Chapter 8  
Evaluation Findings and Policy Suggestions

The foregoing Chaps. 3–7 have dealt with the five aspects of China’s Influenza A (H1N1) prevention and control efforts respectively, namely, strategies, systems and mechanisms, emergency response measures, costs and benefits, and social comments. This chapter will summarize the evaluation team’s findings in three respects of Influenza A (H1N1) prevention and control—main effects, basic experience, and inadequacies, and go on to raise issues worth further discussion and provide relevant policy suggestions.

8.1 Main Effects of Influenza A (H1N1) Prevention and Control

Compared with developed countries, China, as a big developing country with a population of more than 1.3 billion, confronted a wide variety of national conditions during the epidemic prevention and control, including, among others, a high population density, a high rate of population mobility, a considerable imbalance of economic development between urban and rural areas and between the east and west parts of the country, relative weak health care and public health infrastructure, and inadequacy of emergency materials and resources—especially in rural and remote areas, where capabilities of infectious disease prevention and control are lower. And what’s more, Influenza A (H1N1) broke out against a series of complex international and domestic backgrounds such as the global financial crisis and the reconstruction in the aftermath of the 2008 Sichuan earthquake. The epidemic, once it spread widely in a short time, would cause serious consequences to the people’s physical health and life safety as well as the country’s economic and social order.

Despite the complex international and domestic situations and the huge pressure from the highly uncertain new influenza, the evaluation team thinks, the Chinese government actively took measures and obtained important results. So far as public
health effects are concerned, the prevention and control work delayed the spread of the epidemic in the country, reduced its harm to public health and improved the country’s capabilities of health emergency management; as for economic and social effects, the prevention and control work mitigated the impact of the epidemic on the country’s social and economic development, ensured the normal order of production and life and maintained social stability. These outcomes were not only satisfactory on the whole, but they also improved public trust in the government and the country’s international image as well.

8.1.1 The Spread of the Epidemic Remained at a Relatively Low Level and Public Health Protected Maximally

Following the Influenza A (H1N1) outbreak, China quickly established the joint prevention and control mechanism, and in the early stages of the epidemic, adopted the strict “virus containment” strategy, the measures aimed to detect, isolate, diagnose, report and treat cases at the earliest possible time, and a combination of measures that gave equal importance to disease prevention and treatment. These efforts proved to be quite effective. As shown by the epidemiological curve of reported cases in China, cases didn’t rise rapidly until well over 3 months after the emergency of the first case, the pandemic peak remained at a relatively low level, and the pandemic curve of this stage was relatively flat. That fully demonstrates that the country’s early containment strategy reached the goal of “delaying the spread of the epidemic and winning more time”. The evaluation team thinks of this as an effective practice in human history in which the means of human intervention was first ever adopted to alter the natural peak of an influenza pandemic.

Based on epidemic situations, the country actively adopted effective prevention and control strategies and adjusted prevention and control measures as appropriate, which greatly delayed the epidemic spread in the country and lowered the pandemic intensity, buying precious time for the country to get prepared for the development, production and storage of antivirals and vaccines needed to cope with possibly worse epidemic situations. The national effort on Influenza A (H1N1) treatment was quite fruitful, with a high cure rate and a lower case fatality rate than in many other countries. China became the world’s first country to produce vaccines and vaccinate priority groups so that susceptible groups could all be well protected in time, a move that was highly thought of by the WHO and other countries and regions.
8.1.2 Input into Epidemic Prevention and Control Was Cost-Effective and Safeguarded Economic and Social Stability

The impact of Influenza A (H1N1) on economic and social development was determined a wide variety of factors such as epidemic severity, case fatality rates, and effects of comprehensive prevention and control. A rapid increase of cases and deaths in case of widespread outbreaks in a short time would not only threaten the health and life safety of the public, leading to a mass panic and social turmoil, but affect the economic operation of tourism and other industries and subsequently the normal order of the entire economy and society and produce obvious adverse effects on the realization of the country’s economic and social development goals.¹

The adoption by the country of effective prevention and control measures minimized the ill effects of Influenza A (H1N1) on the economy and society. Firstly, China saw relative fast economic growth in the aftermath of the global financial crisis. GDP growth remained at 7.1% in April–June 2009, and reached 9.1% for the year. According to the evaluation team’s cost-benefit analysis, Influenza A (H1N1) prevention and control measures were estimated at 1 RMB cost in exchange for minimally 7.99 RMB benefit and maximally 11.55 RMB benefit, a remarkable outcome of input in epidemic prevention and control.

Secondly, the normal social order was maintained maximally. The epidemic in 2009–2010 didn’t take a heavy toll on the society, and the social order was normal and stable. Survey findings showed that nearly 70% of the people interviewed thought that Influenza A (H1N1) didn’t cause inconvenience to their work and life and only 6.22% of the respondents thought they were greatly affected by the epidemic.

8.1.3 Effective Prevention and Control Measures Ensured Success in Major Events

Influenza A (H1N1) broke out when China was preparing for such major events as the 60th anniversary of the founding of the People’s Republic of China (October 1, 2009), the 11th National Games of China (October 16–28, 2009), and the Expo 2010 in Shanghai (May 1–October 31, 2010). The joint prevention and control mechanism and all sides involved in these important events took strict measures for

¹According to the World Bank (WB), Influenza A (H1N1) may have caused a global GDP loss ranging from 0.7 to 4.8%, depending on the severity of epidemic situations. Based on 2003 SARS data and predictions by WB, UK and U.S. experts, Chinese experts estimated that Influenza A (H1N1) was likely to have serious effects on the country’s economic and social development and, if not controlled by effective measures, to cause a GDP loss at 0.5–1%.
Influenza A (H1N1) prevention and control, with emergency materials such as Tamiflu and vaccines given first to meet the needs for these events.

Governments of Beijing, Shandong, Shanghai among other places watched closely epidemic situations, made detailed Influenza A (H1N1) prevention and control plans and contingency plans, carried out vaccination against Influenza A (H1N1), stockpiled emergency materials, and properly dealt with epidemic situations related to important events. The experience in and related measures for epidemic prevention and control in the run-up to the National Day celebrations and the 11th National Games of China in particular, laid a firm foundation for epidemic prevention and control measures intended for school opening, New Year’s Day and Spring Festival holidays, the Expo 2010, etc. These efforts ensured that all major events proceeded safely and smoothly.

8.1.4 People-Centered Epidemic Response Strategy Was Widely Recognized, and Government Credibility and Global Image Significantly Increased

The Chinese government’s efforts made to deal with Influenza A (H1N1), especially the specific practices which were people-centered and gave top priority to the health and life safety of the public, gained widespread understanding and support and greatly improved public trust in the government. In the entire process of epidemic prevention and control, the state of public opinion was calm and stable, there was no panic, and the public was largely satisfied with the effects of epidemic prevention and control efforts. According to survey findings, 92% of the respondents said they were satisfied or very satisfied with the overall performance of the central government in Influenza A (H1N1) prevention and control, and only 0.25% were not much satisfied or were very unsatisfied; 85% of the respondents expressed satisfaction with the overall performance of local governments in Influenza A (H1N1) prevention and control; the central government always enjoyed a high level of credibility, and local governments saw a remarkable uplift in credibility.

In addition to high satisfaction from the public at home, the country’s work of handling Influenza A (H1N1) in a science-based and orderly manner also greatly heightened the image of the Chinese government and was widely recognized in the world. Margaret Chan Fung Fu-chun, WHO Director-General, noted that following the outbreak of the epidemic the Chinese government had played a strong role of leadership with active and effective measures of prevention and control. Western society in the beginning accused China of over-response but later opined that “The Chinese people did a smart thing” and “China is the sole country that is able to have adopted so strict measures”. Besides, China also played an active role in international collaboration and assistance regarding epidemic prevention and control, establishing an image as a responsible big country.
8.1.5 Capabilities of Public Health Emergency Management Was Greatly Strengthened

Crisis is the best classroom for learning. In dealing with all kinds of crisis, both the government and the society could learn more intensively and efficiently than at usual times. The experience learned from the combat against the 2003 SARS crisis suggests that investment in disease prevention and medical treatment during an epidemic is in the long run of great benefit. The work of Influenza A (H1N1) prevention and control, into which the central government and local governments at all levels stepped up financial investment, improved the country’s capacity for Influenza A (H1N1) surveillance, field epidemic management and medical treatment, built up professional teams in various fields, and will have a far-reaching effect on the country’s capacity building for infectious disease prevention and control and public health emergency management.

