

# Chapter 1

## Introduction



### 1.1 Background of Influenza A (H1N1) Prevention and Control in China

In March 2009, the “Human Swine Flu,” which first appeared in Mexico and then rapidly spread across the globe, captured the attention of the world. On April 24th of that year, the World Health Organization (WHO) issued a global notification on the “Swine Influenza A subtype H1N1” in the United States and Mexico. On April 26th, 2009, the WHO Director-General declared this event a “Public Health Emergency of International Concern.” On April 27th, the WHO raised the pandemic alert from Phase 3 to Phase 4, and two days later, to Phase 5. On April 30th, the WHO, the United Nations Food and Agriculture Organization, and the World Organization for Animal Health issued a joint statement, agreeing to refer to the pandemic as Influenza A (H1N1) and to end the usage of the term “Human Swine Flu.” The pandemic influenza was thus officially renamed “Type A (H1N1)” [referred to as Influenza A (H1N1)].

On June 11th, the WHO raised its pandemic alert to its highest level of Phase 6, indicating the beginning of a global pandemic and another global health war for the 21st century! Could established global influenza prevention and control mechanisms contain the spread effectively? Could the national public health emergency systems muster orderly responses? Could countries and regions coping with on-going global financial crisis withstand this kind of attack? Thankfully, related state institutions and organizations provided quick responses and implemented a wide range of prevention and control policies and measures. With the guidance and coordination of the WHO, states worked closely together and managed to prevent the spread of Influenza A (H1N1), and in the process acquired knowledge and experience that would be useful in mitigating similar challenges in the future.

After the SARS crisis in 2003, the outbreak of Influenza A (H1N1) was yet another test of China’s abilities in constructing emergency management systems.

At the National Conference for the Prevention and Control of SARS held on July 28th, 2003, President Hu Jintao and Premier Wen Jiabao emphasized the importance of securing a public health emergency system, requiring relevant authorities to “earnestly build up our emergency response mechanisms and capabilities as well as strive to secure an efficient, responsive, full-fledged and fully-functional emergency response system under centralized leadership so as to improve our capabilities in tackling various emergencies and risks.” In the years that followed, China made strenuous efforts in formulating and revising public emergency preparedness plans, and worked hard in building and improving systems, mechanisms, and legislation, all of which were geared toward emergency management (This whole effort was referred to as the “One Plan, Three Systems”). The country’s remarkably improved modern emergency management system played a crucial role in the most recent pandemic prevention and control efforts.

The Influenza A (H1N1) prevention and control efforts also benefitted greatly from China’s unremitting efforts in bolstering their public health emergency system. In his 2004 *Report on the Work of the Government*, Premier Wen Jiabao highlighted the importance of strengthening the public health system, stating for the first time that we must attempt to establish a fully functioning system for disease prevention and control and medical treatment that covers both urban and rural areas, with the goal of strengthening our countermeasure capabilities in handling epidemics and other public health emergencies. As a result of increased government investment over the years, significant progress has been made in the construction of public health systems. Disease prevention and control systems have been established across the nation through the construction of multi-tiered centers for disease control. The construction of public health emergency response systems has also grown through the development of hospitals (or wards) for infectious diseases and emergency medical centers. At the same time, reforms for disease prevention and control organizations along with health supervision and law enforcement at the provincial, city, and county levels have also been progressing smoothly with the formation of a disease prevention and control system and public health emergency response system, both with Chinese characteristics. These two systems in turn have provided a strong foundation for the prevention and control of Influenza A (H1N1).

