Instructions for using the ECDC publication 'Scenarios for pre-pandemic zoonotic influenza preparedness and response in the EU/EEA'

Introduction

This is a guide to using ECDC's publication **'Scenarios for pre-pandemic zoonotic influenza preparedness and response in the EU/EEA'**. The document provides operational guidance for a structured and scalable approach for preparing, and responding to zoonotic influenza threats, like A(H5N1), focusing on early epidemiological and virological signals. It utilises a structured scenario scoring system and escalating action triggers to support planning, coordination and implementation of graduated public health measures.

Based on key factors – **animal origin (avian or mammalian), human case numbers and exposure context (i.e. known exposure to infected animals or not), and severity signals** – the framework outlines 14 pre-defined scenarios, further distinguished by the emergence of **mammalian adaptation** markers. For each scenario, a score range is provided, reflecting the real-world uncertainty that often exists in the early stages of a case/outbreak investigation and especially related to the virological (mammalian adaptation) assessment. Overlapping score ranges between scenarios emphasise the importance of a precautionary and graduated response, allowing for a bi-directional escalation or de-escalation as evidence evolves.

This guidance aims to strengthen Member States' preparedness for early detection, risk assessment, and response to zoonotic influenza aligned with Regulation (EU) 2022/2371 on Serious Cross-Border Threats to Health (SCBTH). It focuses on the public health side of preparedness and response, while integrating a One Health perspective through continuous collaboration with animal health and environmental sectors.

Target audience

The framework is aimed at national public health authorities, EU-level policy-makers, and risk assessors/managers, and is also relevant for clinical, laboratory, and One Health stakeholders involved in preparedness, surveillance, communication, and outbreak response.

Recommended actions

For each scenario, the framework proposes a list of public health measures across **four domains**:

- ✓ **Preparedness and public health interventions** (One Health and international coordination; prevention and control measures in workplaces; infection prevention and control measures in healthcare settings; communication and training; antivirals; vaccines)
- ✓ **Surveillance activities and case/outbreak investigations in humans**
- ✓ **Laboratory preparedness, activities and functions**
- ✓ **Research and additional studies**

Each measure includes baseline actions (that should always be in place in the context of the current EU/EEA and global epidemiological situation) and escalating actions (that apply when human cases occur), including those associated with antiviral resistance, vaccine mismatch, or international importation (Annexes 2-3, downloadable **Excel tool**).

Key considerations

- Scenarios with mammalian origin, unknown exposures, clusters, severity signals, or mammalian adaptation markers may warrant escalation of certain actions. Results from joint investigations (based on the ECDC/EFSA report: Coordinated One Health investigation and management for outbreaks in humans and animals caused by zoonotic avian influenza viruses) will feed in the tool to guide the scenario definition and selection of appropriate public health actions.
- Public health actions must be adaptive to evolving evidence on virus characteristics, exposure routes, and epidemiology. A national and ECDC EU-level risk assessment should always be performed to inform the public health actions that will be needed and to define the area in which they should be applied.
- While this document aims to provide a list of measures that should be considered, additional actions may be needed according to the specific situation and risk assessment.
- A precautionary approach is recommended in the context of uncertainty, especially regarding mammalian adaptation and human-to-human transmission (HTHT) potential.

How to use this framework

1. Current baseline actions should be implemented

- Ensure all baseline actions are in place. These actions apply under the current baseline scenario (no human cases in EU/EEA, but widespread transmission of avian influenza viruses in animals).
- Use Tables 1-4 in Annex 2 that list the baseline actions under each domain.

2. Should a human case be detected in the EU/EEA

A national and EU-level risk assessment should be performed.

Step 1. To complement this assessment and support the definition of public health actions, define and score the scenario.

- Use scenario definitions (Annex 1b) to categorise the situation and assign to a specific scenario.
- Apply the scoring algorithm (Annex 1a) to assign the scenario score.
- **IMPORTANT!** The **downloadable Excel tool** automates this step (scenario definition and scoring) and directly provides the list of the recommended actions for the specific scenario. Please follow the instructions in the *READ ME* tab in the Excel file.

Step 2. Retrieve relevant escalating actions – consult the Annexes and downloadable *Excel tool*:

- Annex 2: Full tables (Tables 1-4) with a list of escalating actions are provided. The escalating actions are summarised in the text under the different (sub)headings as well.
- Annex 3: Tables (Tables 1-9) mapping actions per scenario. The risk assessment should evaluate whether additional measures are needed, based on epidemiology, virology, and local context.
- *Excel tool:* Automated extraction of specific actions per scenario.

3. If a human case is detected outside of the EU/EEA (Decision tree Figure 4)

The epidemiological context in the country of origin (exposure setting, animal outbreaks, clusters, severity, evidence of mammalian adaptation) should be assessed. If information is limited, apply a precautionary approach.

Step 1. Determine if importation has already occurred in the EU/EEA.

Step 2. a) If importation has not occurred, but is considered possible, ECDC will perform a risk assessment for EU/EEA:

- With mammalian adaptation or HTHT signals:
  - Implement heightened alert-level actions using Table 2. Additional actions may be defined according to the risk assessment.
- With potential increased zoonotic transmission (but no mammalian adaptation/HTHT):
  - Adjust baseline actions as needed (Annex 2).

Step 2. b) If importation has already occurred and there is an imported case in the EU/EEA:

A case investigation should be carried out and a national risk assessment for the affected EU/EEA area/country should be performed. ECDC will perform a risk assessment for the EU/EEA.

- Define the scenario using the scoring algorithm (Annex 1a) and apply corresponding escalating actions (using Annex 3 and/or downloadable *Excel tool*)
- If there is no ongoing exposure in EU/EEA, limit measures to healthcare workers and laboratories as needed.

4. Using the action lists (Annexes 2 and 3 and downloadable **Excel tool)**

The action lists are intended as a practical tool for:

- Preparedness planning, to support with updates of national preparedness and response plans.
- Operational response, to guide rapid implementation of public health measures when zoonotic influenza cases arise in EU/EEA.
- Linking to relevant ECDC and WHO guidance documents and EU Regulations are provided for reference in Annex 2 for each of the four public health action domains.
- ECDC will provide EU-level risk assessments and support national responses and international collaboration. A list of EU-level actions is provided in this document (Table 3).

In summary, this framework ensures a transparent, harmonised, and evidence-based approach for EU/EEA countries to manage zoonotic influenza threats, while remaining flexible to evolving epidemiological developments and scientific knowledge.