Firstly, the work of Influenza A (H1N1) prevention and control boosted the country’s capacity building for influenza surveillance. In the wake of the epidemic outbreak, China invested nearly 400 million RMB to expand the influenza monitoring network to include 411 influenza monitoring network laboratories and 556 sentinel hospitals—a network which covered all prefectural-level cities and some priority districts and counties, and initially established “a border port inspection and quarantine system targeted at major respiratory infectious diseases”. In December 2009, the WHO agreed to make the Chinese National Influenza Center (CNIC) a WHO Collaborating Centre for Reference and Research on Influenza (WHOCC), the first of its kind in a developing country. In September 2010, the Ministry of Health (MOH) announced a new influenza surveillance program according to which by 2015 over 90% of the provincial centers for disease control and prevention will build a provincial-level center for reference and research on Influenza And over 90% of the network laboratories will be able to perform virus separation dependently, which will greatly improve the country’s capacity for influenza surveillance.

Secondly, the work of Influenza A (H1N1) prevention improved national capacity for medical treatment, disease detection, and vaccine research and development. The effort in negative pressure rooms research and development and in purchasing medical apparatuses will play an important role in future prevention and control of avian influenza, Influenza A (H1N1) and other infectious diseases. Moreover, world-leading achievements were made in several fields including vaccine research and development. The country’s effort towards vaccine development and clinical research was quite fruitful. It was one of the first countries to develop an Influenza A vaccine, and on August 21 declared to the world that a single injection of Influenza A (H1N1) vaccine had proved to be effective; its fast influenza testing technology also reached the world-leading level. Commenting on a study by Chinese scholars, The New England Journal of Medicine wrote that China’s effort on Influenza A (H1N1) prevention and control and research is very fruitful, and that China had built a robust surveillance and response system in a
relatively short period and its ability for early detection and handling new infectious diseases had been significantly improved.

8.2 Basic Experience in Influenza Prevention and Control

During the Influenza A (H1N1) prevention and control, governments at all levels and social organizations made active explorations and efforts from which a wealth of experience has been accumulated. Among other things, the joint prevention and control mechanism in which “the government takes the lead with the participation of the whole society”, the prevention and control idea of “emphasizing people and relying on science and technology”, and the communication strategy of “openness, transparency, and active collaboration” played a crucial role and also will be of great reference value to coping with similar emergencies in the future.

8.2.1 Strengthening Emergency System Building, Laying a Solid Foundation for Influenza A (H1N1) Prevention and Control

Since the SARS epidemic that broke out in 2003, remarkable progress has been made in the country’s emergency management effort structured around preparedness plans, systems, mechanisms and legislation. The CPC Central Committee and the State Council made clear the principle of giving equal importance to prevention and management and combining the routine measures and exceptional measures, under which principle the following was done: establishing a comprehensive contingency plans system and a preliminary emergency management system; strengthening operations in various respects—surveillance and early warning, information reporting and announcement, emergency management, and medical treatment; promulgating and implementing related laws and regulations, such as the Emergency Response Law; strengthening the building of emergency workforce, emergency materials storage; stepping up the dissemination of emergency management knowledge; and initially creating a situation where the whole society participated in disease prevention and control. After years of effort, the country had seen a considerable uplift in its capacity for emergency management as well as remarkable effects of emergency management.

Public health input had been ramped up at central and local levels, especially since the country’s success in handling the 2003 SARS crisis, giving a boost to the development of disease prevention and control institutions and hospitals. The establishment of public health emergency response mechanisms, the improvement of public health emergency legislation and preparedness system building, the strengthening of health emergency monitoring and warning capabilities, and the
broadening of international and regional communication and cooperation, laid a good foundation for the country’s success in Influenza A (H1N1) prevention and control.

8.2.2 Taping System Strengths, Creating a Disease Prevention and Control Climate in Which the Government Took the Lead with the Participation of the Whole Society

Following the Influenza A (H1N1) outbreak, the country gave full play to its system strength of “bringing together forces to do big things” and tapped fully into national health resources. Concerted efforts from governments, health care institutions and the rest of the society created a disease prevention and control climate where the government took the lead with the participation of the whole society and epidemic prevention and control measures were carried out in an efficient, orderly and effective manner.

On the one hand, the central government played a decisively leading role in the national work of epidemic prevention and control. The CPC Central Committee and the State Council took Influenza A (H1N1) prevention and control very seriously. General Secretary Hu Jintao made important instructions specifically on epidemic prevention, while Premier Wen Jiabao presided over State Council executive meetings to study and arrange the national epidemic control work. The joint prevention and control mechanism adopted effective measures in actively dealing with the epidemic. Local governments made explorations and innovations based on local actual situations, sparing no effort to combat the disease. On the whole, the Chinese government performed outstandingly worldwide, especially among developing countries, for its strict prevention and control measures, rapid implementation of measures, and huge investment in the combat against the disease.

On the other hand, communities, NPOs, the general public, drug storage enterprises, reagent manufacturers, places used for quarantine purposes, and infrastructure enterprises all participated in epidemic prevention and control in various forms. With the country’s response effort entering its second stage, the 13th meeting of the national joint prevention and control mechanism, held on June 10, 2009, proposed establishing responsibility systems and prevention and control mechanisms with the participation of urban communities, schools, enterprises and villages, disseminating knowledge about and measures for family and personal protection against Influenza A (H1N1), and improving measures intended to maintain the normal operation of infrastructure, the society and the economy. Enterprises, communities, volunteers among other groups all played a crucial role. For instance, Beijing’s and Henan’s practices, which stressed the disease prevention and control responsibility of every unit and individual, offered valuable experience in social involvement in epidemic prevention and control.
8.2.3 Establishing the Joint Prevention and Control Mechanism to Strengthen Inter-departmental Coordination and Collaboration

To cope with Influenza A (H1N1) which in the beginning was of tremendous uncertainty, under the leadership of the CPC Central Committee and the State Council, the country established the joint prevention and control mechanism to strengthen coordination and information communication between all departments involved, so that response efforts could be carried out in a coordinated, orderly manner. As a multi-departmental emergency coordination model that lay between a national public health emergency operations center at national level and a MOH emergency operations center at departmental level, the joint prevention and control mechanism convened 33 meetings altogether, through which the following work was done: elevating the degree of importance that related departments and governments at all levels placed on Influenza A (H1N1) prevention and control; giving full play the important roles of specialized departments and making governmental and departmental duties clear; strengthening communication and collaboration between departments; introducing a series of prevention and control policies which were issued and implemented at local levels after being jointly signed; addressing issues concerning funding, manpower and emergency materials; and increasing the efficiency of introducing and implementing all kinds of prevention and control measures.

Based on local epidemic situations and economic and social development levels, local governments established their own joint prevention and control mechanisms, emergency operations centers or leading groups, specified governmental and departmental duties and stepped up coordination and communication between participants. Such institutional innovation not only helped to ensure the authority, unity and stability of the country’s epidemic prevention and control work on the whole and push for the effective implementation of prevention and control strategies and measures countrywide, but it also helped to motivate local governments to take measures as appropriate for local situations.

