

Preparing for and Responding to Public Health Emergencies in China: A Focus Group Study

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ABSTRACT

To gather information that would assist China's central government and local governments in public health emergency management, we conducted focus groups to identify current problems. In three provinces, selected to reflect differing economic and social status, we met with two groups each, composed of public health officials and practitioners. Sampling to achieve a mix and for convenience, we followed a guide to cover five topics. Eleven common problems emerged. China's central government and local governments should take immediate action to solve these remaining problems in public health emergency management.

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INTRODUCTION

After the SARS event of 2003, public health emergencies became a notable issue in China. China made efforts to improve public health emergency management capacity. No one could guarantee, however, that these measures would be sufficient and proper because to most public health officials and practitioners, public health emergencies are unfamiliar. No relevant literature seemed to exist, because most countries are also novices at managing public health emergencies. Perhaps China's experiences and lessons can benefit others. Thus, we conducted a study to capture and summarize China's current approaches to public health emergency management.

Qualitative methods are particularly suited for exploring subjective views on an issue. They focus on the subject and his/her perceptions. Focus groups are used in the sociology of health and illness (1–4). The group processes can help people to explore their

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views and generate questions in ways that they might find more difficult in face-to-face interviews (5). This study used focus groups aiming to detect problems associated with preparing for and responding to public health emergency in China.

METHODS

Design

Using cluster analysis, three provinces were randomly selected from three groups of provinces after we divided China's 31 provinces into the three groups according to four indicators: GDP per person in 2003; population mortality in 2000; life expectancy in 2000; and children mortality in 2000 (6,7). We use Province A, Province B, and Province C to denote the selected provinces. For each province, we created two focus groups of public health officials and practitioners, one composed of those working in provincial organizations, the other employed by municipal and county organizations. To save money and time, all focus groups were conducted in the capitals of three selected provinces.

Participants

A focus group typically contained 6–12 participants (8). We chose participants using purposive and convenience sampling, principally from among key public health officials and experienced practitioners in or near three provincial capitals (Hangzhou, Chengdu, and Kunming). We required that each participant be in a job relating to public health emergencies and to have had at least 3 years experience working in public health.

Focus Group Discussion Guide

We developed a topic guide based on expert interviews and piloted it in Beijing. The guide specified five required topics, based on dimensions of capacity at the organization or entity level (9): process and management; human resources; financial resources; infrastructure; and “others”.

Table 1: Characteristics of six focus groups in this study

Group	Location	Date	Size	Participant composition		Duration (min)
				Officials	Practitioners	
1	Province B	October 20, 2005	6	2	4	85
2	Province B	October 21, 2005	7	2	5	100
3	Province C	October 24, 2005	6	2	4	90
4	Province C	October 25, 2005	10	2	8	120
5	Province A	October 28, 2005	6	2	4	95
6	Province A	October 29, 2005	12	2	10	135

Data Collection and Analysis

The first author presided over six focus groups between October 20, 2005 and October 30, 2005. Discussions and debates were encouraged around the predetermined topics. We audio-taped the discussions after obtaining consent of participants.

The audio-taped interviews were transcribed verbatim and translated as appropriate, resulting in a written transcript of each group. We employed content analysis to analyze the transcribed data, paying attention to what people said about their thoughts, their logic, and what kind of evidence they considered relevant (10).

RESULTS

Characteristics of Focus Groups

In total, 47 persons participated in this study (12 public health officials, 35 public health practitioners). Participants in groups 1, 3, and 5 were from provincial organizations, while those in groups 2, 4, and 6 came from municipal or county organizations. The duration of the group sessions ranged from 85 to 135 minutes (Table 1).

*Findings from Six Focus Groups**Topic one: process and management*

Organization building Only Health Bureaus at the provincial level have set up independent offices for public health emergencies. Almost all municipal and county health bureaus have not established separate offices, and most local governments have assigned the functions and responsibilities for public health emergency management to an existing office. Few new employees have been hired to take charge of public health emergencies.

Planning Most provincial and municipal governments have developed plans for public health emergencies. The quality of the plans remains uncertain, because many were written rapidly by a few persons who failed to follow strict plan development processes.

