

PROTECTING AND PROMOTING HUMAN HEALTH IN CHINA

Li Yong-Ping

Institute of Population Research, Peking University, Beijing, P. R. China

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Summary

Since 1949, China has improved her health conditions dramatically. Centers of Maternal and Child Health care (MCH) have been made an integral part of the national public health and medical service system. Even at grass-roots level, medical and health service units have been established. Many administrative initiatives in rural areas have greatly improved the health situation of China's rural people. China has paid great efforts to strengthen education in disease prevention, which is very important in health care. High blood pressure is quite common in the Chinese population. The estimated number of mental diseases will increase in China in the near future. Water safety is an important concern in China. The indirect cost of diseases is decreasing. The rate of people smoking has a rising tendency, and China has to improve its health through regulations on smoking. The promotion of smoking bans in China is widespread. Water improvement in rural China relates to disease prevention, and to the development of rural economy. In China, there are more than 50 kinds of infectious diseases transmitted through unsafe water. The coordinated development of water improvement, environmental renovation, and health education in rural China has been the focus of patriotic health activities. China vigorously advocates that rural population must understand the importance and significance of a good healthy lifestyle, and as a result rural people increase their volunteer involvement in water improvement, leading to more rational use of water resources and improved facilities for environmental health. In the 1990s, China carried out major reform of the various health systems. Used to Chinese medical herbs and traditional medicine, most Chinese elderly are not familiar with modern medical treatment. Maternal health of family planning, child health, and sex health are the essential elements of reproductive health. In China, reproductive health links with the quality service of family planning, which implies accessibility,

acceptability, and high satisfaction. China has a very high standard of vaccination of children. Informed choice of family planning service has developed in China's family planning system to satisfy the needs of reproductive people to improve the continuing rate and the efficiency of service. Sex health is an important component of China's reproductive health. Education about sex health, sex health care, and contraception are important parts of the family planning program. China has reached a relatively high health care level with relatively low material investment. The goal of China's medical system reform is to establish a medical insurance system that corresponds to the market economy and productivity on the basis of free medical and labor protection. Along with economic development and improvement of people's living standards, medical expenditure has increased gradually. Regarding contraceptive service, China's family planning stations specialize in family planning and give special attention to follow-up service, while hospitals and clinics in the public health system provide a wide variety of health services in addition to family planning. Coordination and a virtuous cycle among quality service of family planning, reproductive health of women, and population control are indispensable.

1. Health Situation

Health is the premise and condition of human survival and development; good health is also the pursuit of every person or country. Health level is an important indicator of social and economic development.

The concept of health defined by the World Health Organization covers a wide range of aspects, and a considerable part of it is about the improvement of people's quality of life. Chinese findings all show that social, environmental, and psychological factors may create threats, just as much as the physiological factors to the health of population. The sorrows due to the death of family members, social isolation, loss of jobs, lack of physical exercise and physical mobility, undernourishment and abuse of medication will lead to disease and premature deterioration.

Since 1949, China has improved its health conditions dramatically. The infant mortality rate has dropped from 200-300 deaths per thousand people in 1949 to 31.4 per thousand in 1992. In the early 1970s, the death rate for women dropped below that of men. The life expectancy of women first surpassed that of men in China in 1957. The maternal mortality rate has declined from 1500 deaths per thousand women to 94.7 per thousand women in 1992. Life expectancy for women rose considerably from 36.7 years in 1949 to 72 years in 1992. In the 1950s, China launched its "first revolution" in health. That revolution aimed at assuring access to basic health services on an equitable basis. This revolution was essentially concerned with the quantity of health service—to construct a health care system that would bring health services within reach of all, even those living in remote and poor areas. An extensive and successful immunization network and other preventive services, as well as family planning, reflect this commitment to assuring a quantity of basic service sufficient to reach all. In the 1990s, China launched its "second revolution" in health. This revolution is concerned with the quality of health service, reflecting the economic development and changes taking place in China such as decentralization, reduced fertility and mortality, and the market mechanism. The central component of the second revolution is reproductive health, as women and children (with

special physiological needs and a particular status) make up two thirds of the population of China. Reproductive health goes beyond our traditional notions of maternal and child health and family planning services. Reproductive health adds new dimensions of quality, a focus on the needs of clients, and on participation, choice, and responsibility.

