6. A Brief Introduction of EPI in Shandong Province

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1.General Background

1.1 Geography

Shandong Province, situated in the lower reaches of Yellow River and bordering on the Bohai Sea and the Yellow Sea, is more than 700 km long from east to west, and over 400 km wide from south to north. It has a general area of 156,700 km^2, of which 55% are plains, 14.9% are hills, 20% are mountains, 9% are lowlands and 1.1% are lakes and rivers.

1.2 Administrative Divisions

Shandong Province is divided into ten municipalities and five prefectures. It has total of 134 counties/urban districts, 187 neighbourhood offices, 2,459 townships, and 89,294 administrative villages/urban resident committees.

1.3 Population

By the end of 1989, Shandong Province has a population of 84.81 million, making up 1/14 of the total population of the country, and ranking third in the country. 86.75% of the population are rural; 1.50 million are infants under one year old; 11.57 million are children at and under 14 years old. The life expectancy is 71 years.

1.4 Health Service

1.4.1 Health Oraganizations

Health organizations fall into four main categories which are health administrations, professional heath institutions, medical research and medical education.

Public Health Administrations

There is a public health bureau at the provincial level, and there are public health bureaus at the municipal, prefectural and country levels.

Professional Public Health Institutions

Among them are hospitals, anti-epidemic stations, MCH station, and drug control institutes. The hospital are run by the State, collectives, and individuals. All the other professional public health institutions are funded and run by the State. According to statistics in 1989, there are 10,707 public health institutions in the Province, including 2,796 hospitals, 160 anti-epidemic stations, 145 MCH stations, 2,001 township hospitals, and 99,934 village clinics. There are 171,941 hospital beds in the Province, averaging 2.10 beds per thousand population.

Medical Research Institutions

1.4.2

In 1989, there were 296,227 public health workers at all levels in the Province. Among them, 234,113 were public health technical personnel, 103,453 were doctors (making up 44.19% of the total number of the health technical personnel), 58,046 were nurses (making up 24.19%), 8,700 were anti-epidemic technical personnel (making up 3.75%), 2,895 were maternity and child care personnel. There were 55,358 health personnel in township hospitals, and there were 138,743 villege doctors.

2. The Implementation of preventive inoculation

2.1 Review

Before liberation, infectious diseases were prevalent in the Province. In 1948, 8,545 cases were infected with smallpox in an epidemic of the disease. Before the founding of the People's Republic of China, cases of the four infectious diseases (measles, diphtherea, pertusis, and polio) were over one million every year. The gross mortality was 25‰. And the average life expectancy was only 35 years.

Since the founding of the People's Republic of China, the government have paid special attention to child health, attached great importance to the development of the cause of prevention and health care, and regared the prevention and control of the acute infectious diseases harmful to the people's health as an important task. According to the Smallpox Vaccination Measures issued by the state, a wide-range vaccination against smallpox was carried out in the Province, and the inoculation of BCG and DPT was also conducted at the same time. In 1954, smallpox was eli

minated in the Province. Soon afterwards the categories of biological products and the range of vaccination were gradually expanded, and thus effectively reduced the morbidity and mortality of infectious diseases. However, owing to the vast size of the province and the lack of cold chain equipment, only shock vaccinations could be carried in the microthermal seasons of winter and spring on a year. It was impossible to conduct vaccination according to immunization schedule among most of the children, affecting the establishment of immune barrier and effect of vaccination.

Since 1982, according to the National Immunization Programme in 1982-1990 issued by the Ministry of Public Health, and especially the objective of popularizing children's immunization at two stages announced by the Government our province has worked out plans, detailed rules and regulations for the realization of the objective. Immunization Schedule has been standardized. The equipment of cold chain, social mobilization, and personnel training have started. Vaccination clinics have been set up, and vaccination is conducted weekly monthly, and bimonthly. The practice of conductive shock vaccination yearly has been given up. And EPI in the Province has been greatly improved.

2.2 Goals

The rate of children's immune vaccination will reach 85% by 1987 by Province. It will reach 85% by 1989 by county. The morbidity of polio will be kept under 0.01/100,000 and be eliminated in the whole Province by 1992. No cases of polio caused by wild virus strains can be found by 1995.

3. The Implementation of EPI

3.1 Strengthening the leadership of the provincial government and local governments

The provincial government and local governments pay special attention and give energetic support to EPI, and place

it on the important agenda. On April 25th every year, leaders from the Provincial government and local governments go down to the grass-roots and take part in EPI activities. It has motivated the development of EPI.

3.2 Setting up of the EPI coordinating panel

In 1986, Shandong Provincial EPI Coordinating Panel, composed of department of public health, education, civil affairs, finance, radio and TV, the foreign economic commission, the family planning commission the Communist Youth League, and the women's Federation, was ratified to be set up by the Provincial Government, headed by Hu Yuliang, deputy secretary general of the Provincial Government. Such organizations and agencies were also set up at the municipal, prefectural and county levels, in charge of solving vital problems concerning EPI. Through the efforts by the coordinating panels, problems such as funds for cold Chain equipment, electricity and fuel for EPI, exemption of road toll for EPI vehicles, and coordination of EPI propagands, were all solved satisfactorily.

3.3 Leaders from the Provincial Bureau of Public Health and local public health bureaus, the Provinincial Anti-epidemic Station and local anti-epidemic stations, all list EPI as an objective during their tenure, regard it as a major task in the anti-epidemic work. They often go down to the grass-root units to inspect, instruct, and implement the detailed measures of EPI.

3.4 Set up of professionl EPI agencies at all levels

EPI department have been established in anti-epidemic stations at all levels in the province, with 1308 EPI technical personnel. There are 7,348 professional or part-time EPI personnel in community health sections of township hospitals and urban hospitals. There are 96,498 village doctors in all administrative villages, making up thousands

upon thousands of inoculation groups. There are a large contingent of 100 thousand EPI Workers in the province, forming a complete network of EPI

3.5 Speed up the construction of cold chain system to make the operation schedule and inoculation in good time

Since 1985, the Province has been concentrating on the setting up of cold chain. Cold chain leading groups and offices have been set up at the provincial, municipal, and county levels. The province has worked out plans and criteria for the equipment cold chain systems.

The privince has approriated 3.59 million yuan for cold chain system equipment. At the same time, an EPI monitoring centre of 4,700 m² has been set up in the Provincial Anti-epidemic Station. The building of houses for cold chain and the replenishing of inoculation materials have also been accomplished in all parts of the province.

To improve the equipment of cold chain, experients were made in Zhaoyuan, Junan, Cangshan, and Zouxian counties in 1983. In 1986,88 counties were equipped, covering a population of 54 million, and in 1987, another 46 counties were equipped, covering a population of 24 million.

Criteria of cold chain supplies:

County (city, urban district) Anti-epidemic station:

One set of deep freezer must be provided for 100,000 people (which is used and managed within county Anti-epidemic station), one set of refrigerator per 35,000 poution, one set of transportable cold box (which is used within township health centre), one cold bag per 2,000 (used by village doctor). Each county (city, urban district) Anti-epidemic Station must have two sets of refrigerators, five cold boxes, five cold bags and one over-head projector, one slide projector, one scientific calculator.

The standard for municipality and prefectural anti-epidemic station is as following:

One cold storage and deep cold storage (the population

must be more than 5,000,000), five transportable cold boxes and cold bags, one duplicator, one over-head projector one slide projector and two scientific calculators.

Provincial Anti-epidemic Station;

Four refrigerator vans, four cold storages and deep cold storages, two duplicators, one slide projector and a over-head projector. The total supplies in Shandong province are; six refigerator vans, 1,260 chest freezers, 24 ordinary cold storages, 12 deep cold storages (187 cubic meters), 2,669 refrigerators, 2,952 cold boxes, 52,906 cold bags, 270,000 ice packs, 17 duplicators 151 over-head projectors and 165 scientific calculators

3.6 Training the staff to improve their skill

Training courses has been carried out in various forms. More than 600 professonal staff from municipal, prefectural and county anti-epidemic stations were trained on the administration of programmed immunization, immunization monitoring and equipment maintenance. Altogether more than 1,400 training courses were run with the attendance of 70,000 staff.The village doctors have also been trained before peforming each kind of vaccination.

3.7 Performing vaccination all the year round

Vaccination clinics were set up in urban areas, where vaccination was performed weekly and monthly. In rural areas, under the leadership of township health centres, the village doctors were devided into several groups. They perform "fixed" or "mobile" vaccination services monthly or bimonthly

3.8 Carring out propaganda activities to spread knowledge of programmed immunization

popaganda of programmed immunization was carried out as a principale task at various levels in order to mobilize the people.

With the cooperation of propaganda and education sectors

and news agencies, propaganda activities were carried out through radio, TV, films, news papers, pictures and so on, especially on childen's vaccination day. We often spread some knowledge to children's parents in combination with family planning and eugenics, sometime with cooperation of the teachers in middle schools, primary schools and kindergartens. We used propaganda car 1,000 times, broadcast 1,200 times, showed 3,046 scientific films and slides on EPI with the attendance of 50,000,000 people. Lots of people knew the importance of EPI and its knowledge, giving more support and paying more attention to it.

