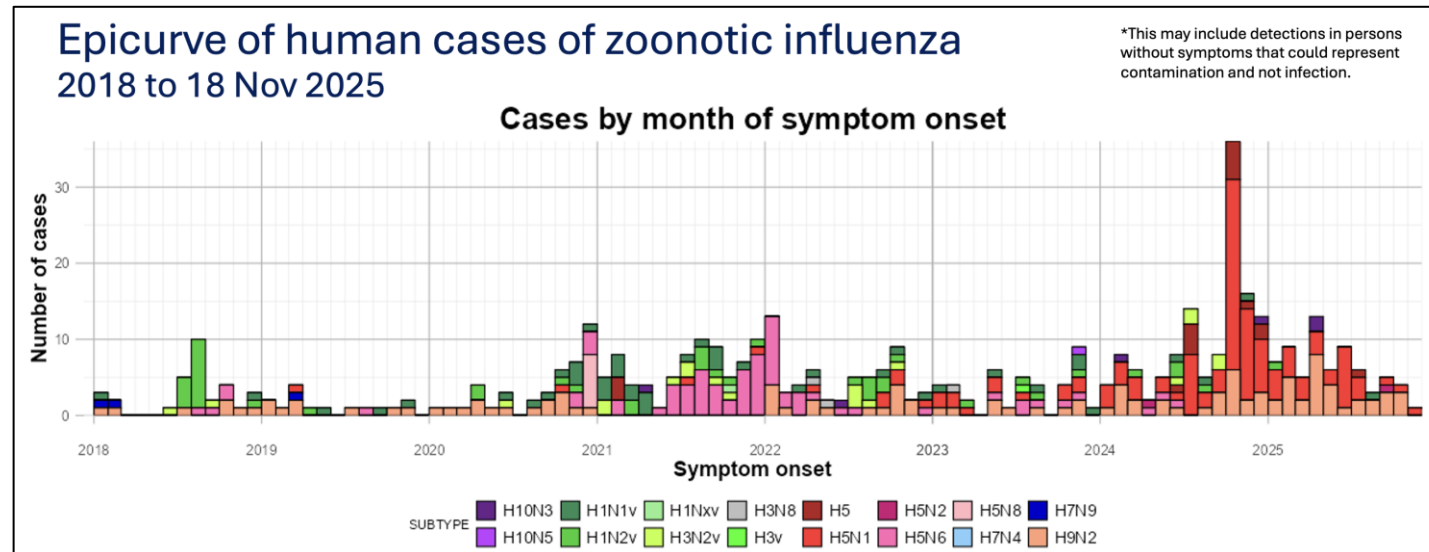


Introduction to the WHO outbreak toolkit and applications

19 November 2025

The importance of joint outbreak investigation during an avian influenza outbreak

- **Zoonotic Influenza** refers to influenza viruses that primarily infect animals but can infect humans through direct or indirect exposure to infected animals or contaminated environments.
- Human infections can be **severe and potentially fatal**, though there has been **no sustained human-to-human transmission** observed to date.
- Early detection and **prompt, thorough investigations** are critical to controlling outbreaks and preventing potential pandemic spread.
- Surveillance systems must combine **event-based** (detection of unusual cases/events) and **indicator-based** (routine monitoring) approaches.
- Collaboration between **public health and animal health authorities** is essential for effective investigations and outbreak control.



Why is early detection important for zoonotic influenza?

