

- Establish five locations for the disposal of low and medium-level radioactive waste and one underground laboratory for the disposal of high-level radioactive waste;
- Establish a real-time monitoring system for high-risk sources of radiation;
- Ensure the safe collection and storage of all old radioactive sources;
- Strengthen the training of nuclear accident emergency response and assistance teams.¹⁴¹⁹

8.7.9 Health

China's State Council Information Office on June 7 published a white paper titled "Fighting COVID-19: China in Action, exonerating itself by maintaining that it has witnessed first case of coronavirus on 27th December,2019. The reference to the white paper can be accessed in Chapter XI of the compendium.¹⁴²⁰

Healthcare is mentioned in Chapter I "China Has Found a Development Path Suited to Its Actual Conditions" in China's White paper, titled "China and the World in the New Era" published on September 27, 2019. It says that by 2018, in more than 30 Asian, African and American countries, China had launched over 200 development cooperation programs under the SSCAF on disaster relief, **healthcare**, protection of women and children, refugee relief, and environmental protection.¹⁴²¹

Health is also mentioned in Chapter II "China's Development Is an Opportunity for the World" in China's White paper, titled "China and the World in the New Era" published on September 27, 2019. It says that the urbanization rate of permanent residents reached 59.6 percent in 2018 and will increase steadily. The number of permanent urban residents will continue to increase. This will bring a wide range of needs in various areas, such as infrastructure, real estate, new retail, medical treatment and public health, education, culture and entertainment, and provide an important engine for economic development.¹⁴²²

The **Public health** saw a noticeable improvement during the period covered by the 12th Five-Year Plan (2011–2015).¹⁴²³

¹⁴¹⁹ Box 17: Environmental Governance and Protection Initiatives from "13th Five-Year Plan For Economic And Social Development of The People's Republic Of China (2016–2020)", Pg 130, available online at URL: https://en.ndrc.gov.cn/policyrelease_8233/201612/P020191101482242850325.pdf

¹⁴²⁰ http://english.www.gov.cn/news/topnews/202006/07/content_WS5edc559ac6d066592a449030.html

¹⁴²¹ China's State Council Information Office White paper, titled "China and the World in the New Era" published on September 27, 2019, Pg 11 available online at [URL:http://english.www.gov.cn/archive/whitepaper/201909/27/content_WS5d8d80f9c6d0bcf8c4c142ef.html](http://english.www.gov.cn/archive/whitepaper/201909/27/content_WS5d8d80f9c6d0bcf8c4c142ef.html)

¹⁴²² China's State Council Information Office White paper, titled "China and the World in the New Era" published on September 27, 2019, Pg 17, available online at

[URL:http://english.www.gov.cn/archive/whitepaper/201909/27/content_WS5d8d80f9c6d0bcf8c4c142ef.html](http://english.www.gov.cn/archive/whitepaper/201909/27/content_WS5d8d80f9c6d0bcf8c4c142ef.html)

¹⁴²³ THE 13TH FIVE-YEAR PLAN FOR ECONOMIC AND SOCIAL DEVELOPMENT OF THE PEOPLE'S REPUBLIC OF CHINA (2016–2020) Translated by Compilation and Translation Bureau, Central Committee of the Communist Party of China Beijing, China, Central Compilation & Translation Press, Pg 07, available online at URL: https://en.ndrc.gov.cn/policyrelease_8233/201612/P020191101482242850325.pdf

Further, the Chapter 60 “Promote a Healthy China” in PART XIV “Better Education And Health For All Citizens” of the 13th Five-Year Plan For Economic And Social Development Of The People’s Republic Of China (2016–2020) gave the following details:

We will deepen reform of the healthcare system. With an emphasis on prevention, we will establish a sound basic healthcare system, see that all members of society have access to basic healthcare services, and get everyone exercising to see that they become healthier. **Section 1, Healthcare Reform:** We will coordinate medical services, medical insurance and pharmaceutical reforms, promote the separation of medical care from pharmacy operations, and establish a sound basic healthcare system covering all citizens. We will execute comprehensive reform of all public hospitals to see that they are there to serve the public without having to make a profit, their operational costs are lowered, and markups on pharmaceuticals are gradually eliminated. We will carry out pricing reform for medical services and improve public hospital compensation mechanisms. We will establish modern hospital management systems, see that public hospitals act as independent legal persons, and establish staffing and remuneration systems suited to the particular characteristics of the healthcare industry. We will improve the system of essential medicines, deepen reform of logistics systems for pharmaceuticals and consumables, and improve medicine supply mechanisms. We will encourage the research and development of new medicines, and give precedence to newly developed medicines available on the market and medicines that have passed evaluations for consistency in adding to the catalogue of medicines covered by healthcare insurance. We will encourage nongovernmental actors to provide healthcare services and see that nonprofit private hospitals enjoy treatment equal to that of public hospitals. We will strengthen oversight over the healthcare industry across the board, improve the quality of health care, and ensure that health care is safe. We will create a better work environment for medical practitioners, and improve mechanisms for mediating disputes between them and patients to facilitate more amicable relations.

