CO**A**CTION

Disease surveillance using school absenteeism data in rural Cambodia

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Objective

We explored the feasibility and practicability of setting up an electronic school absenteeism reporting system for disease surveillance in rural area of Kampot province, Cambodia.

Introduction

Previous studies in developed countries showed school absenteeism data can serve as a proxy for monitoring infectious disease activities and facilitate early community outbreak detection. However, absenteeism patterns may differ in developing settings and affect the utility of the surveillance system. Despite the nonspecific nature of absenteeism data, other practical challenges will need to overcome for system set up and maintenance in remote area.

Methods

Weekly electronic school attendance reports were received from the participating schools by short message service (SMS) or direct communication by phone to the central office of The Cambodian Children's Advocacy Foundation, Cambodia, a local nongovernmental organization for initial data processing. Absenteeism data were anonymized. Overall absenteeism data were weekly aggregated and sent to Hong Kong, via email for further analysis.

Results

Implementation of the electronic surveillance system was feasible after initial staff training, purchasing necessary equipments for communication and standardizing data formats. The protocol for data sending, receiving and analyzing were stable. Data transfer procedures were simple and acceptable according to the school and CCAF staff's feedback. Data quality was monitored by occasional onsite school visits by the investigators.

A total of 430 students (47.4% female) from 17 preschools have absenteeism data recorded since November 27, 2010. From March 1, 2011 onward, a total of 1437 students (47.6% female) from 47 preschools (including 30 public preschools) have absenteeism data recorded. The mean weekly overall absenteeism rate from November 27, 2010, to July 12, 2011, was 23.2% (maximum 32.4%, minimum 13.6%, standard deviation 4.5%), whereas the mean weekly absenteeism rate due to sickness was 2.3% (maximum 4.0%, minimum 0.7%, standard deviation 1.0%). We are currently seeking reference disease surveillance data to evaluate the accuracy of this system and negotiating with the village chiefs to set up disease surveillance data dissemination points for risk communication with the villagers.

Conclusions

While school absenteeism data are preexisting, easily accessible and require minimum time and resource for data collection and database maintenance after initial development, it can potentially serve as a convenient syndromic data source for disease surveillance targeting school age children in the population. The system will be particularly useful in resource limited settings where health care and laboratory capacity are insufficient for disease surveillance purposes.

Keywords

School absenteeism; rural area; disease surveillance; electronic data; short message service

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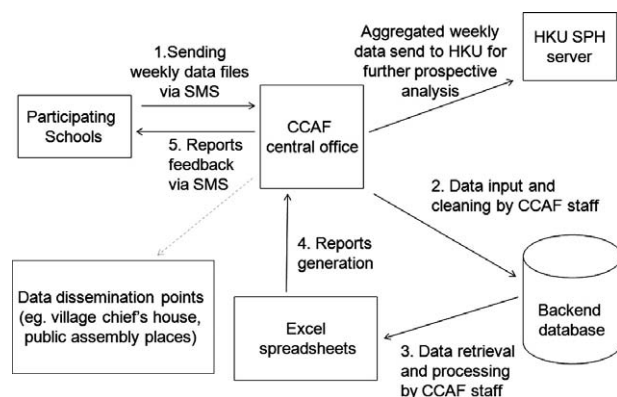E-mail: chengkyc@hku.hk

Fig. 1. Schematic flow diagram of the school absenteeism surveillance system.