertinent to health emergency preparedness and response.

These are coupled with a growing and overwhelming velocity, variety, and volume of relevant information. The Division therefore uses a multidisciplinary and multisectoral lens in its work.



The health emergency landscape is constantly and rapidly changing and so must preparedness and response. WSE recognises that it

does not have all answers, but works with open-mindedness and humility, learning from others and from its failures and successes. Each day is an opportunity to learn and grow.

Recognising that health emergencies such as the COVID-19 pandemic affect countries disproportionately, produce new threats, entrench health inequities, and exacerbate social and economic divides, **WSE places inclusion, equity, and trust at the heart of its strategy.**

- **Inclusion:** WSE aims to ensure the full participation of all people, in all their diversity, in its work. It remains open to all and ensures that their opinions are heard, they feel valued, and they are meaningfully engaged.
- **Equity:** WSE recognises the inequitable impact of health emergencies and the importance of incorporating equity-centred approaches into its work. WSE aims to eliminate avoidable disparities in access to data, insights, tools, and involvement. It promotes equal participation in surveillance and public health intelligence and associated decision making structures, regardless of gender, race, ethnicity, sexual orientation, age, or socioeconomic background.
- **Trust:** WSE recognises that earning and maintaining the trust of the countries it serves is critical to the success of its vision. Building a culture of trust^{viii} is a key priority of WSE's work, where countries are willing to share insights and jointly develop solutions.

3.3 Roles and value proposition

To achieve its mission, WSE has three roles: to **connect** data, solutions, and communities of practice, to **innovate** tools and processes, and to **strengthen** surveillance capabilities and capacities for the future, including defining norms and standards.



CONNECT

In WSE's "Connect" role, it aims to:

Radically improve collaboration, trust in data sharing, and co-creation across surveillance systems. WSE fosters shared political understanding and commitment to manage pandemics, epidemics and other health emergencies. This entails building a "culture of trust" with Member States around collaborative surveillance, where intelligence is shared from a wide range of information from open (i.e., publicly available) and closed (i.e., restricted) sources. It also considers aspects such as governance and legal frameworks, data-sharing agreements, data solidarity, and data security.

Drive global agreement on priorities for research, funding, and action. WSE coordinates and regularly supports the evaluation of strategic and research priorities for academia and funders through consultation processes led by the countries, and drives thought leadership for collaborative surveillance. The Division works to create a joint effort by all actors to focus funding and action on critical surveillance priorities for countries.

Catalyse new solutions through communities of practice. WSE places communities of practice at the centre of its work. Strong surveillance communities across levels and sectors can feed into each other's insights and encourage the development, adaptation, and adoption of suitable, effective, and sustainable solutions for disease outbreaks.



INNOVATE

In WSE's "Innovate" role, it aims to:

Incubate cutting-edge initiatives that drive step changes in surveillance outcomes. Cognisant of the contexts and needs of Member States, the Division facilitates experimentation, testing, and scaling of transformative innovations that enhance public health intelligence and evidence for decision making. This involves supporting better data analysis and sharing methods to detect, analyse, assess, and communicate public health threats earlier and better mitigate their impact.

Transform academic research into pioneering new tools and approaches that fit country and regional contexts. The Division connects researchers with other actors to translate research into tools and approaches that are suited to public health. It works jointly with public, private, and civil society stakeholders to ensure their suitability.



STRENGTHEN

In WSE's "Strengthen" role, it aims to:

Shape the surveillance workforce of the future and coordinate capacity building to realise it. While the Division does not carry out capacity building at scale, it supports the coordination of capacity-building programmes, such as the Field Epidemiology Training Program (FETP) as a collaboration partner, and the development of workforce competencies and capacity evaluation strategies.

Empower countries to plan and mobilise resources to drive down inequality in surveillance capacity. WSE supports regions and countries to plan, fundraise and mobilise resources; brokers partnerships with capacity builders to support regions and countries; and provides catalytic funding for countries through innovation grants.

Create a living repository of global standards for surveillance data and procedures. Together with communities of users, WSE develops, publishes, and promotes the adoption of best practices, norms, standards, and guidelines, which are updated regularly as new evidence emerges and new intelligence from such sources as genomics or One Health is integrated. Countries remain the owners of these repositories.