Section 2, The Medical Insurance System for All Citizens: We will improve the mechanisms to ensure stable and sustainable funding for medical insurance and to adjust reimbursement rates for medical expenses, and will improve payment policies for medical insurance premiums. We will fully implement the major disease insurance scheme for rural and non-working urban residents, and improve the assistance systems for major or serious diseases and for emergency disease treatment. We will work to lower the treatment costs of major and chronic diseases. We will reform medical insurance management and payment methods and keep medical expenses at a reasonable level, ensuring a sustainable balance of medical insurance funds. We will improve the personal account side of the basic medical insurance scheme and bring outpatient expenditures under unified management. We will work to keep the medical insurance participation rate for rural and non-working urban residents above 95%. We will accelerate efforts to enable medical bills incurred in any locality to be settled through basic medical insurance accounts and see that a retiree living in a different province from that in which premium payments were made can settle inpatient expenditures where they were incurred. We will integrate the medical insurance policies for rural and non-working urban residents along with the management of insurance. We will encourage commercial insurance agencies to participate in providing medical insurance. We will merge maternity insurance into the basic medical insurance scheme. We will encourage the development of supplemental medical insurance and commercial health insurance. We will explore the

establishment of insurance schemes for long-term care and begin launching trials in this regard. We will improve the medical malpractice insurance system.

Section 3, Major Disease Prevention and Treatment and Basic Public Healthcare Services: We will improve both basic and major national public healthcare service programs and provide better quality services in a more efficient and equitable way. We will strengthen capacity for providing public healthcare services at the community level. We will strengthen capabilities development in areas in need of attention such as maternal and infant healthcare, public healthcare, tumour and mental illness prevention and treatment, and paediatrics. We will implement a comprehensive strategy for the effective prevention and control of chronic diseases such as cardiovascular, brain, and vascular diseases as well as diabetes, malignant tumours, respiratory disease, and mental illness. We will strengthen the prevention and control of major communicable diseases by working to lower prevalence of hepatitis B among the general population, keep HIV prevalence low, reduce the incidence rate of tuberculosis to 58 cases per 100,000 people, basically eradicate schistosomiasis, and eliminate malaria and leprosy. We will ensure that work on the prevention and control of major localized diseases is carried out to proper effect. We will strengthen quarantine capabilities at ports of entry to keep out major communicable diseases. We will conduct surveys on and ensure the prevention and control of occupational diseases. We will provide greater free supplies of special medicines for the prevention and treatment of HIV/AIDS and other diseases. We will strengthen efforts to provide health education for everyone so as to spread health related awareness and knowledge. We will make a major push to prohibit smoking in public places. We will step up patriotic health campaigns and efforts to improve the level of urban health. We will strengthen efforts to work out a national nutrition plan and the provision of psychological health services.

Section 4, Maternal and Infant Healthcare and Childbirth Services: We will implement an assistance program for hospital childbirths and provide pregnant and postnatal women with free, basic healthcare services throughout every stage of childbirth. We will strengthen the comprehensive prevention and treatment of birth defects and establish a system for providing free services covering all citizens for the prevention and treatment of birth defects during pre-pregnancy, prenatal, and neonatal stages. We will comprehensively improve capacity for providing maternal and infant healthcare services, step up efforts to prevent and control major diseases affecting women and children, increase screening rates and early diagnosis and treatment rates for common gynaecological diseases, and strengthen childhood disease prevention and treatment and childhood injury prevention. We will fully implement the project to improve child nutrition and increase new-born screening in poor areas. The infant mortality rate will be reduced to 7.5 per 1,000, the under-five mortality rate to 9.5 per 1,000, and the maternal mortality rate to 18 per 100,000.

Section 5, The Medical Service System: We will optimize the structure of our medical institution systems, promoting integration of functions and innovations in services. We will strengthen divisions of labour and coordination between specialized public health institutions, community-level medical and healthcare institutions, and hospitals by improving the medical service system to better ensure cooperation, coordination, and complementarity between institutions at different levels. We will improve the community-level medical service model, make headway in improving the capacity of

general practitioners (family practitioners), advance the use of electronic health records, and put into effect a healthcare model based on households directly contracting with family practitioners for service. We will fully establish a tiered medical diagnosis and treatment system. With an emphasis on raising the capacity of community-level medical services, we will improve service networks, operational mechanisms, and incentive mechanisms and implement differentiated medical insurance pay-out and pricing systems. We will develop a more logical system for obtaining medical care and see that a system is basically put in place whereby a patient's initial diagnosis takes place at a community-level institution, referrals are made between medical institutions, medical institutions at different levels cooperate with each other, and different approaches are adopted in the treatment of acute and chronic diseases. We will strengthen the ranks of healthcare workers by implementing a program to ensure that we have the medical personnel needed to cater to the healthcare needs of all members of society, putting in place a plan to train and make use of general practitioners and pediatricians, and improving standardized resident physician training programs. We will encourage more medical resources to flow to the central and western regions, community-level institutions, and rural areas by improving working environments and salaries for those in the medical profession. We will improve the system for allowing doctors to work at more than one medical institution. We will put clinical pathways into full practice. We will raise the capacity for health information services and big data applications, develop telemedicine, and promote smarter health care. We will see that the number of active physicians (physician assistants) reaches 2.5 per 1,000 people.

Section 6, Traditional Chinese Medicine: We will improve the traditional Chinese medicine (TCM) healthcare service system by developing new TCM service models and raising capacity for providing community-level services. We will strengthen TCM clinical research centers and research institutions. We will develop TCM health services. We will conduct surveys of TCM resources, strengthen their protection, and create a database and knowledgebase of ancient writings on TCM. We will work more quickly to develop TCM standards to help boost the TCM industry. We will establish seed and seedling development centers for medicinal materials commonly used in TCM as well as those from specific areas or those that are endangered, and promote the green development of the medicinal herb growing industry. We will support the development of ethnic minority traditional medicine. We will promote the adoption of technologies suitable for use in TCM and help TCM services to go global.

