

THE CURRENT STATE OF PUBLIC HEALTH IN CHINA

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■ **Abstract** In the past 50 years, China has made great achievements in controlling infectious diseases and improving the public's health and hygiene. However, in the twenty-first century, owing to the negative effects brought on by aging of the population and the burdens of diseases, urbanization, industrialization, and globalization, Chinese public health officials are encountering greater difficulties than ever. Old operating models of public health cannot meet present requirements. The main problems are poor capacity to respond to public health emergencies, severe inequality of health care services, and lagging development of public health information systems. Public health in China can gradually meet the requirements of social development and the increasing public demand for health care services only when the public health is directed by informatization, globalization, technification, and humanization.

HISTORY AND ACHIEVEMENTS

The early stages of public health practice in China can be traced back to the 1920s and 1930s. Delegated by Professor Zhiqian Chen, after conducting deep investigations at Ding County of Hebei Province, the professors and students of the Public Health Department of Peking Union Medical College established a primary health care network from village to town to county, and conducted useful exploration to solve the problem of insufficient medication and drug supply in rural areas. This pioneering work aroused the attention of public health scholars at home and abroad and laid the groundwork for the development of modern public health in China. The ideas of primary health care proposed by Chen and others were 40 years prior to the "Health for All by the Year 2000" plan proposed by the World Health Organization (WHO) in 1977.

In the early 1950s, China introduced the former Soviet Union model of epidemic prevention and education, established the Hygiene and Anti-Epidemic Station and Schools of Public Health in medical universities, and formed health service systems focused on five main bodies affecting public health, i.e., labor hygiene, food

hygiene, environmental hygiene, school hygiene, and radiation hygiene. Based on the guideline of "prevention first," during the 50 years foundation of a new China, this model has played a great role in controlling and preventing infectious diseases. In particular, in the past 20 years of reform and opening, public health enterprise in China has achieved world spotlight success. For example, the fulminating infectious diseases that greatly affected public health, such as smallpox, cholera, plague, recurrent fever, typhus, and kala azar (or visceral leishmaniasis), have been eradicated or effectively controlled. Through expanded planned immunization programs, the infectious diseases of poliomyelitis, diphtheria, pertussis (whooping cough), and measles have been controlled. Most kinds of endemic and parasitic diseases have been controlled for the most part. Despite several floods and earthquakes, no great epidemics of infectious diseases have occurred. The public's health and hygiene have been greatly improved. The total mortality rate of China's population has dropped from 20/1000 in 1949 to 6.43/1000 in 2001 (12). The infant mortality rate has dropped from 200/1000 in 1949 to 28.4/1000 in 2000 (12). The maternal mortality rate has dropped from 150/10,000 in 1949 to 50.2/100,000 in 2001 (12). The average life expectancy has increased from 35 years in 1949 to 71.4 years in 2000. Using 1% of the total world health expenses, China has ameliorated the health problems of 22% of the total world population.

ESTABLISHMENT OF THE CHINESE CENTER FOR DISEASE CONTROL AND PREVENTION

With the development of a social economy, people live in a more complicated environment in the twenty-first century, which is characterized by informatization, globalization, and technification. We moved toward a conversion from a traditional and single biomedicine-based model to a biological-psychological-social medicine-based model, from individual-based prevention and cure to comprehensive and population-based intervention. Meanwhile, we emphasize the intervention on environmental and individual behavioral risk factors. The old operating model of hygiene and the antiepidemic system could not accommodate the state's current needs any longer, so reformation of the health care system was imperative. In January 2002, based on the original Chinese Academy of Preventive Medicine, the Chinese Center for Disease Control and Prevention (China CDC) was officially established. It filled the vacancy of a national institute of disease control and prevention and was a key step to establishing a new type of national system for disease control and prevention.

The task of the China CDC fully embodies the notion of great hygiene and is compatible with the international standard to prevent and control three groups of diseases advanced by WHO: (a) communicable diseases, maternal and perinatal conditions, and nutritional deficiencies; (b) noncommunicable conditions; (c) injuries. From the population dynamics viewpoint, preventing and controlling diseases must cover various sectors of the population from birth to death, including

women and children, working-age population, aging population, and the medically vulnerable (disabled and floating), in order to accomplish the prevention and health care services through the whole processes of human health and life (9). In addition, we also inherit the tradition of Chinese public health and seek to accomplish the works of five great public health services.