PARTNER

Where WSE will rely on partners

WSE cannot on its own achieve the impact it seeks.

While focusing on the value proposition articulated by its unique role, it relies on partners, both inside and outside WHO, to lead activities such as:

- Leading political negotiations over international agreements such as treaties
- Providing hardware or computing power or collecting and analysing external data
- Carrying out research, risk analysis, or alert and response activities
- Training or lab capacity strengthening at scale
- Large-scale funding or funding for procurement or implementation of day-to-day surveillance

4 THEORY OF CHANGE

4.1 Overarching framework

WSE aims to mobilise a variety of actors, with countries in the lead, to collaboratively build connected surveillance systems. These systems will improve public health intelligence and decision making and ensure that people are better protected from health emergencies (in accordance with GPW13). To achieve this, the Division has developed a theory of change that shows how, by mobilising collective action, barriers to collaborative surveillance are removed, which, alongside the contributions of others, will lead to systems with the capacity and intelligence required to improve preparedness and response (see chapter 7.2). WSE has three objectives, each encompassing strategic initiatives that aim to achieve distinct health security outcomes and impacts.

4.2 Objective 1: Actors aligned around top priorities to transform collaborative surveillance

Surveillance is characterised by insufficient collaboration among stakeholders from different sectors within and outside human health in a fragmented policy and funding landscape.^{ix} However, it is only through collaboration, trust, and clear priorities that public health emergencies can be understood and addressed everywhere, wherever and whenever they occur. This requires a clear concept of collaborative surveillance, including that its objectives and capabilities are understood and used by stakeholders and integrated into national action plans. Growing

and harmonising international funding is also key to achieving this objective. WSE focuses on the following strategic initiatives.

Strategic Initiative 1.1: Set global priorities for collaborative surveillance

In the dynamic and fragmented space of disease surveillance, the priorities for investment in research and the delivery of collaborative surveillance are not always clear. For example, it is difficult to assess which technologies to invest in and how to ensure interoperability, or to agree on metrics that can be applied for data collection and sharing. As a starting point, WSE is generating and socialising a collaborative surveillance concept within which priorities can be defined with the aim of enhancing public health intelligence and strengthening the evidence base for informed decision making.

Public health intelligence, through its systematic and comprehensive approach to data collection, analysis, and interpretation, can help to set priorities by building a more coherent evidence base. The development of methods, tools, and implementation approaches for collaborative surveillance currently has limited strategic coherence. There has also been insufficient focus on translational research to improve collaborative surveillance and on robust impact evaluation of intervention types. Therefore, WSE is leading a collaborative effort to define research priorities for surveillance to increase alignment around the most critical information needed to improve the evidence base.



EXAMPLES WITHIN THIS INITIATIVE

STRENGTHENING EMERGENCY PREPAREDNESS AND RESPONSE IN MEMBER STATES THROUGH NATIONAL PUBLIC HEALTH AGENCIES (NPHAs):

National Public Health Agencies (NPHAs) are government agencies that provide science-based guidance, leadership, and coordination for critical public health functions including emergency preparedness and response. The WHO Health Emergencies Program (WHE) at all levels works with NPHAs to help build the capacities required to rapidly detect, respond to, and recover from any emergency health threat. The WHO Hub is coordinating efforts to support NPHAs in strengthening their emergency preparedness and response capacities including defining and delivering on core emergency preparedness and response functions; determining governance, policy, regulatory and financing structures that support emergency preparedness and response; and building networks and facilitating peer-to-peer learning opportunities.

RESEARCH PRIORITIES FOR COLLABORATIVE SURVEILLANCE: WSE has created an inclusive but lean consultative process to define the global priorities for collaborative surveillance research. At the end of this process, we will publish the findings as a living document and set up a mechanism to review and update these priorities on an ongoing basis. WSE will also build a mechanism to track the impact of the research priorities on funding and research outputs.

PANDEMIC AND EPIDEMIC INTELLIGENCE INNOVATION FORUM: Starting in February 2022, the Intelligence Innovation Forum became a community of practice of thought leaders across disciplines, sectors and jurisdictions. The series of quarterly engagements fosters communication, idea exchange and alignment between international domain expert leaders working on initiatives relevant to epidemic and pandemic intelligence.