8.2.4 Striving to Safeguard the Life and Health of the Public and the Interests of Special Groups of People

In the process of Influenza A (H1N1) prevention and control, governments at all levels and related departments and agencies acted prudently and responsibly and adopted a wide range of prevention and control measures, starting by lowering the risks and potential harm that the epidemic might cause to public health—and using it as the basis on which decisions and measures were made. The implementation of these measures gave full consideration to the interests and needs of various special groups:
The first was the policy of giving priority to the disadvantaged in terms of medical treatment and vaccination. When antiviral drugs and vaccines were limited in amount, the measure was taken of first giving treatment and vaccination to special groups like the elderly. Moreover, policies were also made locally based on actual circumstances on the medical treatment and vaccination of special groups. For instance, Beijing got migrant workers vaccinated, while Shanxi distributed free TCM preparations against Influenza A (H1N1) among people aged 60 and older, people with disabilities, laid-off workers, etc. These policies were welcomed by local people. The evaluation team found in surveys that 96.7% of the respondents thought that the government’s different disease prevention and control measures adopted in the four stages of Influenza A (H1N1) prevention and control fully embodied an attitude of high responsibility and the spirit of humanity.

The second was ensuring that some ethnic and religious events were carried out normally. For instance, from October 30 through December 23, 2009, about 12,000 Chinese people went on a pilgrimage to Mecca. It was when Influenza A (H1N1) was raging globally. The Chinese government formulated the Influenza A (H1N1) Prevention and Control Plan for Chinese Pilgrims in 2009, conducted health publicity among the pilgrims about Influenza A (H1N1) prevention and control, and gave them priority to receive vaccination and epidemic prevention materials, giving considerate support to ethnic religious activities.

The third was stressing support measures for the quarantine policy. People placed under quarantine were provided with good living conditions and considerate services, as well as psychological counseling, and their employers were not permitted to stop paying them while kept in quarantine. This was also a full display of human values. Foreigners were also provided with good diagnosis, treatment and living conditions as well as necessary amenities.

8.2.5 Employing Science and Technology to Make Disease Prevention and Control More Rational and Effective

As an emerging strain of uncertainty, Influenza A (H1N1) was little understood. The country made full use of science and technology in epidemic prevention and control to make prevention and control measures as rational and effective as possible.

The first was strengthening epidemic surveillance and early warning by which to provide scientific basis for decision-making about prevention and control. On the early epidemic monitoring and warning, China CDC and other specialized agencies displayed good professionalism; in the later stages of monitoring, the country upgraded the epidemic monitoring and reporting networks, increased the number of influenza monitoring sentinel hospitals and expanded the influenza monitoring system in time; added the monitoring of outpatient and emergency service trends at Grade-2 and higher medical institutions countrywide; launched national quick
serological surveys on infection with the Influenza A (H1N1) virus; and predicted epidemic developments and trends. Multi-side epidemic monitoring provided first-hand scientific basis for decision-making about Influenza A (H1N1) prevention and control, and all prevention and control measures were actively arranged in advance.

The second was quickly launching emergency research projects. Following the Influenza A (H1N1) outbreak, the country soon launched emergency research projects, tackling key issues in respect of etiology, epidemiology, clinical diagnosis and treatment, laboratory testing, new drug development, etc. concerning Influenza A (H1N1). Research results were applied to the prevention and control work in time and provided scientific basis for effectively controlling the epidemic and improving relate prevention and control measures.

The third was relying full on the expertise of experts in making and improving epidemic prevention and control plans. In the entire process of Influenza A (H1N1) prevention and control, governments at all levels took seriously the roles of experts so that policies could be more rational and feasible. The national joint prevention and control mechanism specifically set up the Expert Advisory Committee which was tasked with proposing suggestions on Influenza A (H1N1) emergency preparedness, trend analysis and control measures, participating in making plans for epidemic prevention and control and medical treatment, and providing technical guidance on epidemic management and medical treatment; and introduced a series of diagnosis rules, treatment criteria and technical guidance, so that medical techniques and guiding policies could be updated and adjusted dynamically. According to surveys by the evaluation team, over 84% of the medical workers interviewed in designated hospitals thought of medical treatment measures as scientific, and 91% disease control personnel deemed the adjustments to close contacts measures appropriate to epidemic situations.

8.2.6 Sticking to Openness and Transparency, Improving Risk Communication and Health Education

As information on the work of Influenza A (H1N1) prevention and control was sensitive information to which the society paid great attention, epidemic information releasing and risk communication became a strongly strategic job. Ineffective communication probably would intensify the public fear of the epidemic and lead to a social panic. In dealing with the Influenza A (H1N1) epidemic, the country stuck to the principle of “timeliness and accuracy, openness and transparency, positive

\footnote{For instance, media in Japan, France and some other countries exaggerated pandemic situations in their news reports to embellish “the widespread transmission” of the pandemic influenza virus in home countries through imported cases, making people panic-stricken and the whole society nervous. After announcing a state of health emergency, Mexico failed to conduct risk communication in time and effectively, leaving its capital Mexico City almost paralyzed.}
guidance, moderateness in amount” when it comes to epidemic publicity and risk communication, publishing information on epidemic situations and prevention and control efforts in time and accurately, explaining questions and doubts, and pushing prevention and control efforts efficiently and in an orderly manner. The risk communication efforts strengthened epidemic monitoring and guided public participation in epidemic prevention and control while maintaining the stability of the society as a whole.

First, ideas and methods of risk communication were first applied systematically and successfully in the country. When the pandemic influenza was raging abroad and spreading to China, related departments made meticulous arrangements and put risk communication ideas into use through scientific organization—including publishing updates on domestic and foreign epidemic situations, making work arrangements and developments known to the public and explaining topics about which the public were concerned, making the work of risk communication over Influenza A (H1N1) proceed smoothly and in an orderly manner. The risk communication work allowed the public to have quite a good understanding of the epidemic, removed some unnecessary worries and fears, and strengthened public confidence and resolve to defeat the epidemic.

Secondly, epidemic information was published in time and opinion guidance done actively. The government’s work on information disclosure was widely recognized, and information the government published became the most trustworthy source of information to the public. Related departments actively carried out opinion monitoring and adjusted their publicity strategies in time through timely analysis. According to survey findings, there was widespread public approval of governments’ emergency management capabilities; after having experienced the Influenza A (H1N1) epidemic, 96% of the respondents expressed trust in the central government’s emergency management capabilities, and 94% showed trust in local governments’ emergency management capabilities—of them, 30.6% previously had not trusted in local governments, indicating that governments had made remarkable progress in emergency management and communication with the public.

Thirdly, health education was strengthened. During the Influenza A (H1N1) prevention and control, a wide variety of publicity and communication measures were taken to increase public understanding of the disease and awareness of protection against it, including giving related lectures in hospitals, communities and schools, compiling and distributing leaflets, broadcasting publicity advertisements and televised lecturers, setting up Influenza A (H1N1) prevention and control columns, sending mobile messages about influenza knowledge, etc.

8.2.7  Stepping up International and Regional Collaboration

Influenza A (H1N1) prevention and control was a global combat, and the disease’ characteristic of cross-border, cross-continent transmission required global collaboration on fighting against it. In light of this, the MOH actively participated in
international exchanges and collaboration and acted upon the International Health Regulations 2005 (IHR 2005). The joint prevention and control mechanism set up the International Collaboration Group in the early days of the epidemic, which was tasked with collaborating with other countries as well as Hong Kong, Macao and Taiwan in epidemic prevention and control and collecting related information. On behalf of China, the MOH actively collaborated and communicated with the WHO, reported to the WHO and related countries about the home epidemic situation, and provided Mexico with support and assistance at the earliest possible time following the epidemic outbreak there. China also received timely technical guidance from the WHO as well as great support from the United States, Canada and Mexico. During the epidemic prevention and control, the country properly handled such affairs as suspending Mexican flights, placing under quarantine foreigners entering China, arranging for visiting delegations from abroad, and communicating over foreign-related prevention and control measures, and removed in time the misunderstanding and displeasure that relative countries and people had about the country’s related prevention and control measures.