Section 7, Getting Everybody Exercising: We will implement a fitness strategy to get the nation moving. We will develop the physical activity field by strengthening venues and facilities for popular fitness activities and ensuring that public sports facilities are open either free of charge or at low cost to the public. We will promote sports among young people, help them cultivate their sporting abilities and an interest in sports, popularize soccer, basketball, volleyball, and winter sports, and improve monitoring of the health of young people. We will develop popular fitness and recreational activities, encourage the implementation of work-break fitness programs, and help guide people toward exercising in a scientific way. We will promote the comprehensive and coordinated development of recreational and competitive sports. We will encourage nongovernmental initiatives to develop the sports industry. We will ensure preparations go smoothly in the lead-up to the 2022 Beijing Winter Olympic Games.

Section 8, Food and Medicine Safety: We will implement the food safety strategy. We will improve food safety laws and regulations, raise food safety standards, focus greater effort on addressing food safety problems at the source, require all food enterprises to assume responsibility for food safety, exercise grid-based oversight, increase the frequency of inspections and the coverage of sample-based monitoring, and achieve product traceability throughout the whole production chain. We will develop model food safety cities. We will deepen reform of the evaluation and approval system for pharmaceuticals and medical appliances and explore reform of evaluation institutions based on an independent corporate governance model. We will promote management of pharmaceutical enterprises by level and by type. We will accelerate improvements to the food regulatory system and build a sound governance system for food and medicine safety that is thorough, efficient, and based on co-governance by social actors. We will step up food and medicine safety governance in rural areas and improve oversight over online sales of food and medicine. We will conduct tighter oversight over imported food and medicine.

Box :Action Plan for a China

1. Disease prevention and treatment and basic public healthcare services

- Gradually increase the range of free basic public healthcare services available to all citizens;
- Increase capacity to prevent and treat severe, difficult, and complicated diseases including cardiovascular, brain, and vascular diseases, cancer, and chronic respiratory diseases;
- Reduce the rate of mortality due to major chronic diseases by 10%;
- Strengthen capabilities regarding emergency medical assistance, disease prevention and control, mental health care, blood donation centers, and health oversight;
- Support development in both key and weak areas including pediatrics, tumor, cardiovascular, brain, and vascular diseases, diabetes, mental illnesses, communicable diseases, and occupational diseases.

2. Promote maternal and infant health

- Provide free maternal and child health information handbooks;
- Make free pre-pregnancy health exams available to all women to help ensure the birth of healthy babies;
- Give free vaccines to children within the scope of the national immunization plan; § Provide free maternal and infant care services;
- Expand the scope of cervical and breast cancer screenings;
- Strengthen our capacity for treating emergencies and serious conditions in prenatal and postnatal women and newborns;
- Implement a program to ensure maternal and infant healthcare and family planning services;
- Increase the number of hospital beds for childbirths by 89,000 and the number of obstetricians and midwives by 140,000.

3. Birth defect prevention and treatment:

- Include screening for 20 complications including Down syndrome, deafness, and thalassemia as well as congenital heart disease in the plan for the comprehensive prevention and control of birth defects;

- Strive to see that conditions within the scope of this plan are detected and treated so as to effectively reduce the incidence of birth defects.
- 4. Strengthen the provision of community-level medical services:**
- Focusing on poor areas in the central and western regions, ensure each county prioritizes the operation of one or two county-level public hospitals (including county-level TCM hospitals), and that the proportion of community-level medical institutions meeting standards reaches over 95%;
 - Ensure that community-level medical services can be reached from anywhere within 30 minutes;
 - Strengthen and standardize training for 500,000 resident doctors, and ensure the number of general practitioners rises to two for every 10,000 people.
- 5. Pass on and innovate traditional Chinese medicine (TCM):**
- Improve the infrastructure of TCM hospitals;
 - Support the development of major disciplines and fields of TCM;
 - Strengthen the cultivation of TCM practitioners;
 - Put into effect an action plan to promote the standardization of traditional Chinese medicines and the traditional medicines of ethnic minorities.
- 6. Smarter healthcare:**
- Put into place “Internet +” healthcare services across the board;
 - Develop regional population health information platforms;
 - Expand the use of electronic health records;
 - Promote the application of big data in health care;
 - Establish a number of regional health information demonstration centers for clinical medicine.
- 7. Popular fitness:**
- Step up physical fitness testing;
 - Promote fitness guidance services;
 - Promote the construction of fitness facilities to see that such facilities can be reached within 15 minutes from anywhere in urban communities;
 - Work to see that community sports services are available to all permanent residents of towns and townships and that sports and fitness facility projects are available to all rural residents;
 - Strengthen the construction of public sports facilities including soccer fields and fitness centers as well as the training of reserve athletes.
- 8. Food and medicine safety:**
- Comprehensively raise capacity for food and medicine governance by improving technical support systems for inspections and testing as well as IT-based oversight systems, building a contingent of professional food and medicine inspectors, and ensuring that the equipment of oversight bodies at all levels is up to standard.¹⁴²⁴

Part XV Support for Public Wellbeing: On the basis that everyone participates, works hard, and shares in the benefits, we will ensure that basic needs are met, focus on key areas, improve systems, and guide expectations. At the same time, we will emphasize

¹⁴²⁴ THE 13TH FIVE-YEAR PLAN FOR ECONOMIC AND SOCIAL DEVELOPMENT OF THE PEOPLE’S REPUBLIC OF CHINA (2016–2020) Translated by Compilation and Translation Bureau, Central Committee of the Communist Party of China Beijing, China, Central Compilation & Translation Press, Pg 166-173, available online at URL: https://en.ndrc.gov.cn/policyrelease_8233/201612/P020191101482242850325.pdf

equal opportunities, guarantee basic living standards, constantly work to improve public wellbeing, and ensure that all our people can enjoy moderate prosperity together.