In 1998, the total number of China's health institutions was 314 097. Hospitals at and above county level account for 15 277, hospitals of lower level 51 804, clinics 229 349, sanatoriums 503, specialized prevention and treatment centers 1889, sanitation and anti-epidemic agencies 4018, maternity and child care centers 2724, medicine and chemical reagent test labs 2020, research institutes of medical science 423, and other health institutions 6090.

In 1997, the comprehensive hospitals account for 10 789 of the total, hospitals of Chinese medicine 2424, hospitals within medical schools 220, hospitals for infectious diseases 120, and hospitals for mental diseases 485. Health organizations in China offer a total number of 3.13 million beds, being staffed with 5.15 million medical personnel. This implies that on average there are 2.41 hospital beds per thousand people (3.49 beds in urban areas and 1.57 beds in rural areas). In USA in 1991, the number of hospital beds was 5.6, higher than the 3.49 in China in 1997. There were on average 4.3 medical personnel per thousand people in China in 1998. In USA in 1991, the number of medical personnel was only 2.33 persons per thousand, lower than the 4.3 in China in 1998. This comparison shows that there are perhaps still too many medical personnel in health organizations in relatively less developed countries like China. Among the 5.15 million medical personnel, medical technicians account for 4.4 million with 79.7% in the total, advanced medical technicians 2.7 million 48.5%, nurses 0.5 million 8.8%, and management personnel 0.4 million 8.1%. The number of hospitals increased from 14 705 in 1990 to 16 930 in 1997—an increase of 15%. The number of hospital beds increased from 2.92 million in 1990 to 3.13 million in 1997—an increase of 7.2%. These figures indicate the development of health in China.

The improvement of the nutritional level of the people and the improvement of medical facilities has resulted in an evident improvement in the physical quality of Chinese people. The use rate of hospital beds has decreased from 80.9% in 1990 to 52.2% in 1998. The decrease reflects the improvement in the quality of hospital service. The average stay in hospital reduced also from 15.9 days in 1990 to 13.1 days in 1998, showing the rising strength of hospital treatment. The number of days per bed in use in a year has decreased from 295.4 days in 1990 to 219.7 days in 1998. The turnover of beds decreased from 17.6 times in 1990 to 15.8 times in 1998. In 1978, there were on average 19.3 hospital beds per 1000 population and 10.7 doctors per 1000 population, while the figures in 1998 increased to 26.4 hospital beds and 18.6 doctors. Although China still ranks fairly low globally in terms of per capita national income, the major indicators of the physical quality of its population exceed those of countries at a similar level of development.

In China in 1998, there were 2.13 billion people times being in hospitals, among these people 50.4 million person times were hospitalized, and out-patients and emergency patients 2.00 billion person times. The hospitalized patients accounted for an average of 408 persons per 10 000 people.

In 1998, the incidence rate of all infectious diseases was 19.5 persons per million people. By composition, the rank of incidence rate of the top nine infectious diseases was sequentially viral hepatitis (6.3 persons per million), dysentery (5.3 persons per million), pulmonary tuberculosis (3.7 persons per million), gonorrhoea (1.8 persons per million), typhoid and paratyphoid fever (0.46 persons per million), measles (0.43 persons per million), hemorrhagic fever (0.37 persons per million), syphilis (0.27 persons per million), and malaria (0.25 persons per million).

In 1992, there were 2841 Centers of Maternal and Child Health Care (MCH), and 34 children's hospitals staffed with 58 379 gynecologists, obstetricians, and pediatricians; 60 000 midwives, and 460 000 country doctors and birth attendants. In 1997, there were 2724 MCH with a 4.1% decrease because of structural change and promotion of MCH to hospital status, and 36 children's hospital staffed with 83 747 personnel. MCH departments have been made an integral part of the national public health and medical service system. The number of all the above has increased the benefits of economy of scale. Even at grass-roots-levels, medical and health service units have been established. By 1997, more than 92% of China's thousands of villages are covered by this system. There are three main functions of the MCH networks. (1) MCH is responsible for increasing the proportion of deliveries at hospitals, popularizing medically sound deliveries, promoting the immunization of children, spreading knowledge about healthier births and good child-bearing practices, and providing related counseling. (2) MCH provides pre-natal examinations, good health care for pregnant women, general check-ups for and treatment of gynecological diseases, and protection of female workers. (3) MCH trains full-time workers for providing maternal and child health care. By 1997, the proportion of deliveries attended by trained midwives was 94% nationwide, with the proportion in urban areas being 98% and in rural areas 93%. The proportion of hospital deliveries was 63% nationally with the proportion in urban areas being 76% and in rural areas 56%. The coverage rate of the childhood immunization program of 2 years was over 90% in 1999.