3.9 EPI expenditure has been increased. The expenditure for vaccine has increased from two million Yuan in 1985 to 6 million in 1989.

3.10 EPI insurance contract system for children. Altogether 5,416,443 children are involved. The rate among the children within one year old was 79.81%. The rate of contracted children reached more than 90% in Yantai, Zibo, weihai and Jining.

3.11 Strengthening the management of EPI:

Several rules and regulations were worked out, such as "Defailed regulations of EPI in Shandong province ", "Immunization schedule of Shandong province", "Tenative Management Regulations of cold chain system in Shandong province", "Immunization Monitoring in Shandong province", "EPI Inspection Methods in Shandong prvince". According to actual conditions, additional rules were worked out in prefectural/municipal and county Anti-epidemic stations, concerning vaccination, usage and management of cold chain equipment sorting out of vaccination cards and delivery of vaccines and eqiupments in order to bring the work of EPI into the orbit of scientific management.

3.12 Being Strict at EPI Inspection and evaluation

The examination of EPI is done yearly from the lower level station to the higher level one by random sampling of the groups. Evaluation and appraisal have been given after each examination. If we find some mistakes made by the any institutes or personnel, we had to point out the mistakes and give punishment. We also give the help and support to the institutes with difficulties. We reached "the first 85%" one year ahead of schedule in 1987 in 14 municipatities prefectures and 119 counties The members of EPI coordination panel were praised by delivering prize cups and financial award. Shandong Health Bureau delivered honour certificates to 2,378 excellent individuals who made remarkable achievments in EPI.

3.13 Hold special meetings to exchange information

Meetings on EPI and the delivering of biological products have been held yearly with the assignment of work plan. The health department also delivered reports on EPI, compilation of reference material in order to exchange information and improve EPI work.

4. Progress

4.1 Organized by provincial Anti-epidemic Station, with cluster sampling method, 44 counties (cities, urbandistricts), 796 townships, 1,320 villages involving 9,243 children at the age of 12-24 months were examined in 15 municipilities and prefectures in January 1988. The vaccination rate of BCG was 94.54%, TOPV 94.02%, DPT 93.33%, and MV 92.54%. The coverage rate of the four vaccines was 89.39%. It shows that the target for first 85% was reached one year earlier.

4.2 According to the plan made by the Health Ministry, 9,968 children at the age of 12-24 months were examined in 44 counties (cities, urban districts 806 townships ur-

ban neighbourhoods), 1,312 villages in muncipalities and prefectures in January 1989. The coverage rate of the four vaccines for the children at the age of 12 months was as follows, BCG was 93.71%, TOPV 92.51%, DPT 92.49%, and MV 91.66%. The coverage of the four vaccines was 87.30%. The coverage rate of the vaccines in 120 counties is above 90%.

The EPI inspection and evaluation in Shandong Province was carried out by the Joint Government of China/UNICEF/WHO in March 1989. 3364 children at the age of 12 months were sampled from 16 counties (cities or urban districts), and the courage rates (weighted) of the four vaccines were as follows of BCG (95.51%), TOPV (94.68%), DPT (93.97%) and MV (94.26%).

4.3 The herb immunization level has been improved with the expanding of the immunization coverage. The positive rate examined at various age groups for measles antibody was 93.07%. The rate of immunization effectiveness was 95.44%. The positive rate of type I neutral antibody against Potio was 93.26%, type II was 89.22%, type III was 87.15%. The effective rate was 88.04%, 86.95%, 88.58% respectively. The protection rate of diphtheria was 89.90%.

4.4 The incidence of infectious diseases has been decreased. According to 1989's statistics, 2,146 measles cases occured, the incidece was 2.65 per 100,000, a 81.49% drop that in 1984 when cold chair supplies were not provided. It dropped 99.84% compared with the highest incidence year during the past thirty years. The incidence in 123 counties has been controlled to be below 5/100,000. Whooping cough occured in 1,232 cases with the incidence of 1.52/100,000, and 83.42% that in 1984. It dropped 99.56% than the year with the highest incidence before EPI. The incidence in 127 counties has been controted to be below 5/100,000. Poliomyetitis occured in 484 cases with the incidence of 0.60/100,000, a 88.85% drop that in the year with the highest incidence before EPI. Altogether 5 diphtheria cases have been reported in Shandong province since 1984. It is generally under control.

5. Problems and difficulties,

5.1 The coverage is not high in the area because of poor economic conditions. Vaccine proventable diseases are not under the effective control.

5.2 Systematic immunization monitoring was affected by the shortage of equipment, backward methods, limited monitoring scope and imperfection of items.

5.3 Shortage of vehicles for transportation of vaccines affected the development of EPI.

6. Prospect,

6.1 The goal of the second 85% will strengthened by 1990 in the whole province.

6.2 More attention should be paid to the work in the backwark areas, to provide more technical advice to help them to improve their working conditions and encourage them to do the work well.

6.3 Improve EPI monitoring conditions, expand monitoring scope and items and do EPI work in a deep-going way.

6.4 Further enhance immunization effect, decrease the incidence of vaccine preventable diseases.

7. Poliomyelitis Elimination Programme in Shandong Province

7. POLIOMYELITIS ELIMINATION PROGRAMME IN SHANDONG PROVINCE

Poliomyelitis is severely endangering the health of children, but can be prevented by vaccine. After smallpox, poliomyelitis is the most probably disease that can be eliminated from the earth. With the deep implement of EPI programme, the morbidity of poliomyelitis has been greatly reduced. At present, there has been 74 countries and distracts with no poliomyelitis cases in the world. Accordingly, the World Health Organization has formulated the target to eliminate poliomyelitis by the year of 2000. In accordance with the situation in China, after full demostration, the Ministry of Public Health of China issued the document of "National programme for poliomyelitis elimination", formulating the target to eliminate poliomyelitis in two steps, that is to control the morbidity of poliomyelitis under 0.01/100000, and permit no paralysis poliomyelitis cases caused by wild virulent strain of virus to occure by 1995. It is a great task before us to realize the programme target in the limited time. In order to speed up the elimination of poliomyelitis in Shandong Province, we especially issued this programme.

I. Targets and Performance Index

(I) Target,

1. Control the mobidity of poliomyelitis under 0.01/100000 by 1992.
2. Permit no paralysis poliomyelitis cases caused by wild virulent strain to occure by 1995.

(II) Performance Index,

1. Establish Record Rate (ERR)

By 1990, more than 98% counties in Shandong Province will have establish immunization record system.

2. Immunization Rate (IR)

year	level	IR(%)
1989	county(city)	95
1990	township	90
1992	township	95
1995	township	98

Eliminate immunization empty village by 1990.

3. *Morbidity*

year	controlled morbidity (1/100000)	polio case not more than	no polio cases in following cities or prefectures
1989	0.125	100	Yantai, qingdao, Weihai, JIinan
1990	0.05	40	add. Zibo, Dongying
1991	0.02	16	add. Jinig, Weifang Zaozhuang, Huimin, Linyi
1992	0.01	8	add. Tai'an, Heze
1993	0.005	4	
1994	no polio×		
1995	no paratysis polio caused by wild strain		

× If poliomyelitis occures, it must be brought under control immediately, permiting no second generation cases of poliomyelitis.

4. Correct Diagnosis Rate (CDR)
   According to epidemiology, clinical picture and laboratory test, CDR should be 100%.
5. Epidemic Information Fail-to-report Rate (EIFR)
   Permit no fail-to-report or miss-report of epidemic information in county level
6. Immunization Success Rate (ISR)
   After 3 times of immunization with three-evalence vaccine, the positive conversionr ate of all types of neutralizung antibodies should be over 90%.
7. Population Antibody Protection Rate (PAPR)
   Throungh Sampling-survey of children of different age group, the PAPR of different neutralizing antibodies should be over 85%.

II. Main technique measures to eliminate poliomyelitis

(I) Promote and keep population immunity,

1. Enhance immunization

(1) In prefectures (cities) and counties (districts) where there is no poliomyelitis cases or its morbidity has been reduced to 0.01/100000, immunize children according to present immunizing programme.

(2) In counties (cities or dostricts) where the morbidity of polio is over 0.2/100000, in addition to the present immunizing programme, one additional immunization with three-evalence complex vaccine for children at one year of age should be done.

(3) In counties(cities or districts) with epidemics of poliomyelitis , in addition to taking measures in (2), children under 4 of age should be reimmunized with polio vaccine in 1990 and 1992 respectively.

2. Immunization clinics should be opened where the city or county goverment locates. Carry out month or bi-month immunization procedure in rural areas. Strengthen preventive measurea in immunization weak area, newly built resident area, mining area and mobile population. Increase immunization rate, eliminate immunization area.

