

The 17th New Buds Salon
Health Systems of Various Countries
from the Perspective of Public Health: Japan
June 12, 2020

To further understand public health and emergency systems of typical countries in the world, the Institute of Area Studies, Peking University (PKUIAS), together with PKU's School of Public Health and Institute of Global Health jointly launched a series of online seminars on "Health Systems of Various Countries from the Perspective of Public Health." The 17th New Buds Salon invited Wang Peiyu, deputy dean of PKU's School of Public Health, to introduce Japan's public health system and health emergency system, and to discuss other issues such as Sino-Japanese public health cooperation. This salon was moderated by Prof. Qian Chengdan, director of PKUIAS.

Prof. Wang Peiyu introduced Japan's medical and health system and health emergency system, and made comparisons with China. He said that the World Health Organization (WHO) evaluates medical and health systems of all countries every year, considering the quality, efficiency, accessibility and fairness of these systems. According to WHO, in the past ten years Japan's medical and health system has been ranked first in the world, while China's ranking is on an upward trend, rising from less than 80th to the current 64th place. However, compared with Japan, there is still a long way to go.

The Ministry of Health, Labor and Welfare (MHLW) led by the Japanese Cabinet is the department responsible for medical and health care at the national level in Japan. *Kōsei* (厚生)

means health and social welfare. Therefore, the functions of MHLW include three aspects: health, civil affairs, and labor. The departmental structure is similar to the Chinese Ministry of Health and part of the Ministry of Civil Affairs. At the local level, in addition to private medical institutions, there are one or two public hospitals in each city in Japan, operated and financed by the government. Moreover, some political parties and social organizations in Japan also set up hospitals locally. For example, with party membership dues the Japanese Communist Party established its own hospital system to provide medical and health services for low-income groups, which has been part of the social welfare advocated by the party.

Unlike China, in Japan there is no Center for Disease Control and Prevention (CDC) responsible for disease prevention and control. Instead, the National Institute of Infectious Diseases (NIID) has been established under the MHLW, and health centers have been established at the prefecture level. Primary health care centers have also been established at the municipality level (cities, towns, villages), which is equivalent to a community health service center in China. These medical and health care organizations are mainly in charge of disease prevention, vaccination, health education, health consultation, and so on. They do not directly provide medical treatment. This health care system and hospital system combine to constitute the whole Japanese medical and health system.

There are two categories of Japanese medical insurance: social and commercial. Social insurance premiums are borne equally by the individual, the employer, and the state. For

children, the elderly, and other individuals not affiliated with any employer, 1/3 of their premium is borne by the local government. Therefore, social medical insurance can basically cover all people. In Japan, commercial medical insurance is also very widespread. Many Japanese tend to purchase one or two commercial medical insurance policies in addition to their social insurance. Commercial medical insurance can be divided into two types: hospitalization and sickness. When sick and hospitalized, social insurance can reimburse 70 percent of medical expenses, and hospitalization insurance can provide patients with hospitalization subsidies of 6,000-7,000 yen a day. Sickness insurance, on the other hand, provide patients with a one-time insurance payout of 100,000-150,000 yen. As a country with a high level of social welfare, Japan has formed a comprehensive medical insurance system based on social medical insurance and supplemented by commercial insurance. Within the system, the reimbursement rate is high so the burden on individuals is not too heavy. The Japanese welfare system is comprehensive and developed, covering four aspects: unemployment insurance, medical insurance, pension, and annuity. The problem with this welfare system lies in insufficient support from the working population due to the aging population. As a result, its medical insurance reimbursement ratio has dropped from the previous 90 percent to 70 percent now. However, the upper limit of Japanese medical insurance reimbursement is still much higher than in China, by about four or five times, so few Japanese will be driven into financial trouble due to illness. Prof. Wang pointed out that the biggest challenge currently facing Japan is the issue of low birth

rates and an aging population. The total population of Japan is about 126 million, about 1/11 of China. The proportion of children (0-14 years old) is 12 percent, and the proportion of elderly people (65 years and over) is 28 percent. This totals nearly 40 percent. In other words, the number of people in Japan who are unable to work and dependent on others adds up to about 40 percent of the total population, which is a huge burden for the remaining 60 percent of working age people (15-64 years old). Japan's dependency ratio (dependents compared to people of working age) is as high as 67 percent, which means for every 100 people in the labor force, they have to raise 67, almost equal to one person raising one person. At the same time, the birth rate in Japan is quite low, and the population has been experiencing negative growth for 10 consecutive years. This indicates that problem of a graying population problem and shrinking birth rate in Japan will become more and more serious. Not only will the burden on the working population continue to increase, but the taxation and social welfare system will also face more and more pressure. Thirty years ago, Japanese who purchased medical insurance only paid 10 percent of their medical expenses. Later, as the government's financial burden grew, medical expenses borne by the people expanded to 20 percent. By 2003, it had risen to 30 percent. Meanwhile, the tax burden on Japanese is also getting heavier. Three decades ago, consumption tax rate was 3 percent, and then gradually climbed to 5 percent, 8 percent, and now it has reached 10 percent. From the government to the people, Japan is shouldering more and more owing to low birth rates and a graying population.