## **1.2 The Necessity and Importance of Influenza A (H1N1) Prevention and Control Evaluations**

Beginning in early 2010, the Joint Influenza A (H1N1) Prevention and Control Mechanism set about preparing a comprehensive evaluation of all the processes in countering Influenza A (H1N1) in mainland China. The goals of this evaluation were to summarize the experience and lessons China had drawn from its Influenza A (H1N1) prevention and control efforts since April 2009, and to further improve the country’s public health emergency management system. On August 10th, 2010,

WHO Director-General Margaret Chan Fung Fu-chun declared the pandemic finished, signaling more favorable conditions for a full evaluation of countries' prevention and control efforts. In the spring of 2010, the State Council's Influenza A (H1N1) Joint Prevention and Control Mechanism and the State Council's Emergency Management Office came together and officially commissioned Tsinghua University's School of Public Policy and Management (SPPM) to organize an Influenza A (H1N1) Prevention and Control Work Evaluation team. This team consisted of multidisciplinary experts, and its mission was to provide an independent, comprehensive evaluation of prevention and control efforts in mainland China since 2009. This was the country's first open, systematic, and objective evaluation of countermeasures and processes in mitigating a public health emergency, which held great historical significance.

Firstly, Influenza A (H1N1) was yet another major challenge posed to China's public health system in the 21st Century. This evaluation can aid us in the creation of a timely review of the experiences and lessons learned, the improvement of the country's public health emergency management system, and the guarantee of timelier decision-making for a variety of future public health emergencies; and thus when the next one occurs, countermeasures will be better suited and the damage to life and property will diminish. The evaluation also has a positive, demonstrative effect that can be used in the mitigation of other public crisis, enabling the government and society to better respond to, and recover from a crisis. Additionally, given the importance of coordinated mechanisms in determining the effectiveness of emergency response, an evaluation of the Joint Influenza A (H1N1) Prevention and Control Mechanism will contribute significantly to setting future standards and to the development of objective and scientific evaluation indicators.

Secondly, a comprehensive evaluation of the national efforts on Influenza A (H1N1) prevention and control was necessary in order to build a responsible, transparent government. One of the defining features of a modern, trustworthy government is its courage to take the moral, political, legal and administrative responsibilities in the face of mistakes or losses. An evaluation of a government's response to a public emergency is a part of the accountability process, and it provides a factual basis for future improvement. At the same time, building a transparent government requires the evaluation of government performance.

Moreover, an evaluation on the response to major public emergencies is a concrete manifestation of learning from advanced countermeasures and experiences from foreign countries in similar situations. Many developed countries, regions, and international organizations are taken great effort in post-emergency evaluations. For instance, the U.S. Government, after the 9/11 terrorist attacks in 2001, established an independent commission, whose evaluation of the response to the attacks was presented as *The 9/11 Commission Report*. After the WHO removed its recommendation for tourists to consider postponing travel to Hong Kong on May 28th, 2003, the Chief Executive of the Special Administrative Region declared the establishment of the SARS Expert Committee, which carried out an evaluation of Hong Kong's emergency management during the outbreak. They released their report globally in both Chinese and English. On September 8th, 2005, in the wake

of the underground bombings that took place on the morning of July 7th, 2005, the London Parliament established the 7 July Review Committee, which also served as a Recovery and Reconstruction Committee. Its purpose was to investigate and evaluate the underground bombings and to begin reconstructive work; this committee published its first evaluation report on their website in July 2006. On September 15th, 2006, U.S. President George W. Bush ordered the federal government to complete an investigation and evaluation regarding the preparation for, response to and recovery from Hurricane Katrina, in order to see what lessons could be drawn from the disaster. Congress also commissioned experienced experts and cabinet members to perform a meticulous evaluation on the disaster, and this resulted in a report released by the House of Representatives. All of the countries mentioned above revised their emergency preparedness and mechanisms based on the evaluation findings to be better equipped for similar events in the future. It's clear that these evaluations were an important driving force for improving government emergency management systems, and they provide concrete references that can benefit China in the construction of our own emergency evaluations.