The main functions of the China CDC are tenfold: surveillance and information services; disease prevention and emergency response; establishment of great national public health issues; health education and health promotion; health care for special populations; evaluation and popularization of prevention strategies and measurements; public health services, testing, and evaluation; providing scientific evidences for formulating laws, regulations, and standards; public health technical guidance, service, and training; applied research and international cooperation and technological exchange (1). The China CDC is comprised of 18 professional institutes/centers, such as institutions for disease control and prevention¹, institutions for public health service², and institutions for disease control and public health management³. The China CDC also fully utilizes current resources. According to the principle of "not to own, but to use," they maintain close business contacts with seven units⁴. A four-tiered network of disease control (centrality, province, city, county) was established and is managed at different levels. Through business collaboration, the correlation with other ministries, universities, and scientific research institutions is strengthened. In addition, China CDC developed close partnerships with nongovernment organizations, such as the Chinese Medical Association, the Chinese Preventive Medicine Association, and the Chinese Epidemiological Association. The powers we developed for disease control and prevention and public health technology management and service were

¹Institutions for disease control and prevention: Institute for Infectious Disease Control and Prevention, Institute for Viral Disease Control and Prevention, Institute for Parasitic Disease Control and Prevention, National Center for AIDS/STD Control and Prevention, National Center for Chronic and Noncommunicable Disease Control and Prevention, National Center for Tuberculosis Control and Prevention.

²Institutions for public health service: Institute for Nutrition and Food Safety, Institute for Environmental Hygiene and Health-Related Product Safety, Institute for Occupational Health and Poison Control, Institute for Radiological Protection and Nuclear Safety, National Center for Rural Water Supply Technical Guidance, Institute for Health Education, National Center for Maternal and Child Health Care.

³Institutions for disease control and public health management: Office for the Study of Public Health Policy, Center for Public Health Surveillance and Information Services, National Immunization Program, Office for Disease Control and Emergency Response, Office for Public Health Management.

⁴Close business contact units: National Center For Endemic Diseases Control and Prevention, National Center for STD and Hansen's Disease Prevention and Cure Technical Guidance, National Clinical Center for Tuberculosis Control and Prevention, National Base for Plague and Brucellosis Control and Prevention, National Center for Child/School Health, National Center for Mental Health, National Center for the Elderly Health Care.

strengthened through such a significant union of public health practitioners. The establishment of the China CDC was a milestone in the history of public health enterprises in China.

NEW CHALLENGES FOR PUBLIC HEALTH IN CHINA

Contemporary public health workers are confronted with greater challenges than our predecessors. Recognizing problems is the premise of solving them. Therefore, it is necessary to understand the challenges and missions of disease control and prevention in twenty-first-century China (9, 10).

Aging of Population

The most direct reflection of improvement on the health condition of the Chinese population is the demographic transition. At present, the reproductive type of Chinese population is low natality, low mortality, and low growth. In 1999, the proportion of people aged 60+ years had silently crossed the 10% international standard. Therefore, China has become an aging society. The primary result of the 5th National Population Census on November 1, 2000 (14) showed that the total population of 31 provinces, autonomous regions, and municipalities directly under the central government in mainland China was 1,265,830,000. Among them, the number of people aged 65+ accounted for 7% of the total population.

The main characteristics of aging in China are as follows (18). (a) The absolute number of the elderly population in China is very large and accounts for one fifth of the world population and one half of the Asian population. (b) Growth in the number of aging persons is rapid. From 1982 to 1999, the proportion of people aged 60+ years increased from 7.64% to 10.1%. It took just 18 years for China to accomplish such a transition, compared with the decades or hundreds of years needed in some developed countries. Presently, China has stepped into the accelerated phase of aging. (c) China became an aging society in an underdeveloped economy. This condition exerts great pressure on economic growth. (d) The processes of demographic transition show tremendous regional differentiations. The proportion of elderly population in the developed coastal regions is greater than that in the inland regions. (e) The growth of the oldest-old population (people aged 80+ years) is rather apparent, with a growth rate of 5.4% per year. The oldest-old population in China had increased from 8 million in 1990 to 11 million in 2000 and will reach 27.8 million in 2020.