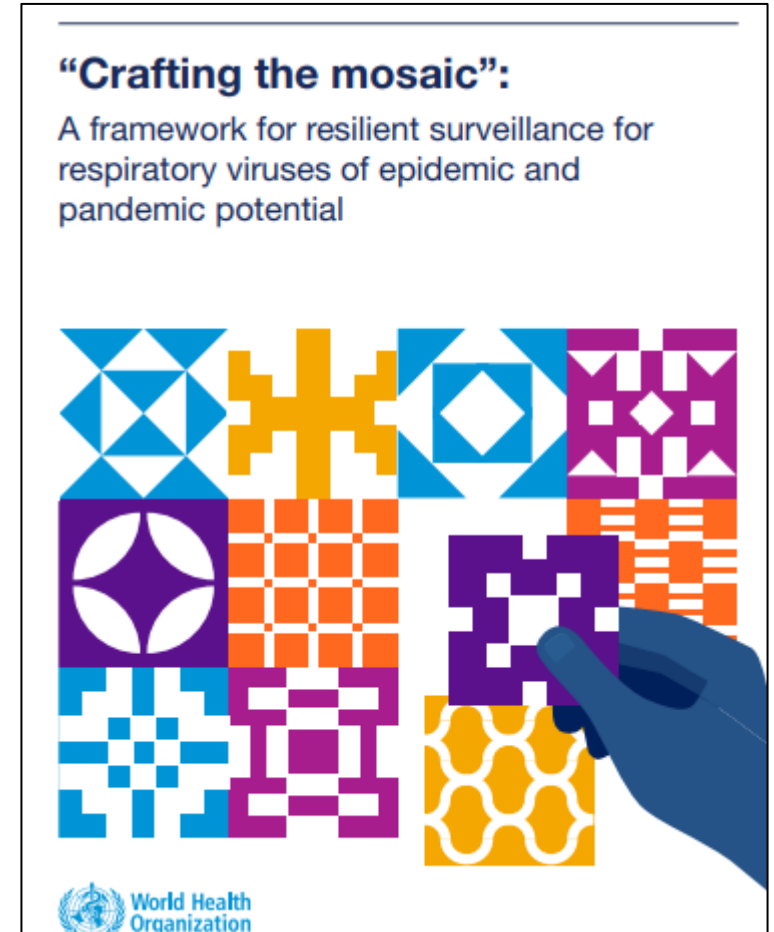
- Human infections can be severe and appropriate clinical management should be provided.
- Need to understand the epidemiology: who is at risk for infection and severe disease and why?
- Need to understand the virology: how similar is the virus to that infecting local animals or are there changes that might indicate increased transmission or adaptation to humans?
- To understand transmission: is the virus spreading from person to person?
- To respond and control outbreaks: prevent further spread among animals and humans.
- Pandemic potential

Early detection and surveillance for zoonotic influenza

Objectives

- Rapidly detect zoonotic influenza virus infections or outbreaks
- Assess transmissibility, risk factors for transmission, and extent of infection from zoonotic influenza virus
- Describe clinical presentation and risk factors for severe outcomes associated with zoonotic influenza infections

The timely detection of a virus that could emerge, spread and cause illness in humans requires multiple event-based and indicator-based systems to work together.

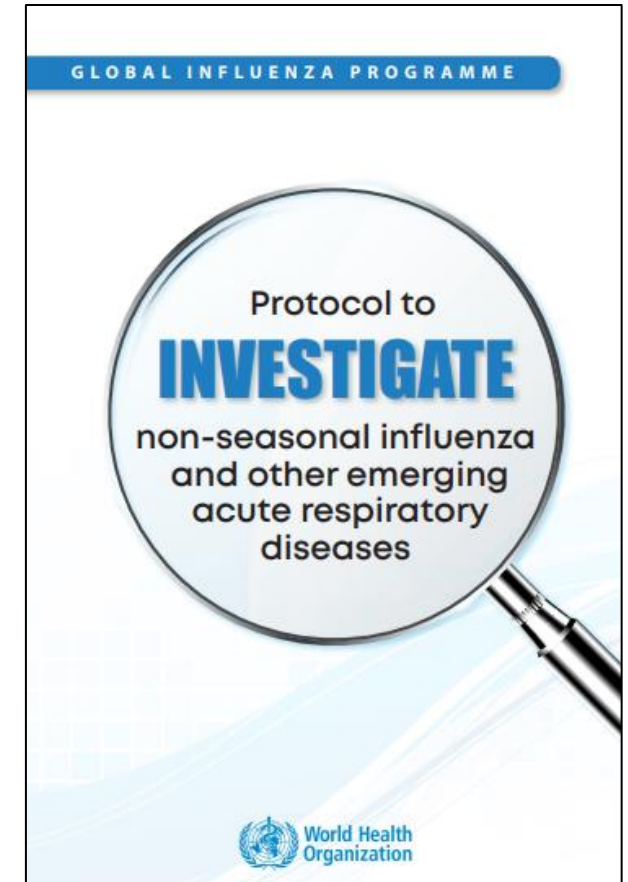


<https://www.who.int/publications/i/item/978924007028>

Investigations

- Know the **triggers for investigating** zoonotic influenza cases.
- **Thoroughly** investigate and monitor closely all suspected and confirmed cases and implement **immediate public health actions**:
 - provide appropriate treatment,
 - include testing for animal influenza viruses in investigation and laboratory protocols,
 - assess exposure to animals and travel history,
 - contact tracing and active searching for other cases,
 - *and the early identification of any unusual respiratory events that could signal **person-to-person transmission** of the virus.*
- **Public health and animal health authorities should work together** and share information during investigations of human cases of zoonotic influenza,
 - assessing the role of local animals as sources of exposure,
 - understanding if any illnesses / deaths have occurred in local animals,
 - and whether animal influenza viruses are circulating in local animals.