Section 3, Innovative Public Service Provision:

Box Catalogue for Basic Public Services
<p>4. Health care and family planning:</p> <ul style="list-style-type: none">• Health record systems for residents;• Health education;• Disease prevention and immunization;• Services to handle contagious diseases and public health emergencies;• Child health management;• Pre- and post-natal maternal health management;• Senior health management;• Health management for people with disabilities and community rehabilitation programs;• Chronic disease management;• Management for patients with serious mental disabilities;• Sanitation supervision and collaborative management;• Health management for tuberculosis patients;• Health management through traditional Chinese medicine;• Follow-up management for HIV/AIDS patients;• Community HIV intervention among high-risk groups;• Free pre-pregnancy health examinations;• Disease emergency aid services;• The system of essential medicines;• Guidance and consultation services regarding family planning methods;• Awards and assistance to a portion of families in rural areas following family planning policy;• Special assistance to families following family planning policy.¹⁴²⁵

The contents of the White Paper “**Development of China’s Public Health as an Essential Element of Human Rights**” published in September 2017 are:

- I. Ensuring People’s Right to Health Based on China’s Conditions
 - II. Continuous Improvement of Health Environment and Conditions
 - III. Public Health Service Capability Improving Steadily
 - IV. Great Improvement in the Quality of Medical and Health Services
 - V. Improvement of the National Medical Security System
 - VI. Significant Improvement in the Health of Special Groups
 - VII. Active Participation in Global Health Governance and International Medical Assistance
- Conclusion

¹⁴²⁵ The 13th Five-Year Plan for Economic and Social Development Of The People’s Republic Of China (2016–2020), Translated by Compilation and Translation Bureau, Central Committee of the Communist Party of China Beijing, China, Central Compilation & Translation Press, Pg 176, available online at URL: https://en.ndrc.gov.cn/policyrelease_8233/201612/P020191101482242850325.pdf

Major Indicators for the Healthy China Program

Since the Party's 18th National Congress in November 2012, under the firm leadership of the CPC Central Committee with Xi Jinping at the core, China has given top priority to improving the people's health, incorporating the development philosophy of innovation, coordination, green development, opening up and shared benefits into the promotion and protection of the people's right to health.

I. Ensuring People's Right to Health Based on China's Conditions

When the People's Republic of China was founded in 1949, China had a weak medical and health system due to low levels of development in its economy and society. The nation had only 3,670 medical and health institutions, 541,000 health workers and 85,000 beds at health institutions. The average life expectancy was 35 years. To change this situation, the government devoted great efforts to developing the medical and health services, and implemented guidelines which stipulated that both Western medicine and Traditional Chinese Medicine (TCM) should be utilized, and that health promotion and people's involvement should be incorporated. The people were mobilized to carry out health promotion programs, and basic knowledge about healthcare was widely spread. All this greatly enhanced the people's health, and major breakthroughs were made in medical sciences. Chlamydia trachomatis was identified for the first time by Chinese scientists; Chinese doctors performed the world's first replantation of a severed limb; and artemisinin, an effective cure for malaria, was extracted in a Chinese laboratory.

Following the introduction of the reform and opening-up drive in 1978, to address problems such as a severe shortage of medical and health resources and a lack of service capability and low efficiency, the government allowed multi-channel financing for the medical industry, and encouraged medical development in various forms, by increasing resource supply, opening up the pharmaceuticals manufacturing and circulation market, developing the pharmaceutical industry, and promoting TCM. Economic incentives were adopted to encourage medical personnel to enhance their performance. At the First National Health Service Meeting in 1996, a decision was made on implementing the guiding principles for health services in the new era, namely, "focusing on the rural areas, prioritizing prevention, equal emphasis on Western medicine and TCM, relying on science and education, encouraging public participation, promoting public health, and serving socialist modernization." In 1998, China began to form a social medical insurance system to cover the basic medical needs of workers. In 2000, it set the goal of establishing an urban medical and healthcare system in line with the socialist market economy, so that the people could enjoy reasonably priced, high-quality medical services, and thus become healthier. In 2002, the government released the Decision on Further Enhancing Health Services in Rural Areas. Taking into consideration the levels of economic and social development in rural areas, the government decided to drive health services reform to a deeper level, and put in more funding to rural areas, to provide different levels of medical services to rural residents.

In 2009, China launched a new round of reform of the medical and healthcare system. With the release of the Opinions on Deepening Reform of the Medical and Healthcare System, the government delivered a message that the basic medical and healthcare system should be available to all citizens as a public product. The non-profit nature of

public medical and healthcare was made clear. In the document it was proposed that China would develop the “four systems” of public health, medical services, medical security and drug supply and the “eight supporting mechanisms” of medical and healthcare management, operation, investment, pricing, supervision, technology and personnel, information, and law-based development, in an effort to form a basic medical and healthcare system and promote the all-around, balanced, and sustainable development of the health sector. Soon after that, China issued the Plan for Reforming Key Areas of the Medical and Healthcare System (2009-2011) and Plan for Deepening Reform of the Medical and Healthcare System during the 12th Five-Year Plan Period (2011-2015). In these two documents, the government set the goals of the reform, which were accelerating the basic medical security system, improving community-level medical and healthcare services, and promoting equal access to basic public health services.