After the peak of the Influenza A (H1N1) pandemic, everyone—from the WHO to countries across the globe, from government departments to the academic community—all began reflecting upon the pandemic. In April 2010, the WHO established an independent panel of leading experts in the field for the following purposes: to review the global pandemic responses and the functioning of the International Health Regulations, and to evaluate the decision in raising the pandemic alert to the highest warning level. The European Union (EU) evaluated the responses of its member states from April 24th to August 31st, 2009, and independently reviewed their vaccination policies. The Australian government also assessed its response to the pandemic.<sup>1</sup>

### **1.3 The Framework, Characteristics and Principles of This Influenza A (H1N1) Prevention and Control Evaluation**

#### ***1.3.1 Evaluation Framework***

This evaluation is based on the characteristics of the pandemic at both home and abroad and its purpose is to discuss how China's public health emergency management system worked in the face of Influenza A (H1N1) through its coping strategies, joint prevention and control mechanisms, prevention and control cost effectiveness, and social impact. The overall effectiveness of the government's Influenza A (H1N1) prevention and control mechanisms are evaluated through the

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<sup>1</sup>Hamilton (2009).

use of field surveys, statistical analysis, and a range of other methods, and with the summation of experiences and discussion of practical issues, this evaluation will help improve emergency management capabilities of China's public health system. The evaluation focuses on the following areas.

#### **1.3.1.1 Prevention and Control Strategies**

An evaluation was conducted on the overall prevention and control strategy, the preparedness plan, and policies and measures adopted in the different phases of the pandemic. The policies were then assessed to see if they were human-centered, relevant, timely, effective, and whether they suited the country's conditions.

#### **1.3.1.2 The Joint Prevention and Control Mechanism**

The actual operation effectiveness and efficiency was assessed on how the various components of the coordination mechanism worked in disease surveillance and response, with particular emphasis on decision-making, communication and coordination mechanism between and within departments, expert advice, and public participation.

#### **1.3.1.3 Prevention and Control Measures and Emergency Response Capabilities**

An evaluation was conducted on pre-pandemic preparedness and the following capabilities: disease monitoring, prevention, and control; the flexibility of medical treatment policies and the treatment itself; vaccine development and support capabilities; provision of financial and physical resources for major public health emergencies; news dissemination and risk communication, international cooperation; and when appropriate, the assessments on the emergency response research measures and capabilities.

#### **1.3.1.4 Actual Response Effectiveness**

This part of the evaluation focused on the three following areas:

##### **A. Assessment on Public Health Effectiveness**

This provided an overview of the pandemic and evaluated the overall efficacy of maintaining public safety and the prevention and control policies and measures in containing the spread of Influenza A (H1N1).

## B. Cost and Benefit Assessment

Cost-benefit analysis was utilized to evaluate the overall cost or benefit of national investment in Influenza A (H1N1) prevention and control, and to analyze the advantages and disadvantages of relevant policies and measures.

## C. Social Impact Assessment

This assessment mainly evaluated the following areas: the satisfaction of the general public, international community (WHO included), and other stakeholders (patients, close contacts, medical staff, and disease control staff) with the government's response; the impact on the image of the government (including the impact of the prevention and control policies on the reputation, image, and trustworthiness of the government); the impact of pandemic prevention and control on economic growth and social stability; the potential impact on future influenza prevention and control, responses to major public health crises, and social progress.

### ***1.3.2 The Characteristics of This Influenza A (H1N1) Prevention and Control Evaluation***

The characteristics of this evaluation are based upon China's conditions and its current mechanisms in the public health sector. The major characteristics are listed below.

#### **1.3.2.1 First Ever Comprehensive Evaluation of the National Response to a Public Health Emergency**

Although it has become common practice amongst countries to perform emergency response evaluations, this was the first time in which China had a public health emergency evaluated systematically and comprehensively. The Chinese government reviewed the 2003 SARS epidemic in its aftermath but didn't provide a systematic evaluation of the country's response to the crisis from the perspective of coping with a public health emergency. In the wake of the Influenza A (H1N1) epidemic, both the State Council and the Ministry of Health (MOH) continued to give their full attention to the outbreak, and the MOH and the State Council's Emergency Management Office requested the SPPM to take the initiative and conduct a comprehensive evaluation of the national crisis response. This evaluation is the first systematic and comprehensive evaluation in the country's history of public health emergency management, and the first full evaluation of a major emergency since the country began strengthening emergency system building in 2003. It will provide an invaluable model for future development.