Burden of Diseases

INFECTIOUS DISEASES Since the foundation of the People's Republic of China many decades ago, China has made great achievements in controlling infectious diseases. In recent decades, the concern about and investment in infectious diseases

gradually decreased. The focus of disease control and prevention was diverted. However, since the 1980s, the revival of some old infectious diseases, such as sexually transmitted diseases (STDs) and tuberculosis, and the epidemic of 35 kinds of emerging infectious diseases (EIDs), such as AIDS, makes public health officials consciously realize that infectious diseases are still severe and threaten human health, especially in the working-age population.

In recent years, the number of people infected with STDs has expanded gradually and the number of infected regions has spread with increasing jeopardy to the population. In 2002, the total accumulated cases of 7 kinds of STDs⁵ (apart from HIV/AIDS) reported by 31 provinces, autonomous regions, and municipalities directly under the central government were 744,848. The incidence rate of reported STDs was 58.15/100,000 (16). Meanwhile, the epidemic of HIV/AIDS in China shows a continual upward trend. By the end of 2002, the accumulated reported number of HIV infections in China was 40,560. However, since the first Chinese was infected with HIV, it is estimated that there have been about 1 million people living with HIV in China (3, 13). The fourth National Tuberculosis Epidemiological Sampling Survey held in 2000 demonstrated that the infection rate of tuberculosis (TB) was 44.5%. The prevalence rate of active pulmonary TB was 367/100,000. The epidemic of TB in China is characterized by high infection rate, high prevalence rate, high drug-resistance rate, high mortality rate, and low step-down rate (19).

The ecosystem destruction and globalization together with antimicrobial resistance make the emergence and epidemic of infectious diseases inevitable. The control and prevention of these infectious diseases are more complicated. The epidemic of Severe Acute Respiratory Syndrome (SARS) further reminds us that it is important to strengthen the research on infectious diseases, especially on EIDs.

NONCOMMUNICABLE DISEASES Accompanied with the economic development, accelerated aging process, and increased adoption of an unhealthy lifestyle, noncommunicable diseases, such as hypertension, cardiovascular diseases, cancers, diabetes, and chronic obstructive pulmonary disease (COPD), have become important public health problems leading to the heavy disease burden and increase in medical expenses. At present, more than 100 million Chinese live with hypertension. The numbers of diabetes and COPD patients are about 20 million respectively. Every year, approximately 1.6 million persons are newly diagnosed with cancer, 1.5 million with stroke, and 750,000 with coronary heart diseases. The growth rates of noncommunicable diseases are gradually increasing, and the epidemic is no longer restricted to cities. The growth rate in rural areas is apparently higher than that of cities. Meanwhile, more and more youth are suffering from them. Noncommunicable diseases begin to threaten the health of the working-age population. The increase of high-cost medical care for noncommunicable diseases directly pulls

⁵Gonorrhea, Condyloma Acuminata, Syphilis, Non-Gonococcal Urethritis, Genital Herpes, Chancroid, Lymphogranuloma Venereum.

the total health expenditure of China upward. The speed has exceeded the growth of the national economy and individual earnings.

MENTAL HEALTH Mental health is an important portion of human health. Long ago, WHO has defined health as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." However, issues of ill mental health are increasingly apparent in China and still at the periphery of and separated from public health practice.

At present, the children and adolescents in China are mostly singletons. Bad familial environment and social ethos, improper education style, unhealthy media function, and increasingly greater scholastic pressures have made them become the "psychologically fragile generation." The primary mental health issues result from learning problems (such as learning disabilities), emotional problems (such as unstable mood, depression), moral character problems (such as discipline-violating or criminal behavior), smoking, heavy drinking, and drug abuse (5, 7). A survey on adolescent mental health in 22 provinces showed that approximately 13% of Chinese adolescents had apparent mental and behavioral problems. Among them, the prevalence rate of students in elementary school and high school was 21.6% ~ 32%. The prevalence rate of college students was 16% ~ 25.4%. These proportions have continued to increase in recent years (2).

Adults usually take on different social roles, carrying the burden of important social and familial tasks. Intense social competition and familial responsibility create the feeling of two-sided pressure, as they greatly challenge one's psychological tolerance, especially in women. Suicide is an apparent health problem among women of childbearing age in China, particular among rural women. National Health Statistics data in 1998 showed that suicide was the first cause of death among women aged 15 to 34 years, the fourth among women aged 35 to 44 years. China is one of the few countries in the world in which the mortality rate of suicide among women is higher than among men. This fact is especially prominent in rural areas. In the age group of 15 to 44 years old, in the rural areas, the suicide incidence of women was 55% higher than men. Meanwhile, the suicide incidence of rural women was 4 times the rate of city women (11). City women, as distinguished from rural women, reported more negative moods and subjective discomfort, which greatly influenced their quality of life.

