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**MEDICAL RESEARCH IN THE THIRD FIVE-YEAR PLAN IN CZECHOSLOVAKIA**

[Translation]

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MEDICAL RESEARCH IN THE THIRD FIVE-YEAR PLAN IN CZECHOSLOVAKIA

Casopis Lekarů Ceskych  
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Unsigned Article

Introductory Statement at the Plenary Session of the Scientific  
Board of the Ministry of Health on 24 November 1959

For the past two years we have concerned ourselves with the long range perspectives of the development of public health. This was a task set before the scientific board of the Ministry of Health on the basis of resolutions of the All-State Conference of the Czechoslovak Communist Party (KSC) which had indicated that all departments must work out their long range plans up to year 1975.

At that time we already had in back of us experience gained at the Jevany meeting in June 1954, at which we prepared the groundwork for the Second Five-Year Plan and first gave thought to prospects in the year 1960. In 1957, we were even better prepared from the organizational standpoint. The scientific board had acquired a wider organizational base, founded on the new statute of the scientific board, which defined the principles of interdepartmental cooperation in planning and execution of research, principles which had been tested in practice. During this time the scientific advisory council of the medical agency, which was carrying out in Slovakia the work of the scientific board, was likewise enlarging its field of action. Having finished our preparations in the academic, educational and public health fields, in Bohemia and Slovakia under the chairmanship of the scientific board and with the participation of the scientific advisory council of the medical agency we were ready on 20-22 November 1957 to fulfill the task set before the scientific board on the basis of the resolutions of the All-State Conference of the KSC.

In a three day plenary meeting we carried out a detailed evaluation of the situation and outlined further perspectives of the main sectors of our medical program. Then on the basis of a critical analysis of the available demographic and other statistical material we worked out a hypothesis of the probable further population and medical evolution of the inhabitants of the Czechoslovak Republic up

to the year 1975. The chairmen of the scientific board which evaluated the action of the plenum in its meeting on 10 December 1957, summarized the conclusions that were reached in the following theses, which determined the principal directions that the tasks of the Ministry of Health should take for the next 15-20 years:

1. Strengthening of the Preventive Orientation of Czechoslovak Medicine

In order to speed up the process of providing for a healthier population and to eliminate the threats to it, implicit in the swift evolution of technology and new types of activity present in the building of socialism, it is necessary to place prevention in the forefront among the methods of medical work.

It is necessary that with the common effort of all elements responsible for the development and building of our national economy, and with important cooperation of hygiene specialists and epidemiologists, the living and working standards be raised in the building and rebuilding of homes and industrial sites, in working out regimes of work and rest, physical education and sports, in raising the nutritional level of the people and in assuring effective anti-epidemic work.

It is essential for the principles of preventive medicine to become the foundation and the mainspring of every kind of medical activity from the district physician to the highest scientific and pedagogical workers.

It is essential that the principles of a healthy life penetrate fully with the help of various methods of enlightenment-into the consciousness of our people.

2. Development of the New Generation

In order that the young growing generation may develop into a new healthy population, it is necessary to further raise our efforts in care for the mother, the child and the youth.

In order to prevent the defects that have marked the present adult population we must further improve prenatal care and management of deliveries, must struggle unflaggingly with the mortality of the newborn and the infants, must increase the vitality and resistance of the physical and mental resources of children and youth.

### 3. Struggle with the diseases and unhealthy phenomena that have been increasingly endangering the health of the population

From an analysis of the previous and expected evolution of medical attitudes of our population the following tasks emerge as the most important:

- a) Elimination of tuberculosis as a mass illness.
- b) Lowering of the incidence of communicable diseases as much as possible and working out of a plan for their gradual elimination.
- c) With the help of and under the leadership of scientific research concentrate efforts on preventive mastery of the greatest ills stemming from increase in mass incidence of diseases of the heart and blood vessels and of malignant growths.
- d) To pay increased attention to other large scale diseases, particularly respiratory diseases, rheumatism and the nervous and mental disorders.
- e) With the cooperation of all elements, cooperatively struggling with the prevention of injuries, to substantially lower the incidence of injuries.

### 4. The Problems of the Aging of the Population

It is necessary to pay increased attention to the problems stemming from an addition of old people. It is further necessary to seek ways of lengthening man's active life span and to postpone the approach of old age.