### **1.3.2.2 Adoption of a Third-Party Evaluation Mechanism**

In the past, public emergency reviews were conducted within the central or local governments by internal working groups. But for various reasons, it's difficult for such reviews to be objective and unbiased. However, this evaluation of the Influenza A (H1N1) epidemic was conducted by a third party with the participation of authoritative experts from various fields, all of whom took part in or gave guidance during the evaluation process. This was done in the hopes of gaining a better understanding of the entire response process and to ensure the evaluation was as independent and objective as much as possible.

### **1.3.2.3 Comprehensive Evaluation Concerning the Process and Effectiveness of Coping with the Public Health Emergency**

This evaluation focused both on the effectiveness of the Influenza A (H1N1) prevention and control efforts and its entire process. The efficacy portion not only highlighted traditional health effects, but it also paid particular attention to economic benefits and social impact. The process review portion placed emphasis on related central policies, alongside the process of their top-down implementation. Therefore, this evaluation is comprehensive in scope as it combines “points, lines, and areas.”

## ***1.3.3 Evaluation Principles***

Combining general international requirements and China's specific conditions, especially in regards to emergency response, this evaluation was formed by gathering first-hand information and organizing authentic, on-scene data, all with the hopes of establishing a real picture of the entire crisis. We abided by the following principles.

### **1.3.3.1 Independence**

An evaluation is a process of discovering and organizing information; it is an unbiased information channel that provides more than just conventional data. Therefore, independence is the first and foremost principle for an evaluation. Through institutional design, evaluator selection, and the application of the scientific approach, we endeavored for independence in this evaluation, so that it was not influenced by any related decision-makers, attitudes of executive agencies, interest groups, public or media opinion, and economic benefits.

### **1.3.3.2 Objectivity**

One of the goals of independence is to ensure objectivity. Although any evaluation is to a certain degree subjective, this evaluation team tried to make its evaluation as objective and authentic as possible by employing available knowledge, information, technology, and methods. We were able to avoid using the assessors' own subjective assumptions and instead conduct logical and deductive reasoning through the use of objective data collection and organization.

### **1.3.3.3 Normativity**

To protect independence and objectivity, definite and detailed evaluation regulations were established regarding the following: the subject, procedures, evaluation principles, the use of evaluation funds, evaluation accountability, and the use and disclosure of evaluation outcomes.

### **1.3.3.4 Scientifically Justifiable**

On one hand, this evaluation examined the efficiency and effectiveness of the joint prevention and control mechanism from the angles of both the public health system and the national disease prevention and control system, thus ensuring that the evaluation process was systematic. On the other hand as Influenza A (H1N1) is a new virus, this evaluation sought to critically evaluate the relevant decision-making processes and decisions under uncertain conditions, taking into account the objective knowledge and information available at the time, rather than conducting a post-event evaluation.

### **1.3.3.5 Holistically Comprehensive**

From team composition, evaluation process initiation, to evaluation plan review, efficient participation of multidisciplinary experts was always a top priority. The evaluation team was not only comprised of experts in public health, emergency management, public policy and performance evaluation, but also experts in international relations, sociology, ethics, medicine, healthcare, and many more.

The advisory panel was also comprised of multidisciplinary experts, including those in biomedicine. Biomedical specialists came from fields such as inspection and quarantine, agriculture, public health, clinical medicine, medical biology, and traditional Chinese medicine; and other members mainly hailed from public administration, economics, law, diplomacy, and media. Other professionals were also engaged temporarily as needed during the evaluation, and participated in multidisciplinary discussions about the evaluation plan and outcomes.

## **1.4 The Methods, Processes and Limitations of This Influenza A (H1N1) Prevention and Control Evaluation**

### ***1.4.1 Evaluation Methods***

According to the overall principles, subject matter, and characteristics of the evaluation, the specific evaluation work was divided into two main parts, i.e. investigation and post-evaluation. Field research and surveys were first conducted on related government departments and on local governmental efforts, and then a comprehensive analysis and evaluation was carried out by various specialists. During this investigative process, the evaluation team also studied international collaboration and actively sought opinions on China's crisis response from international organizations like the WHO as well as from noted international experts. Specifically, the following methods were employed during the evaluation.