Since 2012 China has redoubled its effort to reform the medical and healthcare system; it has accelerated the comprehensive reform of public hospitals and the price reform of drugs and medical service; it has also implemented serious illness insurance policies covering both urban and rural residents, adopted a multi-layer diagnosis and treatment mechanism, and improved the policies regarding the production, distribution and use of drugs. On October 29, 2015, enhancing public health and fitness was formally introduced in the communique of the Fifth Plenary Session of the 18th CPC Central Committee. In August 2016, at the National Health and Fitness Conference, it was stated that the government will “follow the correct guidelines for promoting health and fitness services, focus on lower-level medical institutions, strive to reform and make innovations in the medical sector, prioritize disease prevention, lay equal emphasis on Western medicine and TCM, incorporate health promotion in all policies, and involve all citizens in promoting public health and thereby bring health benefits to all.” In October 2016, the state issued “Healthy China 2030” Planning Outline, a guiding document on promoting public health and fitness, with plans to make the Chinese people healthier.

The development in the field of health services has brought concrete benefits to the Chinese people. The average life expectancy of the Chinese rose to 76.5 years in 2016 from 67.9 years in 1981; maternal mortality dropped from 88.9 per 100,000 persons in 1990 to 19.9 per 100,000 persons in 2016; and infant mortality declined from 34.7 per 1,000 in 1981 to 7.5 per 1,000 in 2016.

Within a short period of time, China was able to achieve the following: developing the world’s largest basic medical insurance network that covers all citizens, providing insurance for patients of serious diseases, enabling patients to receive emergency medical services, and improving medical assistance. The state has gained effective control over serious infectious diseases, has kept the spread of AIDS at a low level, has achieved the tuberculosis control target of the UN’s Millennium Goals ahead of schedule, has reduced the number of schistosome infections to the lowest level in history, and became a polio-free country in 2000. China set up the world’s largest online direct reporting system of notifiable epidemics and public health emergencies in 2015, and the average reporting time has been shortened to four hours from five days before the introduction of the system.

Significant progress has been made in developing a system of medical and healthcare services. A basic medical services network covering both urban and rural areas has been

put in place, with 980,000 medical and health institutions at all levels, 11 million health workers, and seven million beds at medical institutions.

Table: Main health indicators in selected years

Indicators	1981	1990	2000	2005	2010	2015	2016
Average life expectancy (yrs)	67.9	68.6	71.4	73.0	74.8	76.3	76.5
Male (yrs)	66.4	66.8	69.6	71.0	72.4	73.6	-
Female (yrs)	69.3	70.5	73.3	74.0	77.4	79.4	-
Infant mortality (‰)	34.7	32.9	32.2	19.0	13.1	8.1	7.5
Mortality rate for children under 5 (‰)	-	-	39.7	22.5	16.4	10.7	10.2
Maternal mortality (1/100,000)	-	88.9	53.0	47.7	30.0	20.1	19.9

Source: The State Council Information Office of the People’s Republic of China

URL: http://english.www.gov.cn/archive/white_paper/2017/09/29/content_281475894089810.htm

(Graphics shows main health indicators in selected years written in the “Development of China’s Public Health as an Essential Element of Human Rights” white paper, issued by the State Council Information Office).

II. Continuous Improvement of Health Environment and Conditions

Enhancing occupational health management: In 2011, China revised the Law of the People’s Republic of China on Prevention and Control of Occupational Diseases. Tougher control of food safety: In 2015, China revised the Food Safety Law.

III. Public Health Service Capability Improving Steadily

The government has extended free vaccinations from children only to adults.

By the end of 2016, the government had set up digital health archives for 76.9 percent of Chinese citizens, covering 90.23 million hypertension patients and 27.81 million diabetes sufferers. At the same time, 91.6 percent of pregnant and lying-in women and 91.1 percent of children under the age of three were brought under systematic management.

The ability to quickly respond to public health emergencies has been strengthened in a comprehensive way. The legal system for emergency response has taken initial shape, and the response mechanism has been optimized. Thirty-six national teams and nearly 20,000 local teams, with over 200,000 members for four categories of emergencies, have been set up in different regions. In 2014, China’s core public health emergency response capacity achieved 91.5 percent of the requirements of the International Health Regulations, better than the world’s average of 70 percent. In recent years the state has accelerated the construction of a public health emergency response system, which not only effectively handled such epidemic emergencies as human infections of the avian influenza A (H7N9) virus, Ebola hemorrhagic fever, Middle East respiratory syndrome

and Zika fever, but also promptly carried out emergency medical rescue and post-disaster epidemic prevention in such disasters and accidents as the 2008 Wenchuan earthquake and the 2015 Tianjin Port explosions.