3. Strengthen cold chain management. Cold chain must be operated weekly or monthly in urban area, monthly or bi-monthly in rural area, to guarantee the value of vaccine and the quality of immunization.

(II) Establish surveillance system, strengthen surveillance work

1. Epidemiological surveillance,

(1) Strengthen epidemic information report, Medical and health facilities at all level must report polio or suspected polio cases to local county (city or dictrict) anti-epidemic station within 12 hours in urban areas and 24 hours in ruarl areas. After receiving epidemic information report, the county (city or district) anto-epidemic station must check the diagnosis and report the information to minicipal, prefecture and provincial anti-epidemic station. When polio patients are discovered, in addition to report epidemic information, medical and health facitities should also collect blood and stool samples to send to local anti-epidemic station for detection.

(2) Case investigation, After receiving epidemic information report, county, city or district anti-epidemic station should perform case investigation for each case using provincial uniform questionaire within 48 hours. The cases investigated should be identified as suspected, possible or diagnosed poliomyelitis according to provincial uniformed criteria. Stool and double blood samples are collected and sent together with the questionaire to municipal or prefecture anti-epidemic station. They sort out and check last month's case investigation questionaires, and send them to provincial anti-epidemic station (together with the samples if they can not do either sera or etiological detection) at the beginning of each month.

(3) Epidemiological analysis, Calculate the yearly morbidity , motality and their distribution in manicipal or prefecture level. Analyse the annual change of mobidity, motality, case-fatality and epidemiological characteristics; analyse the results of clinical diagnosis and laboratory test(sera and etiology); analyse the relationship between polio morbidity and immunization; go a step further to perfect the immunizing programme and measures; write out annual epidemiological survey and analysis report, and send it to provincial anti-epidemic station in January of following year.

(4) Cripple survey, Every manicipality or prefecture should carry out cripple survey of children from age 3 to 5 in county or district level in 1991 and 1994 respectively (survey plan is issued separately).

2. Immunization success surveillance, In every manicipality or prefecture, randomly select 30 children to collect double serum samples before and after immunization from county, city or district with different geographical conditions(such as urban, rural, mountain, sea island and lake areas ect.) respectively every one or two years. Detect neutralizing antibody against poliomyelitis. In all those areas where immunization success rate is lower than 85%, enhanced reimmunization should be done.

3. Population immunity surveillance, In every manicipality or prefecture, randomly select areas with different geographical conditions such as urban areas, rural areas, mountain areas, sea island, lake areas ect. in which to sampling-syrvey 20 children from each of the following 7 age groups, 1, 2, 3, 4, 5--9, 10--20, and >21 years of age. Detect all types of neutralizing antibodies against poliomyelitis. The age group whose antibody protection rate is lower than 85% should be reimmunized.

4. Population wild strain virus surveillance, In every manicipality or prefecture, select different urban and rural areas to do poliomyelitis wild strain virus surveillance in 1990, 1992 and 1994.

5. Vaccine quality surveillance,

(1) Provincial and manicipal or prefecture anti-epidemic station do vaccine value detection at provincial, manicipal, prefecture, county, township level and immunizing posts in a planed way every year.

(2) Vaccine safity surveillance. All the vaccine associated poliomyelitis cases should be reported to provincial anti-epidemic station. The provincial anti-epidemic station's responsibility is to detect and identified whether these cases are caused by vaccine strains

6. Recheck immunization rate, Every manicipality or prefecture organize an immunization-rate-recheck survey each year. In areas where the immunization rate is lower than performance index, immunization for these children who are not immunized should be done.

(III) Cut off transmission of epidemic rapidly

After receiving the report of suspected, possible and diagnosed case of poliomyelitis, county (city or district) anti-epidemic station should get

into field investigation, take urgent measures, isolate and treat patient, dispose epidemic spots and areas. Children under 5 years of age living within 3 kilometers of the village where poliomyelitis patients occure should be urgently immunized with three-evelance complex vaccine every 4 weeks for three times. Poliomyelitis patients are controlled within the second generation, permit no third generation patient.

III. Administrative measures to eliminate poliomyelitis

(I) Promote cognizance, strengthen leadership

Goverments of different levels should list the work of poliomelitis elimination into their work plans, organize the departments concerned to work out concrete implementing plans to eliminate poliomyelitis. EPI coordinating gorups of different levels should take poliomyelitis elimination as an important task, coordinate every department concerned, solve the problems of finance, equipment and working conditions in the work, guarantee the smooth implementation of every measure.

Health adminitrative departments at different levels should take poliomyelitis elimination as the main task in health work, bring it into health undertaking development programme, list it into the contents of target management and checking on target of cardres in-term-of-office, clearify responsibility, futfil the tasks down to persons.

(II) Strengthen the construction of grass-root health organization

Strengthen the construction of grass-root health organization in rural areas, especially the construction of preventive and protective contingents, in accordance with the local situation, provide personnels to township preventive stations and village clinics according to revelant rules, guarantee that every village clinic has a village doctor in charge of immunization work and keep it steady, strengthen technique training, promote professional quality and management level, practise children EPI insurance contract system, solve the rewards of village doctors properly, implement immunization tasks, eliminate immunization empty village.

(III) Health education and propaganda

Poliomyelitis elimination is a great event protecting children's health. It's also an arduous and urgent task needing active support from leaders of different level, cooperation of relevant departments, involvement and coordination of the publics. Health departments of all level should make full use of all kinds of forms to carry out health education and propaganda, conduct counselling activities about disease prevention, populize the knolowedge of diseaes prevention, promote the level of health knowledge and the self-protection ability of the publics, make the publics understand the significance of poliomyelitis elimination , support and coordinate with the this progrmme initiatively.

(IV) Complete contruction of rules and regulations, scientific management

Gradually amplify and perfect all kinds of rules and regulations, strickly execute work routines and rules of operation. Make management institutionalization, technique operation standardization, profecssional work in scientific procedure. Strengthen epidemic situation surveillance and report, take enhanced immunization strategy promptly, eliminate immunization empity spots and poliomyelitis outbreaks.

(VI) Strengthen poliomyelitis elimination surveillance

Poliomyelitis elimination surveillance center is set up in provincial anti-epidemic station which is responsible for epidemic information collection, statistics, analysis, feedback, disposal of outbreaks personnel training, differenttiation of vaccine-associated cases and population immunity level surveillance. Manicipal and prefecture anti-epidemic stations should creat conditions actively to estabtish immunity surveillance laboratory responsible for local etiological and serum surveillance.

IV. Inspection, rewards and punishments of poliomyelitis elimination programme

(I) Inspection index

1. Immunization rate, 98% of children below 1 year of age should be fully immunized with vaccine at county level

2. Morbidity, No paralysis poliomyelitis cases continuously for 5 years at manicipal or prefcture level

3. Antibody protection rate, Randomly select 30 choldren below 1 year of age for antibody detection at manicipal or prefecture level, the antibody protection rate of all kinds of neutralizing antibodies should be over 85%.

4. Population virus carrier rate, Randomly select 100—300 children below 3 years of age at manicipal or prefecture level for virus detection, there should be no positive poliomyelitis wild strain detection

5. Cripple rate, Randomly select 5000 children below 5 years of age at manicipal or prefecture level, the cripple rate should be zero.

6. Epidemic information fail-to-report rate, There should be no fail-to-report and miss-report at county (city, district) level.

7. Organization and management, Organization implemented, rules and regulations fully estabtished, cold chains work well, surveillance data completed.

(II) Inspection methods, Manicipality or prefecture do self-inspection first according to the criteria above. when reaching all these criteria, they can apply to provincial health bureau for check-and-accept.

(III) Rewards and punishments

1. All these manicipalities and prefectures that realize the check criteria, their revelant units and personels will be rewarded by the Provincial Health Bureau.

2. Those that do not implement the immunization work, do not report epidemic information promotly, do not dispose epidemic posts or areas efficiently and therefore result in poliomyelitis epidemic, the administrative leaders of the Provincial Health Bureau, leaders of relevant professional departments, and relevant personnels will be punished in accordance with the degree of seriousness of the epidemic.

8. A Brief Introduction on China's Medical and Health Services

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THE MINISTRY OF PUBLIC HEALTH

THE PEOPLE'S REPUBLIC OF CHINA

China is situated in the eastern part of Asia. It covers an area of 9.6 million square kilometers and is administratively divided into 23 provinces, 5 autonomous regions and 3 municipalities directly under the central government. According to the statistics in 1987, it has 56 nationalities with a total population of 1.08 billion, of which 93.3 percent belong to the Han nationality.

