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EVALUATION OF TEACHING AND RESEARCH IN PUBLIC HEALTH, BASED ON THE EXPERIENCE OF THE INSTITUTE OF PUBLIC HEALTH, TOKYO, JAPAN

by

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A. GENERAL BACKGROUND AND THE RECENT DEVELOPMENT OF PUBLIC HEALTH PROBLEMS IN JAPAN.

1. In these several years Japan was fortunate to experience a rather successful economic growth, with a remarkable increase of gross national products and incomes, resulting in the improvement of national level of living, including health conditions of the nation.

However, too rapid progresses of industrialization and urbanization, accompanied by profound changes of mode of living, have caused some distortions and confusions in the daily life of the people.

Industrialization, with the oil industry at the top, attracted a large number of rural population to urban areas where the necessary provisions, such as dwelling, water supply, transportation, etc., were not prepared to receive such a great influx of population on the one hand,

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and at the same time caused an aggravation of environmental conditions, such as air and water pollution, accumulation of refuse, sinking of the ground, noise, etc. on the other hand.

Urbanization induces not only extreme overpopulation in limited urban areas but also underpopulation in remote rural areas, where the sparsely distributed inhabitants cannot utilize modern medical and welfare facilities or services.

2. The improvement of general health of the nation resulted in the prolongation of life span and the increase of the proportion of the aged, and the social and medical services for the old are becoming more and more important year by year.

The National Pension Law and the Aged Persons Welfare Law were made in 1959 and in 1963. Along with these provisions the adult health programmes have been strengthened, such as for cancer, cardio-vascular diseases, especially cerebral haemorrhage, etc.

General adoption of family planning gave remarkable influences on the fertility (net reproduction rate was under 1 in 1960s) and the size of a household (3.9 persons in 1967). This may be another cause of relative increase of the proportion of the aged population, and it began to be blamed by the industrial circle which is now facing the problem of how to get sufficient labour force needed for a further economic development in the future.

3. Parallel with the rapid expansion of industry and the increase of industrial workers, the problem of industrial diseases and injuries as well as their prevention is becoming more and more important. Ever repeating explosions of coal mines of various scales, accompanied by the acute and chronic CO intoxication, silicosis, white wax diseases of wood-cutters caused by the use of chain-saw, benzine intoxication of sandal makers, key puncher's disease, also the mental fatigue by the vigilance activities gazing at complicated gauges, etc. are some examples of such industrial health troubles.

Though the development of agriculture looks rather retarded, as compared with that of manufacturing industry, efforts to increase the productivity in agriculture were made so strenuously that burdens of work on the farmers and the farming housewives particularly became heavier notwithstanding the wider use of farming machines, effective insecticides, chemical fertilizers, etc. Mechanical and electrical injuries by the agricultural machines, acute and chronic intoxications by various chemicals especially in venyl-houses, i.e. simple greenhouses, as well as the prevalence of zoonoses are of great concern among the rural population.

4. The physical examination of school children and the National Nutrition Survey which are made annually indicate the improvement of physical growth of children and the general nutritional status of the whole population judged by the size and weight of body. However, the muscular strength, physical and mental action tests, and some

physiological functions do not show so remarkable changes as compared with morphological improvement.

There is no consensus of opinions on the advantage and disadvantage of too much acceleraled maturation, physical and mental, of youngsters, i.e. a phenomenon of prematurity.

The intake of animal protein and fat has been encouraged to substitute a too large amount of carbohydrate in Japan and it has not yet reached the standard level of the European and American nations. However, the average length of life at birth for the Japanese male (67.7 in 1966) can be compared with that for the American white male (67.6 in 1966) in these years. And also the merits and disadvantage of dietary habit with rice as a staple food-stuff must be thoroughly studied as an important problem for the rice-eating nations in the world, not only on the nutritional value of rice in a limited sense, but also on the ways of polishing, storage, transportation, cooking, seasoning of rice, as well as the specific mode of living connected with the cultivation of rice in the water field. Such comprehensive ecological studies on the mode of living with rice as a staple food in connection with the prevalence of various diseases must be taken up under the cooperation of various countries in the world, it is gradually recognized in Japan.

Progress of food industry to supply various kinds of processed or half-prepared so-called instant foods made the problem of chronic effects

of food-additives on the health of people very serious. Accidental contamination of arsenic in powdered milk, and chorine in cooking oil were the worst examples on a fairly large scale in Japan, though non-accidental chronic poisonings are more important for the preservation of health of the people.