In a country, when people over the age 60 account for 10

percent of the total population or people over 65 account for 7 percent, it is considered an aging society. Since 1999, China has been an aging society, but even in 2018, the proportion of the Chinese population more than 65 years old was only 12 percent, compared to 28 percent in Japan.

Japan enjoys the highest life expectancy in the world. According to statistics in 2017, the average life expectancy in China is 76.7 years, and in Japan 83.7 years. There is a big gap between the two countries. However, average life expectancy in Beijing is 82.1 years. On top of life expectancy, healthy life expectancy is also an important health care indicator. It is defined as the age to which a person stays healthy enough to maintain a good quality of life. Average healthy life expectancy is 70 years in Japan, and 61 years in Beijing. In terms of health quality, there also exists a disparity between Chinese and Japanese.

In 2002, Japan launched endowment insurance. Japanese office workers start paying toward the endowment from the age 40. When they are 80 or 85 and cannot take care of themselves, an elderly care center will send people to look after them, but the cost is very high, so it needs to be reimbursed by the endowment insurance. There are elderly care centers in every city, town and village in Japan providing care services. In many buildings, stairs are specially designed for the elderly to prevent them from falling, and there are also elderly-specific bathtubs to avoid slipping while bathing. Japan has also designed an elderly care evaluation system, which divides the elderly into three levels according to their individual self-care ability.

At the first level, service staff are sent to an elderly

person's home one or two times a week for cleaning, inspection of medicine and preparing nutritious meals, and so on. At the second level, two or three times a week, staff will take the elderly person to the center for a physical examination and help them with bathing, and so on. At the third level, the elderly person will be taken to the center and live there. Since work in these centers is monotonous, most young people in Japan are unwilling to do it, so the government has been encouraging them to work in the centers by taking measures to make the work more attractive.

In China, basic medical and health care service is provided by public institutions, which in rural areas are township health clinics, and in cities are community health service centers, whereas in Japan, basic medical and health care service is mainly provided by private clinics and private hospitals, supplemented by some public local health centers. Funding for constructing a Japanese private medical institution generally comes from bank loans, and when it is completed, seeing a doctor at a private hospital is the same as going to any public hospital. Patients can use social insurance or commercial medical insurance. Though public medical institutions can benefit the most people, due to their suitable prices, they are usually in low efficiency. On the other hand, private hospitals are more efficient, but they may not aim for the public good. Although the Japanese medical and health system is accessible and efficient, many private medical institutions were reluctant to treat COVID-19 patients or suspected infections at the beginning of the epidemic, because they worried that doing so would scare away other patients. This uncovered some problems

with the Japanese medical and health system, and even made the system unworthy of being ranked number one.

In addition, since the Japanese government cannot mobilize these private medical institutions, unlike other provinces pooling all efforts to support Wuhan city in China, it was impossible for Japanese prefectures to aid badly-affected areas in the outbreak such as Tokyo, Yokohama, and Kanagawa. It was not until Japan implemented the “State of Emergency Law” that the government was empowered to deploy medical resources, including private medical institutions, to respond to the epidemic.

Prof. Wang believes that because of the focus on private medical institutions, Japan’s basic medical and health system is more efficient in preventing and treating general chronic disease and providing medical and health care services in ordinary times, but when an infectious disease outbreak occurred, many drawbacks were exposed. In terms of response to infectious diseases, China’s medical and health system is not that far behind Japan, and in some aspects, it is even better, owing to the superiority of China’s state system.

Japan’s weak infectious disease prevention and treatment system is one important factor resulting in its ineffective response to COVID-19 early on. There has never been a large-scale infection outbreak since World War II in Japan, so the system is focused on the prevention and treatment of chronic diseases. As a result, Japan lacks experience in dealing with sudden, large-scale outbreaks of infectious disease, and the prevention and treatment system is weak. In the 21st century, Japan avoided several severe international infectious disease outbreaks —SARS, H1N1, and MERS (Middle East Respiratory

Syndrome), while China gained experience in fighting against SARS, and South Korea learned from fighting MERS. Therefore, after the outbreak of COVID-19, both China and South Korea recognized the dangers of this epidemic and took timely measures on account of their past experience. Due to a lack of awareness and experience, Japan was ineffective in responding to the epidemic at first. For example, many mistakes were made in Japan's handling of the *Diamond Princess* cruise ship, which led to the further spread of the disease. At the same time, Tianjin port in China received an international cruise ship full of people infected with this coronavirus. However, due to timely and effective measures, potential dissemination was avoided and no secondary infection occurred. In short, the weakened infectious disease prevention and treatment system caused by a long period of disuse has caused many problems for Japan in its response to COVID-19.

