

SurvNet - Electronic Surveillance System for Infectious Disease Outbreaks in Germany

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OBJECTIVE

This abstract describes an Electronic Surveillance System for Infectious Disease Outbreaks used by all federal levels in Germany and comments on timeliness and comprehensiveness of informations about outbreak settings and infection sources.

BACKGROUND

The International Health regulations (IHR) as well as the obligation to report food-borne outbreaks to the relevant EU-institutions according to the zoonosis regulation (1) have resulted in increased requirements for outbreak reporting at all federal levels in Germany. Infectious disease outbreaks of international concern will have to be reported to WHO irrespective of the pathogens involved (2). In 2001, the Robert-Koch-Institute (RKI) implemented a new electronic surveillance system for infectious disease outbreaks (SurvNet) in all administrative levels of the German Public Health system.

METHODS

All 431 local health departments in Germany verify locally identified notifiable diseases with reference to national case definitions. Case reports are sent electronically via the 16 state health departments to the national surveillance unit at RKI. The SurvNet software, developed by RKI, organizes the electronic transmission of case-based datasets from peripheral databases in each local health department to databases of the respective state health department and finally to RKI (3).

In the SurvNet database, single case reports can be linked together based on the type of epidemiological evidence by creating an outbreak report; this new database unit allows documentation of multi-county and multi-state outbreaks. Cases are considered epidemiologically confirmed if the clinical picture and an epidemiological link to at least one laboratory confirmed other case is present as specified by the national case definition for the respective disease. Qualitative characteristics of outbreaks are covered by the sections geographic setting, food consumption, blood-borne, animal contact, water-borne, person-to-person contact and molecular fingerprinting. Statistical overviews of reported outbreaks are published in the annual epidemiological report on infectious diseases and

outbreaks of special interest are highlighted in short profiles in the weekly Epidemiological Bulletin.

RESULTS:

Between 2001 and 2005, SurvNet has captured 30,578 outbreak-reports. The size of the outbreaks ranged from 2 to 527 cases. For outbreaks reported in 2002–2005, the median duration from notification of the first case to the local health department (LHD) until receipt of the outbreak-report at RKI was 7 days and the median outbreak duration ranged from 1 day (caused by *Campylobacter*) up to 73 days (*M. tuberculosis*). The most common settings among the 10,008 entries for 9,946 outbreaks in 2004/05 were: household (5,262; 53%), nursing home (1,218; 12%) and hospital (1,248; 12%). In 37% of the reported foodborne outbreaks in SurvNet, the reporting local health departments were able to associate a meal but not a specific food item with the outbreak.

CONCLUSIONS:

The SurvNet system appears to capture far more outbreaks per population than published collections of outbreak reports in other countries (4, 5). SurvNet may be a useful tool for other outbreak surveillance systems as it minimizes the work load of LHD. The system might also be a blueprint for other large national or international outbreak surveillance systems, particularly in the context of the new International Health Regulations.

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