The European Commission’s science and knowledge service

Joint Research Centre
Surveillance, preparedness, and response to serious cross-border health threats

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## Major disease outbreaks since 2005

<table>
<thead>
<tr>
<th>Year</th>
<th>Major disease outbreaks</th>
<th>Health impact</th>
<th>PHEIC declaration by WHO</th>
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<tbody>
<tr>
<td>2009</td>
<td>H1N1 influenza pandemic (or 'swine flu')</td>
<td>18,449 deaths in more than 214 countries and territories or communities (as per 1 August 2010).</td>
<td>April 2009</td>
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<tr>
<td>2012</td>
<td>Middle East respiratory syndrome coronavirus (MERS-CoV)</td>
<td>1,769 confirmed cases in 27 different countries and 630 deaths reported since September 2012.</td>
<td>N.A.</td>
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<td>2013</td>
<td>Avian influenza H7N9 in human beings</td>
<td>Case fatality rate approximately 25%. Previous cases of other subgroups of H7 avian influenza reported in multiple countries in earlier years.</td>
<td>N.A.</td>
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<td>2014</td>
<td>Resurgence of polio after it had nearly been eradicated</td>
<td>In 1988 there were 350,000 cases in 125 countries; in 2015 74 cases in 2 countries.</td>
<td>May 2014</td>
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<td>2014</td>
<td>Ebola outbreak in west Africa</td>
<td>More than 28,000 cases confirmed in Guinea, Liberia and Sierra Leone and more than 11,000 deaths.</td>
<td>August 2014</td>
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<td>2016</td>
<td>Zika virus outbreak</td>
<td>As of June 2016: 61 countries reporting ongoing mosquito-borne transmission.</td>
<td>February 2016</td>
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Source: WHO Fact Sheets and thematic websites on the relevant diseases as per July 2016.
Decision 1082/2013/EU on serious cross-border threats to health

• Strengthened EU Health Security Framework
• Integrated, coordinated and comprehensive approach for preparedness, early warning, risk assessment and crisis response
• Extended scope of cross-border health threats including
  • Communicable diseases, antimicrobial resistance and healthcare associated infections and biotoxins
  • Chemical, environmental and unknown threats
Coordination under the EU health security framework
Structures and mechanisms

- Network for epidemiologic surveillance
- EWRS – alert system
- Health Security Committee, and working groups
- Capacity building and technical assistance through Health Programme
- Commission internal mechanisms for crisis coordination and response
Article 4 of the Decision aims at ensuring adequate coordination between the Member States to achieve a consistent level of preparedness and interoperability between the existing and future national preparedness plans.

*MS and Commission to consult each other for coordinating efforts to develop, strengthen and maintain capacities for monitoring, early warning and assessment of and response to serious cross-border health threats.*

*MS to provide Commission updates on preparedness and response planning for the first time in 2014 and then every 3 years.*
Joint procurement of medical countermeasures (Article 5)

- Joint Procurement Agreement, adopted in 2014, provides for a voluntary mechanisms for procuring jointly: 24 MS participate
- A joint procurement procedure for pandemic influenza vaccines is underway, other medical countermeasures are under preparation.

**Rationale: purchase medical countermeasures, so that:**
- pandemic vaccines and other medical countermeasures are available in sufficient quantities;
- access to pandemic vaccines or medical countermeasures is guaranteed for all participating Member States;
- all Member States are treated equally and can benefit from correct contractual conditions.
- a voluntary mechanism established, covering all countermeasures against cross-border health threats.
Epidemiological surveillance

• Communicable diseases are permanently monitored by the European Centre for Disease prevention and Control (ECDC), under its mandate (2004/851/EC)

• Network for the epidemiological surveillance of the communicable diseases and of the related special health issues is operated by ECDC
  • The network brings into permanent communication the Commission, the ECDC and national authorities responsible for epidemiological surveillance.
  • MS communicate comparable and compatible data on epidemiological surveillance of notifiable communicable diseases and the progression of epidemics by using the EU case definitions