The Japanese infectious disease prevention and treatment system was inadequate and control measures were not done sufficiently at the beginning. However, thanks to the influence of traditional culture, Japanese people have been fairly obedient, responsive to government calls, willing to maintain social distance, and willing to work from home to avoid densely populated places. Japanese also keep good hygiene habits. Ultimately, these behaviors effectively prevented the massive spread of the epidemic in Japan.

Prof. Wang pointed out that although the Chinese medical and health system has its advantages in reacting to public health emergencies, it also faces many problems and challenges. There are still many areas to be improved, such as normalizing

prevention and control of epidemics at the grassroots level, protecting the health of the elderly, enacting medical reforms and controlling environmental pollution. The so-called “double burden of disease” is a particularly prominent and urgent issue.

The double burden of disease refers to the burden of the prevention and treatment of chronic diseases, and the burden of responding to infectious diseases. In a developing country like China, both the morbidity and mortality rates of certain chronic diseases have approached or even surpassed those of some developed countries. For example, the incidence of heart disease in China is close to that of European and American countries, and the incidence of stroke is several times that of European and American countries and Japan. Cancer has the highest mortality rates among the chronic diseases prevalent in China, accounting for 26 percent of all deaths. For men, lung, liver, gastric, colon, and prostate cancers are top killers, for women breast, thyroid, rectal, and uterine cancers are the top killers. In recent decades, due to changes in lifestyle, the incidence and mortality of colon and rectal cancers have increased rapidly in China, and they have become one of the main causes of death of contemporary Chinese people. In addition, hypertension, diabetes, and chronic obstructive pulmonary disease have also gradually become major chronic diseases threatening Chinese health. Therefore, the burden of chronic disease prevention and treatment in China has become increasingly heavy.

In the meantime, the pressure on the prevention and control of infectious diseases in China is also stronger than in Western countries. Infectious diseases are generally divided into two types: emerging infectious diseases and re-emerging infectious

diseases. The former refers to infectious diseases that appeared after 1970, such as AIDS, and the latter refers to those that existed before 1970, were controlled, and then have reemerged in recent years, such as tuberculosis and hepatitis. Before the outbreak of COVID-19, there were in total 39 national statutory infectious diseases that must be reported in China, and they are divided into three categories: A, B, and C. Category A consists of plague and cholera, the most serious. Category B has 26 diseases, and category C has 11. COVID-19 has become the 40th infectious disease requiring statutory reporting. Although COVID-19 is classified as category B, considering its strong contagiousness, China is preventing and treating it as a Category A disease.

The SARS outbreak in 2003 was an emerging infectious disease that had a huge impact on China. At that time, a total of more than 8,000 SARS cases were reported worldwide, and more than 5,300 cases were reported in China, distributed across the mainland, Taiwan, and Hong Kong. European and American countries were barely affected. This is an important reason why European and American countries paid less attention to COVID-19 at the beginning. Avian influenza around the year 2000, H7N9 avian influenza from 2003 to 2004, the H1N1 virus in 2008 and MERS in 2015 have all been detected in China. Thanks to effective prevention and control measures, these diseases did not cause widespread infections. In addition, some areas in the country have been threatened by re-emerging infectious diseases in the past few years. For example, in 2014, several provinces and regions like Guangdong, Guangxi, Fujian and Yunnan had another outbreak of dengue fever. In particular,

Guangdong reported more than 40,000 cases — the situation is quite serious. Between 2014 and 2015, regions with major animal husbandry sectors like Xinjiang, Ningxia, Gansu, and Inner Mongolia witnessed an outbreak of brucellosis, which is a recurring infectious disease transmitted from artiodactyl animals such as sheep to humans.

According to Prof. Wang, given that each country is challenged by different types of diseases, in developing their own medical and health systems, the prevention and treatment of infectious diseases and chronic diseases should be combined. For example, African countries need to give priority to addressing infectious diseases, so the medical and health systems there mainly deal with infectious diseases. Developed countries successfully controlled major infectious diseases decades ago, so their medical and health systems are designed to focus on chronic diseases. For China, attention is paid to both. In this country there exists both some infectious diseases prevalent in developing countries, and chronic diseases dominating in developed countries. Therefore, China is facing a burden of double disease. The global outbreak of COVID-19 warns us that the threat of infectious diseases faced by a country does not completely match its economic development, especially for respiratory infectious diseases such as SARS, MERS, and COVID-19. Globalization enables them to be transmitted from one country to another quickly by virtue of convenient transportation links, even from one continent to another. There is no difference between developed and developing countries when being infected. This also tells us that we need to change our traditional thinking about building a

medical and health system. It is equally important to respond in a timely manner to infectious diseases while preventing and treating chronic diseases, and there should be no laxity on either.

During the discussion, participants had dialogue and exchanges on issues related to the theme of this salon and the presentation.