Strategic Initiative 1.2: Mobilise political, financial and technical support for collaborative surveillance across institutions at all levels

Since the start of the COVID-19 pandemic, public awareness of pandemics and epidemics and their associated social, economic, and health costs, has increased rapidly. Emergency preparedness and response have attracted both political and financial support, with new partnerships and organisations being formed, academia and private sector contributions to technological innovations increasing^x, and funding for disease surveillance increasing by 64% in 2020.^{xi} However, there is now a risk that political attention will wane, while both

collaboration and funding remain insufficient to meet the challenges.

WSE supports the translation of the collaborative surveillance concept and priorities for its implementation into a global investment case and related advocacy activities that countries and funders can rally around. It garners political support in global fora such as the World Health Summit, the G20 and the G7 and works to embed collaborative surveillance priorities within multilateral instruments. To strengthen the effective implementation of collaborative surveillance, it also mobilises technical partners to support the development and implementation of standards, norms and guidelines.



EXAMPLES WITHIN THIS INITIATIVE

HEALTH-SECURITY PARTNERSHIP TO STRENGTHEN SURVEILLANCE IN

AFRICA: The WHO Hub in collaboration with Africa Centres for Disease Control and Prevention (Africa CDC), WHO Regional Offices for Africa and Eastern Mediterranean (WHO AFRO/EMRO) and Robert Koch institute (RKI) are implementing a health security partnership project to strengthen biosecurity through disease surveillance and epidemic intelligence on the African continent. With funding from the G7-led Global Partnership, the project is strengthening surveillance, epidemic intelligence, and advocating for increased political will for biosecurity in an initial six African countries.

COLLABORATIVE SURVEILLANCE IMPLEMENTATION: Following the publication of Defining Collaborative Surveillance, WSE launched this cross-divisional initiative to support implementation. It includes a series of projects and the provision of technical service that aim to support country, regional and global adoption; guide and harmonize investments in disease surveillance; develop practical roadmaps and technical materials that empower country-level implementation; and facilitate alignment, sharing of best practices, and collaboration between surveillance stakeholders within and beyond WHO. This initiative complements the realization of the vision, objectives, and enabling environment, and strengthening of capabilities outlined in the collaborative concept to strengthen the global architecture for health emergency, preparedness, response and resilience (HEPR).

INTERNATIONAL PATHOGEN SURVEILLANCE NETWORK (IPSN) GENOMIC

INVESTMENT CASE: As part of the IPSN, a global investment case for genomic surveillance focused on building country capacity is being designed and delivered to clearly identify the costs and benefits of genomic surveillance investments and drive advocacy in the pathogen genomics landscape. The investment case will be launched in 2023 and will be followed by annual reports setting out progress and challenges in closing the gaps it identifies.

SPEAKER SERIES

The speaker series is a periodic, high-level hybrid event in Berlin to share insights on collaborative surveillance with a German and global audience. The quarterly series highlights the complex multidisciplinary landscape of preventing, predicting, preparing for, and responding to epidemics and pandemics.

4.3 Objective 2: Effective solutions to country needs introduced and adapted to solve key surveillance challenges

Technological advances have not yet transformed public health decision making; further effort is needed so that countries can access a portfolio of effective, sustainable tools for collaborative surveillance, are

empowered to select and own optimal tools for their context to strengthen public health intelligence and decision making. First, this will require working with countries to ensure that successful solutions are identified, and their effectiveness, efficiency and safety is assessed. Second, it will require that new approaches to augmenting decision making are tested and piloted and that routine data are shared in priority areas (e.g., genomics) for an increasing number of diseases and geographical areas. WSE focuses on the following strategic initiatives:

Strategic Initiative 2.1: Improve the analysis and sharing of public health intelligence by catalysing transformative tools and incentives

Many countries lack disease surveillance capacity for many pathogens, data recording is often not harmonised and digitised for

analysis, and some struggle to connect datasets from disparate sources. Improving elements of the surveillance system (e.g., harmonising insights from disease programmes, efficient use of genomics, and complementing indicator based surveillance efficiently with use of open-source data) requires multidisciplinary collaboration to provide solutions that are fit for public health

system use and adapted to different contexts. Current scientific advances are generating new approaches to information exchange (e.g., artificial swarm intelligence, federated learning, natural language processing, knowledge representation and reasoning, network science.^{xiii}, and crowdsourcing).