When stepping into old age, more and more people live with chronic illness. Meanwhile, life events that influence mental health also occur more often. These events include severe diseases and trauma of self, retirement, unemployment, economic difficulty, severe illness of family members, emigration of family members, bereft of spouses, and family conflict. The life expectancy of women is higher than men. However, after 65 years old, the number of healthy women is lower than that of healthy men. Women have survival advantage but no healthy advantage over men. The survey on elderly support systems in rural areas of 9 provinces in China demonstrated that the ratio of bereft of spouses in women was 65.67% and greatly higher than the 23.29% in men (6).

Urgency for Emergency Response System

The response mechanism to public health emergencies has existed in China for a long time. During the flooding in 1998, China avoided a great epidemic of infectious diseases that could have occurred after such a disaster. It was good proof that China had the ability to respond to a public health emergency. However, in recent years, the frequency, form, content, and impact of these emergencies have been far beyond those that have occurred in the past. The terrorist attacks and anthrax scare in the United States in fall 2001 increased our awareness of the threat of nuclear, biological, and chemical weapons.

The China CDC has established a national disease control and emergency response network. Meanwhile, the expert database management system of emergency response was set up. To protect national security, the China CDC has heavily focused on emergency preparedness and the response against biological, chemical, and radiation emergencies. As a result of several recent emergency events, such as infectious disease outbreaks, poisoning events, and the radiation accidents in 2002, the response capacity of this national team has been fully demonstrated. However, the problems existing in the system have also been exposed: among them, a lack of funds; short supply of emergency medical stockpiles; poor surveillance and laboratory capacity; unstable flow of workforce; short supply of competent workforce; inadequate surveillance power; unsound reporting system, which leads to a lag in information exchange and promulgation; as well as uncooperative relationships among departments. The assault of the SARS epidemic in 2003 pushed China's public health system to the limit, demonstrating the urgency for infrastructure development and system reform.

Negative Effects Brought by Urbanization, Industrialization, and Globalization

Industrialization, urbanization, and globalization create prominent public health problems. A steep rise in the population is accompanied by housing shortages and traffic congestion, which causes a decrease in personal space. Take Shanghai city in China as an example. The result of the fifth National Population Census in 2000 showed that the total population of Shanghai city was 16,737,700. Thereinto, the population density of Huangpu district was as high as 46,296 persons per square kilometer (15). Injuries have become a major public health problem, especially in the working-age population. National Health Statistics data in 1998 demonstrated that traffic injuries appeared among the five leading causes of death among Chinese people aged 15 to 44 years. For men, traffic injuries were the first cause of death among people aged 15 to 34 years and the third among people aged 35 to 44 years. For women, traffic injuries were the third cause of death among people aged 15 to 44 years in the cities and the second, forth, and fifth among people aged 15 to 24 years, 25 to 34 years, and 35 to 44 years, respectively, in the rural areas (11).

Industrial development severely pollutes the natural environment. The total discharge amount of all sorts of pollutants is very large, and the degree of pollution is

still at a rather high level. In addition, the pollution is changing from single industrial pollution to complex pollution combining industrial and daily-life pollutants. The ever-industrial water body pollution is also moving toward the complex pollution, comprising industrial and agricultural pollutants (4). With the increase of occupational population, more focus should be given to workplace and occupational health. The incidence of occupational diseases showed a continual decline in China in recent years. The number of factories and mines that were engaging in harmful acts and the number of exposed workers have decreased. Nonetheless, there were still more than 16 million workers whose health was being threatened in 1997, and the occurrence of occupational disease was 10,288 per year. The especially serious and fatal accidents are out of control, especially accidents related to mines. The number of deaths attributed to accidents in privately owned enterprises and other ownership enterprises has greatly increased.

The devastation of the natural ecosystem is severe. The effects of deforestation, soil erosion, desertification, greenhouse effect, and ozone cavity on human health is increasingly apparent. At present, the Western Development Initiative and the Three Gorges Power Project can speed up economic development of the western and central provinces in China. However, convenient traffic routes, population movement, and ecosystem changes will expand the range of local epidemic diseases and introduce new health problems.