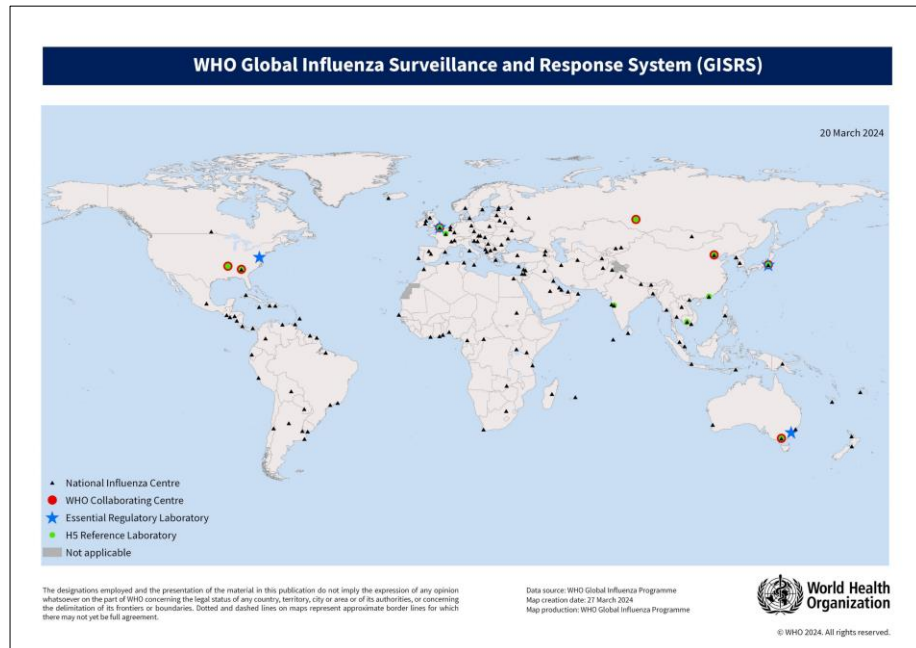
- **Risk assessment** is done throughout the investigation



<https://www.who.int/publications/i/item/WHO-WHE-IHM-GIP-2018.2>

Surveillance and monitoring of influenza including zoonotic influenza

Global Influenza Surveillance and Response System (GISRS), since 1952



- The GISRS network is the cornerstone for influenza surveillance and monitoring including H5 and other zoonotic influenza and other respiratory viruses.
- The GISRS network comprises more than 160 institutions globally, including NICs, WHO H5RL, WHO CCs and ERLs. With virus detection capabilities, sharing representative viruses and timely sharing of zoonotic viruses. In addition to, continuous complementary operations and collaboration with partner organizations like FAO, WOAAH and other global networks like OFFLU and CEIR for risk assessment and joint response under One Health Approach.



Food and Agriculture
Organization of the
United Nations



World Organisation
for Animal Health



**Virus detection capability, Rapid, Sharing
Timeliness & Representativeness**

**Enormous commitment from Member States
Enormous support from international agencies & partners**

WHO Outbreak Toolkit

Goal

- To limit the impact of outbreaks by improving the quality, timeliness, and use of data during outbreak investigations.

Objectives

- To provide technical support **to primary respondent facing an outbreak** in remote place with limited resources.
- To **improve quality, comparability and timeliness of outbreak investigations** reinforcing epidemiological principles and good practices.
- To **limit mortality, morbidity and economic impact of outbreak** by supporting rapid identification of the cause of any outbreak including public health event of unknown origin.

- Approach
- A **repository of WHO resources for outbreak investigation and response** organised by disease, and regularly updated
- A **set of generic outbreak investigation packages** that can be adaptable to various contexts
- Developed **collaboratively by a multidisciplinary team** working collectively across WHO and in collaboration with partners
- Designed to Support **field investigators and frontline responders**
- Prioritizes on **essential description, analysis, and interpretation of epidemiological data**, not research, focusing on the utilization of data for informed decision-making and reporting

WHO Outbreak Toolkit: Get engaged!