Question: Although social systems, political systems and even values in China, Japan and South Korea are very different, after the outbreak of COVID-19, the three East Asian countries have controlled domestic epidemics. However, Western developed countries with good medical technology failed to control the epidemic. Why is there such a sharp difference in response to the epidemic between the East and the West? How did Japan control its domestic epidemic?

Prof. Wang Peiyu: Generally speaking, people in China, Japan and South Korea are more obedient and they tend to consciously respond to the anti-epidemic calls of the government. For example, the Japanese government did not force employees to work from home, but many Japanese companies carried out telecommuting voluntarily. The authorities called on people to maintain social distancing and go out as little as possible, and most Japanese people did implement these appeals. Finally, in a state of emergency, the government requires certain industries to close down, and these industries did so faithfully and actively assisted the government.

In contrast, there was something of a glitch in Western countries at the beginning. They believed that COVID-19 would not spread their lands, as had been the case with SARS, and some of them even held that their races were specifically

immune to this coronavirus. That's why they adopted a "wait-and-see" attitude toward the situation in China. Later, when the epidemic spread to them, lacking in experience in handling infectious diseases because they have not experienced large-scale infection for many years, some professionals proposed unsound methods like "herd immunity" and so on. "Herd immunity" refers to when 70-80 percent of the population is immune to a certain disease, stopping the disease from spreading extensively among the public. Vaccination against measles, polio, and so on are typical examples of routes to herd immunity. Nevertheless, since the mortality rate of the coronavirus disease is as high as 5-7 percent, if herd immunity is adopted, there will be huge numbers of deaths and great harm. Therefore, it is irresponsible for some experts in Western countries to put forward theories such as herd immunity while ignoring the actual situation. Suggestions like this shall not help in preventing and containing the epidemic. When the British prime minister contracted the coronavirus, he faced the danger of this disease and realized the infeasibility of herd immunity. From then on, the UK started to attach importance to prevention. People in Western countries yearn for freedom. They seldom obey the authorities' calls to stay home, and they have been dissatisfied with the ban on going out. For example, in Italy, although compulsory quarantine measures were finally implemented, they were not as strict as in China. Chinese quarantine measures require people not to leave their homes and housing estates, but Italians are only required to stay within blocks of their homes, which is much easier. Therefore, no matter how well-developed medical technologies and medical

systems are in Western countries, when the epidemic arrived, they could not prevent a massive outbreak.

Question: Japan soon recognized COVID-19 spreads mainly by group infections, unlike the exponential growth of other epidemics. Japan believes that prevention and control measures should not only start with new infections and put close contacts under medical observation, but also focus on contact tracing. Is this Japanese approach scientific? What are China's prevention and control measures?

Prof. Wang Peiyu: There are two types of epidemic prevention and control measures: one is to prevent cluster infections, and the other is to prevent the general spread of infections. In China both measures are taken at the same time, while Japan focuses much on contact tracing, because there are less confirmed cases and they all show relatively clear trajectories. What's more, as a developed country compared to India, Bangladesh, and Pakistan, Japan is also better equipped to conduct contact tracing, but actually in terms of contact tracing, Japan is not as good as China. China has implemented prevention and control measures in a powerful way.

Question: I heard that Japanese attach great importance to the use of traditional Chinese medicine, and even devote themselves to carrying forward some traditional knowledge of Chinese medicine. They want to promote Chinese medicine in the worldwide. Is it true? What do Japanese think of Chinese medicine?

Prof. Wang Peiyu: Compared with Western countries, Chinese medicine is more acceptable in Japan where there are also special *kampo* medicines. However, compared with the trust

in Western medicine, Japanese confidence in Chinese medicine is still low. There are many restrictions on the use of Chinese medicine in Japan. For example, Chinese medicine injections and tablets are not allowed, only pills and powders. Only several traditional Chinese medicine prescriptions are allowed, whereas in China we adopt different Chinese medicine based on specific medical observation. Japanese traditional Chinese medicine research is mainly conducted in Toyama Medical and Pharmaceutical University, but it focuses on using modern scientific methods to study the ingredients and effects of traditional Chinese medicine, and it does not advocate giving Chinese medicine in response to a Western medical diagnosis. In addition, in Japan, it is easy to obtain a practitioner license for Chinese medicine since regulations are not strict, but the requirements for a Western medicine practitioner license are very strict and it is very difficult to acquire.

In summary, Prof. Qian Chengdan, director of PKUIAS, said that Prof. Wang has given a detailed introduction of basic conditions of Japan's medical and health security system, compared with China, and answered many questions including those directly related to COVID-19. Through this epidemic, it can be seen that the Chinese system has its area of superiority, which may have been overlooked before, but has shown itself at this critical moment. Although some people may refuse to admit it, facts are the best proof. Certainly, there are still shortcomings in the Chinese public health system waiting to be improved. This introduction today by Prof. Wang enlightens us about Japan's experience in this area and is indeed worth learning from.