Health Institutions and Personnel

In 1949, there were only 3670 health institutions, 80000 hospital beds and 541000 professional health workers including 505000 technical personnel. After the founding of new China in 1949, considerable progress has been made in the development of China's health services. Up to 1987, medical and health institutions have grown to some 205000 in number, an increase of over 55 times, of which there are more than 60000 hospitals, 128000 outpatient departments and clinics, 3512 health and epidemic prevention stations and 2792 MCH centers. A nationwide medical and health network from the central down to the grassroots levels has taken shape. Hospital beds have been increased by 30.1 times with a total of 2.405 million, averaging 2.3 per 1000 population. Professional health workers of all categories have developed to 4.564 million, an increase of 8.2 times, of which technical personnel 3.609 million, an increase of 7.1 times. Among the number of technical personnel, medical doctors (including assistant medical doctors of both western and traditional Chinese medicine) have gone up to 1.482 million, an increase of 4.1 times averaging 1.39 per 1000 population.

In developing China's health services, a multitude of forms and approaches have been employed, while developing the state-run health institutions, efforts are made to promote the growth of the collectivity-run health institutions and to give permission and support to private practice. There are now 138000 private practitioners. Among the existing medical and health institutions in the urban and rural areas, the majority of big and medium-sized

ones at and above county level are under the state ownership and the majority of those at grassroots levels under the collective ownership. Private practice serves as a supplement to the state and collectivity-run institutions.

The present systems of medical care in China are: government-paid medical service for the state functionaries and university/college students, labor insurance medical service for the employees of industrial, communication and other enterprises, and various forms have been adopted on a voluntary basis for rural populations to ensure the availability of doctors and medicine for disease prevention and treatment. According to local situations, various regions will continue to implement different forms of comprehensive or unitary medical insurance schemes covering different items of services with different premiums, such as health insurance, cooperative medical service, contractual services for prevention, perinatal care and child immunization.

Rural Medical and Health Services

The Government has all along attached great importance to the rural medical and health services. With initiatives from the state, the collectivity and the community and through the combined efforts of health professionals and part-time health workers, the rural health services have been developed considerably. A three-tier medical and health network embracing county, township and village has been basically built up, providing improved medical and health services to the rural people.

There are 1986 counties in the whole country. In 1987, at the county level there are 2298 general hospitals, 1985 health and epidemic prevention stations, 1789 MCH centres and 1061 hospitals of traditional Chinese medicine. A number of counties have established county health schools, vocational medical schools, laboratories for the control of pharmaceuticals as well as specialized institutions for the control of certain diseases. As centres of disease prevention and control for the whole county, the county level medical and health instiutions have played a significant role in the control of diseases, in the training of health personnel and in the strengthening of medical and health services at the township and village levels by way of giving technical guidance.

Health centres have been set up at the township level, one-third of which are state-owned and the remaining two-thirds collectively-owned. The township health centre is a multifunctional health institution taking care of health administration and management, medical practice, prevention and

control of diseases and family planning. There are 47177 township health centres with 723000 beds averaging 15.3 for each centre and 877000 professional health workers averaging 18.6 for each. A number of township health centres with higher technical skills, better equipment and facilities, easy communication and transportation and appropriately situated, have been selected in each county as key health centres for special reinforcement. There are 10000 key health centres making up 22 per cent of the total and each with an average of 29.1 beds and 32.7 health personnel.

At present, 87.9 percent of villages have set up health units in diverse forms which are mainly owned by the village community, village doctors perform functions of medical care, disease prevention and control, MCH, technical guidance on family planning and community health. The number of villge doctors and health aids (used to be called barefoot doctors) has reached 1.278 million, of which 724000 village doctors have through training acquired a level equivalent to that of an intermediate medical school graduate.

80 percent of China's population live in the rural areas. Hence, disease prevention and control for the 800 million rural population constitute a major priority in our medical and health services. At present, one of the objectives for social development included in the Government agenda at all levels is to implement primary health care, improve rural health conditions and upgrade the quality of health of farmers so as to achieve the strategic goal of health for all by the year 2000 set forth by WHO. The reorganization of county-level medical and health institutions and key health centres is being implemented according to plan, by stage and in groups. The consolidation and development programme has been extended to township health centres and village health units, improving the facilities for medical and health services.

Disease Prevention and Control

Before 1949, the Chinese people were poverty-stricken and their health was extremely poor because there were few health institutions and pestilence and diseases were rampant. After the founding of the People's Republic of China, we have put into implementation the principle of prevention first, concentrated the forces on prevention and control of the infectious diseases which endangered the people's health, launched with vast efforts the patriotic health campaign centred on preventing and controlling the infectious diseases and strengthened our work on occupational health, food hygiene, school health, radiation protection, disease prevention and control and building

of health infrastructure. As a result, the health situation in both town and countryside has taken on a new look and the people's health has been improved greatly.

As early as in 1950s, smallpox, plague, kala-aza, typhoid, recurrent fever and venereal diseases had been basically eradicated or completely wiped out in China. The morbidity of acute infectious diseases reduced from 20000/100000 in 1950s to less than 800/100000 at present. In the order of causes for death, the death rate of infectious diseases has dropped from No. 1 to No. 10. Smallpox was completely eradicated in 1960. The cases of measles, poliomyelitis, diphtheria and whooping cough have been reduced by 98. 7% from 11829018 in the early period of the Liberation to 153 174 in 1987. According to the statistics of vaccination in China in 1987, the coverage of BCG was 70%, polio 68%, DPT 62% and measles 60%. The Chinese government declared in 1985 that China would reach the goal of universal child immunization in two steps before 1990, i.e. 85% coverage at the provincial level by 1988, 85% at the county level in 1990. This has been incorporated into the "7th 5-year plan" of the State. However we must be aware of the fact that there are still more than 10 million patients suffering from acute infectious diseases every year in China, 60% of them due to digestive infectious diseases and in some places outbreak of infectious disease sometimes occur. Thus the prevention and control of diseases that endanger the people's health should continue to be the main priority in a comparatively long period of time in some places of China.

The Government has attached importance to occupational health and the prevention and control of occupational diseases by gradually setting up 99 specialized institutions in this field, forming a nationwide occupational disease prevention and control network. Morbidity of several occupational diseases that seriously endanger worker's health has decreased and working conditions have improved following mass survey and treatment of occupational diseases among staffs and workers in factories, mines and enterprises. "Food Hygiene Law" was promulgated by the Chinese government in December 1982. Since then posts of food hygiene inspectors have been created at various places, thus greatly improving food hygiene and in the meantime, inspection of imported food has also been strengthened.

To prevent international occurrence and spreading of infectious diseases that endanger human health, health and quarantine institutions have been set up at frontier ports, airports, railway stations and land passes open to foreigners for health and quarantine, disease surveillance and sanitary supervision of incoming and outgoing passengers and transportation means and its staff,

"The Law of the Frontier Health and Quarantine of the People's Republic of China" was promulgated on Dec.2, 1986 with a view to ensuring implementation of health and quarantine service. The national health authorities provides the quarantine service with technology and equipment. The frontier health and quarantine service has not only brought the "International Health Regulations" into fuller play but also enhanced the international exchange and trade, thus playing a key role in improving human health.

Since the founding of the People's Republic under the leadership of the Party committees and governments at various levels and with social mobilization of all forces endemic disease prevention and control centred on mass extermination of pests and eradication of diseases have been carried out. Up to 1986, the situation in most brucellosis and Kaschin-Beck disease endemic areas was stable, Keshan disease in 1/3 endemic counties was basically controlled, endemic goiter in 64.3% of the 1561 endemic counties was basically controlled, the condition of endemic fluoride poisoning in most areas was ascertained through investigation and its prevention and control had been energetically started, 74.7% of the schistosomiasis infected counties had reached basic eradication or up to the criteria for eradication, 759 out of 885 filariasis endemic counties had reached criteria for eradication, morbidity of malaria had been decreased for 6 years running and leprosy patients had dropped from 500000 at the early period of the Liberation to 70000 at present.

MCH and Technical Guidance of Family Planning

The population of women and children in this country make up two thirds of the total population. The constant improvement of the health of women and children is one of the important functions of China's health services.

Thanks to the MCH network formed in both urban and rural areas, over 90% of women had their babies delivered with sterile methods. With the promulgation of 《Regulations for Labour Protection of Female Workers》 and 《Provisional Regulations on Health Care of Women Employees》 women employees are better cared for during the "five periods" namely, menstruation, pregnancy, maternity, lactation and menopause. The working women are entitled to 56 days maternity leave and for mothers with single child maternity leave is even longer for about 6 months with full pay. Women health clinics, lounges for pregnant women, lactating rooms as well

as other health and welfare facilities are available in factories and mines with a large women popultion. Lactating time is twice a day with 30 minutes each. Regular mass screening, prevention and treatment of women's diseases are conducted, thus hysteroptosis and urinary fistular which seriously endanger women's health have been brought under control. Women's health status has been greatly improved which is manifested by the maternal mortality rate dropping from 150‰ in the early days of the founding of new China to 5‰ at present.