- **Explore the Toolkit** – Visit the WHO Outbreak Toolkit and familiarize yourself with its key resources. <https://www.who.int/emergencies/outbreak-toolkit>.
- **Adopt the Tools in Field response** – T0/T1 forms, Disease specific CIFs.
- **Share with Your Teams** – Disseminate the toolkit across national, subnational, and frontline response teams to harmonize practices.
- **Provide Feedback** – Contribute suggestions to help refine, update, and localize the toolkit for your context.
- **Stay Updated** – Follow the periodic updates and new language additions to ensure your teams are using the latest versions.

Response Preparedness Programme (RepPrep) and One Health

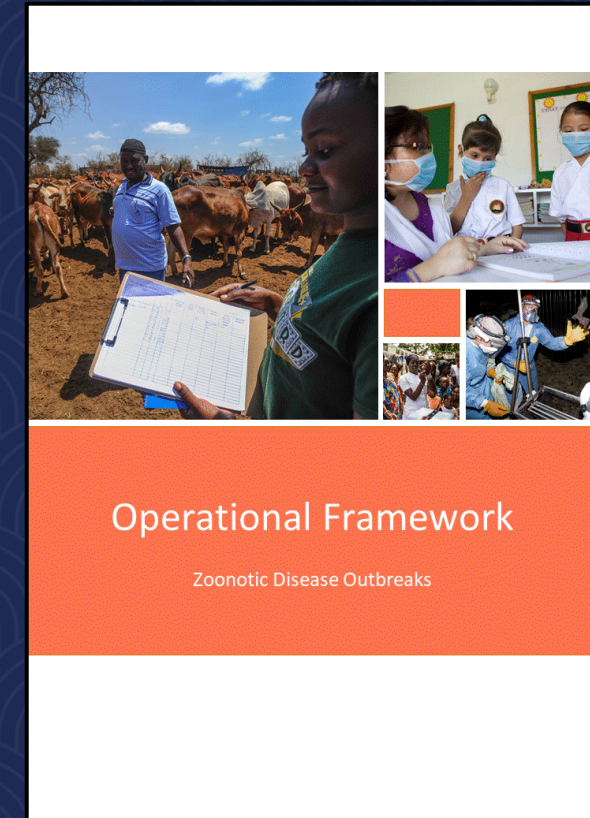
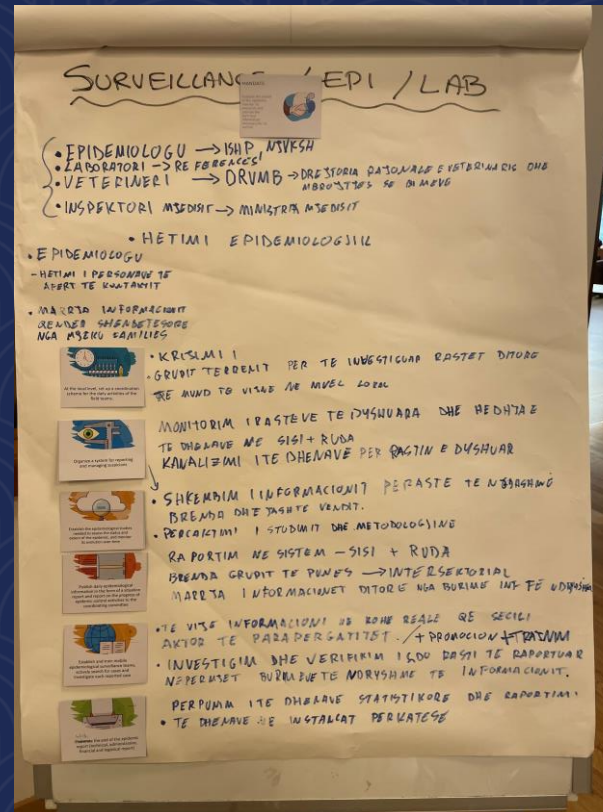
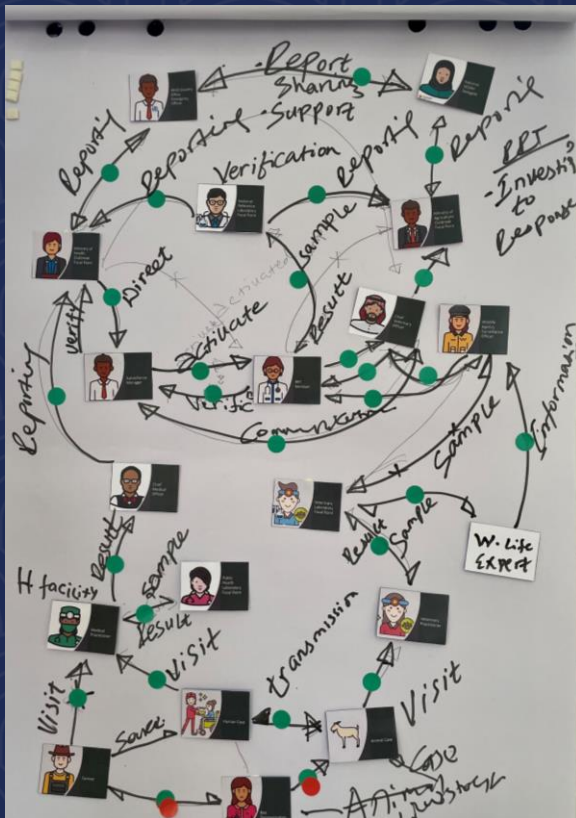
- RepPrep is a **program designed to enhance preparedness and coordinated response** to zoonotic disease outbreaks, emphasizing a **One Health** approach involving human, animal, and other sectors.
- Purpose: To establish a **joint framework and operational structure** defining roles, responsibilities, and coordination mechanisms across sectors and administrative levels (national, subnational, operational).
- Responding to zoonotic outbreaks requires collaboration beyond health sectors, including disaster management, law enforcement, social sciences, and others.