The 18th New Buds Salon
Health Systems of Various Countries
from the Perspective of Public Health: Cuba
June 16, 2020

To further understand the national public health systems and public health emergency management systems of typical countries in the world, the Institute of Area Studies, Peking University (PKUIAS), PKU's School of Public Health, and PKU's Institute of Global Health jointly held a series of video seminars on "Health Systems of Various Countries from the Perspective of Public Health." The 18th New Buds Salon invited Xu Jin from the PKU China Center for Health Development Studies to introduce the public health systems and health emergency management systems of Cuba. The salon was hosted by Prof. Zhai Kun, deputy director of PKUIAS.

Xu Jin said that Cuba is a very special country, and its public health and medical service system sets a good example for the world. Under the current circumstances, it is of great significance to analyze the Cuban medical and health care system and some of its actions in the epidemic. According to him, life expectancy in Cuba is almost the same as in the US. In Cuba, every doctor serves 147 residents, while in the US, it is 390 residents. Cuba was the first to eradicate polio in the world in 1962 and it was also the first to eliminate measles in the world in 1996. Data from authoritative international epidemiology journals in 2006 shows that Cuba has a significant downward trend in chronic non-infectious diseases, such as heart disease, coronary artery heart disease, and stroke. In 2010, the Cuban infant mortality rate was lower than that of the US.

Also, the prevalence of AIDS in Cuba is the lowest among all North and South American countries.

The recent performance of Cuba in the fight against the COVID-19 epidemic reflects its excellent public health and medical service system. In early March, Cuba had its first case of COVID-19 at about the same time as Brazil. In mid-to-late April, the number of newly confirmed cases in a single day in Cuba reached its peak, but the number in Brazil continued to rise. According to the cumulative number of cases, Cuba has controlled the epidemic, but the number in Brazil still shows exponential growth. According to initial estimates of the proportion of COVID-19 cases in the total population, there are about 20 new COVID-19 patients per 100,000 people in Cuba, and 400 cases per 100,000 people in Brazil. That is to say, the infection rate in Brazil is 20 times that of Cuba. In terms of fatality rates, there are about 7.35 deaths per one million people in Cuba and about 200 deaths per one million people in Brazil. The fatality rate in Brazil is more than 20 times that of Cuba. Considering the high proportion of the population that is elderly in Cuba, it is very difficult to achieve such results.

Xu Jin believes that Cuba's level of medical and health services has been recognized by the world, but this is not the only factor that attracts the world's attention. More importantly, it can achieve an efficient health system with limited resources and set a good example for other countries.

Based on the level of economic development, countries in the world can be divided into four categories: low income, lower-middle-income, upper-middle-income, and high-income countries. High-income countries account for about 20 percent

of the world's population and consume 80 percent of global healthcare resources. The US consumes half of the resources of developed countries. China and Brazil consume much less than the US, and together they don't use as many resources as Japan. Cuba's per capita GDP is about \$6,000-8,000, America's is about 10 times that. Cuba's healthcare resources are also limited, but the level of health equity is high. There are historical and social reasons for achieving an efficient health system with limited resources.

Before the founding of Cuba, resources were very limited, and these resources were highly concentrated in the capital Havana. At that time, almost two-thirds of the doctors, or about 6,000, were in Havana. In the 1960s, the US imposed an economic blockade on Cuba. The CIA tried several times to overthrow the "Cuban regime." The relationship between Cuba and the US was deteriorating. During this period, about 3,000 doctors left Cuba one after another. The Cuban revolutionary regime maintained good relations with the Soviet Union. In trade with Cuba, the Soviet Union bought sugar at high prices and sold oil at low prices. As a result, the Cuban government obtained a lot of resources, and mainly invested in its social security system, focusing on medical care, education, housing, and other areas. The Cuban government believes that all citizens should have access to medical services, so it has conducted nationwide training of doctors and rural doctors. At the same time, Cuba has established a national disease control and prevention system, mainly for malaria, acute dysentery, and some diseases that can be prevented by vaccines.

In the 1970s, Cuba built 53 rural hospitals, launched the

National Maternal and Infant Health Care Project, and instituted a lot of medical education reforms. The reforms emphasized enhancing the capacity of medical and health services to serve rural areas, farmers, and ordinary people. The government has established medical colleges and nursing schools in various places to train a large number of doctors and nurses. Training is free, and students are enrolled based on their performance. The medical specialty is still very competitive, and people are very willing to let their children study medicine. At the same time, the system faces the following problems: long waiting times for patients, short medical inquiry times, a simple medical inquiry process, separation of medical treatment and prevention, and doctors' preferences for working in a specialty rather than a general field. For these reasons, the focus of related work has shifted to the development of a comprehensive health system. Cuba built polyclinics in communities throughout the country, similar to China's health centers or community health service centers. Every polyclinic includes some areas of specialization including gynecology, pediatrics, internal medicine, and other areas, so patients can get basic treatment. At the same time, a reform of medical education is being carried out, emphasizing the importance of environmental, physical, and social factors, incorporating polyclinics into clinical teaching bases, linking the medical education process, the training of doctors, and the community, and conveying the idea that primary health care plays a central role.