An experienced practitioner from the CDC of Province A said:

I was one of key draftsmen of our provincial plan. Although I have worked in public health system for 20 years, I still could not declare I am an expert for public health, especially for public health emergencies. Other draftsmen are similar to me. However, such a team has to generate a plan in one month so as to meet the requirement of superior governing department. Due to the lack of enough information for plan development, such as standard development and basic requirements, we have to write the plan based on our own understandings. As I know, such a phenomenon is common in other provinces.

Perhaps we should distinguish the plans from the technical manuals, so that plans do not repeat technical instructions, which could be written early in the process.

As an official from Province C said:

Because a distinction between the plan and the technical manual has not been identified yet, we have to be obsessed with writing endless plans for each public health emergency. Actually it is unnecessary to write many duplicate plans, because they are similar to a great extent, especially for assignment of responsibility and response procedures. On the contrary, elaborate technical manuals for certain emergencies can be very short.

Coordination, communication and collaboration Communication and collaboration between the health department and related governmental departments are inadequate because the assignment of responsibility and the response procedures have not been specified in detail in most current plans. Thus administrative coordination is the only option when an emergency occurs. Cross-region communications and collaborations are more difficult than those in the same region. Most public health practitioners, moreover, complained about the disharmonies between the CDC and the Health Inspection and Supervision Institution (HISI).

An advanced practitioner from the CDC of Province B complained:

We can not find the designated persons or section offices to ask needed information during the state of emergency because it is not in the plan. Usually, we have to ask the governing officials for help. Such dependence on administrative coordination often means we miss the best opportunity to deal with the emergency.

The vice director of a county CDC said:

Since Chinese public health system was divided into CDC and HISI in 2000, in most places the relationship between them has not yet been harmonized. The CDC possesses the techniques for public health surveillance, while the HISI possesses the authority to conduct surveillance. In practice we always feel embarrassed, because we cannot decide how, where, when, and how frequently to conduct surveillance. Many jobs have to be delayed due to poor cooperation.

Development of key technical standards and management mechanisms All the participants complained about the lack of criteria for public health emergencies. Without the elaborate criteria, no one knows whether an event should be identified as a daily or common event or an emergency, leading to disputes between public health emergency offices and other offices. In practice, the public health emergency office takes charge of more non-emergency events.

An official from Province B said:

At first, it is difficult for us to deal with emergencies due to the lack of criteria, because we are always obsessed with endless trifles. Thus our province developed our own criteria for public health emergency.

To take actions jointly, the criticisms noted, relevant departments and agencies need standard response procedures and a conversion mechanism to move from normal state to emergency state at designated hospitals.

An official from Province C angrily pointed out that:

It seems that public health emergencies are only the affairs of the health department. Other relevant departments will never stand out actively to take their own responsibilities unless they are required by the superior governments.

Topic two: human resources

At present, advanced public health practitioners are in very short supply in most places. Advanced personnel work mainly at national or provincial agencies. The relationship between the number of employees at county agencies and the workload of county agencies is extremely variable. All participants from county agencies criticized this arrangement.

One practitioner with 20 years working experiences gave the typical description:

‘One thousand threads above, while a needle below’ is a vivid description of the current status of county agencies. Because the number of government agencies is strictly controlled in China, county agencies find it impossible to set up corresponding offices similar to national or provincial agencies. The work for several section offices has to be given to one office in a county agency. We only have three employees in our office, but we have to shoulder responsibility for epidemiological investigations, planned immunizations, health promotion, community prevention, HIV, chronic diseases, and public health emergencies.

Since the SARS events, China has emphasized training for public health employees, but the quality of training was unsatisfactory. Provincial participants described most national trainings as far away from practice. Some participants from county agencies complained that they were not offered the opportunities to take part in the national or provincial training.

Topic three: financial resources

Except for the participants from Province A, others complain about insufficient expenditures, especially routine expenditure. Sluggish management of emergency funds was also criticized.

An official from Province B said:

Due to the lack of routine expenditure, we have to embezzle the money for other jobs to conduct public health emergency tasks. In particular, we are often required by the superior governing department to take on temporary assignments without any financial support.

Topic four: infrastructure

All participants acknowledged that working conditions have been improved greatly after the SARS events of 2003. Money has been invested by central and local governments to rebuild or renovate office buildings, update laboratory apparatus, and reinforce information systems. Still many problems remain unsolved, including outdated epidemiologic investigation methods and poor laboratory test capacity.