Increasingly frequent international travel and global business affairs exacerbate the transnational epidemic of infectious diseases. The global epidemic of SARS is representative of this point. China's entrance into the World Trade Organization (WTO) will be a great shock to China's public health. The increase of drug prices induced by intellectual property protection directly threatens the disease control of HIV/AIDS, malaria, tuberculosis, and so on. The problems caused by an unprecedented surge in the import of foreign-manufactured goods involve food safety, poisonous wastes, and unhealthy consumable (cigarettes and alcohol) imports. The rapidly westernized lifestyles (diet, culture, housing, etc.) are associated with the increased burden of noncommunicable diseases. The unemployment issue and the pressure of competition aggravates mental health problems. Regulation of international industrial structures may promote the transference of pollution-intensive industries to developing countries, thereby causing the transference of environmental pollutions and occupational hazards. China's entrance into the WTO has great impact on farmers' income and will be a great challenge for the rural health care system.

Inequality of Health Service

There are great disparities in the distribution of health resources, including health care practitioners, between cities and rural areas, coastal regions and inland regions in China. And this gap continues to grow. Eighty percent of health resources are allocated to the cities, among which two thirds are being allocated to big hospitals. Concerning medical care service levels and structures, health resources are

allocated mainly to the hospitals with levels two and three, whereas primary health care and health resources in rural areas are severely insufficient. Infrastructure construction is repeatedly at low levels and the utilization rate of health resources is very low. The levels of health resources in some megacities in China have approached the levels in developed countries. In contrast, some primary health care and public health services beneficial to more people develop with difficulty owing to insufficient resources. The policy of health subsidy is not reasonable. The government and the collective wholly undertake some medical services that individuals can afford, whereas some health services of social welfare call for money or charge to users.

Early in the mid 1960s, the cooperative medical insurance system was broadly applied in China's rural areas. A three-tiered (county, town, village) primary health care network covered most of China's rural areas. Farmers had to pay very little money for medical treatment. Government had trained many "barefoot" doctors who had mastered a basic medical knowledge and practiced medicine at the rural grassroots. Although the system was designed to provide only basic health care services for the farmers, it greatly improved their health (20). However, since the early 1980s, the market-oriented reforms have drastically changed the survival conditions for this tremendously successful system. In the absence of adequate public funding, the rural health sector was abruptly pushed to market. Many rural clinics have been privatized and developed into for-profit institutions. All of these have reduced the availability of medical services and exacerbated the inequalities in access to medical treatment. In addition, the level of technique and knowledge of health workers in rural areas is very low. Their knowledge is out of date, and they cannot accommodate the health services needs in rural areas. The rural area of China, which makes up 70% of the total population, is served by only 37.5% of national technical health workers.

At present, the allocation of health resources focuses on city and treatment and ignores rural areas and prevention. Limited health resources are wasted and cannot meet the increasingly greater health demands of the population. China was ranked 188th out of 191 member states in terms of "fairness of financial contribution" and was regarded as one of the most unfair countries on the "financial burden" of health systems in the World Health Report 2000 (17).

Public Health Information System Lagging Behind

As early as 1950, China established the report and feedback system of national legal infectious diseases. The system has played an important role in the control and prevention of infectious diseases in China. Since 1980, China has established a sentinel national disease surveillance system. This system included 10 million people accounting for 1% of the total national population. The surveillance monitored the birth, death, legal infectious diseases, and vaccination of that population. This system was gradually extended to monitor more infectious diseases and

noncommunicable diseases. Not only health but also health services were monitored to achieve a comprehensive surveillance system.

Although the disease surveillance and information systems were established as early as the foundation of a new China, development of the system was too slow to meet present requirements of disease control and prevention. The problems involve (a) lack of a complete disease reporting system; (b) lack of a legal report-operating mechanism and prevalent incidences of underreporting, inaccurate reporting, lagged reporting, and not reporting; (c) lack of unified programming and allocation; (d) repeated structural establishment and lack of communication and coordination; (e) lack of information sharing; (f) inadequate exploitation and utilization of surveillance data; and (g) weak laboratory surveillance capacity. These difficulties make the effect of the time and quality of surveillance much harder to be guaranteed.

