

# Advantages and Limitations of Real Time Surveillance for the French Armed Forces during Operations

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## OBJECTIVE

This paper describes the synthesis of benefits and problems that French Armed Forces had to take into account for the implementation of syndromic surveillance within their epidemiological surveillance strategy.

## BACKGROUND

The first operational use of real time surveillance within the French Armed Forces occurred in 2004 [1]. The concept was to develop a prototype of real time surveillance, in order to evaluate if it provides some benefits in comparison with the traditional mandatory surveillance system. The experience has permitted to enlarge the concept to French forces in Djibouti (2SE DJB system) and also to develop a global approach for the whole armed forces on duty areas (ASTER system).

## METHODS

The first prototype of real time surveillance has been set up in French Guiana since 2004 (2SE FAG system), within the Armed Forces. To perform its evaluation, a specific program has been developed, adapted for each stage of development [2-4].

## RESULTS

**Advantages** - Real time surveillance has shown its usefulness for early warning during different real (dengue fever and malaria outbreaks) and simulated situations (NATO exercises) [2-4], as shown in figure 1 with the CUSUM method. Functional and architectural choices have permitted to insure interoperability with allied nations. Furthermore, the evaluation program has been proposed and used to evaluate other syndromic surveillance system [4], like the UK military systems and the Guianese civilian system.

**Limitations** - Technical problems had a major impact on the acceptability of the users of the system (in charge to record the data). Validity of the system was different depending the disease (the system was more valid for the surveillance of dengue fever than for malaria). Moreover, produced informations were only the first step of the epidemiological situation diagnostic, necessarily followed by other investigations.

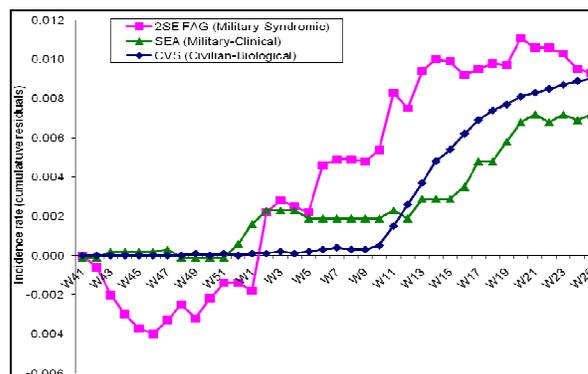


Figure 1 – CUSUM for weekly incidence rates of dengue fever (military clinical surveillance - SEA) and of suspected dengue fever cases (military syndromic surveillance - 2SE FAG) within the armed forces in French Guiana, and CUSUM of weekly incidence rate of biologically confirmed cases (civilian biological surveillance - CVS) within the general population, from week 1 of 2005 to week 25 of 2006.

## CONCLUSION

This first step of development has highlighted the complementarities of real time and traditional epidemiological surveillance. It also permitted to identify that some tools had to be developed to take into account specificities of the surveillance for forces on operation.

## REFERENCES

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