#### **1.4.1.1 Comparative Analysis**

There was a robust combination of vertical and horizontal comparative analysis which included a historical comparison between Influenza A (H1N1) and SARS prevention and control, a horizontal comparison in practices and lessons learned in tackling Influenza A (H1N1) from different departments, regions and entities, and international research that delved into experiences and lessons learned from other countries battling the same virus.

#### **1.4.1.2 Questionnaires**

Questionnaires were given out regarding risk perception, behavior choice, and level of satisfaction among different groups and departments concerning the epidemic response measures. Interview and telephone surveys were also conducted. A legitimate and comprehensive indicator system was developed to ensure survey and evaluation quality. These evaluation methods were chosen based on this indicator system, and calculations, analysis, and explanations were all done using specific indicators.

#### **1.4.1.3 Symposiums**

Department officials and relevant experts participated in these symposiums where they discussed opinions and reviewed the results and issues associated with epidemic prevention and control.

#### **1.4.1.4 In-depth Interviews with Officials and Specialists as Well as Local Case Investigations**

In-depth interviews were held as needed for evaluation purposes with some key decision-makers and specialists. Individual local cases were surveyed on site to determine regional similarities and differences in epidemic prevention and control.

### ***1.4.2 Evaluation Process***

Starting in March 2010, according to general requirements of the mandators, the evaluation team proposed their overall plan, key points, and major research issues for the evaluation. Shortly afterwards, the evaluation team held a symposium for members of the joint prevention and control efforts, where they invited various experts to discuss the evaluation plan and provide their feedback. Building on that, the evaluation team revised and finalized the overall evaluation, work plans, and the labor division.

After sifting through a large amount of domestic and foreign data, documents, and news reports, the evaluation team visited and conducted field research in some chosen areas- including Fujian, Guangdong, Sichuan, Henan, and Beijing. They held symposiums and interviews in those locations with the following: local government officials, workers from local disease prevention and control institutions, commercial enterprises, communities, and school administrators and students who had partook in Influenza A (H1N1) prevention and control. Questionnaires were sent out and the evaluation team also visited related health care institutions. At the same time, in order to obtain more information on the implementation of relevant policies and the local experience with the prevention and control process, the evaluation team conducted on-site surveys and in-depth interviews with the following entities: various departments in these regions involved in Influenza A (H1N1) prevention and control, concentrating on health authorities, disease prevention and control institutions, hospitals, port inspection and quarantine agencies, schools affected by the epidemic that were isolated and under medical observation, and journalists.

In addition, the evaluation team accumulated a large amount of first-hand data through in-depth interviews with central level work groups under the joint prevention and control mechanisms along with related government departments and officials.

Meanwhile, in order to learn more about the public's understanding of Influenza A (H1N1) and their opinion on the national epidemic response, the evaluation team commissioned the Horizon Research Consultancy Group who then conducted a national household survey and 3262 valid samples were obtained. The evaluation team also entrusted the 12320 Health Hotline to conduct telephone surveys in Beijing, Fujian and Henan of 893 patients in different stages of Influenza A (H1N1) development and 646 people with close contact with Influenza A (H1N1) patients.

During the evaluation process, the evaluation team also engaged—when necessary—specialists and scholars in health care, disease control, public policy, media, international relations, and ethics fields for multiple consultation meetings and internal discussion sessions, through which problems arising from the evaluation were discussed and solved in timely manner. This ensured that the entire evaluation proceeded smoothly and without incident. After the evaluation report was initially formulated, several experts were invited to review it and provide their feedback.

### ***1.4.3 Evaluation Limitations and Explanations***

Due to time, resource, and experience constraints, certain limitations arose in terms of evaluation perspective, scope and methodology.