5. Congestion of working population in urban and industrialized areas makes the solution of housing problem very urgent in such areas.

The change of type of dwelling from the wood-made houses with wide windows and openings to facilitate ventilation to the air-tight rooms in concrete apartment houses often causes some hazards through insufficient combustion.

Even the construction of a new town sometimes accompany the shortage of water, insufficient disposal of refuse and waste, inconvenient transportation, etc.

The necessity of a well-studied town-planning is widely recognized by the people themselves.

6. Not only due to the development of industrial and business activities but also by the rapid growth of tourism and recreation, the means of transportation are nearly paralyzed at times or in some seasons, and in some places.

Accidents by car are increasing, accompanied with serious injuries and mortal victims. Fatal accident rate per car is said to be higher in Japan than in U.S. and European countries.

7. As compared with the remarkable economic growth, the development of health and welfare services are criticized to be rather slow. True as it might be, still some social security programmes are in progress, such as the care of mothers and children, the aged, the physically handicapped, and the mentally retarded, the public assistance for the low-income group, rehabilitation services for the injured and the chronically ill.

Health insurance systems of various kinds are covering the whole population in Japan and almost all medical services (97% of total cost) rendered to the nation are provided, financially or legally, directly or indirectly through some kind of health insurances. But the present system is far from ideal and is criticized by both physicians and patients. The most important problem is how a sufficiently high level of quality of the health insurance services can be preserved. In order to solve this broad problem a number of specific problems come up for our careful study, such as the comprehensive health service including both prevention and treatment, cooperation of the official institutions and private physicians, division of responsibility and collaboration between hospitals and small clinics, team work composed of physicians and other para-medical personnel, distribution of health and medical institutions considered geographically and according to the quantity and the quality of the need, education and training of health and medical personnel sufficient in number and in quality, financial and legal provisions needed for such developments, etc.

B. MAJOR HEALTH PROBLEMS AT PRESENT IN JAPAN.

Summarizing the facts described above, the main health problems which Japan is now faced with (including some items not discussed above) are:

a. Urban and rural health planning within the frame of the Comprehensive National Development Plan;

b. Adult health and geriatric services;

c. Maternal and Child Health, correct guidance to family planning and national eugenics, including prevention of congenital malformations;

d. Guidance on nutrition concerning traditional and reformed diet for the specific age and occupational groups;

e. Recovery of backwardness of conventional environmental sanitation;

f. Control of environmental pollution, such as air and water pollution, noise and vibration, offensive odour, radiation, etc.;

g. Participation in housing and town-planning projects of the representatives of public health professions;

h. Accident prevention and the establishment of emergency service system especially for the traffic accidents;

i. Food sanitation, particularly the prevention of acute and chronic intoxications of bacterial and chemical origins, as well as those by food additives;

j. Supervision and control of drugs and medical equipments as well as methods of operation to avoid absurd side-effects and mishaps caused by medical treatments i.e. so-called iatrogenic impairments of health;

k. Industrial and agricultural health services;

l. Health and medical services as essential parts of social security;

m. Integrated system of health and medical care services;

n. Reorganization of health centre nets corresponding to the new phase of social development;

o. Promotion of researches in health and medical sciences and technology along with their practical application;

p. Introduction of information science and computor technique in the field of public health;

q. Education and training of health and medical personnel, including physicians and para-medical professions of various kinds.

C. CRITICAL REVIEW OF THE TEACHING ACTIVITIES IN THE PAST FEW YEARS FOR THE PUBLIC HEALTH PERSONNEL IN JAPAN AND SOME FUTURE PROBLEMS.

1. Demands for the health and medical services expanded enormously in the past few years, due to the increase of the aged population, advanced knowledge on health and medicine among the people, widening scope of social security services, rapid increase of the numbers of clinics and hospital beds, especially the awakening of labouring population to organize themselves to participate in and to demand health and medical

services provided in their communities. As compared with this rapidly expanding demand, the supply of health and medical personnel of various kinds, physicians, nurses, and midwives alike, is remarkably insufficient, and the situation does not seem to be improved unless strong and effective measures are taken up.