In the meantime, China participated in the World Health Assembly and in the high-level meeting on global Influenza A (H1N1) prevention and control held in Mexico; it also actively supported and attended the “ASEAN Plus Three” (the three being China, Japan, and South Korea) health ministers’ special meeting on Influenza A (H1N1), provided technical training and donated test kits to laboratories of ASEAN countries, and discussed with these countries about collaboration on prevention and control measures, in an effort to push for implementation of strategies and the fast and extensive information communication. These efforts helped boost capacity building for emergency response teams and obtain international resources and support necessary for Influenza A (H1N1) prevention and control.

8.3 Inadequacies of Influenza A (H1N1) Prevention and Control

The country’s Influenza A (H1N1) prevention and control efforts, though quite fruitful up to now, have revealed some problems and inadequacies that exist in the making of prevention and control policies, the running of the joint prevention and control mechanism, the availability of supporting policies, the application of laws and emergency response plans, scientific and technological input, etc.
8.3.1 The Switch Mechanism Is not Smooth and the Joint Prevention and Control Mechanism Is not Clearly Legally Defined

The prevention and control mechanism is successful on the whole and has played an important part in organizational support for effectively coping with Influenza A (H1N1) epidemic. But in practice there exist problems with it, such as inadequacy of authority, unsound switch into motion, lack of regulation for some prevention and control acts, policy measures not being rational enough, and inadequate flexibility and suitability.

Firstly, the legal status of the prevention and control mechanism is not definite. As a multi-departmental emergency coordination model that was between a national public health emergency operations center at national level and a MOH emergency operations center at departmental level, the joint prevention and control mechanism is not provided for in either the Emergency Response Law or the National General Contingency Plan for Public Emergencies, so that it doesn’t enjoy a definite legal status. Because there was no official work seal specifically used for the joint prevention and control mechanism, policy documents could only be issued bearing the seal of a department (or departments) in the name of the joint prevention and control mechanism, or issued in the name of a department (departments). Because there were no corresponding normative documents that were available for its implementation at local level, there were no unified standards on the name, content, form of establishment, and system composition for local governments’ prevention and control bodies.

Secondly, the joint prevention and control mechanism is apparently inadequate in terms of decision-making and command. The joint prevention and control mechanism that stresses consultation and communication had its limitations when it comes to departmental interest, division of duty, policy execution, etc. Within the prevention and control mechanism, the introduction of policies, strategies and measures would usually undergo a process of discussion by representatives of multiple departments, which to a certain degree delayed the introduction of and timely adjustment to some policies and measures and even led to phenomena that departments didn’t synchronize with one another in timing and contents of plan adjustment. The evaluation team found that in the two most volatile months that lasted from April 28 to June, documents were issued frequently and in some cases were in conflict with one another, and prevention and control measures were lacking in continuity.

Thirdly, existing permanent emergency mechanisms were not fully tapped. After the 2003 SARS epidemic, all local governments established public health emergency response departments and corresponding work mechanisms as permanent bodies to deal with public health emergencies. The current Emergency Response Law, Public Health Emergency Response Regulation, National Overall Preparedness Plan for Public Emergency, National Preparedness Plan for Public Health Emergencies among others, though with provisions relating to such aspects
as emergency warning and response, are still lacking in explicit provisions concerning—for instance—procedures from emergency warning to response and for how to switch between peacetime and wartime, making it rather difficult in practice to declare a state of emergency and launch corresponding command and decision-making systems. In the process of their coping with Influenza A (H1N1), most provinces didn’t put into motion existing emergency command mechanisms but instead assembled prevention and control leading groups after the central government established the joint prevention and control mechanism, which didn’t help carry out epidemic prevention and control efforts in an orderly manner and at the same time caused a waste of human, financial and material resources.

Fourthly, the multidisciplinary decision-making mechanism still need be further improved. No multidisciplinary expert decision-making and participation mechanism has been fully established when it comes to coping with public health emergencies. Most of the members of the expert committee under the prevention and control mechanism are experts in the health care fields, and though there were occasions that experts in other fields like economics, politics, law, public administration, press, ethics and international relations were requested to participate in decision-making, their roles could hardly be truly tapped since they were not always involved.

8.3.2 Legal and Planning Systems Need to Be Further Improved and Some Prevention and Control Actions Further Regulated

During the Influenza A (H1N1) prevention and control, though laws and emergency contingency plans were given greater importance than in the past so that response measures could be carried out according to law, there were still problems such as the inadequacy of the legal system, inadequate attention paid to laws and contingency plans, and inadequate regulation of some prevention and control actions.

Firstly, contingency plans are less forward-looking and operable. There are still many issues which urgently need to be clarified or addressed in the preparation, update and rehearsal of contingency plans: The nature, status and functions of these plans are not clear, making it difficult to demand their execution; emergency contingency plans are less operable and relevant, containing more principles and requirements but less specific operations and measures; and especially, criteria for launching these plans are vague, and there are no clear provisions concerning management authority. In dealing with the Influenza A (H1N1) epidemic, the former influenza pandemic preparedness plan and emergency response plan were both made based on related guidance documents of the WHO, and as the plans were mainly targeted at the highly pathogenic avian Influenza A (H5N1) virus, they were not very suitable for the Influenza A (H1N1) pandemic and less operable. Also, former contingency plans were departmental plans, not national ones, and the
problem widely existed, from the central to local governments, that their influenza emergency response plans didn’t work as they were expected.

Secondly, some prevention and control measures were not well grounded, whether legally or from the angle of response plans. Because the country has no explicit standards and systems concerning the classification of alert and response for emergencies, on many occasions policy measures were lacking in inadequate basis, legally and in terms of response plans. During the Influenza A (H1N1) prevention and control, there had been no national announcement about epidemic alert and response levels. The downgrading of Influenza A (H1N1) from Category A to Category 6 B infectious diseases management was only notified via telephone, which was procedurally not up to standard and caused difficulties in policy execution by local governments. On the other hand, since the Influenza A (H1N1) pandemic is over now, there is no longer need to manage the disease as a Category B infectious disease, and it should be listed as a Category C infectious disease like other types of influenza—which, though scientifically justifiable, has not yet been done due to restrictions by the unreasonable change clause of the infectious disease prevention and control law.

Thirdly, the use of discretion by governments was not adequately regulated, and procedures for emergency requisition and compensation were not much clear and definite. In the process of Influenza A (H1N1) prevention and control, governments predominantly used administrative powers, which were largely of a compulsory nature and hence posted a risk of abusing civil rights. As citizens have a growing law and rights awareness with constant economic and social development, the excessive use of discretion by governments would risk causing controversy. It is therefore necessary to improve laws in a way that enables a balance between administrative powers and civil rights.

8.3.3 Decision-Making Mechanisms Were Flawed, Making Some Prevention and Control Measures Lacking in Flexibility, Timeliness and Suitability

During the Influenza A (H1N1) prevention and control, though the country made clear the principle of “taking seriously, responding actively to, and coping with the epidemic in a scientific manner and according to law through joint prevention and control efforts” and the making and implementation of most policy measures was rational and effective, there exists the problem of inadequate flexibility, suitability and timeliness for some policy measures.

Firstly, some policy-making mechanisms were not scientific enough, so that policies from multiple sources made it necessary to be executed flexibly. When national policies were adjusted, departments sometimes failed to sync with one another to this end. Discrepancies existed also in the implementation by local governments of specific measures. When national policies were not consistent with
local epidemic situations, nearly a half of the local disease control authorities stuck strictly to national policies, 35% made their own strategies and measures, and 23% didn’t make written rules but took measures flexibly to suit local situations. Furthermore, the phenomenon that policies came from multiple sources also led to confusion to disease prevention and control efforts at the grass-roots level.