IV. Great Improvement in the Quality of Medical and Health Services

The resource factors of the medical and health-service system keep increasing. From 2011 to 2015, China invested RMB42 billion to support the building of 1,500 county-level hospitals, 18,000 town and township health centers, and more than 100,000 village clinics and community health centers. By the end of 2016, there were 983,394 medical and health institutions in China, among which 29,140 were hospitals (12,708 public hospitals and 16,432 private ones), 36,795 town and township health centers, 34,327 community health centers (stations), 3,481 disease prevention and control centers, 2,986 health inspection institutes (centers), and 638,763 village clinics; there were also 5.291 million items of medical equipment each worth RMB10,000 or more, among which 125,000 were worth more than RMB1 million each. In 2016, the number of beds in medical institutions increased by 395,000 compared with 2015-5.37 beds for every 1,000 people; the number of beds in hospitals increased by 358,000. There were 266 hospitals of ethnic healthcare, with 26,484 beds, providing 9.687 million treatment sessions annually, and the number of discharged patients reached 588,000.

Table: Beds in medical and health institutions for every 1,000 people

Year	Total	Urban areas	Rural areas
2010	3.58	5.49	2.60
2011	3.84	6.24	2.80
2012	4.24	6.88	3.11
2013	4.55	7.36	3.35
2014	4.85	7.84	3.54
2015	5.11	8.27	3.71
2016	5.37	8.46	3.89

Source: The State Council Information Office of the People’s Republic of China

URL: http://english.www.gov.cn/archive/white_paper/2017/09/29/content_281475894089810.htm

(Graphics shows beds in medical and health institutions for every 1,000 people written in the “Development of China’s Public Health as an Essential Element of Human Rights” white paper, issued by the State Council Information Office).

Health personnel optimized. China has built a medical education system of the largest scale in the world. By the end of 2016, there were 922 medical colleges and universities in China, 1,564 secondary schools with medical courses, 238 organizations granting master’s degrees, and 92 granting doctoral degrees. The number of students at these schools had reached 3.95 million, among whom 1.14 million were students of clinical

majors and 1.8 millions of nursing majors. Fourteen educational institutions now offer specialties in ethnic healthcare, and research into ethnic healthcare in TCM majors, with about 170,000 students. TCM colleges in Yunnan, Guangxi and Guizhou offer undergraduate specialties of healthcare of the Dai, Zhuang and Miao peoples. Some ethnic-healthcare colleges and TCM colleges cooperate to cultivate personnel specializing in ethnic healthcare. By the end of 2016, the number of health workers totalled 11.173 million, with 8.454 million technical personnel, and 2.31 physicians for every 1,000 people; practicing (assistant) physicians with a college degree or above made up 81.2 percent of the total. The number of high-calibre professionals is increasing year by year. The number of nurses for every 1,000 people has reached 2.54, and the ratio of doctors to nurses has reached 1:1.1.

Private hospitals now account for more than 57 percent of all hospitals, the number of beds in medical and health institutions operated by non-governmental sectors has increased by 81 percent compared with 2011, and their outpatient visits take up 22 percent of the total in China. Now, of the physicians who have obtained licenses that give them permission to work for more than one organization, more than 70 percent also work in medical institutions operated by non-governmental sectors.

We have promoted clinical pathway management (CPM) by developing 1,212 clinical pathways, which cover almost all common and frequently occurring diseases. We have released and implemented the National Action Plan to Contain Antimicrobial Resistance (2016-2020), to resolve the problem of antimicrobial resistance in a comprehensive way. We have also strengthened supervision over prescription and drug use. In 2016, the rate of inpatients using antibacterial drugs was 37.5 percent, 21.9 percentage points lower than in 2011; the usage rate in outpatient prescriptions was 8.7 percent, a decrease of 8.5 percentage points compared with the rate in 2011. Medical liability insurance covers more than 90 percent of hospitals at Grade II and above. We attach great importance to blood safety and supply. By the end of 2015, we had realized the full coverage of nucleic acid tests in blood stations, with a blood safety level equivalent to that of developed countries. We also encourage voluntary unpaid blood donations and rational clinical use of blood. In 2016, 14 million people donated blood gratis, an increase of 6.1 percent over 2015 and almost satisfying the demand for clinical blood use. Donation has become the main source of organs for transplants.

The drug supply security system keeps improving. This system, based on the national basic drug system, has made great headway. Since the implementation of the policy, the prices of basic drugs have dropped by about 30 percent on average, and basic drugs have been sold in community-level medical and health institutions with zero mark-up, easing the financial burden on patients. We initiated the first round of pilot projects of national drug price negotiation, reducing the purchasing prices of drugs for hepatitis B and non-small-cell lung cancer by over 50 percent, making them the lowest in the world. By the end of 2016, the patients' expenses had been reduced by nearly RMB100 million. We have also improved the policy that ensures drug supply for rare diseases, and increased the free supply of special drugs, for instance, drugs for the prevention and treatment of HIV/AIDS. China encourages medical and pharmaceutical innovation, launching a key project named the National New Drug Innovation Program. From 2011 to 2015, 323 innovative drugs in China were approved for clinical research, 16 innovative drugs including Icotinib Hydrochloride Tablets were approved for production, 139 new

chemical generic drugs entered the market, a total of more than 600 Active Pharmaceutical Ingredients (API) and over 60 pharmaceutical companies reached the international advanced GMP standard, and a number of large medical equipment such as PET-CT and 128-MSCT, and advanced implantable products including brain pacemaker, bio-prosthetic valve and artificial cochlea have been approved and entered the market. We have promoted the building of a modern medical and pharmaceutical distribution network that covers both the urban and rural areas, and strengthened drug supply security at the community level and in remote areas.