A new draft Commission Implementing Decision updating the list of communicable diseases and relevant case definitions to be covered by epidemiological surveillance is expected to be adopted in May 2018. This will include communicable diseases that have recently emerged or re-emerged, such as Chikungunya, Dengue, Lyme neuroborreliosis and Zika, and their corresponding case definitions, as well as revised case definitions for several diseases and related special health issues.
Epidemic Intelligence from Open Sources (EIOS)

- Identify signals in the media using automatic retrieval and categorisation of news articles
- Collaborative monitoring, triage and rapid risk assessment
- Outlier detection
- Activity logging
- Secure communication
- Subscriptions and Notifications
Early Warning and Response System (EWRS)

- **A rapid alert system for notifying at Union level alerts in relation to serious cross-border threats to health.**

- The EWRS enables the Commission and the competent authorities responsible at national level to be in permanent communication for the purposes of alerting, assessing public health risks and determining the measures that may be required to protect public health.

- **Commission Implementing Decision (EU) 2017/253 of 13 February 2017 on EWRS and for the information exchange, consultation and coordination of responses**
The Commission shall, where necessary for the coordination of the response at EU level
• where an alert is notified
• upon request of the HSC
• on its own initiative
make promptly available to the national competent authorities and to the HSC, through the EWRS, a risk assessment of the potential severity of the threat to public health, including possible public health measures.
Coordination of Response

- MS to consult each other within the Health Security Committee and in liaison with the Commission with a view to coordinating:
  - **national responses** to serious cross-border threat to health
  - **risk and crisis communication**, aimed at providing consistent and coordinated information in the EU to the public and to healthcare professionals.

- MS to inform about their intention to adopt measures unless so urgent that immediate adoption is necessary.
Health Security Committee

- Existed as informal group established on the basis of 2001 Council Conclusions on bioterrorism
- Consists of MS representatives, with candidate countries as well as EFTA countries as observers, ECDC and WHO, plus other bodies when relevant
- Chaired by Commission
- Main task: to coordinate responses to serious health threats.
### Health Security Committee

<table>
<thead>
<tr>
<th>DG SANTE</th>
<th>• Frameworks for food safety and animal health and for pharmaceutical products</th>
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<tr>
<td>DG ECHO</td>
<td>• EU Civil Protection Mechanism, European Medical Corps, European Voluntary Aid Corps</td>
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<td>DG HOME</td>
<td>• European Agenda on Security, Security Union; EU CBRN Action Plan</td>
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<td>DG GROW-EEAS</td>
<td>• EU Joint Framework on countering hybrid threats</td>
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<td>DG RTD</td>
<td>• EU Framework Programme for Research and Innovation Horizon 2020</td>
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<td>DG DEVCO</td>
<td>• <strong>Bilateral programmes</strong> - IHR implementation within health systems strengthening and promoting universal health coverage</td>
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<tr>
<td>DG ECHO-JRC</td>
<td>• EU Action Plan on the Sendai Framework for Disaster Risk Reduction 2015-2030</td>
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<td>DG EEAS</td>
<td>• Strategy on Foreign and Security Policy</td>
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Zika outbreak (2016)

• 1 February 2016 - 18 November 2016: association of Zika infection with clusters of microcephaly and other neurological disorders declared a Public Health Emergency of International Concern.

• Latin America, in particular in Brazil and other countries in South- and Central-America as well as the Caribbean.

• Most infections asymptomatic vs. microcephaly in foetuses and newborns and Guillain-Barre Syndrome.
Aedes mosquitoes in Europe

Aedes aegypti - current known distribution: September 2017

Aedes albopictus - current known distribution: September 2017
European Response

- Epidemic Intelligence and surveillance
- Rapid Risk Assessments including advice for travellers
- Epidemiological updates
- Factsheets for health professionals
- Maps of vectors in the EU
- Coordination of efforts
- EWRS and Health Emergency Operation Facility (HEOF)
- Organisation of workshops and meetings with the tourism and healthcare professional sectors
- Continuing work: workshop on vector-borne diseases, Sept 2017
- Measures (e.g. travel advice)
- Risk communication (e.g. interim guidance for health healthcare providers giving timelines for testing and measures)
- Ad-hoc working group on Zika

DG RTD