The method by which the scientific board undertook the difficult task set before it was repeatedly and thoroughly evaluated by the leading members of the Ministry of Health and other policymaking bodies and the conclusions which we reached as well as the underlying basic materials which we had prepared, became the starting point for further planning considerations in the department.

The materials were used for the working out of a suggested long range concept of the evolution of medicine, which became the basis for the action of the XI Congress of the KSC and following its resolutions, was further developed. All this activity has fundamental significance from the standpoint of the main long range tasks as pronounced by the congress, that is that we should in the shortest possible time complete the socialist structure of our fatherland. After all reaching this goal is unthinkable without the creation of a long range concept in

perspective for all the sectors of our national economy and our society, a concept which would be best suited for sensing the anticipated needs and possibilities. Only thus is it possible, in individual five-year stages, on which we base our long range planning, to achieve those far-reaching economic and social structural changes, which form the premise for achieving socialism and then transition to communism.

I was reminded of the long term perspectives because just now we are living through an important period of carrying out the directives of the Third Five-Year Plan. The government issued in its resolution No 858 on 10 October 1959 "Directives of the Central Committee of the KSC and the Government for Carrying out the Third Five-Year Plan for the Development of the Czechoslovak National Economy for the Years 1961-1965" and also outlined the tasks for individual branches and departments.

These directives are illuminated in a very marked way by the tendencies and viewpoints that arose from the deliberations of the scientific board of the Ministry of Health in June 1954 in Jevany and in November 1957 in Prague. I think we can state with a sense of pride and pleasure that both these plenary sessions of the meetings of the scientific board of the Ministry of Health enter our young history as important working milestones.

We take this opportunity to acquaint you with the content of the directives, insofar as they touch on the problems of public health, particularly science in public health.

Goals in Public Health. According to the directives, medical care is to place even greater emphasis on preventive care and has to first of all create a good living and working environment. In cooperation with the groups responsible for development of our public health medical care has to take stronger and more definite measures for protection of air, water and soil against pollution. It has to widen its struggle against accidental injuries.

Within the department of preventive medical care an important task will be development and improvement of ambulatory care and services, particularly in the large cities, mainly by developing the district system of work. Further it is ordered that all health districts should be furnished with permanent qualified health workers. At the same time the number of inhabitants for each district doctor is to be decreased so that in 1965 there is to be one district doctor for 3,750 inhabitants. In the districts it will be necessary to complete the specialist services such as the pediatric, gynecologic, obstetric and dental and enable the population to have specialists close at hand by an organized system of polyclinics and unified hospitals.

In factories the health measures should be concentrated on the struggle against the most frequent diseases of the workers, on care for the working wives and youth (adolescents) and on the workers who have an altered work ability.

According to the directives extraordinary care is to be devoted to children, mothers and youth. Particular emphasis is given to the need to continue the effort to lower infant mortality and improve the care of school children. Ideas are to be formulated for increasing the birthrate.

In so far as the development of the network of health measures one of the first tasks is to increase the number of places in nursery schools by 35 % in 1965. At the same time it is added that this figure is to be considered the minimum and steps are to be taken for substantially surpassing that figure. Particular emphasis is to be placed on building of factory nurseries and nurseries in new dwelling units. The number of beds is to be increased from 12.22 per 1000 inhabitants in 1960 to 13.67 in 1965, out of which figure the hospital beds to be increased from 7.60 to 8.10 in 1965. However, the number of beds indicated is maximal and is not to be surpassed.

The number of physicians' units must be enlarged so that in 1965 in the state health organization there will be 19 physician units per 10,000 inhabitants as compared with 17.35 units in 1960. At the same time in ambulatory districts the number of physician units is to be increased from 10.4 in 1960 to at least 11.5 in 1965.

The manufacture of health needs is ordered to produce sufficient quantities of necessary medicines, sera, immunizing materials, dental preparations, orthopedic articles, eye glasses, veterinary drugs, antibiotics, for feeding as well as other purposes, also other materials for the food industry and for agriculture. At the same time it is ordered to increase its export of products of the medical industry by 1965 by at least 85 % as compared with 1960.

This much then in the briefest possible summary concerning the tasks established by the directives of the Third Five-Year Plan for public health. Due to the lack of time we cannot enter into further details. However, the members of the management committee of the scientific board, who had deliberated in two sessions over the foundations for the suggested directives in the field of public health, recall, how many studies had to be carried out and how many problems had to be clarified before the suggestions could be incorporated into the few above-mentioned concise formulae.