Joint framework and structure for a coordinated response

Figure 5. Groups that may be established in an operational response framework



RePrep Programme Process



Define who should do what / the structure

Define roles and responsibilities (ToRs)

Develop an operational framework

Resources

Resource Title	Link
Global Influenza Programme	https://www.who.int/teams/global-influenza-programme
Global Influenza Programme – Surveillance and monitoring	https://www.who.int/teams/global-influenza-programme/surveillance-and-monitoring
Global Influenza Programme – Human-Animal Interface	https://www.who.int/teams/global-influenza-programme/avian-influenza
Public health resource pack for countries experiencing outbreaks of influenza in animals: revised guidance	https://www.who.int/publications/i/item/9789240076884
Protocol to investigate non-seasonal influenza and other emerging acute respiratory diseases	https://apps.who.int/iris/handle/10665/275657
WHO Disease Outbreak News	https://www.who.int/emergencies/disease-outbreak-news
Zoonotic influenza outbreak toolkit	https://www.who.int/emergencies/outbreak-toolkit/disease-outbreak-toolboxes/zoonotic-influenza-a-virus-outbreak-toolbox
Manual for the laboratory diagnosis and virological surveillance of influenza	https://apps.who.int/iris/rest/bitstreams/52982/retrieve
Laboratory biosafety manual, 4th edition	https://apps.who.int/iris/rest/bitstreams/1323419/retrieve
Operational Guidance on Sharing Influenza Viruses with Human Pandemic Potential (IVPP) under the Pandemic Influenza Preparedness (PIP) Framework	https://apps.who.int/iris/rest/bitstreams/1091180/retrieve
“Crafting the mosaic”: a framework for resilient surveillance for respiratory viruses of epidemic and pandemic potential	https://www.who.int/publications/i/item/9789240070288
Implementing the integrated sentinel surveillance of influenza and other respiratory viruses of epidemic and pandemic potential by the Global Influenza Surveillance and Response System: standards and operational guidance	https://iris.who.int/handle/10665/379678
WHO Outbreak Toolkit	https://www.who.int/emergencies/outbreak-toolkit
One Health Outbreak Toolbox	https://www.who.int/emergencies/outbreak-toolkit/disease-outbreak-toolboxes/zoonotic-influenza-outbreak-toolbox
Response Preparedness (RePrep) Programme	https://www.who.int/initiatives/tripartite-zoonosis-guide/response-preparedness
Health Security at the Human-Animal Interface	https://www.who.int/activities/strengthening-global-health-security-at-the-human-animal-interface

EPI-WIN webinar

- View webinar “[Introduction to the WHO outbreak toolkit and applications](#)”
- Speakers
 - Leshan Koyie, Health Emergency Intelligence and Surveillance, WHO
 - Bernadette Mirembe, Expert Consultant Epidemiologist
 - Aspen Hammond, Global Influenza Programme, WHO
 - Ong-orn Prasarnphanich, Country Assessment, Planning and Readiness, WHO
 - Marie-Amelie Degail Chabrat, Epidemiologist, WHO