In China, child health care has always enjoyed our priority attention and the government calls on the whole society to show concern for the healthy development of children. The Expanded Program of Immunization has been initiated for all children with a view to controlling infectious diseases affecting them. The systematic health care for infants and young children is pursued in both urban and rural areas through popularization of scientific rearing, breastfeeding and growth monitoring. At present, system management of health care for infants and young children is mainly provided to 0—7 age group such as neonates, infants and young and weak children, including setting up of health records, regular health check-ups and timely correction of defects and unhygienic habits and prevention and treatment of diseases. The Ministry of Public Health has especially formulated and issued《Provisions for Health Care in Nurseries and Kindergartens》with a view to further upgrading health care of group children. Since 1978, much effort has been exerted on the prevention and treatment of the four commonly-seen diseases among the children i.e. nutritional anemia, rickets, pneumonia and diarrhea. A national program has been mapped out for guiding the control of the above diseases in a planned way. The child mental health monitoring has been initiated in some areas. In 1984, a research center on child mental health was founded in Nanjing carrying out studies on medical treatment and teaching of child mental retardation as well as providing training to professionals in child mental health. The improved child health care has promoted child growth and development and raised the level of children's health. The findings of second national survey on child physical development in 1986 has shown an average increase of 0.5cm in hight and 0.5kgs in weight respectively as compared with that of the first survey in 1975. The infant mortality rate in the country has been reduced from 200‰ in pre-liberation days to 34.7‰ at present.

Family planning is a basic state policy of China. The weighty responsibilities of the health departments are therefore to provide technical service in family planning with emphasis on contraception, spread comprehensive

contraceptive methods, disseminate birth control knowledge, provide technical guidance on birth control, train professionals in birth control technical skills and raise their expertise to guarantee the quality of birth control operations. The Ministry of Public Health has issued《Regulations on Technical Management of Family Planning》and《Procedures for Birth Control Operations》. Those who engage in birth control operations must receive training first and are allowed to perform operations only after being qualified through technical examination. Meanwhile, reseaches are being conducted to develop new IUDs, long-term, short-term and fast-acting oral contraceptive pills, injectables and devices which should be economic, simple and convenient, effective and safe.

Traditional Chinese Medicine and Integration of Traditional Chinese and Western Medicine

Traditional Chinese medicine has a history of thousands of years and has unique theories with rich practical experience. Since the founding of new China, our government has attached great importance to the role played by traditional Chinese medicine in protecting people's health and proceeding from co-existence of traditional Chinese and western medicine and actual needs of people, has explicitly pointed out that both traditional Chinese medicine and western medicine should be developed in our country. "Development of our traditional Chinese medicine and pharmacology" is stipulated in the constitution with a series of principles and policies laid down and various effective measures taken to promote the development of traditional Chinese medicine and pharmacology.

State Administration of Traditional Chinese Medicine was officially established in July 1986.

In the field of traditional Chinese medicine there are now more than 500000 personnel, 1800 specialized hospitals with 160000 beds and departments of traditional Chinese medicine has been set up in 95% of hospitals of western medicine above county level. Among 1.3 million trained village doctors most of them can use therapy of traditional Chinese medicine such as medicinal herbs and acupuncture in preventing and treating diseases. There are 28 colleges of traditional Chinese medicine and pharmacology with a total of 73000 graduates and 1200 postgraduates of doctor or master degrees

trained and in addition, there are 57 research institutions of traditional Chinese medicine.

The integration of traditional Chinese medicine and western medicine is a newly emerged force developed under the specific historical conditions of China in which modern medicine and traditional medicine co-exist. The policy of integrating traditional Chinese and western medicines has been pursued, so that the traditional Chinese medicine and western medicine can supplement each other, make up each other's deficiencies and bring their respective strong points into full play. Academically, the policy of "letting a hundred flowers blossom and hundred schools of thought contend" has been followed. This has played a significant role in developing medicine in our country.

Medical Education and Scientific Research

Great importance has always been given to the training of medical and managerial personnel. While conscientiously running well the higher and secondary medical schools, great efforts have also been devoted to the in-service training and continuing education for the medical personnel. In 1987, there were 130 medical universities and colleges with 182000 undergraduate students, an increase of 11 times as against that in 1949, and 553 secondary health schools with 275000 undergraduate students, a 16.8 fold increase over the year 1949. 350000 medical and health personnel have been trained every year through in-service training programmes of various forms conducted by medical and health institutions of medical universities and colleges at all levels.

Scientific medical researches have witnessed fairly fast development in terms of its foundation and scale. In China, there are 733 independent and affiliated medical and health research institutions staffed with over 60000 research workers. The Ministry of Public Health has 15 Advisory Committees of Medical Sciences and Technology with 422 experts appointed as their members to offer to the Ministry of Public Health advices and recommendations of macroscopic nature on all aspects of guiding nationwide scientific research work in medicine. The Chinese Academy of Medical Sciences, Chinese Academy of Traditional Chinese Medicine and the Chinese Academy of Preventive Medicine are the biggest medical and health research institutions in China.

A great number of scientific achievements have been scored in medical and health researches, of which, 472 items won national awards, 1485 items the Ministry of Public Health awards from 1949 to 1988, which generally reflect our major research results in biomedicine, basic medicine, clinical medicine, preventive medicine, traditional Chinese medicine, pharmaceutical, biological products and medical instruments and equipment. Particularly the research results in microsurgery, diagnosis and treatment of minute liver cancer, study on choriocarcinoma, study on correlation between development of esophagus cancer and amine nitrite, discovery of chlamydia trachomatis, discovery of and study on natural focus of Chinese plague, development of plasma-derived hepatitis B vaccine and exploration and improvement of traditional Chinese medicine have facilitated the advancement of relevant disciplines or areas.

Drug Policy and Administration

Pharmaceutical industry was virtually non-existent in old China, and institutions for drug policy and administration and quality control were very weak, with only one national institute for control of drugs. Shortly after the founding of new China, under the leadership of the central government, the Ministry of Public Health eradicated the rampant opium smoking left over from old China, thus laying a good foundation for the protection of people's health. In the last 38 years since liberation, the establishments of drug policy and administration and quality control have developed very rapidly. Sections for drug policy and administration have been set up in the Ministry of Public Health and in the Public Health Departments or Bureaus in all provinces, prefectures, municipalities and counties throughout the country. Drug control institutes have been established in all provinces, in most of the prefectures and municipalities and in some counties. Up to now, there are over 1900 personnel engaged in the work of drug policy and administration, 18000 technicians in 1647 institutes for drug control, out of which, 1100 institutes are at the county level. A network for drug control and supervision has been brought about in China thanks to the concerted efforts by the institutions for drug control and administration, thereby playing a positive role in ensuring safe and effective use of drugs and in enhancing the development of pharmaceutical industries.

"Drug Administration Act of the People's Republic of China" was promulgated in September, 1984 and entered into force on July 1, 1985.

The promulgation and implementation of the "Drug Administration Act" mark a new stage in the work of drug control and administration by means of legislation. According to stipulations under "Drug Administration Act" the Bureau of Drug Policy and Administration of the Ministry of Public Health and the agencies for drug control and administration at each province, prefecture, municipality and county are responsible for drug quality control and supervision and inspection.

The following are the several specific aspects of their responsibility:

A. Control of pharmaceutical manufacturing and handling enterprises to see to it that no drugs are manufactured or handled unless being approved.

B. Control of medicaments prepared by hospitals, whose medicinal preparations must be approved by health authorities.

C. Approval of new drugs and reassessment of drugs already on market.

D. Formulation of national drug standards.

E. Control of manufacturing, marketing, use and import and export of such special drugs as narcotic drugs and psychotropic substances.

F. Control of drug packaging, trade mark and advertising.

G. Quality control of imported drugs.

H. Appointment of inspectors to supervise the implementaion of "Drug Administration Act" by institutions concerned and deal seriously with any behavior that violates the "Act".

Friendly International Cooperation

It is our consistent policy to develop energetic cooperation with friendly countries, the World Health Organization as well as other international organizations with a view to promoting technical exchanges in the field of health.

In 1987, China's governmental health delegations visited over 20 countries in the five continents and signed a number of agreements on science and technology which have promoted bilateral official exchanges and cooperation.

During the past 25 years since 1963, China has, upon request, sent medical teams and accupuncture groups to over 60 countries and regions. Furthermore, Chinese doctors have been working in 4 countries as UN Volunteers. Up to now, the number of medical personnel working abroad has totalled to some 10000. They have treated some 170 million patients suffering from a variety of diseases. At present, over 1300 medical workers are still rendering services in 49 countries and regions. Borne firmly in minds the

entrust of their motherland, the members of the Chinese teams have been serving the local people wholeheartedly by following the fine example of the Canadian doctor Norman Bathune and by displaying the spirit of internationalism and overcoming numerous difficulties. They have won extensive commends from the governments and the people they serve for their outstanding services.

During their stay abroad, they have established profound friendship with local people and the medical personnel, thus, making a positive contribution to the development of medical services and to the promotion of friendship and understanding between China and these countries.