The rapid development of modern information technology has made a great impact on traditional modes of record, report forms, data managing, and mail delivering with the carrier of sheet paper. Managing and analyzing data using computers, as well as issuing and transferring data instantly via the Internet, can make the transfer, disposal, feedback, and transmission more convenient and prompt. Although the introduction of computers and network technology into the public health field in China is not too late, the application is limited in word processing and data analysis. Computer science and technology have not been truly integrated into the functional system of public health. The development in this field is much harder owing to the slow development of infrastructure, a shortage of regular network operating funds, great disparity among regions and departments in the process of establishing health information systems, a late start in the standardization of work, and an incompetent workforce. The unprecedented challenges to public health, such as bioterrorism, complex environmental risk factors, the epidemic of EIDs and food safety, all urgently need a highly efficient public health information system.

Insufficient Ethical Consideration

In the past 20 years, international societies have given great attention to the protection of human subjects in biomedical studies. For a long period of time, they have been satisfied with reviewing clinical trials using the institution review board in China. The ethical consideration in the field of public health is much less than in the field of clinical medicine.

With the development of Human Genome Epidemiology (HuGE), more and more epidemiological studies and surveillance activities may involve individual genetic information. There is little risk to individuals in the process of biological specimen collection and gene identification. However, the disclosure of individuals' genetic information would have great impact on individuals, their families, and society. Especially in the process of developing public health informatics, we manage and transfer individuals' health data through the computer and the

Internet. As a result, computer and network security is key. The epidemic of HIV/AIDS challenges medical ethics. For example, how should practitioners balance between a subject's privacy and consideration of the overall public health in disclosing real names in HIV/AIDS surveillance? In China, there is great disparity in the literacy and medical knowledge among subjects involved in public health practice. How does one avoid just going through the formality of informed consent? All of these concerns need further study.

PROSPECTS

With the development of human civilization, the public health problems we have to face will be more complex than ever. The challenge is also the chance to develop. China's public health can gradually meet the requirements of social development and the increasing demand for health care services required by citizens only when public health services are directed by informatization, globalization, technification, and humanization (8).

Informatization

The core characteristic in the knowledge economy era is informatization. In the twenty-first century, informatization will have the most significant effect on public health enterprise. The pressing demand for public health in China is to build and perfect a public health information system. This is a dual-use platform. On one hand, we use this system to collect information continuously on public health, diseases, health-related factors, and possible threats; to grasp their distribution and changes in trend; and to provide scientific evidence for disease control and health promotion decision making. On the other hand, this system can be combined with public media to develop health education and impart necessary public health knowledge and skills to prevent diseases and solve individual health problems sensibly and effectively.

Our recent goals are to intensify the construction of information systems infrastructure and workforce training, to further perfect surveillance and reporting systems, and to establish a national public health information network to support diverse public health functions and needs. This information network should have the following functions: detection and monitoring, analysis, information resources and knowledge management, alerting and communications, and response. Especially when a public health emergency occurs, this system should be able to sensitively detect and report so that we can take rapid, effective, scientific, and ordered measures.

Globalization

The extensive international exchange will benefit from the development of technology, the convenience of traffic and communication, and the application of the

Internet. China should join the global public health network; rapidly raise the English level of the public health workforce; develop and strengthen international cooperation and technological exchange; formulate laws, regulations, and standards unified with international society; actively participate in various international collaboration programs for EID control and prevention; and share information and respond to public health problems with global partners.

Technification

The twenty-first century technological revolution in biomedical research, such as genetic screening and diagnosis, gene therapy, transgenic food, and embryonic stem cell technology, will greatly impact both medical care and public health. What kind of high technology can be applied to the control and prevention of diseases? How can we face the ethical medical problems brought by high technology? How can we modify the strategies and measures for key diseases and public health issues according to the development of science and technology? With these questions in mind, our future work will focus on the following: (a) under the premise of equity, carefully selecting the application field of high technology; (b) converting high technologies into the practice of disease control and prevention; (c) conducting research on the hygienic standards of high technological products; (d) strengthening research on high technological products and their application, as well as research on medical ethics, and implementing admittance management; (e) strengthening the supervision and evaluation of the efficiency and safety of high technological products.

Humanization

The understanding and demand for health care has changed greatly with the development of the social economy and living standard. The population now has a stronger desire to pursue sound physical and mental health, a harmonious environment, and long life. Previous contents and styles of health propaganda and education have been out-of-date. We must provide health education and health consultation according to public demand and market mechanisms.

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