Secondly, some national prevention and control measures were not suitable for local situations for being lacking in pertinence and operability. On the making of policies and measures in various stages, the country formulated and issued a lot of policy documents providing detailed specifications of prevention and control strategies, measures, etc., and made adjustments in time. Nevertheless, it was widely claimed that the nationally unified policies, strategies and measures couldn’t fit into local epidemic situations and prevention and control capabilities so that local disease control authorities were unable to adapt well to those policies and measures; national policies were often formulated and adjusted either ahead of or behind local actual situations and prevention and control needs. On medical treatment, though the country issued related guidance documents in time, according to survey findings, those guidance documents could have been further improved in terms of guidance, feasibility, sustainability and comprehensiveness. Some experts deemed that whether related WHO recommendations were appropriate in China was worth discussion.

Thirdly, the adjustment of prevention and control measures was not timely enough. Because of lacking understanding of Influenza A (H1N1) as well as a full picture of epidemic situations in the course of its introduction to and spread in the country, strategic adjustments were not timely enough. Survey findings showed that nearly 30% of the respondents thought of policy adjustments as not timely enough. The WHO Beijing Office held that China took a longer time than other countries to enter the “epidemic mitigation” stage from the “containment” stage and had higher containment costs.

8.3.4 Public Health Input Are Lacking in Pertinence, and the Foundation Is Still Weak in Terms of Epidemic Prevention and Control

After the country’s success in fighting against SARS in 2003, the public health system saw rapid development. But, due to inadequate input into the system for quite a long time, the public health foundation was still rather weak. The imbalance of regional development, of economic and social development, and especially of urban-rural development, heavily hindered public health development in some remote and poor regions whose capabilities of dealing with public health emergencies—which had long been weak—were not fundamentally changed.

Firstly, there were inadequate emergency reserves and preparedness in terms of human, financial and material resources, and grass-roots disease prevention and
control workers were especially in shortage. Before the Influenza A (H1N1) outbreak, there were only 0.5 million doses of Tamiflu in the national stockpile, local stockpiles of Tamiflu combined were only 37,900 doses, and the amount of N95 masks was also very limited. According to survey findings, Influenza A (H1N1) prevention and control brought a considerable pressure in human resources to grass-roots disease control institutions: 90% of the institutions suffered shortages of manpower; 45% experienced financial shortages, and 26% were faced with shortages of materials such as test kits, protective equipment and laboratory consumables after the epidemic broke out. Also, human, financial and material input into health service for the national education system, for grass-roots schools in particular, had long been inadequate; township health care centers and hospitals had weak capabilities of medical treatment.

Secondly, capabilities of medical treatment against pandemic diseases were still apparently inadequate. Currently, the country’s capabilities of pre-hospital emergency aid for pandemic diseases are rather weak, and hospitals’ medical treatment capabilities are inadequate. General hospitals are not strong enough in terms of detecting and diagnosing clinical cases. In some regions, especially less-developed ones, medical resources are limited, there are severe shortages of medical equipment and facilities, anti-virus drugs, and protective appliances, and intensive care unit (ICU) facilities and equipment can hardly meet medical needs to deal with pandemic diseases; grass-roots medical treatment capabilities are weak. WHO Beijing Office officials think that China’s “capabilities of medical treatment can hardly deal with more severe epidemics”.

Thirdly, monitoring and warning systems still need to be strengthened. There still is an imbalance among provinces in terms of influenza monitoring network development. Influenza monitoring has not yet been started in Tibet, and some influenza network laboratories are of poor monitoring qualities. An integrated monitoring system that enables full coverage, high quality, and epidemiology and laboratory monitoring has not truly been established in the country. Capabilities of comprehensive and in-depth monitoring data analysis as well as of detecting public health emergencies are not adequate. China has not yet established a global health monitoring system; considerable work is to be done to build a global health monitoring system like the U.S. CDC.

Fourthly, the country’s scientific and technological input for epidemic prevention and control purposes is inadequate. Data have showed that research into life sciences and the frontiers of medicine is very costly. Though the country increased expenditure on science and technology, it was far not enough on the whole, especially when it comes to research concerning life sciences, medical frontiers, public health, disease prevention and control, emergency management, etc.
8.3.5 Support Systems Are Inadequate and Emergency Support Capacity Is Weak

During the Influenza A (H1N1) prevention and control, though the country’s timely and powerful funding and material reserve measures bolstered up confidence in epidemic prevention and control and ensured that Influenza A (H1N1) prevention and control efforts were carried out in an orderly, efficient and effective manner, problems also existed, such as inadequate resource reserves and flawed policies on local government procurement payment and prevention and control compensation.

Firstly, there was a lack of policies on compensation for medical services delivered against pandemic diseases. Consequently, there was no definite policy as to the financial channel, responsibility, procedure, and time limits of compensation to the designated hospitals for expenses they paid for transportation, treatment, living, etc. when shouldering the task of curing a pandemic disease. Of the 26 designated hospitals surveyed by the evaluation team, only 55% received government subsidies, and nearly 84% paid medical expenses on behalf of the patients; the 26 hospitals paid 14,235,500 RMB in medical expenses altogether, about 550,000 RMB per hospital on average. Up to now, some provinces still have not yet addressed the issue of payments that designated hospitals made on behalf of patients, and some places have not paid vaccine manufacturers for the Influenza A (H1N1) vaccine purchased.

Secondly, there are still considerable gaps in appropriations for medical treatment of pandemic diseases. During the Influenza A (H1N1) prevention and control, the country’s mechanisms for financial compensation to enterprises and local governments remained unsound, and problems in this respect which had existed during the time of SARS remained. For instance, local governments together still have arrears of 700 million RMB on payments for Influenza A (H1N1) vaccines. In October 2010, the MOH proposed to the State Council that “local governments continue to execute and complete the vaccine supply plans issued under the joint prevention and control mechanism”, with the intention of urging local governments to solve arrears issues. Though the proposal was issued in the form of document to provinces, except a few provinces such as Guangdong which have solved part of their arrears, all others have so far made little progress in this respect.

Thirdly, drug stockpile mechanisms for pandemic diseases still need to be improved. National drug stockpiling at central and local levels was not fully implemented. National funding for emergency materials stockpiling still could not completely meet the needs of health emergency materials stockpiling, and in states of emergency, related ministries could not have a full picture of both the national and the local stockpiles. More work needs to be done in terms of health emergency materials reserving standards, forms and types, and there is a lack of reserve reporting and management mechanisms as well as principles governing the use of funds. Problems exist also about grass-roots stockpiles of such materials as antiviral drugs, e.g. few varieties and inadequate amounts. Moreover, the relationship
between capacity buildup and material stockpiling still need to be improved, alongside drug bidding and rotation systems.

8.4 Issues to Be Discussed Further

Dealing with a global pandemic like Influenza A (H1N1), especially improving the capability of understanding, studying and making judgment and decision in highly uncertain situations, is a common challenge for all countries in the world. The evaluation team believed that further discussions are necessary on many aspects of China’s efforts of Influenza A (H1N1) prevention and control, including further clarifying the emergency management system and mechanism, balancing administrative pressure with scientific countermeasure, making appropriate reactions to emergencies, and matching rigid policies with flexibility. More comprehensive and in-depth discussions about those matters will help us better understand and improve our work.

8.4.1 How to Improve the Health Emergency System and Mechanism

Since China won the battle against SARS in 2003, it has established a public health emergency commanding system characterized by “government leadership, centralized command, local management, layered responsibility, inter-departmental coordination and categorized treatment”, and special groups responsible for health emergency management, handling and consulting are formed on local level. The joint Influenza A (H1N1) prevention and control mechanism established this time has played an important role. But actual work indicates that China’s system and mechanism of dealing with public health emergencies has some problems that need further study and addressing, and the joint prevention and control mechanism to deal with major emergencies has to be improved.