While the Ministry of Health was completely responsible for preparing the foundation for directives concerning the public health service and production, the government entrusted the preparing of the foundation for scientific directives to the Czechoslovak Academy of Sciences. Within the framework of the Czechoslovak Academy of Sciences a special committee with subcommittees was created. In this committee, according to scientific branches, with the uninterrupted working participation of all interested departments, were on the one hand prepared the basic themes of the scientific problems, while on the other hand, depending on what kind of problems had to be solved, were prepared the foundations for development of the network of scientific-research establishments.

Out of these deliberations, in which were realized in the widest sense conclusions, ideas and plans worked out by the scientific board of the Ministry of Health, flowed out the following main lines of the linked scientific-research tasks which were incorporated into Directives III 5LP for public health:

In the category of protection of the living and working environment against the effects of ionizing radiation it is necessary to direct the efforts to the study of (dosimetry) dosages or levels consonant with the needs of public health, to research of radioactivity of the external environment, to fundamental radiobiological research and research in prevention of radiation sicknesses.

In the category of public health care in the face of increased chemical elements in our life environment it is necessary to solve the public health problems caused by insecticides.

In the category of rational human nutrition it is necessary to study the influence of fat nutrition on certain bodily functions as well as appearance of pathological conditions under the influence of foreign matter in food on the health of the population; also problems of child nutrition with the view of physiological development of the bodily functions, as well as questions concerning the scientific basis of nutrition under difficult circumstances of life and work.

In the category of epidemiology and microbiology it has been ordered to study bacterial and viral diseases of the respiratory system, particularly streptococcal infections with the view of sidestepping rheumatic fever, study of influenza and effective immunization against influenza, study of neuroinfections, epidemiologic and clinical study of tuberculosis, study of infectious hepatitis, study of staphylococcus infections, study of the mechanism of immunity and its meaning for resistance of the organism, as well as study of natural foci (habitat) of certain human and animal infections.

In the category of the development of the new generation emphasis must be placed on the study of the physiology and pathology of ontogenesis in childhood, study of the causes of congenital developmental abnormalities and other damage done to the human fetus during pregnancy, the study of nerve activity in childhood and influences which either damage it or deform it, study of physical and mental development of youth, study of respiratory diseases in childhood, study of the later stages of ontogenesis and experimental study of long and short livedness.

In the category of arteriosclerosis a study of the disease is ordered with the use of epidemiologic methods, experimental and clinical study of lipid metabolism relation to arteriosclerosis, study of diseases that predispose to arteriosclerosis, study of the prevention and treatment of experimental and clinical arteriosclerosis, and study of the meaning of pathogenesis, clinical aspects and therapy of ischemic heart disease.

In the category of malignant growths it is necessary to direct the research toward the study of the mechanism of tissue becoming malignant and development of tumors; study of biochemistry of tumor growth, immunology of the tumor experimental and clinical study of the chemotherapy of malignant tumors and biochemical, cyto-morphological and clinical study of pre-cancerous conditions.

In the category of the study of the health of the Czechoslovak population it is necessary to concentrate on the study of over-all morbidity of the population, the study of morbidity being joined with the study of work disability or invalidism, study of the causes of death, study of certain important specialized groups of diseases and research into new methods of study of morbidity.

In the category of new drugs it is necessary to develop research and production of original drugs against conditions which are the most frequent cause of disease or death. Out of the detailed list enumerated in the directive we cite some of the more significant ones:

Effective cytostatic drugs are to be prepared against malignant growths either by synthetic or biological means. In the category of drugs against the diseases of the cardio-vascular system a new drug must be found with long-lasting hypotensive action, and also a new substance with heparin activity is to be put into production. For the struggle against the communicable diseases special studies must solve and develop problems of the new chemotherapy and antibiotics, particularly against tuberculosis, against staphylococci and certain viral diseases. Also a whole series of new vaccines must be prepared: against measles, against encephalitis, against hepatitis, and new more effective substances must be prepared against influenza and poliomyelitis.

In the category of drugs which affect the nervous system it is expected that new spasmolytic, antihistamine and ataractic drugs will be prepared. In the category of steroid hormones the solution of the problems of preparation and production of hydrocortisone and prednisone must be completed.

