

Introduction to the System of Combined National Surveillances for Early Detection

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OBJECTIVE

This paper describes recent establishment of national surveillance system for early detection of infectious diseases in Japan. With diagnostic data fed from existed routine surveillance, newly introduced system is expected to provide timely information for control response. We aim to facilitate cross-informative regional surveillance by sharing our experience and system frame work.

BACKGROUND

The first prototype syndromic surveillance in Japan was used during the G8 summit meeting in 2000 with two local prefectures involved [1]. The second trial syndromic surveillance and the first internet-based surveillance used in 2002 for the Japan-Korea 2002 World Cup soccer games. Since 2002, surveillances on over-the-counter medications, ambulance call, and outpatient visits were explored as syndromic approach candidates for early detection [2,3]. Internet-based events and case reporting frame work has been reviewed for outpatient visits daily reporting concurrently. Limited spread of electrical patient record and vast range of commercialized medical record formats posed obstacles to nationwide syndromic surveillance implementation.

Recent threats from bioterrorism and influenza pandemic empowered Japanese government introducing surveillance of rapid detection mechanism. In line with the revision of the Infection Control Law took place in 2007 April [4], national syndromic surveillance system was implemented.

METHODS

The surveillance system implemented is centrally controlled except the registration of enrolled institutions, in which data were entered through internet directly connected to centrally located database. Data were automatically merged and simple accumulation of data carried out. Alert mechanism similar to EARS has also build in the system. Providing system flow with examples from test runs, and built in flexibility for modification in several different area (e.g. alert detection equation) in order to semi-tailor operation of this system according to the target diseases. Data interpretation for dissemination of information to public is discussed with utilization of routine surveillance data.

RESULTS

Presently, clinics and hospitals are listed and midst of selection as national sentinels for syndromic surveillance. Our target number is 100,000 for single syndrom. Incidence report could be collected by either number of visits by gender and age group, or case based records, of which additional “surveillance” data such as chief complaint, cluster information, diagnosis, etc. are available by choice.

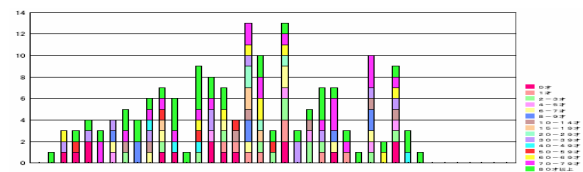


Figure 1 – Automated output by age group of case based syndromic surveillance trial in a prefecture of Japan from February - March 2007.

CONCLUSIONS

No doubt about the importance of establishing national early detection surveillance which fulfilled by this system. Next step is to perform evaluation on data quality and usefulness. Certainly, more discussion on the importance and usefulness of the data with reference to the timeliness is necessary.

Regional usage of this surveillance system in seasonal epidemics of communicable diseases for enhanced control is also considered as one method to review functionality of the system.

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