TCM is receiving more support from the government. From 2013 to 2015, China invested a special fund of RMB4.6 billion to support the capacity building of TCM. In 2016, it issued the Outline of the Strategic Plan on the Development of Traditional Chinese Medicine (2016-2030). The revenue generated by Chinese medicine producers each with turnover over RMB20 million per annum reached RMB865.3 billion in that year, accounting for about one third of the total revenue generated by all the drug producers each with turnover over RMB20 million per annum in China. Since 2011, 49 achievements in TCM scientific research have received national science and technology awards. Artemisinin, medicines for curing acute promyelocytic leukaemia and other TCM and Western medicine research findings have attracted worldwide attention.

V. Improvement of the National Medical Security System

By the end of 2016 basic medical insurance had more than 1.3 billion recipients nationwide -a coverage of above 95 percent. Support for basic medical insurance schemes and its sustainability have been increasing. The income and expenditure of the basic medical insurance fund for working urban residents in 2016 were RMB1,027.4 billion and RMB828.7 billion respectively RMB421.2 billion and RMB341.9 billion more than those of 2012, representing an annual increase of 15.7 percent and 15.6 percent on average. The income and expenditure of the basic medical insurance fund for non-working urban residents were RMB281.1 billion and RMB248 billion, respectively RMB193.4 billion and RMB180.5 billion more than those of 2012. In 2017 government subsidies for basic medical insurance for non-working urban and rural residents are increased, with annual per capita subsidies at all levels reaching RMB450.

Basic medical insurance benefits have been improved. In 2016 the payment caps of the basic medical insurance for working urban residents and for non-working urban residents were six times local employees' average salary of the year and local residents' per capita disposable income of the year, respectively; inpatient reimbursement rates from basic medical insurance were about 80 percent and 70 percent, respectively. In 2017 outpatient and inpatient reimbursement rates from the new type of rural cooperative medical care scheme are about 50 percent and 70 percent, respectively.

Serious illness insurance for urban and rural residents has been improved. China has implemented serious illness insurance for urban and rural residents, aiming to cover large medical expenses, and improve medical security for serious illnesses. By the end of 2015 serious illness insurance for urban and rural residents covered all recipients of basic medical insurance. In 2016 serious illness insurance covered more than 1 billion urban and rural residents; according to provincial policies, the serious illness insurance

reimbursement rates shall be more than 50 percent, and the actual reimbursement ratio was raised by 10 to 15 percentage points.

By May 2017 China had given such treatment to over 2.6 million people. The country has adopted preferential policies favouring the rural poor with respect to reimbursement from serious illness insurance. China implements a policy of treatment before payment and one-stop reimbursement for rural poverty-stricken inpatients at county-level hospitals. In addition, China has designated 889 Grade III (top-level) hospitals to assist 1,149 county-level hospitals in all poverty-stricken counties across the country.

VI. Significant Improvement in the Health of Special Groups

In 2016, the Chinese government invested RMB2.9 billion to support the construction of 247 city- and county-level maternal and child healthcare institutions. By the end of 2016, there were 3,063 such institutions, 757 maternity hospitals, 117 children's hospitals, and 370,000 gynecologists, obstetricians and pediatricians, and assistants. Full-time and part-time maternal and child healthcare workers were available in 34,000 community health centers (stations), 37,000 town and township health centers and 640,000 village clinics. Children's health has improved remarkably. According to the fifth survey of Chinese children's physical development in 2016, in the past 40 years the physical development of children under seven improved rapidly, even higher than the child growth standards published by the WHO.

The healthcare service system for the elderly has improved. By the end of 2015, there were 453 rehabilitation hospitals, 168 nursing homes and 65 nursing stations around China, up by 69.0 percent, 242.9 percent and 16.1 percent, respectively from 2010. The number of health personnel working in the above three kinds of institutions was 36,441, 11,180 and 316, respectively, up by 96.5 percent, 286.7 percent and 69.9 percent from 2010. In 2015, the government offered 118 million medical examinations to senior citizens aged 65 or above, a health management rate of 82 percent. The mental health of the elderly has also attracted full attention. Governmental and social organizations publicize related knowledge and provide mental health counseling to the elderly, while working to enrich their cultural life.

Disability prevention and rehabilitation services for persons with disabilities have improved. In 2016, the Chinese government published the National Action Plan on Disability Prevention (2016-2020), and in 2017, the Regulations on Disability Prevention and Rehabilitation, bringing the work onto the track of the rule of law. From 2012 to 2016, 15.26 million people with disabilities received basic rehabilitation services nationwide. By the end of 2016, there were 7,858 rehabilitation institutions for the disabled around China, with 223,000 employees; and 947 municipal districts and 2,015 counties (cities) provided community-based rehabilitation services, with 454,000 coordinators. August 25 is China's Disability Prevention Day, as set in 2017.

VII. Active Participation in Global Health Governance and International Medical Assistance

China has joined the Single Convention on Narcotic Drugs and the Convention on Psychotropic Substances. China has participated in the making of a series of international

treaties and declarations, including the Declaration of Alma-Ata, and supported the World Declaration on the Survival, Protection and Development of Children. At the 69th World Health Assembly held in 2016, China raised and promoted the adoption of a resolution to “promote innovation and access to quality, safe, efficacious and affordable medicines for children,” getting positive responses from all sides.

Carrying out in-depth cooperation with the WHO. In 2016, the China-WHO Country Cooperation Strategy (2016-2020) was signed in Beijing, defining cooperation in health policies, planning, technology and human resources. In 2017, the Memorandum of Understanding on the Belt and Road Health Cooperation Mechanism and the Implementation Plan on the Belt and Road Health Cooperation Mechanism were signed to promote cooperation in health emergency response, prevention and treatment of infectious diseases, and traditional medicine between countries along the Belt and Road.