In 1980, Cuba further developed the three-level medical service system, building specialist medical centers, and a three-level health service. At the same time, Cuba has developed

a domestic biotechnology sector. It was the first country to introduce Nuclear Magnetic Resonance Spectrometry in Latin America and established a prenatal examination and birth defect screening system. Since then, Cuba has transitioned from focusing on epidemics to focusing on aging population and chronic diseases. Influenced by the Declaration of Alma-Ata, especially the experience of Chinese barefoot doctors, Cuba agreed with the idea of achieving universal access to health through community doctors. Cuba decided to establish a system based on comprehensive family medicine, similar to the family doctor system proposed by China that covers the whole population. A doctor, supplemented by a nurse, constitutes its basic organizational structure. Doctors need to be trained for 6 years, which is longer than the training of doctors in most township-level health centers in China. In addition, the 6-year training is more formal. The family medical service team is similar to the medical service at the village level in China. Several family medical service teams and a polyclinic form a basic working group. The performance appraisal is based on the basic working group. The family medical service team and the basic working group are responsible for coordinating medical services, guiding health promotion actions, and analyzing the health conditions of the population in the jurisdiction.

By 1999, the Cuban family medical service team plan covered all people. The family medical service team emphasizes the importance of prevention and hygiene, and provides residents with timely and continuous comprehensive services that can be obtained in the community. In addition to medical service, the family medical service team also collaborates with

other services, including the development of rehabilitation activities in the community, promotion of family and community environmental sanitation, and research on the health needs of the population in the jurisdiction.

Xu Jin pointed out that two aspects of Cuba's primary health service mode are particularly important. The first is neighborhood health diagnosis. This means collecting basic disease and risk factor data about people in the community using a unified template. The risk factors include smoking, eating habits, blood glucose levels, and environmental factors that affect health. It's like taking photos of the people in the community one by one, and finally putting them together into a large group picture. Then you can see the situation of different communities across the country. Part of the data comes from family-based case records, updated twice a year, and aggregated across the country. Neighborhood health diagnosis is not only used for treatment, but also emphasizes systems and communities, and analyzes community factors to improve the effectiveness of health services.

The second is implementing continuous evaluation and risk assessment from the community to the individual, and classifying all residents according to disease and risk factors. Family doctors and nurses visited all households based on the assessment data, and patients with chronic diseases were visited at least once every three months. Specialist doctors support family doctors through consultations, constantly assess risks, provide guidance, and attend joint clinics to assess the work of family medical service teams to form an integrated structure. In addition to health service agencies, the community council also

supports primary health work, including organizing health education activities, vaccinations, mosquito eradication, and so on.

The current Cuban health service system has three levels, and is a tiered diagnosis and treatment system. The top level includes specialized hospitals, serving about five percent of the population. The second level includes more than 200 general hospitals, serving about fifteen percent of the population. The third level includes polyclinics and family medical service teams, serving about eighty percent of the population. Each family medical service team serves about 150 families and 375 individuals. The income level of doctors across Cuba is the same, with an average monthly base salary of \$30, in addition to various subsidies. In recent years, there has been a trend in Cuba where the focus of health care has shifted from hospitals to primary service agencies. The proportion of outpatient clinics has dropped from 24 percent in the 1970s to 14.7 percent now. Emergency room traffic has also dropped significantly, and the proportion of primary health care agencies has continued to increase.

In global medical and health development, Cuba plays a very important role. Since the 1960s, Cuba has sent 600,000 doctors to more than 160 countries. According to statistics, 40,000 Cuban doctors were working overseas in 2018. The cost of the doctors is paid to the Cuban government. Doctors get a certain percentage of this. The average annual income is about US\$ 4,000, which is more than 10 times the salary of domestic doctors. Therefore, Cuban doctors are willing to work abroad. Doctors are Cuba's largest export, generating an annual income

of more than \$8 billion, accounting for about sixty percent of its foreign exchange income. In 1998, a hurricane hit Central America and the Caribbean, killing 30,000 people. During the rescue, Cuba found that there were no doctors in many places, so it proposed to train doctors for these Latin American countries and established the Latin American School of Medicine.

The Latin American School of Medicine is the largest medical school in the world, enrolling thousands of students each year, and the students are from Latin America, Africa, and even the US. There are more than 10,000 students in the school, from nearly 100 countries, and they study for six years. The school exempts tuition and accommodation fee and provides living expenses. The students are required to return to their original countries after completing their studies. Due to rigorous academic demands, its teaching quality has been recognized by the World Health Organization and the California Examination Board. Although many of the recruited students come from poor areas and have little prior scientific knowledge, 80 percent of the students can graduate successfully. Therefore, it has a good international reputation. The teaching philosophy of the Latin American School of Medicine is to cultivate leaders instead of elites. As a leader, doctors work with nurses, colleagues, and community residents to promote the development of local health.