WSE seeks to build partnerships with key actors at the forefront of innovation and contribute to effective and sustainable communities of practice to encourage innovation and intelligence sharing.

However, sharing data also goes beyond technological concerns – incentives and tools must be built to enhance global trust for greater sharing and collaboration. This culture of trust should enable the use of public and non-public surveillance data. Incentives and agreements around governance, data solidarity, data use, open technologies, data security, privacy, and data credibility can help to adapt existing systems. WSE therefore invests in improved and sustainable systems, platforms, and protocols that enable data sharing and enhance the trust around it.



EXAMPLES WITHIN THIS STRATEGIC INITIATIVE

EPIDEMIC INTELLIGENCE FROM OPEN SOURCES (EIOS):

Established in 2017, EIOS offers state-of-the-art technology, integrated solutions and capacity building, supporting countries and other stakeholders to address current and future health threats. The initiative maintains and expands a functioning system harnessing publicly available information for emergency preparedness and response based on a unified, all-hazards, “One Health” approach, as well as growing a collaborative Public Health Intelligence community that uses the approach, with the right competencies and trust in knowledge-sharing.

The initiative is WHO-led and has been hosted within the WHO Hub since January 2022.

INTERNATIONAL PATHOGEN SURVEILLANCE NETWORK (IPSN):

The IPSN is a global network, supported by a WHO-led Secretariat, designed to harmonise efforts, increase political attention and drive innovation in the field of pathogen genomic surveillance. It builds communities of practice around pathogen surveillance to address challenges in data, standards and tool fragmentation and accelerates country and regional capacity building by developing global goods and facilitating country-to-country exchange.

COLLABORATORY:

In order to empower communities of practice to solve problems connected to surveillance and intelligence generation, WSE is developing a ‘Collaboratory’, a user-friendly digital platform which will act as a sandbox to improve data sharing and publication, and foster a global, multidisciplinary health intelligence community around the platform that develops innovative epidemiological models, systems and analytical tools to address existing challenges and needs in the domains of data, analytics, and evidence-based decision making.

Strategic Initiative 2.2: Enhance decision making through the integration of information from a broad range of sources by pioneering innovative approaches.

No public health system can fully harness all available intelligence to drive forecasting and decision making in an integrated way – which comes both from multiple sources (e.g., routine, event-based, contextual, unstructured) and contexts (e.g., environmental factors, social, cultural, and behavioural factors, economic factors, human and animal interactions). Decision making requires building new skills across a complex stakeholder landscape, involving political, public policy, civil society, and science organisations as they all influence the management and outcome of public health risks. Collaborative surveillance in decision making relies on public health intelligence that use both qualitative and quantitative information, including contextual information, to develop a more comprehensive understanding of public health threats and respond to them; on the development of

multidisciplinary and multistakeholder platforms involving both experts and policymakers to discuss potential public health interventions; on raising awareness and training policymakers on the use of surveillance data; and on engaging communities and public opinion leaders.^{xiv}

WSE seeks to improve this landscape by trialling new approaches for connecting insights and intelligence in ways that will more robustly and powerfully inform decision making. It will explore ways to semantically link data points and elements from disparate types and sources (e.g., climate data and routine surveillance data), thereby providing ways to help analyse and understand the complexity of pandemics and other health emergencies in specific contexts and ultimately strengthen public health intelligence around it. Additionally, the Division will coordinate with multiple actors and organisations to adopt a comprehensive approach to data analytics and interpretation for decision making before, during, and after public health emergency responses.



EXAMPLES WITHIN THIS STRATEGIC INITIATIVE

KNOWLEDGE REPRESENTATION AND REASONING (KR²):

KR² is a WHO-led initiative that establishes and grows a global network of data, information, insights and knowledge from different systems and datasets; developing systems and capabilities for the early discovery and assessment of public health threats using advanced analytic methods.

INTEGRATED OUTBREAK ANALYTICS (IOA):

IOA is locally led and seeks to mobilise multiple actors and organisations under the overall coordination of the Ministry of Health to work together before, during and after a public health emergency, around a comprehensive approach to data analytics and interpretation for decision making during public health emergency response.