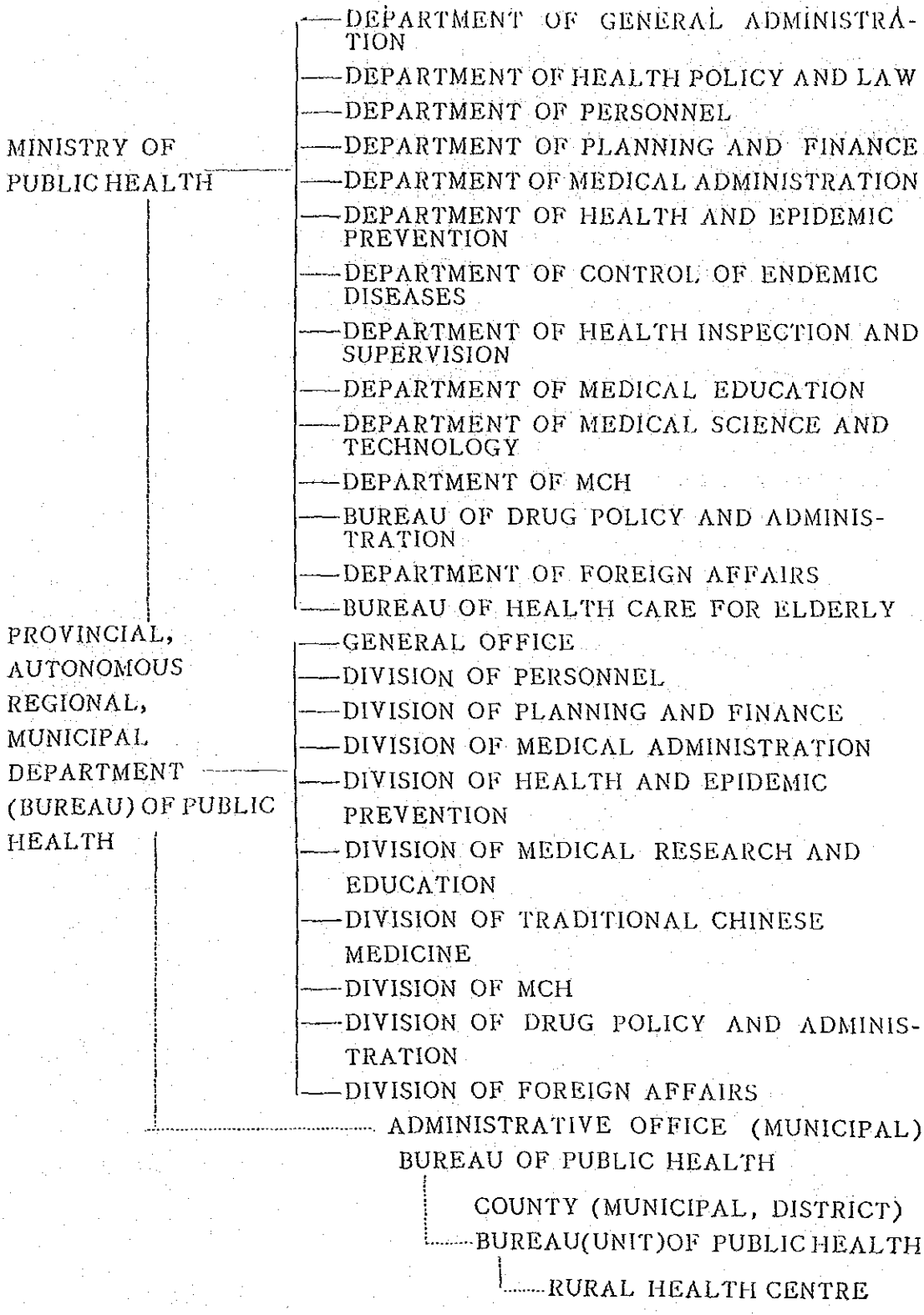
The technical cooperation between China and WHO has progressed rapidly since the signing of the Memorandum on medical cooperation and the Basic Agreement between the two parties in 1978 and 1982 respectively. During the past decade the World Health Organization has sponsored foreign experts to conduct about 200 trainig courses and lectureship in China while 48 Chinese medical and health research institutions have been designated as WHO collaborating centers which benefitted latter's technical input and other resources. At the same time 119 Chinese medical experts have been appointed as members of WHO various advisory panels. These members have played a positive role in promoting development of medical sciences through attending various technical meetings which total to over 50 annually.

The Chinese government attaches great importance to and fully endorses WHO's global strategic goal "Health For All by the Year 2000" and has been doing her best to cooperate with WHO in this respect.

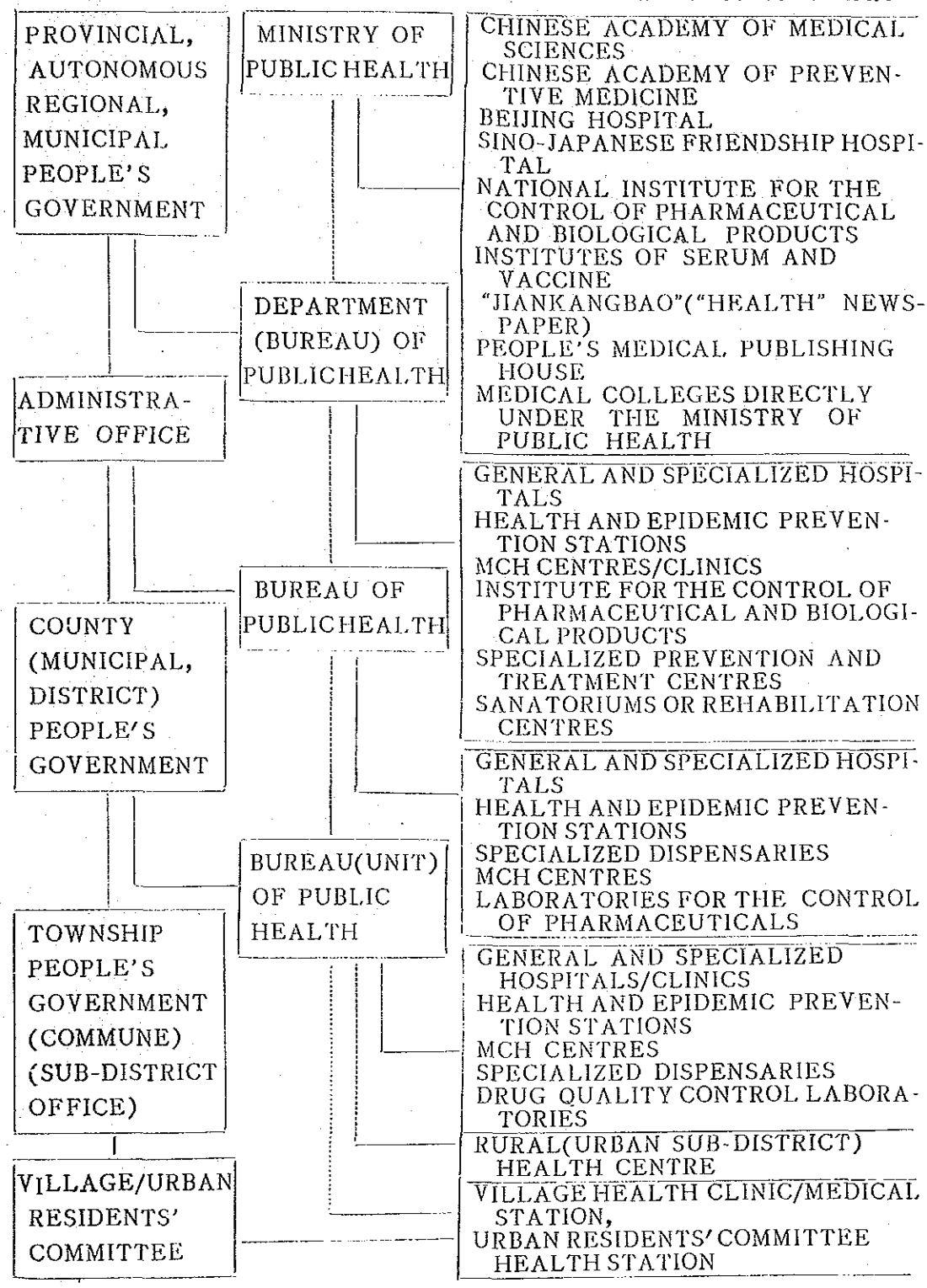
The official and unofficial exchanges and cooperation have helped promote the friendship between Chinese people and medical workers and those of other countries and also facilitated introduction of advanced foreign technology and equipment as well as the training of Chinese technical personnel.

At present, China is carrying out a reform in health field. Based on the analysis of the present situation and utilization of health resource, in light of the Chinese condition, preventive service and development of health manpower for the rural areas have been identified as the two most important strategies for a relatively long period of time to come. Efforts are also being made to ensure development of health services through legislation.

