

# Enhancing Community Connectivity for Infectious Disease Surveillance in Child Care Centres in Hong Kong

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## OBJECTIVE

This paper describes the attempt to develop an internet-based community surveillance network to enhance timeliness and sensitivity in detecting community-wide infectious disease outbreaks among young children at child care centres in Hong Kong.

## BACKGROUND

The Centre for Health Protection (CHP) in Hong Kong has operated a sentinel surveillance system for infectious diseases at child care centre (CCC) since March 2004, among its multi-faceted disease surveillance systems. Forty-six CCCs have participated in the system and are contributing data weekly on absenteeism and common infectious disease symptoms such as fever, diarrhea, vomiting, and cough. The system was originally driven by a manual data collection mechanism via fax, followed by secondary data input and subsequent analysis. However, such mechanism might sometimes result in delayed data transmission and data loss. As an alternative to accommodate these limitations, a web-based platform is developed to increase the timeliness of data submission by the sentinel CCCs. The new platform not only speeds up data collection and eliminates the need for human data entry, but at the same time delivers summary statistics directly on the web through computer programmes on a real time basis, as soon as data is entered by the provider.

## METHODS

At the initial phase, a survey was conducted to assess the readiness of CCCs to switch to a web-based system, in particular CCCs' existing workflow in relation to sentinel surveillance, internet use patterns, factors affecting their choice of means of data submission, and other potential uses of website in addition to data submission. Based on the result of the survey, a testing website was developed at CHP. The website has been carefully designed to ensure simplicity and user-friendliness such that CCCs will not be deferred from using it. Added convenience, such as the automated entry of user names and dates, has been incorporated. Basic validation procedures are also included for better data accuracy and completeness. Furthermore, a demo of the testing website was made to operators of CCCs to help them get acquainted to the new platform before the launch.

## RESULTS

Following the launch of S3Net on July 4, 31 CCCs have already registered as online users. This is an encouraging outcome as it represents more than two thirds of the sentinel CCCs. With such progress, it is not difficult to envision that S3@CCC would become completely internet based in the future, allowing CCCs and CHP to share real-time information on children's susceptibility to infectious diseases.

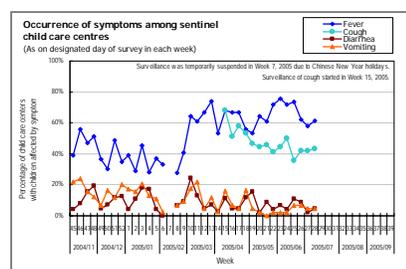


Figure 1 (above) - A snapshot of the online data feed form for sentinel CCCs, and Figure 2 (below) - weekly summary statistics on common infectious disease symptoms.

## CONCLUSIONS

In conclusion, our attempt to shift towards a more instant and interactive sentinel surveillance system has shown promising results. It is important to be aware of the human factors in the development process. Early involvement of the potential users through surveys, pilot testing, and demonstration sessions have facilitated acceptance among the users, and fostered a supportive community network for capacity building in public health surveillance.

Further Information:

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