

High level of clinical suspicion for the diagnosis, prompt reporting to health authorities, adherence to recommendations and use of administrative measures is within our ability to eliminate the risk of outbreaks of measles.

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WHO polio laboratory network in Europe – safeguarding the frontiers using modern technology

E. Gavrilin*, A. Goel, R. Spataru, M. Mulders, R. Martin

World Health Organization, Copenhagen, Denmark

Background: The WHO Regional Office for Europe has recently launched an online laboratory data management system (LDMS), an important data collection and reporting tool for the regional poliomyelitis (polio) laboratory network. This network of professionals, mandated by WHO, assists the Global Polio Eradication Initiative (GPEI) in fighting polio in the WHO European Region through laboratory detection of poliovirus. The laboratories, which are annually accredited by WHO, use the latest advancements in molecular biology to detect infection even when no symptoms are present, thus alerting public health professionals and prompting them to initiate response measures. All laboratories in the network participate in a regular external quality assurance programme to maintain a consistently high degree of sensitivity to virus detection.

Methods: During the 2010 polio outbreak in the Region, the laboratory network proved it was able to provide information and results on virus origin in record time. However, the laboratories also needed to rapidly collect and disseminate large amounts of data. Seeing an opportunity to make the reporting process more streamlined and accessible, WHO worked to develop an improved online reporting tool.

Results: The result of these efforts, the web-based LDMS tool, will ultimately connect virologists in all 53 Member States in near real-time to exchange investigation results. Once fully implemented in all laboratories, it will enhance acute flaccid paralysis (AFP), enterovirus and environmental surveillance in the European Region. WHO Europe will also adopt LDMS to other WHO laboratory networks, such as the measles and rubella network.

Conclusion: The LDMS tool supports all modern web browsers and possesses an intuitive interface with a powerful data validation module. It also provides complete specimen traceability and helps laboratories manage data, report results and exchange information internationally. LDMS utilizes strict hierarchical data access control and password security. Depending on three levels (sub-national, national and supra-national), labs are able to view, share and edit data. LDMS also merges laboratory results with epidemiological data through the Computerized Information System for Infectious Diseases (CISID), previously developed by WHO Europe.

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Early warning and epidemic intelligence in the Mediterranean region and Balkan countries: an EpiSouth network challenge

F. Ait Belghiti¹, C. Giese^{1,*}, P. Barboza², E. Anis³, M. Bromberg⁴, M. Bejaoui⁵, Z. Vratnica⁶, D. Lausevic⁶, N. Ramadani⁷, A. Kavaleshi⁷, A. Leventhal⁸, S. Husseini⁹, R.S.Y. Al-Haddadin¹⁰, C. Gauci¹¹, T. Melillo Fenech¹¹, M. Ben Ghorbal⁵, A. Rguig¹²

¹ Institut de Veille Sanitaire (InVS), Saint Maurice, France

² Institut de Veille Sanitaire, Saint Maurice, France

³ Israel Ministry of Health, Jerusalem, Israel

⁴ Ministry of Health, Tel Hashomer, Israel

⁵ Ministère de la santé publique, Tunis, Tunisia

⁶ Institute of Public Health, Podgorica, Montenegro

⁷ National Institute for Public Health of Kosovo, Prishtina, Kosovo, Republic of (under UNSCR 1244/1999)

⁸ Ministry of Health, Jerusalem, Israel

⁹ MECIDS, Jerusalem, Israel

¹⁰ Ministry of Health, Amman Al Shmeisani, Jordan

¹¹ Ministry for Social Policy, Msida, Malta

¹² Ministry of Health, Rabat, Morocco

Background: EpiSouth was launched in December 2006, aiming at improving communicable diseases control in Mediterranean countries. Among priorities, “Cross-Border Epidemic Intelligence” programme, coordinated by the French Institute of Public Health Surveillance, had the objective to set up a framework for information exchange on international and national health threats.

Methods: The different needs and expectations of the 27 EpiSouth countries on international cross-border health threats detection were evaluated through a questionnaire in December 2007. As a result, two major tools for early warning information exchanges have been elaborated: weekly Epidemiological Bulletin (eWEB) providing public verified information on international health threats and a secured electronic platform allowing confidential national alerts exchange. Since then, the cross-border epidemic intelligence steering team has been able to analyse data since 2007 and to provide support to strengthen early warning countries capacities.

Results: All States declared the significance of early detection of emerging outbreaks in the international area that may affect their population. While all faced similar difficulties regarding control measures implementation, data exchange between countries during large epidemics has proven its usefulness: the added value of data sharing among EpiSouth countries was demonstrated in the A(H1N1) pandemic and the West Nile Fever outbreaks in 2010 and 2011. Countries shared data regarding cases and deaths and information about their strategies (case management, control measures including immunization). These exchanges were considered as very valuable as they supported the adaptation and improvement of national policies.

Beyond its support during major health crisis, the EpiSouth project has produced more than 200 eWEBs covering around 700 public health events in 134 geographic areas; more than 100 confidential alerts have been shared through the secured early warning platform from Middle-East countries, North Africa, Balkans and Southern Europe countries.