

Strengthening public health at the community-level in China



An unprecedented pandemic, COVID-19 is currently hitting the world.^{1,2} After the initial outbreak in the city of Wuhan, Hubei province, COVID-19 is under control in China, with a few small waves caused by imported cases,^{3,4} all of which have been stopped in China in 2–4 weeks, with between several cases and hundreds of cases per wave. We have seen clear peak–valley intervals with these small waves. It is crucial to understand why and how China has reached such success because it might help other countries. For COVID-19, we believe that active case finding at the community-level has been the key for China’s achievement.^{5,6} Since the 2003 outbreak of severe acute respiratory syndrome (SARS), health-care reform in China has been focused squarely on community-level capacity building, which compares with countries where community surveillance systems are not ideal.

Disease control and prevention based on community mobilisation are fundamental in China. As early as the 1950s, the Chinese Government initiated its all-in-all Patriotic Health Campaign, and has been keeping the pace for the intervening decades, increasing life expectancy from 35 years in 1949 to 77 years in 2019.⁷ Many diseases have come under effective control. Besides the eradication of smallpox and elimination of polio, following the world’s lead, China has eliminated or nearly eliminated diseases such as malaria, leprosy, filariasis, and schistosomiasis. Above all, this feat was accomplished by strengthening community-level capacity and practices. In the early stages, the organisational mechanism of the system was establishment of so-called stratified epidemic prevention stations, from province to prefecture to county levels. The system worked well with the national immunisation programme starting in the late 1970s, bringing vaccine-preventable diseases under effective control, especially for infants and children. However, we realised that our national-level science and technology support system was not good enough to support the entire enterprise. To address this core need, a system like the US Center for Disease Control and Prevention (CDC)—ie, the China CDC—was established in 2002, just before the SARS outbreak. To establish this new system, a national research organisation, the Chinese Academy of Preventive Medicine, was transformed into the China

CDC. Regional stations have been kept and renamed as local CDCs, from province to prefecture to county levels, which is different from the US CDC system. Since then, our four-level CDC system has been well built with large capacity and workforce. This system has proven to be the basis for the effective prevention and control of COVID-19. During the pandemic, community-level public health practice has supported health promotion and public understanding of science, leading to strong and intense public involvement in disease control and prevention. A good example is the effective practice of three key measures that we have implemented: mask wearing, physical distancing, and hand washing, which have proven not to be easy to adopt in some countries. For China’s implementation, community-level public health practitioners have played crucially important roles.⁸

The Healthy China 2030 initiative,⁹ which started in 2016, promotes an integration of prevention and clinical medicine. Prevention is regarded as the most effective measure for disease control. Under Healthy China 2030, community-level capacity building is a sustained priority. To achieve Healthy China 2030 goals, political will is essential for adequate financial support, and coordination of stakeholders and the public. Community-level clinics and county-level CDCs are also encouraged to collaborate in the management of non-communicable diseases. Private sector organisations and non-governmental organisations are encouraged to become involved in community-level health-care reform. Nevertheless, there is considerable work to do. For example, rabies is still a problem in China, which does not match the development level of the country. With such a large, geographically diverse country with inequality of economic development, some diseases like rabies will need to be addressed in the future. One Health concepts and practices are needed for any measure of success. There are zoonotic diseases to be managed through coordination of health and agricultural sectors, especially in rural areas where shortcomings of community-level public health practice exist. Tobacco use is still a huge problem in China, and community-level public health practice should be called on to play a key part for long-term solutions.

China is involved in increased outreach to the world. Although we do not believe that our mechanism and system of strengthening the community-level capacity in public health would fit other countries, the successful practice in China would bring insights into a reference. For data sharing and communicating practice experiences with the world, a journal like *Morbidity and Mortality Weekly Reports*, *China CDC Weekly*, was launched last year,¹⁰ publishing Chinese and world scientists' research and public health reports.

Practices in public health at a community-level must be strengthened worldwide. There are no borders for diseases; pathogens travel without passports or visa. We should work together to tackle the common enemies of mankind. China needs the world and vice versa.

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Zhongjie Li, *George F Gao
gaofu@chinacdc.cn

Chinese Center for Disease Control and Prevention, Beijing 102206, China

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