Firstly, in regards to the difficulty of the evaluation, we were conscious of the following realities: China is a populous, developing country with a large migrating population, urban and rural development is of a dualistic pattern, a considerable developmental gap exists between the east and west regions of the country, characteristics of public health emergencies vary widely between different areas (at the provincial, municipal, and county levels), and there is an imbalance both in the distribution of public health resources and in the scope of health emergency management. Owing to the uncertainty of public health emergencies, the complexity of the public health system, the incompleteness of information gathering mechanisms, complex regional characteristics, and the dynamic nature of the administrative system in China, many difficulties are still present in achieving a comprehensive analysis on the effectiveness of national measures against Influenza A (H1N1). That being said, since there similar post public health emergency evaluations are lacking in comparative references, this evaluation also served as an exploration by which to provide lessons and a foundation for similar evaluations in the future.

Secondly, in terms of evaluation perspective, the strategies, mechanisms, processes, effectiveness and impact of Influenza A (H1N1) prevention and control efforts were all viewed through the lens of public health emergency management and policies. This evaluation has no assessment regarding specific scientific issues found in healthcare (e.g. vaccine safety, efficacy of traditional Chinese medicine, etc.).

Thirdly, at the core of it, this evaluation focused mainly on the assessment of prevention and control at the national level. There were two considerations pertaining to this. On the one hand, the Influenza A (H1N1) prevention and control efforts were considered nationwide countermeasures to a public health emergency, all under the joint national prevention and control mechanisms, with the core strategies and plans established at a national level. On the other hand, the nature of the countermeasures varied because different regions faced different epidemic issues. While an all-inclusive summation of such experiences would be beneficial,

such an evaluation would be impossible given the issues involved and time and resources constraints. It is of course true that prevention and control strategies along with emergency responses constructed at a national level must be implemented through local governments. Therefore, for our subject matter, we endeavored to research and present as much as possible the characteristics of, and problems with, the local governments we had surveyed. Nevertheless, such a reflection was far from enough in representing all of the local, multifaceted efforts that did occur.

Fourthly, in regards to research targets, as it was impossible to research and present all countermeasures that took place in every location, after conducting preliminary surveys in Fujian, we selected sample regions from the coastal, central and western parts of the country. Among the coastal regions we selected Guangdong, which, in addition to its being a coastal province, it also borders the special administrative regions of Hong Kong and Macau—which is one of the factors we considered. From the central regions we selected Henan, mainly because of its role as a major national transportation hub. Because China's first case of Influenza A (H1N1) occurred in Sichuan, we selected Sichuan to represent the west. At the same time, Beijing was added to our research targets because of its special role as the capital in epidemic response system. It should be noted that we selected and researched these regions to showcase the diversity of the prevention and control of Influenza A (H1N1), and not to provide a statistical representation or analysis of this subject.

Fifthly, we provide here an explanation for our cost-benefit analysis of the nation's Influenza A (H1N1) prevention and control efforts. It has long been an international challenge to conduct a cost-benefit analysis of response efforts to a public health emergency, as it involves not only estimating policy intervention costs but also its effects. Given the myriad of issues concerning data sources and analysis methods for intervention costs and effects, the evaluation team also struggled with the decision to conduct a cost-benefit analysis regarding this epidemic. After multiple internal discussions, we felt that as Chinese society continues to advance and develop, the public will have increasingly higher requirements for government performance, so performing a cost-benefit analysis of the state's response to a public health emergency will help related departments in improving their efficiency. This analysis will also help the public better understand and support emergency management efforts. It is precisely because of the difficulties in data collection and the immaturity of research methods, that we must try all means possible to pave the way for better collection and research methodology in the future. In light of this, we decided to conduct this analysis and make the information publicly available with the hopes of encouraging more counterparts in relevant fields to conduct similar analysis so we may improve the caliber of our national policy cost-benefit assessments. On the other hand, although the evaluation team made great efforts in their data collection and analysis, a large portion of the data obtained can only be approximated due to lacking relevant data and to the limitations of analysis methods employed. Moreover, some analysis methods were also based on many relevant assumptions, some of which purported ideal scenarios. Prudence is therefore when interpreting the final cost-benefit analysis outcomes. However, it is not the statistics

that hold weight for our analysis, but instead the knowledge we gain regarding the magnitude and relevant factors of the costs and benefits from the Influenza A (H1N1) prevention and control.