With the outbreak of the COVID-19 epidemic, Cuba has struggled to fight the epidemic at home on the one hand and supported the global fight against the epidemic on the other. In January this year, Cuba began to train medical workers on

knowledge related to COVID-19. After the first confirmed case appeared in March, a total of 28,000 doctors and nurses from 25 medical schools began to carry out health promotion, prevention, and testing and tracing work, visit patients to understand the situation, conduct testing and enforce isolation of at-risk people. At the same time, Cuba emphasizes multi-sectoral cooperation under the leadership of the government, and all economic and social sectors participate in the fight against the pandemic, highlighting the importance of primary health care. Citizens are forced to wear masks and are physically isolated. The people have been very cooperative and the result is remarkable. Despite its difficult situation, Cuba still sent doctors to help the world fight against the epidemic. Initially, Cuba had 59 medical teams working in 27 countries, and then added 34 new medical teams with more than 2,000 medical workers.

Xu Jin believes that the fight against the COVID-19 epidemic has gone beyond conventional public health and is a new challenge. This reflects that Cuba's public health systems and health emergency management systems are stable. Cuba has a stable health service covering all its people, and the government plays a powerful role. In other countries, such as Brazil, the problem is not just that the health system is not perfect, but that the main decision-makers made the wrong decisions. Some of Brazil's recent actions are relatively dangerous, such as giving up counting the number of new COVID-19 cases and withdrawing from the World Health Organization. Another example is the US, whose Centers for Disease Control and Prevention has the world's strongest

technology, but its government has made wrong decisions. The British health system is also very strong. Every person has free medical care. And its public health technology and staff training are also developed to the highest level. However, the government's choices and governance capabilities and some social factors have played a negative role in responding to the epidemic. It is difficult to say that the COVID-19 epidemic can evaluate a country's whole health system, but it is a very important touchstone that can test whether the system is resilient enough to meet new challenges.

Xu Jin pointed out that each country's health system has a lot to learn from other countries. For China, many aspects of Cuba are worth learning from. In terms of talent, we need to train more doctors with stronger capabilities, as well as high-level public health personnel. There should be no clear boundaries or differences between medical care and public health. Every doctor should also be a good public health worker. The second is to give full play to the function of community public health agencies as outposts. At the beginning of the epidemic, most people gathered in hospitals for treatment, which increased the probability of the virus spreading. One of Cuba's key experiences is to make full use of the primary medical service system, emphasizing the combination of public health and medical care, and the combination of prevention and treatment.

During the discussion session, participants exchanged views on related issues.

Question: Cuba is long from east to west and narrow from north to south. Chile is long from north to south and narrow

from east to west. A country like Chile may experience natural disasters and the spread of disease very differently from Cuba. What is the relationship between the natural environment in areas with the same latitude and the spread or prevention of certain diseases?

Xu Jin: The pathogenic factors in the same latitude area are relatively consistent. Tropical island countries like Cuba are particularly at risk of malaria, dengue fever, mosquito-borne diseases, and the Zika virus. I don't know Chile in particular. I think that its spectrum of disease and risk factors may be more complicated. As the spectrum of disease changes, risk factors are becoming more and more similar. The impact of lifestyle, diet, and living environment on human health will increase.

By the way, Chile, Cuba, Costa Rica, and China are considered internationally as "4C countries" that achieved good medical systems at a low cost. The health care system development in these countries is relatively good, and the current challenges are similar, mainly chronic diseases, including hypertension and heart disease. Cuba is also facing the problem of a high smoking rate. Tobacco is historically an important industry in Cuba. Although its smoking rate has dropped from 50 percent to more than 30 percent, there is still a lot of room for improvement. Many tobacco control measures have not been implemented effectively. There are still many challenges in this regard in the future.

Question: Cuba is the only socialist country covered in this series of lectures. Its medical service system developed very well, even better than that of some capitalist powers. How about the quality and efficiency of its medical services? In the past few

decades, Cuba's medical level has developed by leaps and bounds. How does it incorporate the most advanced or best medical services into the daily medical services for its citizens? How does it balance limited resources and advanced medical services? Medical services in most countries are aimed at their residents. Cuban medical services are more like an industry. Does the good development of the medical service system benefit from the fact that medical service is an important industry? Were it not for the medical service system's importance as a source of foreign currency, could it develop so well?

Since the end of the 1970s, the UK and the US have carried out marketization and privatization reforms of medical services. Especially in the UK, medical services were nationalized. The reason for the reform is that they believe the market mechanism is the best. The idea behind the reform is that handing over medical services to the market will help improve quality and efficiency. Is it true?