4.4 Objective 3: The most successful solutions to surveillance barriers are scaled up widely

Developing successful solutions is just the first part of strengthening systems. These solutions must be owned and adopted by countries – and adapted to different contexts – so that they can fully realise their potential to strengthen surveillance systems. Currently, however, capacity still varies widely between countries and programmes,^{xv} making it difficult to take up successful solutions. At the same time, norms, standards, and competencies need to keep pace with changes in the surveillance landscape.^{xvi}

The Division will therefore work alongside countries to reshape norms, standards, competencies, and the development process of these, as well as to broker partnerships with capacity builders that can provide technical support for collaborative surveillance in priority countries. Wherever possible, based

on its expertise and value-add, WSE aims to support WHO's risk, warning, and response functions to scale up successful solutions. WSE therefore focuses on the following strategic initiatives:

Strategic Initiative 3.1: Modernise and develop global standards for surveillance data and procedures

Because the landscape in which collaborative surveillance is placed is rapidly evolving, it faces barriers to effectiveness as a result of a lack of standards, governance for collaborative surveillance, in essence, a more holistic approach for surveillance. To address these issues, WSE and its Department for Surveillance Systems are leading WHO's mandate of jointly developing and constantly improving strategies, norms, standards, and guidelines for surveillance, and supporting WHE and other WHO divisions to strengthen surveillance. For instance, the Division seeks to develop and distribute adaptable, practical, and evidence-based guidelines for contact tracing during outbreaks.



EXAMPLES WITHIN THIS STRATEGIC INITIATIVE

GUIDANCE FOR EARLY WARNING, ALERT AND RESPONSE (EWAR) IN EMERGENCIES:

An initiative to formulate operational guidance to strengthen EWAR capacities during emergencies and develop context-specific trainings for countries to guide them on EWAR implementation.

WHO OUTBREAK TOOLKIT:

The outbreak toolkit provides technical guidance, trainings and activities to support the strengthening of Early Warning, Alert and Response in emergencies. It is available online for countries to refer to, is regularly updated and includes a work plan to guide its implementation.

CONTACT TRACING GUIDANCE:

This project aims to develop and disseminate a comprehensive contact tracing guideline, which will serve as the authoritative document. Post-guideline-development, there will be an ongoing review of the guideline and adaptation in light of emerging evidence.

Strategic Initiative 3.2: Develop instruments and provide guidance for countries to tailor and modernise surveillance systems based on local needs

Systems that operate in low-resource settings face challenges in conducting effective surveillance and tailoring their surveillance systems to needs^{xviii}. Therefore, support is needed to increase countries' capacity to establish effective surveillance systems, in order to be better prepared for and respond to health emergencies^{xix}.

In consultation with countries, the Division coordinates the development of a comprehensive, actionable, and measurable maturity model for collaborative surveillance ("HEPR Maturity assessment framework") that can help WHO offices and countries assess the status of collaborative surveillance and set priorities. The division also designs a strategic framework to support countries in a comprehensive evaluation of their surveillance

capabilities. It also aims to strengthen decision support tools for designing and optimising surveillance systems.

Strategic Initiative 3.3: Support countries to develop field epidemiology capacity for surveillance, risk assessment and response

The changing landscape and the need to expand surveillance and response capacity globally require clarity on workforce competencies. The Division therefore strengthens field epidemiology capacities through the development of competency frameworks, promoting harmonisation of training requirements, tailoring curricula to country contexts, and supporting workforce planning and development. This will include developing multi-disciplinary and trans-sectoral competencies (public health, animal, environmental), setting targets for the development of a multi-sectoral workforce, and engaging in global priority-setting.



EXAMPLES WITHIN THIS STRATEGIC INITIATIVE

PUBLIC HEALTH INTELLIGENCE COMPETENCIES:

An ongoing effort to build and strengthen public health intelligence competencies through a competency-based public health intelligence curriculum for the workforce and relevant training modules.

ONE HEALTH FIELD EPIDEMIOLOGY COMPETENCY FRAMEWORK:

The Tripartite organisations (FAO/WHO/WOAH) are developing a competency framework to assist countries in assessing and improving the quality and scope of their training programmes. This guidance will help to ensure that field epidemiology training programme graduates have the knowledge, skills, and competencies needed to address health threats at the animal-human-environmental interface, applying a One Health approach.