It is our hope to develop friendly cooperation with more countries on the basis of principles of "equality and mutual benefit, emphasis on practical results, diversification and common development" , thereby making due contribution to the promotion of South-South cooperation and the realization of WHO's strategic goal "Health for All by the year 2000" .


MINISTRY OF PUBLIC HEALTH
DEPARTMENT OF GENERAL ADMINISTRATION
DEPARTMENT OF HEALTH POLICY AND LAW
DEPARTMENT OF PERSONNEL
DEPARTMENT OF PLANNING AND FINANCE
DEPARTMENT OF MEDICAL ADMINISTRATION
DEPARTMENT OF HEALTH AND EPIDEMIC PREVENTION
DEPARTMENT OF CONTROL OF ENDEMIC DISEASES
DEPARTMENT OF HEALTH INSPECTION AND SUPERVISION
DEPARTMENT OF MEDICAL EDUCATION
DEPARTMENT OF MEDICAL SCIENCE AND TECHNOLOGY
DEPARTMENT OF MCH
BUREAU OF DRUG POLICY AND ADMINISTRATION
DEPARTMENT OF FOREIGN AFFAIRS
BUREAU OF HEALTH CARE FOR ELDERLY
PROVINCIAL, AUTONOMOUS REGIONAL, MUNICIPAL DEPARTMENT (BUREAU) OF PUBLIC HEALTH
GENERAL OFFICE
DIVISION OF PERSONNEL
DIVISION OF PLANNING AND FINANCE
DIVISION OF MEDICAL ADMINISTRATION
DIVISION OF HEALTH AND EPIDEMIC PREVENTION
DIVISION OF MEDICAL RESEARCH AND EDUCATION
DIVISION OF TRADITIONAL CHINESE MEDICINE
DIVISION OF MCH
DIVISION OF DRUG POLICY AND ADMINISTRATION
DIVISION OF FOREIGN AFFAIRS
ADMINISTRATIVE OFFICE (MUNICIPAL) BUREAU OF PUBLIC HEALTH
COUNTY (MUNICIPAL, DISTRICT) BUREAU(UNIT)OF PUBLIC HEALTH
RURAL HEALTH CENTRE

ORGANIZATIONAL STRUCTURE OF MEDICAL AND HEALTH SERVICES IN THE PEOPLE'S REPUBLIC OF CHINA



9. 基 本 統 計

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国別索引（アルファベット順）　　出所：世界子供白書 1990 UNICEF 発行

	国名	5歳未満児死亡率(1988、推定)による順位
A	アフガニスタン	1
	アルバニア	87
	アルジェリア	54
	アンゴラ	4
	アルゼンチン	85
	オーストラリア	119
	オーストリア	122
B	バングラデシュ	22
	ベルギー	111
	ベニン	23
	ブータン	19
	ボリビア	29
	ボツワナ	62
	ブラジル	66
	ブルガリア	102
	ブルキナファソ	9
	ブルンジ	21
C	カメルーン	36
	カナダ	127
	中央アフリカ	12
	チャド	11
	チリ	97
	中国	84
	コロンビア	74
	コンゴ	50
	コスタリカ	101
	コートジボワール	40
	キューバ	105
	チェコスロバキア	108
D	デンマーク	116
	ドミニカ共和国	70
E	エクアドル	65
	エジプト	45
	エルサルバドル	67
	エチオピア	7
F	フィンランド	131
	フランス	124
G	ガボン	32
	東ドイツ	112
	西ドイツ	120
	ガーナ	39
	ギリシャ	106
	グアテマラ	55
	ギニア	8
	ガイアナ	72
H	ハイチ	30
	ホンジュラス	53
	香港*	121
	ハンガリー	103
I	インド	37
	インドネシア	49
	イラン	63
	イラク	60
	アイルランド	125
	イスラエル	109
	イタリア	118
J	ジャマイカ	100
	日本	128
	ヨルダン	79
K	カンボジア	16
	ケニア	52
	朝鮮民主主義人民共和国	88
	韓国	89
	クウェート	99
L	ラオス	34
	レバノン	80
	レソト	43
	リベリア	38
	リビア	48
M	マダガスカル	24
	マラウイ	6
	マレーシア	91
	マリ	3
	モーリタニア	14
	モーリシャス	94
	メキシコ	73
	モンゴル	78
	モロッコ	47
	モザンビーク	2
	ミャンマー(ビルマ)	59
N	ナミビア	22
	ネパール	18
	オランダ	126
	ニュージーランド	114
	ニカラグア	58
	ニジェール	10
	ナイジェリア	28
	ノルウェー	123
O	オマーン	76
P	パキスタン	33
	パナマ	86
	パプアニューギニア	69
	パラグアイ	77
	ペルー	46
	フィリピン	71
	ポーランド	104
	ポルトガル	107
R	ルーマニア	96
	ルワンダ	15
S	サウジアラビア	56
	セネガル	42
	シエラレオネ	5
	シンガポール	113
	ソマリア	13
	南アフリカ	57
	スペイン	115
	スリランカ	83
	スーダン	25
	スウェーデン	130
	スイス	129
	シリア	75
T	タンザニア	26
	タイ	81
	トーゴ	35
	トリニダードトバゴ	98
	チュニジア	68
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U	ウガンダ	31
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	アラブ首長国連邦	90
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	米国	110
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V	ベネズエラ	82
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Y	イエメン	20
	イエメン人民民主共和国	17
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Z	ザイール	41
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	ジンバブエ	51

*植民地

5歳未満児死亡率（U5MR）は出生1000人のうち5歳になるまでに死亡する子供の数で、ユニセフではU5MRを子供の福祉水準やその変化を知るための主要指標として使っている。次ページからの付表でも国順をすべてU5MRの高い順に配列した。本文や統計表の個々の国のU5MRの値は、国連人口局が各種の情報をもとにして国際的に比較できるように作成した推定値で、そのため数字が個々の国での推定値と異なっている場合もある。

用語説明

五歳未満児死亡率―出生一〇〇〇人当たりの五歳未満児の年間死亡数。

乳児死亡率―出生一〇〇〇人当たりの一歳未満児年間死亡数。

GNP（国民総生産）―年々の一人当たりのGNPは現行の米ドルで表示される。一人当たりのGNPの増加率はその年間の平均増加率でその傾向線を各年の不変市場価格で示される一人当たりのGNPの対数値に当てはめて算定される。

出生時の平均余命―新生児がその人口集団の標準的な死亡の危険のもとで生きられる年数。

成人識字率―一五歳以上で読み書きできる人の比率。

初等・中等学校就学率―総就学率は学齢人口集団への所属の有無にかかわらず入学する子供の比率で、その学齢人口集団の児童の総数に対する比率で示される。正味の就学率は学齢人口集団に属していて就学年齢に入学する子供の比率で、その年齢集団の子供の総数に対する比率で示される。

所得の配分―上位二〇%の世帯と下位四〇%の世帯の収入のパーセント比で示される。

低出生体重児―出生時の体重が二五〇〇グラムまたはそれ以下の子供。

母乳育児―完全または部分的なものを含む。

子供の栄養不良―中・重度のものは望ましい年齢相応体重の六〇%―八〇%のもの。重度のものは望ましい年齢相応体重の六〇%以下のもの。

妊産婦死亡率―出生一〇万人当たりの妊産婦の年間死亡数。

消耗症と発育阻害の有症率―前者（急性栄養不良）は身長相応の体重をもつ基準集団、後者（慢性栄養不良）は年齢相応の体重をもつ基準集団のそれぞれ五〇パーセンタイル（一〇〇分位）に対して、マイナス二以上の標準偏差を有する子供の比率。消耗症／発育阻害はしたがって全米保健統計センターの基準集団の身長相応体重（消耗症）、年齢相応体重の中位数の約七七%以下であることを意味する。

保健サービスの入手―通常の交通手段によって一時間以内に地域の適切な保健サービスを利用できる人口の比率。

DPT（三種混合）ワクチン―ジフテリア、百日咳、破傷風の三種混合ワクチン。

ORS（経口補水塩）―経口補水療法（ORT）に使うためのぶどう糖と塩分の混合物。

初等教育終了児―小学校の第一学年に入ったあと適切な期間内に初等教育を終える子供の比率。

粗死亡率―人口一〇〇〇人当たりの年間死亡数。

粗出生率―人口一〇〇〇人当たりの年間出生数。

合計特殊出生率―婦人が妊娠可能年齢の間に普通出生率にしたがって子供を生むとした場合に生むことになる子供の数。

都市人口―最新の人口調査に使われた国の定義によって決められる都市地域で暮らす人口の比率。

避妊法の普及率―一五―四九歳の既婚婦人で現在、避妊手段を使用している婦人の比率。

絶対的貧困水準―所得が栄養的に十分な最低水準の食事や食物以外の基本的需要を満たせないもの。

ODA―政府開発援助。

債務サービス―対外債務や公的債務に対する金利支払い額と元本償却充当金の総額。

表５：人口統計指標

	人口 16歳以下/５歳以下（100万人） 1988	人口の年間増加率（%） 1965-80	1980-87	粗死亡率 1960	1988	粗出生率 1960	1988	平均余命 1960	1988	合計特殊出生率 1988	都市人口の比率（%） 1988	都市人口の年間平均増加率（%） 1965-80	1980-87
5歳未満児死亡率（U5MR）が中程度の国（31-94）中央値	706T/232T	2.6	2.3	15	7	44	29	53	66	3.6	53	4.5	3.7
84 中国	324.9/102.0	2.2	1.3	19	7	37	21	47	70	2.4	21	2.6	1.7