First of all, how to properly position comprehensive emergency organizations and special departments to make their emergency management work complementary? To deal with the Influenza A (H1N1) epidemic this time, the MOH took the lead in setting up the joint prevention and control mechanism that involved 38 departments and commissions. It was a comprehensive coordination mechanism formed in accordance with the social hazards caused by the epidemic, and was positioned between the State Council’s emergency command center (as in the SARS epidemic in 2003) and the MOH’s special emergency command center. As the initiator of the joint prevention and control mechanism, special emergency organizations such as the MOH or local health authorities have to do more to straighten out their relation with comprehensive emergency organizations such as
the emergency office under the State Council or provincial government. This relation isn’t a problem on the State Council level, but it causes prominent problems on local execution level. As comprehensive and special emergency organizations report to different leaders, they inevitably have overlapping, segmentation and even conflict during execution (e.g. vice governor in charge of health care and executive vice governor in charge of emergency management of a province have to coordinate with each other). The emergency office in some local governments only serves as a duty room and cannot effectively lead and command emergency work owing to its low administrative level and understaffing. Therefore, the relation, including division of duty and cooperation, between comprehensive and special emergency organizations has to be clarified further and adjusted and improved timely during emergency response.

Second, how to quickly shift between emergency state and routine working state in government departments? The joint prevention and control mechanism against Influenza A (H1N1) is a temporary comprehensive emergency model that takes up a lot of administrative resources in relevant government departments, so it’s only applicable in special periods when an epidemic breaks out on a large scale and not suitable for sustained implementation. But there isn’t a clear and definite mechanism as to when to enter and exit the emergency state, such as dealing with Influenza A (H1N1), and no scientific and standard definition or explanations in this regard can be found in any law, rule or emergency plan. If the emergency state for Influenza A (H1N1) isn’t called off, the emergency work at departments involved will continue, which will be a waste of precious government resources when the epidemic isn’t that serious. Therefore, we have to study how to scientifically shift between the joint prevention and control mechanism and everyday work, put in place a sound mechanism that accommodates both emergency and normal states, and minimize the interference in and impact on normal work imposed by emergencies.

8.4.2 How to Make More Scientific and Effective Decisions

For emergency management, government decision makers on all levels, when faced with highly uncertain situations, must strike a balance between administrative pressure and scientific countermeasure. Government decision on prevention and control must be based on science, but “non-technical” factors such as administrative pressure from above and public opinions must be taken into account too. Many decisions made during the Influenza A (H1N1) prevention and control this time had to strike a balance like this, and reality showed that administrative pressure usually outweighed other factors in local government’s decision making.

First of all, how to establish a scientific emergency management assessment and evaluation system? Due to the high level of uncertainty of emergencies, emergency efforts are usually disproportional to the final results, so higher-level government should avoid setting rigid targets for lower-level ones in emergency management
because instead of inspiring and motivating them, the targets would put unnec-

essary pressure on lower-level governments and consequently distort their emergency
actions and cause unnecessary losses. During the prevention and control of
Influenza A (H1N1) this time, some local governments imposed too much pressure
on lower-level governments and led to distorted implementation of some policies.
For example, disease control authority included indicators on the prevention and
control of infectious disease in the performance assessment for medical department,
which burdened local disease control departments. Some local governments blindly
pursued the goal of “zero death”, which was irrational and put excessive admin-
istrative pressure on lower-level governments and medical staff, and seriously
affected scientific policy making and implementation. Higher-level government also
put pressure on lower-level ones in vaccine promotion, setting specific indicators
and deadlines and even publishing a ranking list. The result was that some policies
were issued and carried out completely based on administrative decisions instead of
professional analysis, judgment and technical decision.

Second, how to combine technical and administrative factors? This Influenza
A (H1N1) epidemic is a widespread global public health emergency. When the
Chinese government made decisions, which may have an impact on the relation
with international organizations like WHO and with other countries and regions and
the domestic economic and social development, it had to keep in mind the possible
political and international consequences when issuing policies. Moreover, when an
epidemic first broke out, the media would report on it intensively, which formed
public opinion pressure in uncertain conditions and in a way affected decision
making, but governments on all levels still had to take immediate measures to keep
the epidemic from escalation and diffusion. Under such circumstances, technical
considerations usually gave way to administrative ones when decisions were made,
which led to the phenomenon that countermeasures were often more rigorous than
necessary and resources were wasted to some extent. This shows that how to
balance technical and administrative factors in emergency management and fully
respect science while making overall considerations is a topic worth careful and
deep study.

8.4.3 How to Evaluate the Appropriateness of Emergency
Response Amid High Uncertainties

How to react appropriately to highly risky and uncertain emergencies, in other
words, how to keep the situation from worsening due to insufficient reaction and
avoid waste of resources because of excessive reaction, is a difficult question faced
by emergency managers and decision makers. The Influenza A (H1N1) epidemic is
the first influenza epidemic in the world for 40 years. It wasn’t as serious as
originally imagined, and some people questioned the countermeasures adopted by
the WHO. Meanwhile, some developed countries attached more importance to
“treatment” than “control” and didn’t take more rigorous measures in border entry quarantine and medical observation of suspected cases, which caused arguments about the appropriateness of China’s prevention and control measures.

The evaluation team discovered through survey that people had different opinions and comments regarding whether China overreacted to the Influenza A (H1N1) epidemic and whether its prevention and control measures were appropriate. In terms of government input in Influenza A (H1N1) prevention and control, about 30% of the public thought it excessive, but a larger proportion of Influenza A (H1N1) patients (84%) and close contacts (82%) believed government input was worthwhile. In terms of the appropriateness of prevention and control measures, only 50% of the public thought them appropriate and about 20% thought them too rigorous. In terms of local governments’ reaction to Influenza A (H1N1), overreaction was common due to administrative pressure and the great importance attached by leaders, and they tended to adopt more rigorous measures than the national government. For example, the central government demanded that large-scale events should be avoided unless absolutely necessary, but local governments prohibited large-scale events of all kind.

On the other hand, decision makers had to make tough choices when in face with unknown epidemics like SARS and Influenza A (H1N1). If the countermeasures were loose but the virus was highly hazardous, that would lead to immense losses of life and properties, which would be hard to accept. If the countermeasures were rigorous and costly but the virus wasn’t very hazardous, that would be a more acceptable scenario. Since public health emergencies concern people’s life and health, governments of all countries tend to adopt rigorous measures when it is unclear how harmful the virus or bacteria is, so as to avoid massive losses because of insufficient reaction. If the reaction was costly and turned out excessive afterwards, the high cost could be understood as the premium needed to prevent the worst scenario and was therefore worthwhile. As WHO Director-General Margaret Chan Fung Fu-chun said, “we are not exaggerating the epidemic, but if we are underprepared because of my mistake, that would be unacceptable. I’d rather be over-prepared than under-prepared.”

8.4.4 How to View the Influenza A (H1N1) Prevention and Control This Time

This Influenza A (H1N1) epidemic marked the first global cooperation on coping with public health emergency. It achieved important results, but also displayed various defects and deficiencies. On the whole, the Influenza A (H1N1) prevention and control this time provided valuable experience. The whole country worked in

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3A case in point is the strategies adopted by the U.S. government during the 1976 swine flu outbreak.
unison, we shortened the vaccine’s time to market, and China became the first country in the world that completed the clinical test of Influenza A (H1N1) vaccine and vaccinated its people on a large scale, but we couldn’t neglect the fact that chance may have played a part in our success. For example, it was by accident that China participated in the global defensive battle against Influenza A (H1N1) at an early stage and its participation had preconditions. We obtained the latest epidemic information from Mexico, and got the virus strain from the United States to develop diagnostic reagent and vaccine, which gave us sufficient time to make preparation. The next influenza epidemic won’t necessarily have the same conditions, and our experience today won’t necessarily be useful tomorrow. Meanwhile, China’s capability of vaccine production is quite limited compared with developed countries, so we cannot take our vaccine success this time as a normal phenomenon. We cannot just focus on the medical interventions against influenza epidemic and vaccine development and production, but neglect social interventions. An effective and reliable strategy is to put equal stress on them both. Furthermore, short-term measures or those temporarily adopted this time should not be taken as regular measures to deal with similar public health emergencies in the future.