STRENGTHEN FIELD EPIDEMIOLOGY CAPACITY:

Integration of competencies from multiple sectors (PH, animal, environmental) at different levels of training, including a One Health field epidemiology competency framework, modernising FETP curricula, establishing FETP targets, supporting the institutionalisation and sustainability of FETPs, and involving FETPs in the global health.

5 RISKS AND MITIGATION

There are several risks to achieving this strategy, and the Division has mitigation measures in place for them. However, because of the collaborative nature of the Division's work, it cannot control all these risks by itself and needs the support of its partners within and outside WHO.

1 Declining political support and funding.

RISK: With the shift in policy priorities from COVID-19 priorities to other issues, there is a risk that the Division will not be able to secure sufficient funding and attention to support collaborative surveillance.

MITIGATION: The Division places a priority on maintaining political will and focus on collaborative surveillance; this is central to its first objective. WSE cannot achieve this alone; it works together with WHE to empower partners from across academia, civil society, and government to ensure that collaborative surveillance remains on the agenda. Being based in both Geneva and Berlin, the Division can also leverage its connections inside WHO and beyond to attract political attention and potential funding from a variety of policy-makers, funders, and other stakeholders.

2 Trust and willingness of countries to share insights and data.

RISK: The Division is dependent on countries sharing their insights and intelligence to bring to bear the collaborative elements that are at the heart of functioning surveillance systems. The Division relies on the work of other parts of WHO, that of partners, and especially countries, to build trust and willingness to share data to achieve its strategic goals.

MITIGATION: The Division places the establishment of communities of practice and

networks at the centre of its work to ensure that all ideas and solutions are supported by stakeholders. It will also leverage the work of the other WHE divisions, as well as WHO regional and country offices, including the pandemic accord. Further, to mitigate insufficient trust and willingness to share, it seeks to build trust among countries and international organisations to lead by example and garner support.

3 Boldness and risk-taking.

RISK: Business as usual will not lead to the transformative changes needed to empower collaborative surveillance. There is a risk that incrementalism and bureaucracy will reduce the Division's impact.

MITIGATION: The Division seeks to implement a bold, risk-taking approach that is critical to the execution of the strategy. It will incorporate the principle of "We take risks" in all its work, in the operationalisation of this strategy, and in internal administrative processes.

4 Turning investments into results.

RISK: High-risk investments carry an increased chance of failure; there is a chance that some of the innovative approaches that are tested do not deliver the hoped-for value.

MITIGATION: While being bold and experimental, the Division will regularly adjust its portfolio on the basis of the emerging success or failure of the initiatives it supports. It will also build in ways to test approaches with internal stakeholders, such as the other WHE divisions, Regional and Country Offices, and external stakeholders. This will ensure efficient use of resources and the repurposing of time and money away from less promising approaches, to support the acceleration and scaling up of what is working.

6 RESULTS

The objectives of the Division feed into the Thirteenth General Programme of Work (GPW 13^{xxii}), which established WHO's strategy for the five-year period 2019-2023 (now extended to 2025^{xxii}) as well as the HEPR framework^{xxiii}. Most pertinent to the Division's work is strategic priority 2 of the GPW13: One billion more people are better protected from health emergencies. Within this strategic priority, WSE works across the three outcome areas (2.1 – countries prepared for health emergencies, 2.2 – epidemics and pandemics prevented, and 2.3 health emergencies rapidly detected and responded to) and their related indicators^{xxiv}. Although the GPW13 indicators do not fully capture the entire range of achievements of the Division, they serve as a proxy for how the Division has delivered on its core priorities. The Division also works within the collaborative surveillance subsystem of the HEPR framework to strengthen public health intelligence and decision making and has aligned its strategic initiatives to implement the framework (see chapter 7.2).

To support the achievement of its objectives, a results framework was designed in September 2023 and will be implemented by the end of 2023. An outcome of the framework is a set of clear and measurable targets that will be iteratively achieved by the end of 2025, supported by the existing regular project monitoring and status reporting. WSE will also review its current portfolio, identify gaps, and ensure that all existing and new projects and initiatives are aligned with its strategy.