This much then concerning the standard main tasks for the Third Five-Year Plan. Together with complete clarification of these tasks in the last year a great deal of effort was spent on working out trustworthy means of assessing adequate manpower and materials for further research. In the committee of the Czechoslovak Academy of Sciences analysis of scientific work in Czechoslovakia was carried out. The main aims of our research were compared with the ones followed in the rest of the world and the comparison was favorable. An attempt was made to compare expenditures devoted to research in Czechoslovakia to that in other countries. The results showed that the funds that we devote to science and research are in a favorable relation to funds similarly spent in other advanced countries.

Particular attention was then concentrated on the question of the number and quality of manpower in research. The comparison to foreign countries particularly to the USSR is not favorable to us. In the USSR there are at present 270,000 scientific workers (of these 100,000 with a doctor's degree or BS), in USA there are about 220,000 scientific workers devoted to research, in France 90,000. In Czechoslovakia in academic and special institutions (exclusive of the medical faculty) there are only 2,650 scientific workers. In addition in our country in research there is a ratio of one scientific worker to ten workers with lower qualifications, while abroad there is a ratio of one scientific worker to two-three other workers. Therefore the question of improving this unfavorable ratio was looked into as well improved qualification of workers active in scientific institutes. Principles were established for creating better conditions for finding and educating scientific workers. In addition the importance of providing scholarships for scientific work was stressed, in selected academic or departmental institutes, occasionally even abroad. The importance of making better use of institutions of higher learning in scientific work was also stressed.

Insofar as the public health situation was concerned it was stated that out of all workers active in Czechoslovak research only 12 % are active in public health research. In addition the ratio of scientific workers to other categories is less favorable than the country-wide average. There are only 7 % of scientific workers in this field. This unfavorable number of course depends considerably on the large bed capacity of the clinical research institutes.

Thus the directives emerging from this analysis state that by 1965 the number of scientific workers in public health research was to be increased at least by 10 %, and eventually by 13 %.

On the basis of analysis of the present day condition of public health research in relation to expected goals a special group of directives were issued for the basic scientific research in public health up to 1965. In this group of directives it has been ordered:

To set up an institute of experimental therapy and, within the meaning of the government resolution No 751/58, a pediatric research institute and a psychiatric research institute as well.

To set up a subsidiary of the balneological research institute (in the future to have: institute for physiatry, balneology, and balneotechnology) in Slovakia, and direct it mainly to bioclimatological research.

To set up a subsidiary of the Research Institute of the Hygiene of Work and Occupational Diseases in Ostrava and direct it to the research of hygiene of mines and shafts, and in Pribram and Jachymov to set up a subsidiary of the same institute for the study of the hygiene of mining and handling radioactive raw materials.

In the whole public health research to strengthen the physiological and pathophysiological part and in all departmental research institutes to build experimental physiological laboratories. The bed capacity of the public health research institutes should be limited to 80-100 beds.

To assure the building of a research institute of endocrinology in Prague and an institute of clinical and experimental surgery in Prague.

To organize a central workshop for the study of isotopes in the vicinity of the KRC institutes of public health, and to ensure its building. To create the right premises for organizing a gerontological workshop.

In order to safeguard these goals appropriate quotas for investment in development of manpower are included in the directives. Then later at the ministry we made the necessary preparations for carrying them out. The greatest progress has been made in the KRC area, where on the site south of the Thomayer hospital, near the institutes of the Czechoslovak Academy of Sciences, the above-mentioned institutes are to be built in the Third Five-Year Plan and where by 1970 from 9 to 11 of the Prague institutes of the clinical type are to be concentrated.

The XI Congress of the Czechoslovak Communist Party has raised the importance of science and has emphasized that the completion of the socialist structure requires maximal development of science. On the other hand the scientific board approached the appointed tasks with the resolution to coordinate more and more purposefully the activity of scientific and research workshops, in order to bring our scientific workers closer to the solution of the key questions. The directives of the Third Five-Year Plan that we have just enumerated take that very step forward that is necessary for carrying out their great task. If we have, at the present time, reached a qualitative and quantitative scope and breadth, due to the efforts of the country, the government and the scientific workers, which can compare to none in the past, then these directives for the Third Five-Year Plan open up further horizons which will greatly surpass all that we have now. It is a joy to live and work in a time which sets us such tasks. It is up to us to fulfill them.

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