

# SYNDROMIC SURVEILLANCE, THE FIRST FRENCH EXPERIENCE

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## OBJECTIVE

This paper describes the development of a syndromic surveillance system in France. It is based on three different types of data: hospitals (ED visits), GP's activities (Sos Médecins), deaths certificates.

## BACKGROUND

The heat wave that scorched France in the first week of August 2003 was exceptional in its duration, in the increases in maximum as well as minimum temperatures. Even though the summer of 2003 had already been the hottest in France for 53 years, the August heat wave occurred so abruptly that it has been described as a "heatquake". During these 2 weeks, hospitals were overwhelmed by patients and it induced a wave of excess short-term mortality estimated at approximately 15,000 deaths, especially among those older than 75 years [1]. This dramatic toll, which places this heat wave among the gravest health catastrophes in France has ever known, cast doubt on the capacity of our public healthcare system to anticipate this type of crisis: the first alert was launched almost a week of delay. The French surveillance health system is efficient to detect specific events (anthrax, tuberculosis...) but it is not for unexpected ones like deaths excess for example.

## METHODS

The system is based on an automatic daily collection of data from the different participants. Presently, we are gathering information from

- 46 ED (national wide spreading), data contain for all patient visits logged during the previous 24h: date and time of visit, sex, age, chief complaint, zip code, medical diagnosis and information about hospitalization.
- 147 cities (national wide spreading) data contain for all death recorded during the previous 24h: age, sex, zip code, date
- 1 GP's association (Paris area) and for each phone call: age, sex, zip code, chief complaint, date.

All data are transmitted to InVS encrypted 7 days per week through direct FTP in a pretermed format. The transmission started on July 1<sup>st</sup> 2004.

Different syndromes have been defined and we develop SPLUS coding algorithms that scan medical diagnosis or chief complaints assigned to a syndrome. Separate statistical analyses are carried out for each syndrome, evolution of the number of patient visits, deaths or telephone calls. Analyses based on age groups, spatial clustering are also conducted [2]. In case of detection of statistical signal, proce-

dures of epidemiologic investigation have been defined with specialized epidemiologists from InVS.

A report, published daily, is gathering the main events of the previous 24h and a weekly report is presenting their evolutions.

## RESULTS

About 1.5 million ED visits, 200 thousands death certificates and 100 thousand telephone calls have been analyzed since the beginning of the transmission. An example of our results is presenting here.

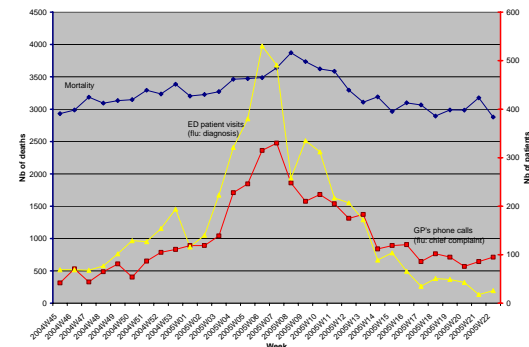


Figure 1 – Syndromic surveillance of the 2005 flu epidemic in France

## CONCLUSIONS

This non specific surveillance system is not focused on bioterrorism but designed for public health surveillance [3]. In this way we have followed the flu epidemic 2005, the brief heat wave (June 2005) and others more classical epidemics. By matching the different type of data we could have precise and progressive pictures of the situation. After a year of pilot phase, the definition of programs for analysis and validation, the system will be enlarged to others hospitals, cities and GP's associations. Our goals (short terms) is to analyse daily one third of ED visits in France (10% now), two third of deaths certificates (33% now) and all GP's associations (Sos Médecins).

## REFERENCES

- [1] [http://www.invs.sante.fr/publications/2005/annual\\_report\\_2003/index.html](http://www.invs.sante.fr/publications/2005/annual_report_2003/index.html) (last visit 07/18/05)
- [2] Heffernan R, Mostashari F, Das D, et al. Syndromic Surveillance in public health practice, New York city. *Emerg Infect Dis*. 2004 May;10(5):858-64.
- [3] Josseran L, Gailhard I, Nicolau J, et al. Organisation expérimentale d'un nouveau système de veille sanitaire, France, 2004-2005. *Bulletin Epidémiologique Hebdomadaire*. 2005;27-28:134-137. [www.invs.sante.fr/beh](http://www.invs.sante.fr/beh) (last visit 07/18/05)

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