表６：経済指標

	人口一人当たりのGNP（米ドル） 1987	人口一人当たりのGNPの平均年間増加率（%） 1965-80	1980-87	インフレ率（%） 1980-1987	絶対的貧困水準以下の人口の比率（%） 1977-1987 都市/農村	政府支出中の保健/教育/防衛支出比率（%） 1986/87	政府開発援助（ODA）の受入れ額（100万米ドル、1987）/ODAが受入れ国のGNPに占める比率（%、1987）	債務支払いが商品やサービスの輸出額に占める比率（%） 1970	1987
5歳未満児死亡率（U5MR）が中程度の国（31-94）中央値	1400	-4.0	-0.3	13	20/33	6/14/11	180/3	10	22
84 中国	290	4.1	9.1	4	../10*	../../..	1449/1	7	..

表７：婦人指標

	出生時の平均余命（男性に対する比率、%） 1987	成人の識字率（男性に対する比率、%） 1985	就学率（男性に対する比率、%） 1986-88 小学校	中学校	避妊法の普及率（%） 1980-87	妊婦の破傷風の予防接種率（%） 1987-88	保健員の付添いを得た出産の比率（%） 1983-88	妊産婦の死亡率 1980-87
5歳未満児死亡率（U5MR）が中程度の国（31-94）中央値	106.6	93	98	99	49	40	78	78
84 中国	104.4	68	89	74	74	..	..	44

表９：進展の速度

	五歳未満児死亡率 1960	1980	1988	年間平均低下率（%） 1960-80	1980-88	要請値 1988-2000	１人当たりのGNP年間平均増加率（%） 1965-80	1980-87	特殊合計出生率 1960	1980	1988	年間平均低下率（%） 1960-80	1980-88
5歳未満児死亡率（U5MR）が中程度の国（31-94）中央値	155	79	63	3.5	3.3	3.5			6.5	4.4	3.7	1.8	1.7
84 中国	202	56	43	6.4	3.3	3.6	4.1	9.1	5.7	2.6	2.4	3.9	1.0

表１：基本統計

	U5MR 1960	U5MR 1988	乳児死亡率（1歳未満） 1960	乳児死亡率（1歳未満） 1988	総人口（100万人） 1988	年間出生数と乳幼児死亡数(0~4歳)（1000人） 1988	人口一人当たりのGNP（米ドル） 1987	出生時の平均余命（年） 1988	成人男の総識字率（%） 1985	小学校就学率（%） 1986-1988	世帯当たりの所得の分布（%） 1975-1986 最下位40%	世帯当たりの所得の分布（%） 1975-1986 最上位20%
5歳未満児死亡率(U5MR)が中程度の国(31-94)中央値	155	63	111	44	2170T	50388T/2781T	1400	66	64	104		
84 中国	202	43	150	31	1104.0	22202/955	290	70	69	132	..	..

表２：栄養指標

	低出生体重児の出生率（%） 1982-88	母乳育児の比率（%） 1980-87 3カ月	6カ月	12カ月	栄養不良児の比率(%)、1980-87 中・重度/重度の低体重（0～4歳）	中・重度の消耗症（12~23ヵ月）	中・重度の発育阻害（24~59ヵ月）	人口一人当たりの食糧生産度の平均指数（1979-81=100） 1988	人口一人当たりの毎日の必要カロリーの充足率（%） 1984-86	家族が総所得のうち食糧/穀類の購入に当てる支出の比率（%） 1980-85
5歳未満児死亡率(U5MR)が中程度の国(31-94)中央値	9	80	70	48	22/3	7	34	87	113	35/10
84 中国	5*	70*	60*	..	../..	..	..	127	111	../..

表３：保健指標

	安全な飲料水を入手できる人々の比率（%） 1985-87 全国/都市/農村	保健サービスを入手できる人々の（%）比率 1985-1987 全国/都市/農村	完全な予防接種を受けた比率（1981/1987-88） 一歳児 結核	3種混合	ポリオ	はしか	妊婦に対する破傷風の接種	ORSの使用率 1986-87
5歳未満児死亡率(U5MR)が中程度の国(31-94)中央値	76/90/52	80/96/67	60/85	47/78	47/80	43/89	18/40	25.0
84 中国	../85/..	../../..	../98	../96	../95	../95	../..	5.0

表４：教育指標

	成人の識字率 1970 男/女	成人の識字率 1985 男/女	人口1000人当たりのラジオ/テレビ受信機台数 1986/87	小学校就学率 1960（全体）男/女	小学校就学率 1986-88（全体）男/女	小学校就学率 1985-88（正味）男/女	小学校の第1学年に入学したものが小学校を終了する率（%） 1985-1987	中学校進学率 1986-1988（全体）男/女
5歳未満児死亡率(U5MR)が中程度の国(31-94)中央値	75/65	86/77	226/82	95/85	105/104	90/89	76	58/55
84 中国	../..	82/56	184/17	../..	140/124	99/91	68*	50/37

凡例
.. データなし。
* ユニセフ現地事務所からの報告。
(.) 表示単位の半分に満たないもの。
T 総計（中央値ではない）。
X,Y オックスフォード大学出版局刊

THE STATE OF THE WORLD'S CHILDREN 1990 参照。

真の開発の進展を測る

一九九〇年代の開発がもっと人間の顔をしたものになるとすれば、それに対応して人間的、経済的進展について知る方法が必要になってくる。ユニセフの見解ではとくに、子供の福祉水準やその変化について知るための統一された方法が必要になる。

表9はそうした進展の指標として五歳未満児死亡率（U5MR）を使っている。

U5MRにはいくつかの利点がある。第一の利点はU5MRの値が各種の「インプット」—就学率や一人当たりのカロリー摂取量、人口一〇〇〇人当たりの医師の数（これらのすべてが目的達成のための手段である）—ではなくて、いわば開発の過程の最終的な結果を示せることにある。

第二にU5MRでは「多様なインプットの結果」つまり栄養状態や母親の保健知識、予防接種や経口補水療法の使用水準、母子保健サービス入手の可能性（出産前の介護を含む）、家族の所得や食糧入手状態、きれいな水や衛生設備の入手の可能性、子供を取り巻く環境の全体としての安全性などの多様なインプットの結果について示すことができる。

第三にU5MRはたとえば一人当たりのGNP（国民総生産）などのように平均の落とし穴に陥ることが少ない。これは所得などの人為的な尺度では貧富に一〇〇〇倍もの開きがあり得るとしても、自然の尺度ではそんなことはあり得ないことによる。豊かな人々の子供だからといって、貧しい人々の子供より一〇〇〇倍も長生きするわけはないからである。いいかえればU5MRは豊かな少数者の存在によって大きく影響されないので、大多数の子供（同時に社会全体）の健康状態について、完全とはいえないまでも、より正確な現状を示すことができることになる。

ユニセフが国の子供の状態を示す単一の最も重要な指標としてU5MRを選んだのもそのためである。したがって統計表（表1～8）も、世界の国を一人当たりのGNPの少ない順にではなく、U5MRの高い順に配列してある。

進展の速さを測る

U5MRを減らす上での進展の速さは、U5MRの平均の低下率（AARR）を計算することによって知ることができる。AARRはU5MRの絶対的な増減を比較するものではなく、U5MRの水準が低くなるとともにU5MRをさらに引き下げるのが困難になるという事実を反映している。U5MRの水準が低下すると、絶対的な低下ポイント数が同じでも、低下率が大きくなる。たとえば、U5MRが5ポイント下がった場合、それが低いU5MRの国で起こるほど、速い進展があったことになる（U5MRが一〇〇から九〇に一〇ポイント低下すれば一〇%の減少だが、二〇から一〇に減れば五〇%の減少ということになる）。

したがってU5MRやその低下率をGNPの成長率と合わせて使うことで、任意の国や地域、または任意の期間内の最も重要な人間的ニーズの充足に向けての進展の度合いが分かることになる。

表9からも分かるように、U5MRの低下率と一人当たりのGNPの増加率の間には一定の関係はみられない。このことは政策や優先事項その他の要因によって、経済的進展と社会的進展との比率が変化するという事実を強調している。

表9には各国の総出生率やその年間の平均の低下率も合わせて示してある。これらのデータからU5MRをかなり低下させた国の多くが、同時に出生率をかなり低下させていることが分かる。