Xu Jin: Since the 1990s, the Cuban economy has faced many difficulties. In terms of improving the quality and efficiency of medical care, it has not adopted a method that focuses on the development of specialized medical care. The realization of health care covering the whole population is not a technology-centric development path. It emphasizes a combination of medical care and public health.

The treatment costs of COVID-19 have been very high. However, prevention is more important and more efficient than treatment. Most medical services do not require particularly high technology. Compared to taking medicine or using very

advanced medical treatments after you get sick, it is more effective and better to have a family doctor you trust give you health guidance. This is the importance of community public health care.

The problem of privatization is a critical issue. The high level of Cuba's social welfare turned out to be largely dependent on the Soviet Union. The Soviet Union's trade aid gave the Cuban government sufficient resources to offer social welfare. The disintegration of the Soviet Union and the blockade imposed by the US have brought many restrictions and problems to the Cuban economy. Therefore, after the 1990s, Cuba increasingly used medical care as a way of earning foreign-exchange income. I don't think that the business side was developed before covering all the population. It should be just the opposite. Health coverage for all the population is the foundation of the development of the business side. Cuba had to first complete its health system and make it a global benchmark before it could benefit from global industrialization and capital.

The British carried out market-oriented reforms in the 1980s and 1990s. At first, it hoped to reduce costs through marketization. But after the reforms, the UK found that the market still needed government intervention. Before the reforms, the Ministry of Health allocated funds to hospitals based on projects or the entire budget. The hospital did not have a profit mechanism. As long as the money was allocated and the work was arranged, it could be implemented as planned. In the context of marketization, customers are not able to choose the medical service institutions independently, so it is difficult to realize the marketization reforms in the British system. Doctors

and hospitals do not make money through medical insurance, and there is no extra money available from the government to incentivize hospitals.

There is a very powerful interest group in the US medical insurance system that has been pushing for reform. There are many changes in the US, but they are mainly driven by commercial insurance. The main problem is that universal coverage cannot be achieved. Because medical insurance is relatively fragmented, everyone has different types of insurance. The largest department in American hospitals is the department that settles accounts, because it has to face different medical insurance departments' payment, including various commercial insurances. The price paid by each type of commercial insurance is different, and some are very different. In this sense, market-oriented reforms are not particularly effective for medical services. Therefore, it cannot be said that marketization is not good. Each country has its conditions and restrictions. The key lies in how the government and the market cooperate to achieve the best results.

Question: Cuba and North Korea had received economic assistance from the Soviet Union for a very long time. After the disintegration of the Soviet Union, these two countries have faced the same problems. The economic and industrial structures of these countries are very simple, and they cannot earn foreign-exchange income. North Korea's approach is to export labor on a large scale as the main way to earn foreign-exchange income. These laborers are craftsmen whose work is to make very large bronze statues of leaders. Is Cuba's vigorous development of the medical industry and the dispatch of doctors

to solve Cuba's inability to earn foreign-exchange income?

Xu Jin: Cuba's early development benefited from the support of the Soviet Union, which is similar to North Korea. However, the claim that the Cuban health system developed because of foreign aid is not objective and does not conform to history. Cuba's health development is more due to its historical development, including its good educational foundation and the technical blockade imposed by the US. I think this is the exact opposite of ours. Since 1978, the year when reform and opening-up was launched, we realized the need to strengthen technology. So, we began to introduce a variety of technologies and equipment and abandoned the development strategy centered on primary health care. In recent years, we have begun to realize that we can no longer take this path because we are facing great challenges to improve the overall health conditions of the population. We spent a lot of money in the construction of hospitals and focus on technology investment. To ignore the development of primary health care may be incorrect. Cuba's experience in this area may be of great significance as a reference.

The development of Cuban doctors dispatched abroad is a forced-choice under limited conditions. In recent years, Cuba has hoped to develop tourism under the new political situation. Despite the restrictions imposed by the US, Cuba's current income from tourism is considerable. The export of professionals is also a very important way of earning income. I have met some Cuban doctors and I feel that they live in a different era from ours. Chinese hospitals pay more attention to economic incentives. Cuban doctors also care about this, but

they don't think this is the most important thing. If you tell him that there is no economic benefit if you don't work well, they will feel humiliated. They think that doctors should serve citizens. They don't think of themselves as elites, but as members of society. They are very popular members of the community, and they think that doctors' spirit of service is very important.

Prof. Zhai Kun, deputy director of PKUIAS, concluded that the characteristics of the Cuban health system can be summarized in two sentences. The first is: "All important issues must start from the details and small things." This shows that the establishment of a community health prevention system has an important basic role in building a high-quality and efficient Cuban public health system. The second is: "The best medical treatment is prevention." This shows that efforts in prevention and treatment are conducive to improving the public health of an entire society. Through learning from Cuba's experience and making horizontal comparisons with other countries, China should have a new understanding of this field. This salon improved and supplemented our knowledge framework, which will inspire us in national and global governance after the epidemic.