Extending international medical and health exchanges and cooperation. China conducts health experience sharing and strategic dialogue with other countries. It organizes a number of international medical and health seminars. In December 2015, cooperation plans on public health were announced at the Johannesburg Summit of the Forum on China-Africa Cooperation, including participation in the construction of African Center for Disease Control and Prevention and other major initiatives. In October 2016, China built partnerships with counterpart hospitals in 15 Asian and African countries, including Ethiopia. In April 2017, China signed medical and health cooperation agreements with Malawi and other African countries. Since 2005, China has trained thousands of officials and technical personnel from developing countries, and encouraged its non-governmental organizations to develop education and training projects on adolescent reproductive health and AIDS prevention in Zimbabwe and Kenya, as well as the Greater Mekong Sub-region.

Effectively conducting global emergency response. China has met the requirements for implementing the International Health Regulations. It has been playing an active and leading role in international emergency rescue, and has participated in the fight against epidemics, including yellow fever and Zika virus disease in Angola and Guyana. After the outbreak of Ebola in West Africa in 2014, China provided assistance including cash and supplies to epidemic-stricken countries and international organizations on four consecutive occasions, with a total value of US\$120 million. More than 1,200 Chinese medical personnel and public-health experts had been sent to epidemic-stricken areas and neighbouring countries to complete nearly 9,000 sample tests, observe and treat over 900 cases and train 13,000 local people in medical care and community-based prevention and control. After an 8.1-magnitude earthquake hit Nepal in 2015, the Chinese government sent four medical and epidemic prevention teams with a total of 193 members to the disaster area to help relief efforts. A total of 2,600 cases were treated and more than 1,000 core members of health and epidemic prevention work were trained.

Conclusion

In order to better safeguard people’s right to health, we are speeding up the building of a healthy China. A series of plans and outlines have been made and implemented, including the “Healthy China 2030” Planning Outline, **the National Fitness Program (2016-**

2020), the 13th Five-Year Plan for Medical and Health Service Development, and the Plan for Deepening Reform of the Medical and Healthcare System During the 13th Five-Year Plan Period (2016-2020). The Chinese government has put forward a “three-step” goal: a sound basic medical and healthcare system with Chinese characteristics will be established covering both urban and rural residents, **with the main health indicators ranking in the forefront of the high- and middle-income countries by 2020**; the health-promotion system will be improved, with the main health indicators in the ranks of the high-income countries by 2030; and a healthy China conforming to the requirements of a modern socialist country will be built by 2050.

Indicators for the Healthy China Program:

Major Sphere: health status Indicator: life expectancy

2015: 76.34

2020: 77.3

2030: 79.0

Sphere: health status Indicator: infant mortality rate (per thousand)

2015: 8.1

2020: 7.5

2030: 5.0

Sphere: health status Indicator: under five mortality rate (per thousand)

2015: 10.7

2020: 9.5

2030: 6.0

Sphere: health status Indicator: maternal death rate (1/100,000)

2015: 20.1

2020: 18.0

2030: 12.0

Sphere: health status Indicator: the proportion of residents who reach or exceed the National Physical Fitness Evaluation Standards (%)

2015: 89.6 (2014)

2020: 90.6

2030: 92.2

Sphere: healthy lifestyle Indicator: proficient health literacy rate (%)

2015: 10

2020: 20

2030: 30

Sphere: healthy lifestyle Indicator: number of people who frequently attend fitness exercises (million)

2015: 360 (2014)

2020: 435

2030: 530

Sphere: health services and guarantees Indicator: premature death rate from serious chronic disease (%)

2015: 19.1 (2013)

2020: lower by 10 percent comparing with 2015

2030: lower by 30 percent comparing with 2015

Sphere: health services and guarantees Indicator: number of practicing (assistant) physicians per 1,000 permanent residents

2015: 2.2

2020: 2.5

2030: 3.0

Sphere: health services and guarantees Indicator: proportion of personal expenditure in China's total expenditure on health (%)

2015: 29.3

2020: around 28

2030: around 25

Sphere: healthy environment Indicator: proportion of days per year meeting good or excellent air quality index standard in cities at prefectural level and above (%)

2015: 76.7

2020: >80

2030: keep improving

Sphere: healthy environment Indicator: proportion of water bodies of Grade III and better quality in all surface water bodies (%)

2015: 66

2020: >70

2030: keep improving

Sphere: health industry Indicator: monetary value of health service industry (RMB trillion)

2015: ---

2020: >8

2030: 16¹⁴²⁶

8.7.10 Machine tools

Machine Tools or Advanced computer numerical control machine tools (CNCs)
Chapter 22 “Develop China into a Manufacturing Powerhouse” in the Part V “An Optimized Modern Industrial System” of the 13th Five-Year Plan for Economic and Social Development of The People’s Republic of China (2016–2020) mentions:

“We will implement the Made in China 2025 action plan. With an emphasis on strengthening the innovative capacity and basic capabilities of manufacturing, we will work to deepen the integration of information technology and manufacturing technology

¹⁴²⁶ Excerpts of The State Council Information Office of the People’s Republic of China White Paper “Development of China’s Public Health as an Essential Element of Human Rights” published in September 2017 http://english.www.gov.cn/archive/white_paper/2017/09/29/content_281475894089810.htm