Between 1995 and 1990, rural China has engaged in a campaign of "three constructions" in most rural areas. "Three constructions" are constructions of Township Hospitals, MCH, and Preventive Health Stations. In 1997, the total expenditure for the three constructions was RMB 2.9 billion yuan, among which 2.5% came from the central government, 10.7% from provincial government, 5.6% from regional government, 5.6 % from city government, 17.6% from county government, 17.7% from township government, 35.5% from the work units of construction and management, and 4.8% from other sources. In 1997 alone, there were completed 5045 projects, including 4511 Township Hospitals, 274 MCH, and 260 Preventive Health Stations. The activities of the three constructions in rural areas will have greatly improved the health situation of China's rural people.

The medical expenditure appropriated by the state has increased from RMB 16.33 billion yuan in 1995 to 18.76 billion yuan in 1996—an increase of 15%. The percentage of medical expenditure in the total state budget is 2.4%.

The number of medical universities was 122 in 1997 with 271 137 students and 70 425 freshmen. The number of medical schools was 547 in 1997 with 452 225 students and

149 750 freshmen. The total number of graduated students from medical universities in 1997 was 61 239, and from medical schools 119 313. The total number of medical scientists and professionals in schools and universities in 1997 was 229 261 persons. The well-known top five medical universities in China are Beijing Medical University with 3830 scientists and professionals, China Medical University with 4928 scientists and professionals, Bai Qion Medical University 4610 scientists and professionals, Shanghai Medical Universities 6883 scientists and professionals, and Shangdong Medical University 3011 scientists and professionals.

Physical height is an important indicator of human development, revealing the basic situation of human resources and economic conditions. In every ten years, between 1949 and 1999, the average physical height of Chinese children rose 2.56 cm for boys under 10 years old, and 2.29 cm for girls. Between 1985 and 1995, the physical height of boys aged 7-17 in urban areas rose 2.93 cm, in rural areas 3.63 cm, while the girls in urban and rural areas rose respectively 2.62 cm and 3.10 cm. This implies a considerable increase in physical height of Chinese children in the last 50 years. Improvement in nutrition and changes in economic environment are the main reasons. Studies also show that children born in the 1980s have advanced 1-2 years to reach the plateau of height reached by a previous cohort of children born in the 1950s. In 1998, Chinese children have reached an average height of 1.42 meters at the tenth birthday. However, there is still considerable further potential with regard to physical height in Chinese children. In comparison with the Japanese population in 1999, the Chinese population aged over 40 is 1.2 cm higher than the Japanese population of the same age group, but the Chinese population of 18 years old is 1.3 cm shorter than the Japanese population of the same age group. The differential in physical height between Chinese and Japanese populations appeared at about age 40; this means that the differential emerges at the birth cohort of late the 1950s and early 1960s. During the 1960s, Japan had rapid economic development, while China was in the chaos of the Cultural Revolution. There was a rapid increase of physical height of Chinese children in the 1990s, while the growth of Japanese children in the same period is relatively small.

Although health conditions for the Chinese population have significantly improved, some pathological issues still need to be tackled. The first of these is the relatively high mortality among female children aged 0-4 years. Some researchers believe that high mortality of female children is because of a strong preference for sons and deficiency of proper care given to female babies. Others attribute this to statistical errors. Furthermore, since the 1950s, there has been a major decline in the percentage of women breastfeeding their babies in both rural and urban areas. The practice has attracted many people's concern, since breastfeeding is regarded as the most important factor in good health for the future generation. In the 1990s China has vigorously promoted breastfeeding babies for at least four months. Moreover, there is a bigger gap in health conditions between urban and rural areas. In remote and poverty-stricken regions, health conditions need to be improved considerably.

