

Health Emergency & Disease Information System

A web based platform for the Public Health Community

Health threat stakeholders

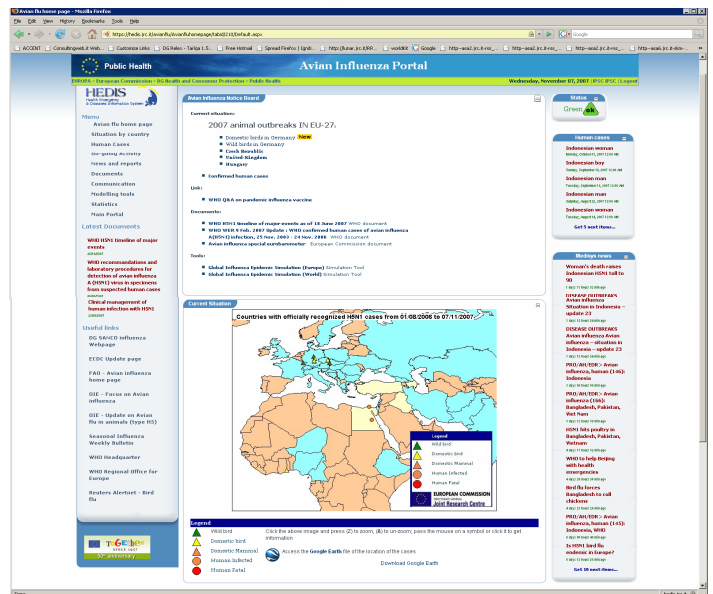
The **Health Emergency & Diseases Information System (HEDIS)**, developed by the JRC in collaboration with the EC Directorate General (DG) SANCO, aims to support DG SANCO and Member States during disease outbreaks and health emergencies.

It provides through its web based platform a central destination and jumping off point for the all information derived from the various sources, with real time updates from Medisys (see next page), WHO¹, OIE² and many others, communication facilities, access to GIS and modeling applications allowing stakeholders in the European health threat response to exchange health-related information in a structured and predictable manner.

Responding to Health Treats

HEDIS combines existing information management systems with information input by SANCO users. For each new crisis a dedicated section is generated where stakeholders can find information originating from different systems such as:

- Relevant **news** and **newsletters** using information from the JRC EMM³ and MEDISYS systems and other available news sources
- **Specific information** related to the on-going crisis (Maps, Reports, etc...).
- A **logbook** which contains an operational timeline held by DG SANCO.
- **Modelling tools.** On-line calculations to test and analyse the effect of control measures on diseases propagation



The HEDIS home page for Avian Influenza

Communicating, sharing and exchanging information

Information technology provides many possibilities for users to share information. The HEDIS platform regroups a set of tools especially designed to this purpose such as:

- **Forum** for communication between stakeholders
- **Secure document repository** for sensitive document storage
- A **questionnaire** used for information gathering on a particular subject
- **Alerting systems** (E-mail, SMS, Fax)
- **Calendar** application for event scheduling
- **White board** for last and most important events



The DESMOS on-line simulation tool

¹ WHO: World Health Organization ² OIE: World Organization for Animal Health ³ EMM: Europe Media Monitor

Medical Intelligence System

Web Intelligence for Medical Emergencies

The **Medical Intelligence System Medisys** is an internet monitoring and analysis system developed at the **JRC** in collaboration with EC Directorate General **SANCO** to rapidly identify potential threats to the public health using information from the internet. These 'threats' include the outbreak of Communicable Diseases, risks linked to Chemical and Nuclear accidents and Terrorist Attacks, i.e. events that could have a widespread impact on the health of the European Community.

Information: the information processed by Medisys is derived from the *Europe Media Monitor (EMM – <http://press.jrc.it>)*, developed at the JRC. Medisys monitors the 'live' web, i.e. the part of the web that has ever changing content, such as news sites, discussion sites and publications. Medisys continuously monitors about 150 specialist medical sites plus 1,000 generic news portals and 20 commercial news wires in altogether 35 languages.

Filtering: Articles collected are grouped into hundreds of categories (e.g. diseases, symptoms, chemical agents, etc.) based on pre-defined keyword combinations.

Analysis: The system keeps track of statistics for each of the categories and uses this to identify **breaking news**, i.e. a sudden increase of articles on any given subject. This helps to suppress news 'noise' (stories that are regularly in the news) and to focus on stories with a 'poor signal'.

Visualisation: Trends are visually presented in graphs. The location of events is highlighted on maps.

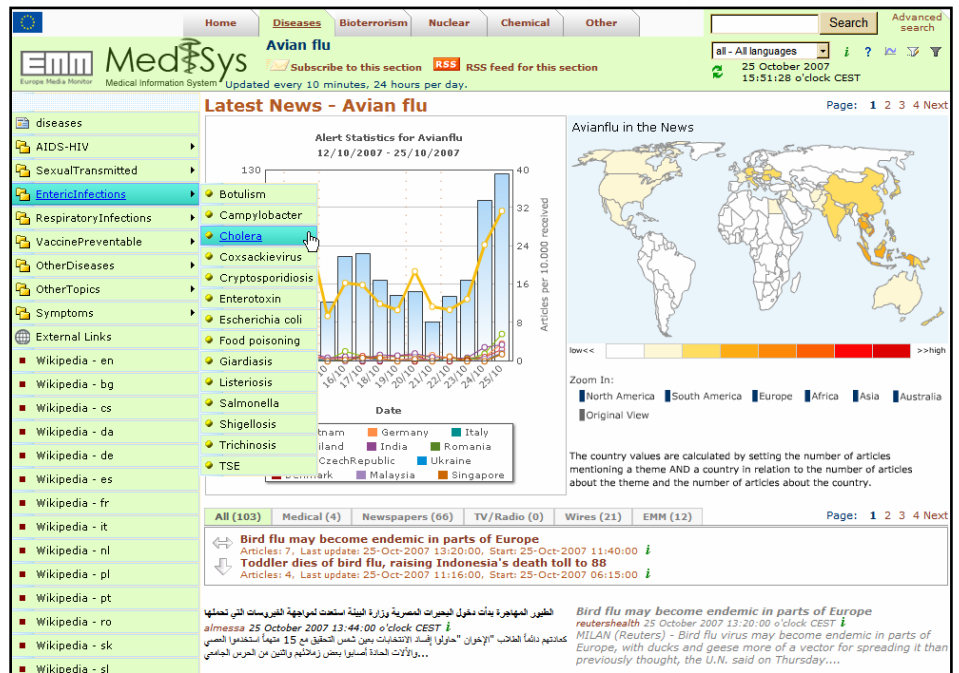
Notification: Upon request, users will receive email or SMS messages notifying them of breaking news stories or of new articles about any of the diseases, etc. RSS feeds for all categories are available for integration in third-party environments.

Public/restricted access: On the public site <http://medusa.jrc.it/>, all users get access to Medisys. Specialist Public Health organisations can request access to the restricted site, which offers more functionality, more categories and more news sources.

Medisys Operational Information

- Monitors tens of thousands of reports per day
- Thousands of search terms in 35 languages
- Generates mail alerts every 20 minutes
- Access on the web, via email and by RSS
- Runs 24 hours per day, 7 days a week
- Generates alerts and reports for 14 Public Health Agencies and Organisations.

Customisable: Users can select the languages and news sources they want to see. Registered users additionally get access to the EMM tool *Rapid News Service*, which allows them to select sources, compile newsletters and alert colleagues via email or SMS.



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