

## Laboratory and Epidemiology Communications

### Emerging and Reemerging Infections in China 2002 - 2003: A Comment

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Severe acute respiratory syndrome (SARS) suddenly appeared in early 2003 in Guangdong Province in China. The epidemic subsided in several months probably owing to local as well as global control measures under the guidance of the World Health Organization (1).

When did SARS first appear in China? And where and how is it hiding itself now? These questions are important not only from the viewpoint of the natural history of the virus but also in regard to the prevention of its resurgence.

SARS appears to have been present already in late 2002 (1). However, it must have been circulating among the human population even before that time, even though it might

have jumped from animal reservoirs to humans. When encountering a new infection such as SARS, physicians will arrive at a diagnostic based on already-known diseases that most closely fit the clinical picture of his/her patient. The clinical picture of SARS is rather non-specific, i.e., a high fever frequently but not always associated with cough and dyspnea. It is not surprising that SARS infection is diagnosed as other known infections with such symptoms.

Disease Surveillance (2) published monthly by the Center for Public Health Surveillance and Information Service, the Chinese Center for Disease Control (former Institute of Epidemiology and Microbiology, Chinese Academy of Preventive Medicine) regularly reports the number of notifiable infectious diseases in China (reported number of cases and reported incidence rates [per 100,000] of A, B, and C notifiable infectious diseases in DSPs, and national data of class A and B infectious diseases). When the data for the years

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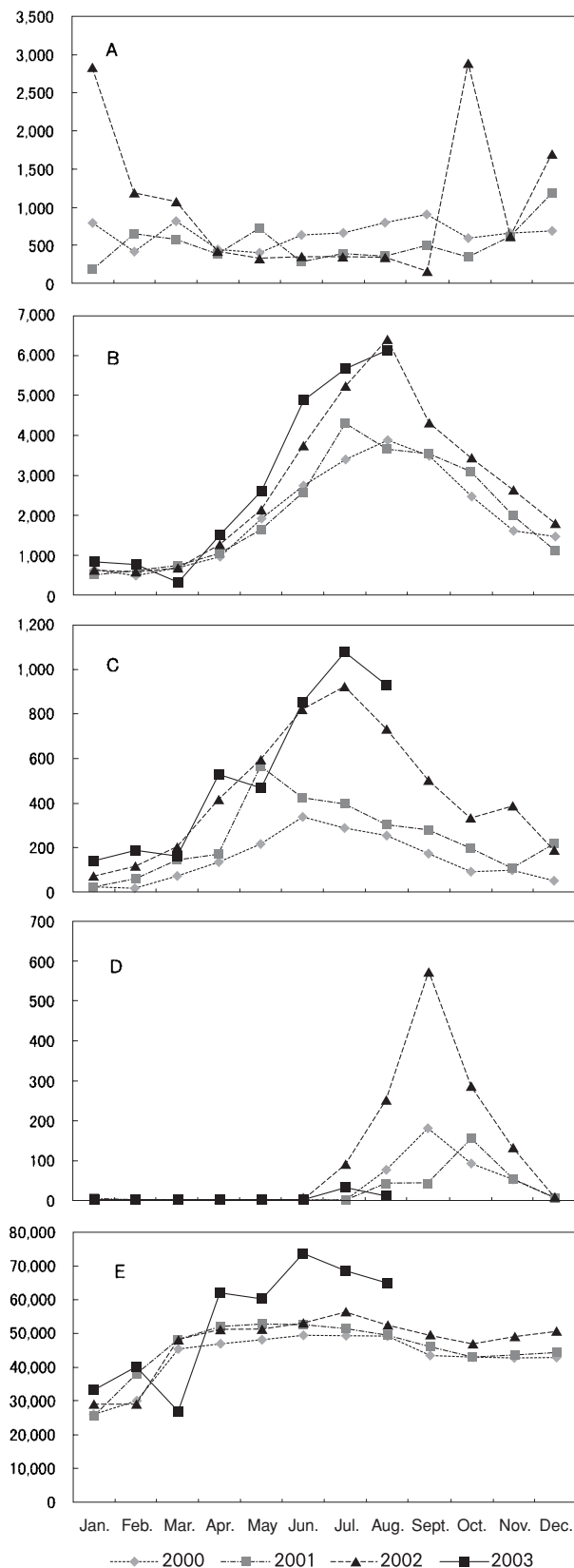


Fig. 1. Reports of infectious diseases in China 2000-2003. Reported incidence rate (per 100,000) of influenza in DSPs (A), and total reported number of malaria cases (B), brucellosis (C), dengue fever (D), and tuberculosis (E) from data of class A and B infectious diseases. Abscissa: month; Ordinate: reported number.

1999-2003 were plotted on graphs as shown in Figure 1, an interesting trend was revealed.

First, the sentinel monthly report of influenza in China (Fig. 1A) revealed two peaks in the 2001/2002 and 2002/2003 winter seasons that were unprecedented in the past four seasons. In the peak period, the reported numbers were four to five times as high as in the previous four winter seasons.

Figures 1B-1D show the total reported cases of malaria, brucellosis, and dengue fever. In 2002, they were nearly two to three-fold higher than those in the preceding two years. In 2003, the reported numbers for malaria and brucellosis continued to be as high as in 2002. Unless specific reasons for the sudden increase of these infections are determined, we may not be able to exclude a possibility that these reports contained SARS cases. If this is so, the inference is that SARS appeared in the 2001/2002 winter, persisted during the summer of 2002, and was detected as such in early 2003.

Figure 1E shows the reported number of tuberculosis patients. An abrupt increase of the reports can be seen in March/April 2003 just after the SARS epidemic. The reported number each month after the appearance of SARS was higher by 10,000 - 20,000 reports (by 20-40%) than the reports before SARS. This high level is still maintained. Trends in other infections, such as typhoid fever, pertussis, measles, etc., remained unchanged during 1999-2003.

There is no direct evidence linking SARS to the unprecedented increase of reports of malaria, brucellosis and dengue fever in 2002 and to the abrupt increase of tuberculosis after April/May 2003. We should, however, acknowledge that disease reports are often influenced not only by knowledge and available diagnostic measures but also by various social factors. A clinical case investigation will shed further light on this matter.

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## REFERENCES

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