An experienced practitioner from the CDC of Province B says:

Current epidemiological investigations still depend greatly on traditional ways, 'one mouth, one pen, and one notebook'. Such traditional ways are useful for common infectious diseases and food poisonings because we have accumulated sufficient experiences. But for public health emergency, they are inadequate.

A practitioner from Province C worried about current laboratory test capacity:

As I know, except for several developed provinces, most provincial laboratories can merely provide tests for common infectious diseases and poisonings. Commonly, specimens for unknown diseases have to be sent to the national CDC in Beijing. I think that such delays would miss the best response time when we are faced with serious emergencies. In my opinion, at least three national laboratories should be set up by geographical regions. Besides, portable packages and technical instructions for common emergencies should be developed so as to aid county and municipal laboratory employees.

Participants from county organizations reflected two common problems, unstable funding support for information system maintenance and poor conditions for emergency material storage.

A participant from Province C said:

The web-based information system has greatly shorted the time for information reporting since it was established in 2003. However, such a valuable system will probably be affected by the shortage of maintenance money. In the poor counties, it is very difficult to set aside special funds or take the money from other expenditures to maintain the information system.

One participant from the county organization of Province C worried about the emergency material storage:

Although emergency material storage has been stressed by central and local governments, storage conditions are still bad. Due to the lack of appropriate storage rooms, we have had to vacate two offices for emergency material storage.

Topic five: others

Participants also mentioned three additional issues: first, floating population management. Quite a few participants complained about lack of good coordination among adjacent provinces, municipalities and counties. Second, they pointed to storage of uncommon emergency materials, and daily maintenance of the inventory of emergency materials. Lacking incentives for drug companies, it is difficult to ask them to produce the rare, and thus unprofitable materials. Maintenance for emergency supplies is neglected because the requirements are not specified. Finally, they mentioned technical deficiencies in predicting public health emergencies. Current monitoring and surveillance data have not been used sufficiently to forecast occurrences and trends in public health emergencies. But current monitoring and surveillance indicator systems remain insufficient for constructing precise predictive models.

DISCUSSION

Summary of the Findings

From the focus group discussions, we summarized 11 common problems for the whole country and three problems specific to certain places. Common problems included:

- no full-time team exists to take charge of public health emergencies, especially in municipal and county governments;

- most emergency plans were developed in a nonscientific way, and quite a few were of poor quality;
- mechanisms for communication, collaboration, and coordination among adjacent regions, related departments, and agencies are absent;
- a set of detailed criteria for public health emergencies is lacking;
- standard response procedures and a mechanism for conversion from normal state to emergency state for designated hospitals are not in place;
- advanced public health personnel are in short supply, especially in municipal and county organizations;
- responsibilities assigned to county organizations are disproportionately large compared to the number employees;
- many in-service training course for public health employees lack practical elements;
- the epidemiological investigations, as conducted in many places are outdated, and the laboratory tests are limited to common infectious diseases or food poisonings;
- floating population management is a tough problem for all local governments due to the lack of coordination mechanism;
- maintaining stored emergency materials is neglected by most local governments.

Individual problems, not seen everywhere, consist of:

- inadequate financing in the underdeveloped provinces, especially for routine expenditures;
- poor provinces could not afford to maintain the information systems. Storage of emergency materials is also inadequate;
- Poor management for emergency fund hampers public health emergency responses.

Limitations of this Study

The main weakness of this study arises from the potential bias in sample selection. To save money and time, we chose only participants from the capitals of three selected provinces, inevitably introducing a selection bias, because of economic and social differences among capitals and other cities within one province. Real conditions may be worse elsewhere than in the capitals. Also,

we note the subordinate relationship between public health officials and practitioners in focus group discussions. Because the two kinds of participants were included in each group, it was impossible to completely eliminate the impact of administrative relationship. Problems that involve conflicting interests between the two kinds of participants may have been concealed. In addition, six focus groups are likely insufficient for such an important issue, although the size of six groups was close to the size used in focus group studies (11,12).

CONCLUSIONS

Some critical problems for public health emergency management remain unsolved in China. Specific measures should be taken to improve current public health emergency management systems, especially in developing management regulations and technical criteria.

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