We should look at both the positive and negative sides of this prevention and control campaign against Influenza A (H1N1) scientifically, and use the experience and lessons learnt to better guide the prevention and control of infectious diseases and health emergency responses in the future. We should scientifically evaluate the achievements, experience and problems of this campaign from such angles as coping strategy, operating features of the joint prevention and control mechanism, cost effectiveness of prevention and control, and overall social effects. We should establish a sound emergency response evaluation and learning mechanism and improve our learning ability during each emergency response, so as to turn risks into opportunities and turn current experience into valuable lessons that enhance our ability to deal with public health emergencies.

8.5 Policy Suggestions for the Future

Based on the findings stated above, the evaluation team proposed the following policy suggestions for the reference of relevant parties.

8.5.1 Laws on Epidemic Prevention and Control and Public Health Emergency Response Should Be Revised and Improved

The terms on rating new infectious disease in the Infectious Disease Prevention and Treatment Law should be revised, and the health departments should be given more
decision-making and adjusting power so that they can timely adjust the prevention and control strategy when a new infectious disease breaks out. Meanwhile, to deal with sustained public health emergencies like Influenza A (H1N1) in a more standard way, the criteria on pre-warning and emergency response classification and the corresponding management systems should be further clarified in the Emergency Response Law, National Preparedness Plan for Public Health Emergencies and other emergency plans, and the criteria and management system should be properly differentiated and aligned. We should further clarify the authority of relevant government departments in emergency state, especially serious emergency state, and standardize the procedures on formulating and adjusting emergency response policies.

To enable local governments to deal with public health emergencies in a more timely, active and effective way, we suggest delegating the power of releasing news about epidemic or event in an appropriate scope. For example, prefecture-level and municipal government, with the approval of provincial government, will be allowed to release news on suspected epidemic or emergency state. Moreover, while intensifying the unified leadership and coordination on the central level or at higher-level government, local governments should be allowed room for independent decision-making, so that they can determine the pre-warning and response level based on actual situations. Other contents that should be revised include the improvement of prevention and control commanding and decision-making system and of the joint emergency response mechanism among various departments, betterment of pre-warning and response classification mechanism, local government’s power of determining the criteria for pre-warning, and human resource, financial, material and technical guarantee for prevention and control. Regulations on communicating the risks of the epidemic, guiding public opinions and mass publicity and education will also be revised.

8.5.2 Plans for Epidemic Prevention and Control and Against Pandemic Influenza Should Be Revised and Updated

The Infectious Disease Prevention and Treatment Law and its implementing rules should be revised and improved in order to conduct flexible and standard management of Influenza A (H1N1) and other epidemics. The existing preparation and response plans for the prevention and control of pandemic Influenza And other infectious diseases should be revised comprehensively at an early date, and the emergency plan for pandemic influenza should be elevated from the Ministry of Health’s level to state level, so that it can better guide the prevention and control actions taken by relevant departments. Meanwhile, government departments on all levels, government bodies, public institutions, enterprises, social units, grass-roots-level communities and other relevant organizations should all work out
their own prevention and control plans against pandemic Influenza and other infectious diseases based on local situations, so as to form an all-round, connected and coordinated epidemic prevention and control system. Moreover, given the uncertainty and complexity of emerging infectious diseases for which the existing single-disease emergency response plans are not suitable, it is suggested that the country make emergency response plans dedicated to emerging infectious diseases, regulate universal measures, procedures, and rights and responsibilities of participating agencies in prevention and control of emerging infectious diseases, and establish as fast as possible mechanisms that allow flexible adjustment in strategies against unknown diseases. On that basis, more efforts should be made to disseminate relevant laws and plans and, depending on the necessity, organize drills within or among relevant departments.

8.5.3 The National Commanding System and Working Codes for Major Public Health Emergencies Should Be Improved

To improve the commanding system for major public health emergencies, there are three key aspects: state-level emergency response system, relation and alignment between state-level and local emergency response systems, and relation of joint prevention and control among the government, enterprises and the public. While drawing on the experience of the joint prevention and control mechanism against Influenza A (H1N1) this time, we can also learn from China’s mature experience in other emergency management areas including flood control and drought relief and earthquake relief.

8.5.3.1 Cross-Departmental National Command Center for Public Health Emergencies Should Be Set up as a Standing Organization

A cross-departmental national command center for public health emergencies should be set up as a standing organization, and the current innovative joint prevention and control mechanism should be made its special decision-making and coordinating mechanism and be combined with the existing emergency management system. This center has its office at the Ministry of Health (MOH) which also works as its convener, providing related service guidance and specialized coordination services and accepting work guidance from the Emergency Management Office of the State Council. Meanwhile, rules concerning the initiation of the cross-departmental national command center for public health emergencies should be revised, and the level of response should be determined not only based on
possible hazards, but also on the scope involved, and the response level should be adjusted as the emergency evolves.

8.5.3.2 Corresponding Public Health Emergency Commanding Organization Should Be Set up on Local Level

Based on their specific conditions and the state-level system, local governments can set up standing emergency organizations accordingly. To more effectively integrate regional resources and prevent and control the cross-regional impact of public health emergencies, the state should encourage and push local governments to form a cross-regional health emergency coordination and joint prevention and control mechanism according to actual needs. Besides, local emergency organizations should participate in the decision-making at state emergency command center, so that the prevention and control policies made by the center will be suitable for local conditions and truly workable. Flexibility in local prevention and control measures should also be maintained.

8.5.3.3 Abide by the Principle of Responsibility by Level and Jurisdiction, Further Clarify the Scope of Authority and Operational Rules Concerning Emergency Management for Governments at Central, Local or Other Levels, Delegate, as Necessary, the Power to Release Information on an Epidemic and Other Events, and Further Strengthen Timeliness, Pertinence and Flexibility of Epidemic Response

In the process of the Influenza A (H1N1) prevention and control this time, the WHO provided China with prevention and control measures in good time based on global epidemic developments, and China made clear the principle of “taking threats to public health seriously, responding actively, and coping with the epidemic in a scientific manner according to law through joint prevention and control efforts”, organized experts to conduct surveys in time according to epidemic developments, and came up with measures for timely adjustment in prevention and control strategies. However, due to China’s vast territory and the varied situations in different places, some local governments and departments couldn’t take local or their own conditions into full consideration when understanding and implementing the policies and measures, and their responses and disposals were not flexible, timely and adaptive enough. Therefore, the general epidemic prevention and control policies adopted by the state should be more targeted and operable on local and departmental level. The survey conducted by the evaluation team showed that 70% of the public thought the prevention and control measures were adjusted timely, indicating room for improvement.

The evaluation team gave the following suggestions. On one hand, when decisions were made on the central level, local disparity in epidemic development
and response capability should be taken into account to leave room for local adjustment. On the other hand, targeted efforts should be made to improve local government’s capability of making scientific decisions based on local conditions and keep them from being irrational.

8.5.3.4 The Mechanism and System of Effective Coordination and Interaction Among the Government, Enterprises and the Society Should Be Standardized

Given the complicated composition of enterprises and the society, we need to focus on three aspects when trying to realize effective coordination and joint prevention and control among the government, enterprises and the society. First, the rights and obligations of enterprises and social entities in handling public health emergencies should be clarified on the legal level. Second, when formulating and exercising emergency plans, approaches should be explored for enterprises and social entities to take part in the prevention and control effectively, and relevant working mechanisms should be put in place. Third, in the working mechanism of national and local public health emergency commanding organizations, an emergency meeting mechanism involving the government, enterprises and the society should be considered, which can provide consultation and suggestions on how to coordinate their actions in the prevention and control.