Being a strategic policy, prevention in China is put on the first place of overall health consideration, since the utility of prevention is very high. By sticking to this prevention policy, China has achieved considerable success in health care and gained from its effort and investment. According to these experiences in China, only by putting prevention on

the first place, can the lowest investment yield the highest output. There are two aspects of prevention in the first place. The first is to heighten people's understanding of preventive health care. China has paid great efforts to strengthen education in prevention. And the other important aspect is to spend more human and financial resources on preventive health care. It is found that prevention is a method of reducing medical expenses, but it is first necessary to control inappropriate expenses. Prevention can reform unreasonable expenditure patterns in hospitals, thus saving money that can be used to help develop other aspects of health care. Preventive medical care and education in preventive health are well intermixed in the publicity and mass media programs, in the network of information, education, and communication. For example, in 1949 China had 0.5 million leprosy patients but this figure had decreased to about 4000 people in 1999 because of the strong preventive program. The occurrence rate declined from 2.4 per 10 000 population in 1960 to 0.033 per 10 000 in 1999, far lower than the 1 per 10 000 required by the World Health Organization (WHO). Even with the low occurrence rate, there are still 1800-2000 new leprosy patients annually in China. Among the 0.2 million cured leprosy patients, there are 0.12 million handicapped and disabled persons that require the long-term care of society. Prevention is important in health care.

Hepatitis was the most prevalent disease in China in the 1990s. The annual medical expenditure due to hepatitis is US\$3.6-6.0 billion, excluding the loss of labor and opportunity cost. There are five types of hepatitis (A, B, C, D, and E) prevalent in China. About 10% of the total population (120 million people) has or once had the hepatitis virus of type B, and one fourth of these people will turn or have turned into chronic liver disease cases, such as cirrhosis and hepatomegaly. Also, there are 38 million people who once had hepatitis of type C. Annually in the 1990s, about 0.3 million people died from various liver disease. More than 40% of pregnant women with hepatitis viruses passed hepatitis viruses to their new-born babies. After 1995, it is required by the state that new-born babies have to take hepatitis vaccines three times in the first three months of life.

Pulmonary tuberculosis is contagious through air. In the 1990s, China had 5-7 million tuberculosis patients each year, of whom 0.7-1.5 million were highly contagious. Three fourths of tuberculosis patients are 15-54 years old. Half the 0.3 million tuberculosis deaths are aged 15-49. In 1997 alone, China has lost 140 million days of labor due to tuberculosis, equivalent to a loss of economic value of US\$420 million. It was found in a survey in Shenzhen City in 1995 that 77.3% of tuberculosis patients were out migrants. The high migration rate after the reform to a market economy makes the situation of control and management of tuberculosis more difficult. In Beijing and Shanghai, the registered number of tuberculosis patients increased 5% and 7% respectively between 1985 and 1995. The best way to control the spread of tuberculosis is to constrain patients, and this method is an international standard. China is highly valued as a world model by WHO in the struggle against the spread of tuberculosis. Between 1991 and 1997, half of the total 1.2 billion population was covered by the project for monitoring, managing and servicing tuberculosis under a loan support from the World Bank. In the project regions, the number of total treatments was 1.2 million, including free treatment and management of 0.86 million of contagious tuberculosis, with a 90% cure rate. However, this experience cannot be extended to the whole country because of limited

financial resources. Treatment of tuberculosis needs money, as does the work of constant monitoring. The per capita fee for controlling tuberculosis is less than US\$0.002, and per capita expenditure of curing a patient with contagious tuberculosis is about US\$50. The Ministry of Health proposed the concept of sharing the cost of treatment between the state, local government, and the family of individual patients, and this process is now under implementation.

Breast cancer has affected 40 patients per 10 000 women in 1995. Breast cancer is regarded in China as the number one killer of women, and the annual number of deaths is about 4000. There are many reasons for the high prevalence of breast cancer and the increasing trend. The main contributing factors are advancement of first menstruation, delay of menopause, childlessness, and spinster-hood.