The strategy provides WSE with a clear direction within which to achieve its goals, but it will be sufficiently flexible to ensure that the diverse range of projects and initiatives, from agile and iterative experiments to traditional and long-term initiatives, can be implemented.

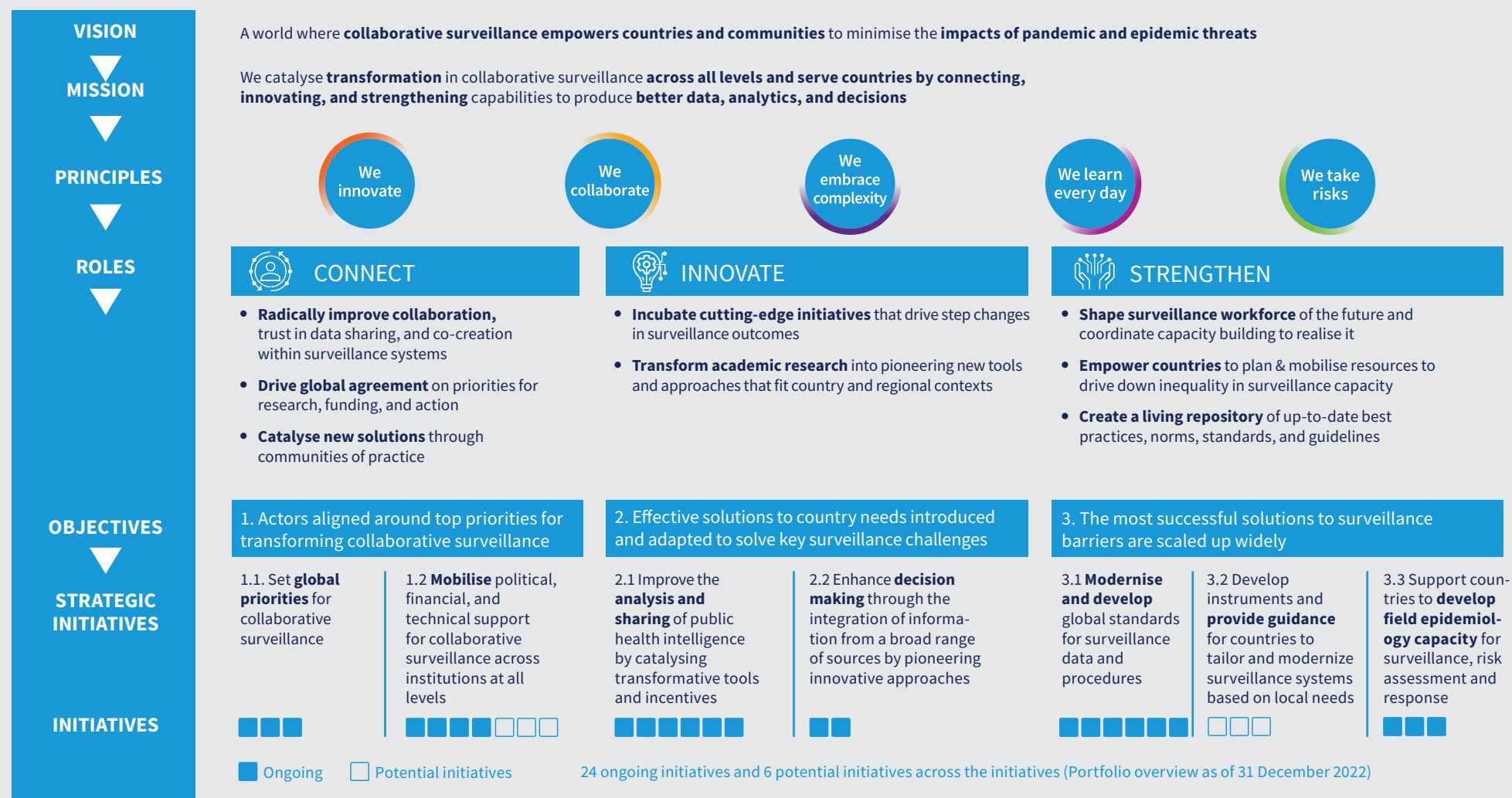


7 ANNEX