## 1.5 Report Style and Structure

Because systematic evaluations of public emergencies are still something of a rarity in China, there are very few examples available to follow. It is quite a common practice abroad to perform an investigation or evaluation in the wake of a major emergency. Such reports track the developments of the event with comments and analyses inserted throughout, as in the case of the 9/11 investigative report or the 7 July 2005 London bombings investigative report. Others focus on main issues involved in the event, with more emphasis placed on analyzing the issues than on recording the event itself. We believe a combination of the two styles better suits this evaluation report. Above all else, we must provide a complete account of the entire epidemic, so that an entire record might exist and the public will be able to get a quick glimpse of the sequence of events. But, given the evaluation report's purpose and its focus on several subjects, we must dive deeper to analyze specific relevant issues. We thus strived for a suitable balance between narration and analysis.

Given the above considerations, this evaluation report is structured as follows: Following Chap. 1 Introduction, Chaps. 2 and 3 form the first narrative and analysis part of the evaluation report. Chapter 2 provides an overview of the global spread of Influenza A (H1N1) as well as of response strategies and measures in various countries, and Chap. 3 introduces in detail China's response to the epidemic and its coping strategies. These two chapters provide a more macro view of international and domestic responses to the Influenza A (H1N1) pandemic, alongside an introduction to and an analysis of the change in domestic coping strategies—providing a basis for the subject-specific analysis that follows. From Chaps. 4 to 7—which form the second main narrative and analysis portion of the report, the focus is on describing and analyzing, in succession, the systems and mechanisms, emergency response measures, costs and benefits, and social comments regarding Influenza A (H1N1) prevention and control. Chapter 8, the third main analysis portion of the report, sums up the preceding chapters as well as primary outcomes, experiences and lessons learned from the country's Influenza A (H1N1) prevention and control efforts, it discusses issues that require further deliberation, and it proposes some important policy recommendations on how to better our responses to public health emergencies (Fig. 1.1).

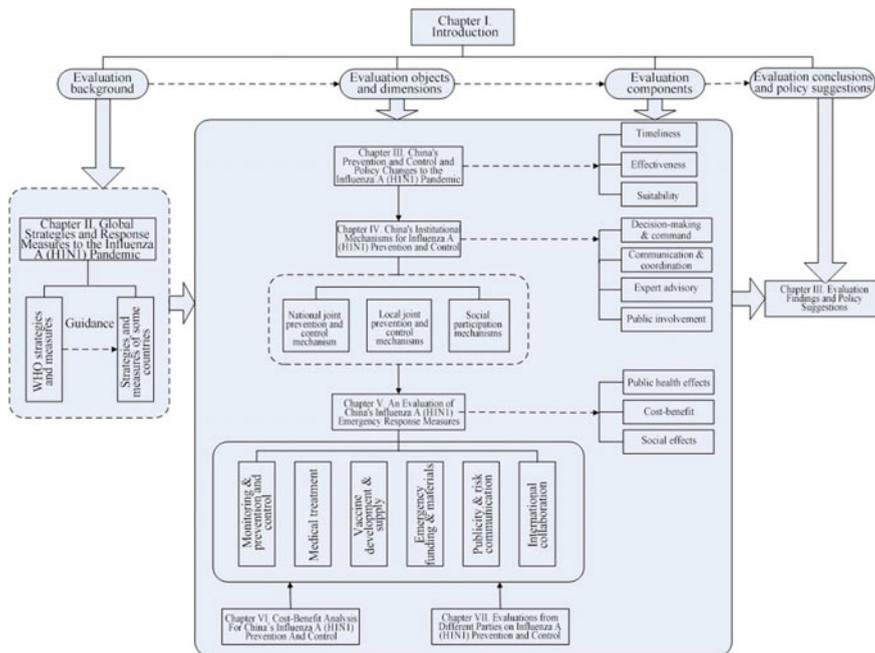


Fig. 1.1 China's influenza A (H1N1) Prevention and control evaluation framework

### Reference

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