

Evaluation of a Syndromic Surveillance System based on General Practitioner's data, SOS Médecins Bordeaux

Elise Daudens^{1,2}, Gaëlle Gault¹, Laurent Filleul¹

¹Interregional epidemiology unit Aquitaine, Bordeaux, France, ²French Field Epidemiology Training Programme; French Institute for Public Health Surveillance, Saint-Maurice, School of Public Health, Rennes, France

Objective

To describe and evaluate the SOS Médecins Bordeaux syndromic surveillance system .

Background

The Aquitaine interregional epidemiology unit (Cellule inter-régionale d'épidémiologie, Cire) is a regional office of the French institute for public health surveillance located in Bordeaux. It is in charge of coordinating public health surveillance in the Aquitaine area, south western France. In 2004, the Cire developed a new syndromic surveillance system based on general practitioners' (GP) house visits in the Bordeaux area in collaboration with SOS Médecins, the first GPs network in France, which undertakes home medical visits 24hrs a day, 7 days a week [1]. SOS Médecins Bordeaux makes more than 400 interventions a day and covers about 70 cities representing a total of about 800,000 habitants. For each visit, all health complaints and symptoms reported by patients are coded and recorded according to International Classification of Primary care (ICP-2), as well as the final diagnosis established by the GP. Then, data including all the visits logged during a 24-hour period are transmitted automatically on a daily basis and information on visits are analysed every day to monitor different health indicators.

In 2008, the Cire initiated an evaluation of this syndromic surveillance system.

Methods

The system was assessed according to the method developed by Centers for Disease Control and Prevention (CDC) [2] [3]. These guidelines identify 9 system attributes as criteria to evaluate the performance of a surveillance system. We conducted a qualitative evaluation of 3 attributes (simplicity, flexibility, stability) based on the system's design. For the quality of data, timeliness, sensitivity and predictive positive value, we analyzed data collected by SOS Médecins, such as visits for influenza-like syndromes from 1999 to 2007, and compared them with data from the Sentinel network considered as a gold standard. The representativeness was evaluated by comparing the socio-demographic data of SOS Médecins Bordeaux with socio-demographic from the French National institute of the statistics and the demographic studies (Insee). We assessed useful and acceptability through a questionnaire sent to

GPs participating to this system and regional public health institutions between May and June 2008.

Results

This system has been operational since 2005 without interruption. Among 308,260 visits from 2006 to 2007, 100% listed patient age, sex and zip code; 83% listed the final diagnosis.

Simplicity, flexibility, timeliness and stability are the major strengths of this system. Indeed, the standardized recording and the daily electronic transmission make it easy to use and allow to provide standardized data on a daily basis; furthermore, the system is rapidly and easily adaptable in case of a change of information needs.

We also showed the ability of SOS Médecins system to identify influenza outbreaks with a sensibility of 93% and a positive predictive value of 61 %.

About representativeness, although the population calling SOS Médecins Bordeaux differed from the Gironde population by its demographic characteristics, morbidity trends observed through this systems seemed to be coherent with those reported by the regional Sentinelles network.

Based on the first available elements from the acceptability study, this system seems useful in term of management and communication, notably for GPs' daily practice. Data collection does not require additional work from GPs and seems to be appreciated by participating institutions.

Conclusion

The syndromic system based on SOS Médecins provides timely information on morbidity on a large population and allows to identify epidemic periods or unusual health events.

Although this system is well accepted and appreciated, it still needs to be promoted to increase local health professionals' interest and to initiate development of new syndromic surveillance systems based on other indicators (drug sells, school absenteeism, etc.).

References

- [1] Flamand C, Larrieu S, Couvy F, Jouvès B, Jossieran L, Filleul L. Validation of a syndromic surveillance system using a general practitioner house calls network. *Eurosurveillance* 2008; 13.
- [2] CDC. Guidelines for evaluating surveillance systems. *MMWR* 1988;37(No. S-5).
- [2] CDC. Updated Guidelines for evaluating public health surveillance systems. *MMWR* 2001 ;50