The Institute of Public Health in Tokyo, commemorating its 30th anniversary last year, held a symposium on the subject "Changing Society and the Development and Utilization of Human Resources in Public Health" where the participants supported the establishment of an official central body such as the National Council for the Training of Public Health Personnel, which is responsible to find and recommend to the government the definite principles to meet the increasing needs for such personnel. Both the national and local governments should have the responsibility to accomplish such recommendations.

2. Scholarships for the medical students who agree to be health officers after graduation have been provided by the Ministry of Health and Welfare since several years ago to invite more young doctors into the field of public health. However, the result was not satisfactory. Another attempt was made by some local governments to increase salary base for such young doctors, in order to encourage new graduates into the career of health officers. Though it achieved a success to some extent, young doctors were not concerned about the salary during the period of apprenticeship, but more interested in higher incomes at their golden age.

Considering the ineffectiveness of economic or financial assistance, some measures shall be considered and brought in practice to inspire active interest in the supreme mission of public health work or in scientific and administrative researches necessary for the execution of public health programmes.

3. Recent student troubles especially in medical schools impaired a great deal the recruitment of young health officers in health centres and health departments. The Institute of Public Health had a difficulty in inviting a sufficient number of students for the health officers course.

As the medical students are criticizing severely the present system of education on clinical medicine and also the existing medical care and health insurance system, some of them who are not content with the now-a-day's clinical activities, particularly of the general practitioners, are rather inclined to proceed in the field of public health. Friendly discussion with the medical students and young doctors for a mutual understanding on the mission of medical profession and the direction of medical reform may open the way for the strengthening of medical staff in public health works.

4. In spring, 1968, the Japanese Government amended the Medical Practice Law to abolish the internship and allow all the successful graduates from medical schools to take the National Examination for Medical Practice, encouraging at the same time to accumulate practical experience in clinical medicine with a fair amount of national allowance for two years.

Parallel with this post-graduate training programme on clinical medicine, the post-graduate training programme on public health for two years is now being formulated. Orientation to public health services and field experience shall be given by the prefectural health departments and educational health centres in the first year after the employment, followed by a systematic education in the Institute of Public Health for one year leading to the Diploma in Public Health after a few years service in prefectures or large cities. This type of post-graduate education will be assisted by the national allowance for two years.

This programme is not yet finally decided, but will be established without any essential changes.

5. In the above-said symposium, held at the Institute of Public Health, Tokyo, in June 1968, it was mentioned that there are two categories of students in the Institute; one is those who are or will be responsible for the administration in public health, and the other is those responsible for various specialist activities. Though these two categories of students are trained separately if necessary, they are taught together very often. And the students of the former category wish to receive more intensive teachings in social, administrative, behavior, communication sciences and the like. On the other hand, the latter category students express their desire to have more advanced technical instructions in their specialties.

The teaching staff of the Institute are trying to revise the curriculum to meet the desire of students, but they find it almost

impossible during the period of one year and propose the establishment of more advance course leading to Doctor Degree or its equivalent.

They are of the opinion that at the early stage of professional education of public health personnel the emphasis should be placed on the consolidation of DPH/MPH courses, but the establishment of Doctor courses will become necessary along with the social development of a country, although the adequate time shall be determined according to the actual situation there.

6. Remarkable development of industrialization and urbanization requires the intensification of departments related to the environmental sciences and technology. The Institute of Public Health, Tokyo, established the Department of Radiological Health in 1962, and also the Department of Community Environmental Sciences in 1967, and these departments, together with the other Departments of Sanitary Engineering, Architectural Hygiene, Pharmaceutical Public Health, Industrial Health, and Veterinary Public Health, are prepared to train students and make researches in this field of sanitary preservation of community environment. DPH course for the engineers responsible for the control of environmental pollutions maintains somewhat higher level of knowledge and technique than the other DPH courses even now, and shall be elevated to the Doctor course in the future.

7. In order to meet the specific needs at the transition stage, the Institute of Public Health, Tokyo, began to give advanced courses, duration of which is usually several weeks, on specific topics, such as

health centre administration, adult health services, epidemiological methodology, meat and milk hygiene, and inspection of sea-foods and fish products.

Future plans will cover such subjects, as food additives, regional health planning, etc.

8. Other problems which the Institute of Public Health, Tokyo, is now confronted with are the opening of special course for the medical social workers, establishment of the Department of International Health, and the introduction of information sciences into the field of public health equipped with an electronic computor set, accompanied by the reorganization and strengthening of the Department of Biostatistics.