8.5.4 Emergency Management Mechanism Should Be Improved and Enhanced

When dealing with public health emergencies such as SARS, bird flu and Influenza A (H1N1), the central and local governments established a string of effective emergency management mechanisms, which played an important role in the Influenza A (H1N1) prevention and control this time. In light of the work this time, we believe special attention should be paid to the following aspects in the future.

8.5.4.1 Internal Information Reporting Mechanism Should Be Improved

The Influenza A (H1N1) response this time revealed a serious problem in the health system, or the entire government system, namely epidemic information was reported by multiple departments. IT application should be strengthened in the national emergency commanding and decision-making system, and in medical health organizations on the basis of resource integration. Information sharing should be reinforced among higher-level and lower-level authorities, departments
on all levels, professional organizations and monitoring outlets to make health care more IT-based. We should fully utilize the current direct reporting system for public health events, unify the standards, channels and approaches of epidemic and event information reporting, and ensure information sharing among all relevant departments.

8.5.4.2 The Mechanism of Making Scientific Decisions for Health Emergency Involving Experts on Multiple Disciplines Should Be Emphasized

China formed the expert consulting committee for national public health emergency management in 2006, and the expert committee in the joint prevention and control mechanism against Influenza A (H1N1) this time played an important role. However, members of this expert committee were mostly medical experts, and not enough experts specializing in other disciplines were brought onboard, which should be changed in future. Meanwhile, the working mechanism and approach for experts to participate in decision-making should be improved, and more attention should be paid to the opinions of middle-aged and young experts as well as local ones.

8.5.4.3 Opinions and Suggestions from All Walks of Life Should Be Collected Through Various Channels

When dealing with public health emergencies in the future, we should pay more attention to the opinions, papers and interviews of experts on different disciplines, and collect their professional opinions on specific health emergency issues through the internal information system.

8.5.4.4 International and Inter-regional Communication, Exchange and Cooperation Should Continue to Be Intensified

To deal with Influenza A (H1N1) this time, relevant departments in China stepped up the communication, exchange and cooperation with the WHO, the U.S. Centers for Disease Control and Prevention and relevant organizations in Hong Kong, Macao and Taiwan, and benefited a lot from that. Going forward, we should continue to strengthen international and inter-regional coordination, learn from the “going global” strategy for health prevention and control adopted by the U.S., and proactively weave a network of epidemic monitoring, prevention and control with other countries and regions concerned. This way we can grasp the global epidemic developments more comprehensively, make our prevention and control work more active and better deal with public health emergencies of all kinds. While doing that, we should keep our head clear and maintain independent thinking instead of blindly
believing and following other countries’ moves. We should prevent and control epidemics independently based on our own situations and under the guidance of the WHO and other international organizations.

8.5.4.5 The Awareness of Public Health Crisis Should Be Enhanced and Regular Health Risk Evaluation Should Be Carried Out

In the age of economic globalization today, we should stay highly alert to all kinds of old and new infectious diseases that may cause major public health threats. Regular or irregular public health risk evaluation should be promoted in the health system of all levels, and concrete steps should be taken to enhance people’s health risk and crisis awareness. We must take precautions and prepare for the worst.

8.5.5 In Light of the New Round of Medical System Reform, the Mix of Public Health Input Should Be Improved and a Fiscal Fund Appropriation and Compensation Mechanism Should Be Established

China’s input in public health has increased significantly since 2003. While continuing to invest more in public health, we should also improve the input mix, attach more importance to health emergency response and pay special attention to the following matters.

8.5.5.1 Fiscal Input and Compensation Mechanism for Public Health Emergency Should Be Established as Soon as Possible

The central government made resolute decisions and earmarked fiscal fund timely to fight Influenza A (H1N1) this time, and governments on all levels, enterprises, public institutions and individuals all contributed immensely to the prevention and control by investing a huge amount of manpower, materials and capital. However, government purchase fund and relevant compensation policies for epidemic prevention, control and treatment were not completely in place. The compensation for government bodies, enterprises, social groups and individuals was far from enough, and the fund used to purchase Influenza A (H1N1) vaccine was still not paid to the providers. If such situation continues, it will seriously dampen the enthusiasm of governments at all levels, enterprises and public institutions for joining the public health emergency response and leave a major hazard for that work. This problem has existed and never been completely solved since SARS.

The basic medical insurance should be expanded to cover more people, and commercial medical insurance system should be improved to provide more coverage of pandemics. A public health emergency fund and compensation mechanism
should be established on provincial and municipal level as soon as possible to make sure that there will always be enough capital for emergency handling, and the investment by local governments, enterprises, public institutions and individuals in public health emergency response will be reasonably compensated for. We should establish stable and effective mechanisms for multi-channel compensation to medical institutions at grass-roots level, and establish funding and compensation tracking and supervision mechanisms. Furthermore, local government’s fiscal input in fighting Influenza A (H1N1) and financial compensation for concerned hospitals and vaccine suppliers should be inspected to enhance government credibility. Only when we mobilize the whole society to participate in health emergency response can we promote the sustainability of this work and raise public trust in the government.

8.5.5.2 Ability of Health Emergency Response in the Health Industry and Key Areas of Non-health Industry Should Be Strengthened

While investing more in public health, we should first and foremost strengthen comprehensive hospitals’ capability of detecting, diagnosing and treating clinical cases, and the diagnostic and treating capability of special hospitals such as children’s hospital. We should pay special attention to strengthening the capability of health emergency response in key areas of non-health industry, such as education system, large construction site and important traffic hub. For example, 70% of public health emergencies in China happened in the education system, mainly schools, but the evaluation team discovered in the survey that the education system’s human resources, financial and physical input in health care, especially at schools at the grass-roots level, has always been deficient, and it is extremely weak in handling public health emergencies. It is therefore suggested that the Ministry of Education and Ministry of Health should work out policies that request more health care input in the education system and more input in public health publicity and health education in schools of all types, so as to straighten out the public health management mechanism in the education system.

8.5.6 More Should Be Done to Improve the Communication on Public Health Risks and Health Education

8.5.6.1 Public Health Education Strategy Should Be Strongly Promoted

During the Influenza A (H1N1) prevention and control, some expert said “health education is the best vaccine against Influenza A (H1N1)”. It is indeed a key step to
raise the whole society’s health level. Therefore, we suggest continuing to increase the input in public health education and taking effective measures to enhance people’s awareness, knowledge and capability of prevention and control.

8.5.6.2 Full-Process Risk Communication During Emergency Management Should Be Carried Out

Risk communication during the Influenza A (H1N1) prevention and control this time displayed considerable progress, but revealed some problems as well. For instance, risk communication in the later stage wasn’t as well conducted as in the early stage, risks related to vaccine safety were understated while vaccine safety was excessively pledged, and epidemic information from overseas was over-emphasized when the severity of the influenza was explained to the public.

We suggest that the health and other related authorities should attach due importance to full-process risk communication, especially pre-event risk communication, to help people perceive and deal with risks rationally. When communicating about highly uncertain risks, the government should not intentionally understate the risks for fear of public panic and excessively vouch that the epidemic is “preventable, controllable and curable”, but should objectively tell the truth (including uncertainties) and the measures already and to be adopted by the government. The government had better avoid such words as “preventable, controllable and curable”, and leave it to the experts to guide the public and all sectors of society to make their own judgment.

8.5.6.3 Emerging Media Should Be Brought into Full Play

Online media plays an increasingly important role today. During the fight against Influenza A (H1N1), the health authority opened a special web page on the epidemic, which was upgraded frequently at first but not so much later, and the information was very limited compared with special web pages on commercial websites in China. As a result, the web page didn’t play its due role as the main channel of communicating and disseminating the epidemic prevention and control. Therefore, it is suggested that national health authority develop special websites or web pages for serious health emergencies at an early date either by itself or in cooperation with mainstream websites. It should enrich the page contents and update them timely throughout the emergency to facilitate people’s search for authoritative information and prevention and control knowledge and fully play the role as the main channel of epidemic or event communication.