The Organizational Structures and Human Resources Allocation of Infectious Disease Surveillance System in Rural China

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Objective

To understand the structure and capacity of current infection disease surveillance system, and to provide baseline information for developing syndromic surveillance system in rural China.

Introduction

To meet the long-term needs of public health and social development of China, it is in urgency to establish a comprehensive response system and crisis management mechanism for public health emergencies. Syndromic surveillance system has great advantages in promoting early detection of epidemics and reducing the burden of disease outbreak confirmation (1). The effective method to set up the syndromic surveillance system is to modify existing case report system, improve the organizational structures and integrate new function with the traditional system.

Methods

Since August 2011, an integrated syndromic surveillance project (ISSC) has been implemented in China. Before the launching of the project, a cross-sectional study was carried out in Fengxin County and Yongxiu County of Jiangxi province during October 11 to 18, 2010. Institution information were investigated in the county hospital, township hospital and County Center for Disease Control and Prevention (CDC) to understand the performance of existing case report system for notifiable infectious diseases with regard to its structure, capacity and data collection procedure. Health care workers from each township hospital and village health station were questionnaire interviewed for information on qualification of human resources, basic healthcare delivery condition, hardware and software needs for ISSC.

Results

An internet-based real-time (quasi real-time) case report system for notifiable infectious diseases, based on the three-tier public health service System, had been established in these two counties since 2004. The farthest end of net user in case report system was township hospital. Blood routine test, urine routine test, B ultrasound and electrocardiogram were available in all township hospitals. There was no laboratory equipment in village health stations in these two counties. All the township hospitals in these two counties were equipped with land-line telephones and desktop computers. The internet covers all township hospitals in both counties. Most clinical doctors in township hospital(TH) and village health station(VHS) were male. The age of doctors ranged from 21 to 72 years old, with the average at 42 and median at 40 years. The village health workers were significantly older, less educated and served in health care longer than the township hospital doctors. In Yongxiu County, 95.6% of the village health stations were equipped with computers, including private-owned computers, and 80.7% of them had access to the internet; while in Fengxin County, 66.5% of the village health stations possessed computers, among which most were private property of village doctors, and only 44.2% of them had access to the internet.

Conclusions

The current case report system, with full coverage and stable human resource, has established a solid basis for developing syndromic surveillance system in rural China. The syndromic surveillance system could play its role in early detection of infectious disease outbreaks in rural area where laboratory service for infectious disease diagnosis are not available. However, the lack of computerized patient registration in village and township health care facilities and incomplete internet coverage in rural area and relatively low quality of human resource in village level should be taken into consideration seriously before establishing the syndromic surveillance system in rural China.

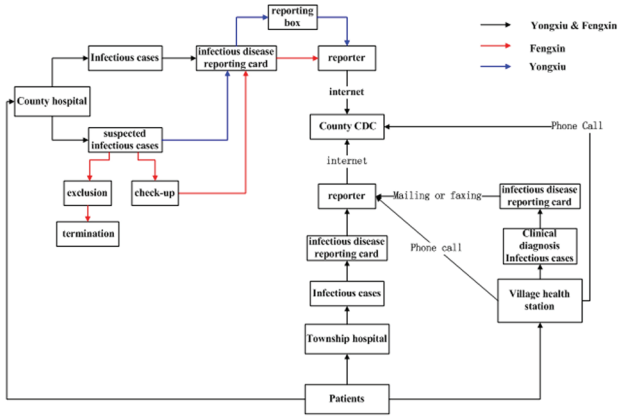

Figure1 Flowchart of case report system for notifiable infectious disease in different level of health facilities in Fengxin and Yongxiu County

Keywords

Syndromic surveillance; rural area; human resources; case report system

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