7.1 WSE strategy at a glance

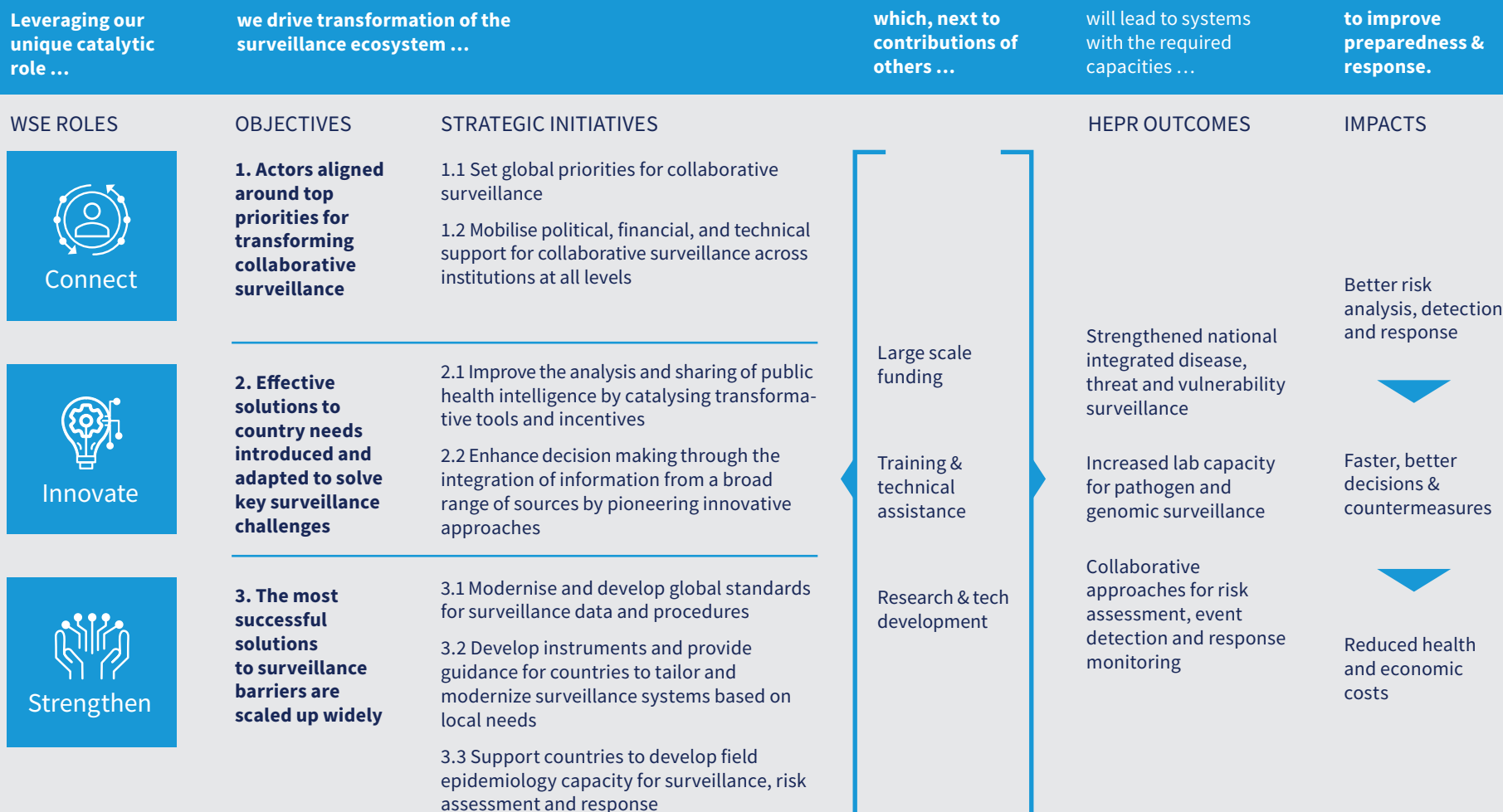
WSE'S STRATEGIC FRAMEWORK TRANSLATES OUR VISION INTO ACTION

Overview of strategic framework (2023 – 2025)



7.2 WSE theory of change

WSE THEORY OF CHANGE IS CENTERED AROUND ACHIEVING 3 OBJECTIVES



7.3 References

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