The occurrence rate of diabetes was 1% in 1980, but it had increased to 2.5% in 1999. That is, in 1999 China had 33 million diabetes patients. It is a hereditary disease in most cases, but it is also closely related to environment. The increasing number of diabetes patients is mainly due to three factors, (1) fat consists of a high portion of daily intake, (2) population is aging, and the population aged 45 and above is most susceptible, and (3) many people suffer from lack of exercise, and are over-weight.

High blood pressure is quite common in the Chinese population. More than 100 million people (about 9% of the population) have blood pressures above the normal standard. In 1999 there was a survey in eight big cities in China, with a sample of 9400 people who have check-ups in hospitals. This was a selective sample, but it reveals the situation. The study showed that the percentage of the population with high blood pressure increases as the age rises, regardless of gender. The percentage of male patients visiting hospitals was 22% in age group 35-45, and 68% in age group 65 and above. In comparison, the percentage of females was 10% in the 35-40, and 65% in the 65 and over group. Regarding food habits, people with heavier intake of fat and salt had significantly higher percentages of high blood pressure. As for weight, the occurrence was higher in people who were over-weight (62%) than with normal weight (38%). People aged 65 and over pay high attention to measuring their blood pressure; 76% of the people in this age group make a regular habit of measuring blood pressure. People aged between 35 and 40 pay less attention, only 37% having an understanding of measuring blood pressure, and 43% having no knowledge of the matter.

The occurrence rate of mental diseases in China increased from 5.6 per thousand in 1982 to 6.6 per thousand population in 1993. In 1999, among the population aged 14 years old and over, there are 6 million patients with schizophrenia, which is about the size of big city. There are 0.1 million new patients with schizophrenia every year. There are two major trends in the 1980s and 1990s in the health situation of Chinese people. One is the replacement of acute diseases with chronic diseases, and the other is the increasing incidence of mental diseases. From an investigation of dropout students among 16 universities, statistics show that most of the dropout before 1982 was due to contagious diseases, but after 1982 the prevalent reasons were various mental obstacles such as pressure of study, love, and worry about the labor market. In the beginning of the twenty-first century, as the first generation of single children grow into adulthood, from a fragile and cherished family background, they will have to face the challenge of

a changing and competing economic market. It is predicted that the number of mental diseases will increase in China in the near future.

In 1996, Chinese police officials caught 0.42 million prostitutes, but this is only one tenth of the total number as estimated by the police department. The occurrence rate of sexually transmitted diseases among prostitutes is 30-40%. That means that one of every three prostitutes has a sexually transmitted disease. Most of the prostitutes are mobile, and proper treatment of this group is not well organized and not practical. They comprise a dangerous group that infects and spreads AIDS. In 1998, the reported cases of AIDS was 0.63 million with an annual growth rate of 37%, but the actual number is perhaps 8-10 times higher (as estimated by health departments). Since China prohibits the practice of prostitution, the regulation and disease control of this special group are major future tasks of the Chinese administration at various levels.

Water safety is an important concern in China. In 1998, 50% of areas in China had low levels of fluoride, and 20% had high levels of fluoride. In areas with a low level of fluoride, the government strongly recommends the use fluoride toothpaste every day. In the 1990s, China built many high-rise buildings, and the quality of tapped water in these buildings is problematic, mostly due to the poor technology and unsatisfactory material of water storage tanks. A big market in bottled drinking water has emerged. Being a new industry, bottle drinking water in many cities is becoming very popular, but some water processing factories are not up to standards set by the state. Firstly, the environment and surroundings of water processing factories are not hygienic, and secondly, there is a high chance of the water getting polluted during transportation. For example, In Beijing between June and August 1998, 56% of bottled drinking water was found to be sub-standard.

Side effects of medicines are monitored constantly by the Chinese government. The number of deaths and disabled due to side effects are annually about 5000 people, among which 95% are because of western medicines, and 5% because of Chinese herbs. The trend was increasing in the 1990s. According to the Chinese saying, poisoning is one third of the effect of any medicine. The health administrations of various levels have strengthened the advice on rational use of medicine, to try to prevent misuse and over-use of medicine.

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Biographical Sketch

Born in 1963, **Li Yong-Ping** obtained his degrees of M.A. in Statistics and Ph.D. in Demography at the University of California at Berkeley in 1986 and 1990 respectively. He was once a visiting professor at the University of Chicago in 1994 and in Indiana University in 1997. He is now a professor in Peking University.