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STAT

THE ORGANIZATION OF PUBLIC HEALTH

IN THE USSR

MEDGIZ 1956

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FOREWORD TO THE FOURTH EDITION

This edition of the textbook has been substantially revised. Important events have taken place in the political and economic life of the country since the third edition was published eight years ago.

The vast programs of socio-economic and cultural construction set forth in the post-war five-year plans, the historic decisions of the party and government regarding the subsequent expansion of heavy industry and agriculture, and improvements in secondary and higher education and in the training of cadres have confronted Soviet public health with new problems.

The directives of the Twentieth Congress of the Communist Party of the Soviet Union in connection with the Sixth Five-Year plan for developing the national economy of the USSR from 1956 to 1960, which represent a new and important step forward in strengthening the socialist economy, solving the problems of creating an abundance of consumer goods, and building a communist society in our country, are making still greater demands on public health.

Major reforms in different branches of public health instituted in recent years have fostered the development of new forms and methods of operations in the various medical institutions.

The amalgamation of outpatient and polyclinic institutions with hospitals, furnishing the rural population with specialists' services through strengthening the regional units of the public health organization, extensive use of the dispensary system for both the urban and the rural populations, reorganization of medical science and public health training on the basis of I. P. Pavlov's teachings in physiology, introduction of new forms of medical reports and new methods of investigating morbidity of the population -- all these outstanding achievements and changes of recent years have had to be reflected in the textbook, with appropriate reworking of certain chapters.

Middle echelon medical personnel, particularly feldshers and midwives, are playing an important role in Soviet public health, notably in village feldsher-midwife stations, health rooms in commercial establishments, and sanitary-epidemiological stations. It is extremely important to equip these middle echelon medical personnel with the essential data of public health organization, an understanding of their tasks, and an ability to evaluate the effectiveness of their work.

The content of the textbook conforms to the new curricula of medical schools of all kinds. Thus, the section on sanitary-anti-epidemic work has been expanded both in the form of a special chapter and in the exposition of the tasks confronting all the other divisions of public health; there is a new chapter on planning and financing; the section on rural medical services, in which the work of feldshers and midwives play such an important role, has been enlarged.

Stocktaking, reports, and work indicators of the individual institutions have been described in terms of the new report forms.

CHAPTER 1

PRINCIPLES AND HISTORY OF SOVIET PUBLIC HEALTH

Basic Principles of Soviet Public Health

Public health is a system of state and public measures that aims at preventing and treating diseases, at protecting the health of the population. It pertains to the political and legal superstructure resting on the socio-economic base of a society.* The scope, nature of operation, and organizational forms of public health are determined both by the level of development of its productive forces and by the working relations existing between them.

The forms and nature of public health vary with changes in the socio-economic system of a society. Each socio-economic system, whether slave-owning, feudal, capitalistic, or socialistic, has its own way of organizing public health, which corresponds to the level of development of its productive forces and status of medical science, and reflects the prevailing social and economic relations.

In a class society the organization of public health bears a clearly marked class character and serves the interests of the ruling groups. The development of public health in a bourgeois society is affected by the interests of capitalist production, which is seriously injured by the spread of diseases, particularly epidemics, among the population.

Soviet public health is the highest form of public health and a qualitatively new stage in its history. It serves the interests of all the people and is an inseparable part of the Soviet governmental system and overall building of socialism. In a socialist society human beings, the builders of socialism, are its most precious capital. Hence, concern for human beings, for preserving their lives, health, and work capacity constitutes one of the most important governmental obligations of a socialist economy and culture.

*By superstructure is meant the political, legal, religious, artistic, and philosophical views of a society and the corresponding political, legal, and other institutions; the base of a society is the economic system functioning at a given stage in its development.

The objective of socialist industry, unlike that of capitalist industry (to obtain profits), consists of satisfying human material and cultural wants, which is the principal activity of the Soviet state. Medical care is a major need of the population.

The progress of Soviet public health depends on party leadership. The Communist Party and the Soviet Government are ever concerned with raising the people's material and cultural standard of living. The guiding hand of the party in Soviet public health, as in other branches of socialistic construction, is felt in the determination of basic problems and trends as well as in the daily supervision and help afforded the various health agencies in solving the current problems facing them at different stages in the development of the national economy.

The fundamental principles of party policy as regards the protection of the workers' health are reflected in key party documents and in the works of the founders of Marxism and Leninism -- Marx, Engels, and Lenin.

The major decisions of the party and government regarding the protection of the people's health are landmarks in the history of Soviet public health. The chief tasks of Soviet public health were defined in the Communist Party program adopted at the Eighth Congress in 1919.

The program of the Party states:

"The Russian Communist Party (Bolsheviks) regards the execution of broad measures of health and sanitation aiming at the prevention of disease as its principal activity in the field of public health.

Accordingly, the Russian Communist Party (Bolsheviks) sets as its immediate tasks:

1. The resolute implementation of broad sanitary measures in behalf of the workers, such as (a) improvement of health conditions in residential areas (protection of soil, water, and air); (b) establishment of communal feeding on scientific-hygienic principles; (c) organization of measures to prevent the outbreak and spread of contagious diseases; (d) enactment of sanitation legislation.

2. The control of social diseases (tuberculosis, venereal diseases, alcoholism, etc.).

3. The providing of accessible, free, efficient medical and pharmaceutical services."

Soviet public health is therefore based on the following principles: development of all public health measures within the framework of a single state economic plan; free and accessible efficient medical services; paramount importance of preventive measures recognizing the decisive significance of social conditions in safeguarding health and eliminating the source of disease; arousing the general public's interest in health matters; awareness of the close connection between public health and progressive medical science and technology.

Governmental control of Soviet public health explains why medical service is free and accessible, its distinctive feature. In the Soviet socialist state protection of the people's health and furnishing them with therapeutic and prophylactic facilities is taken care of by and at the expense of the state. During the five years after the war alone (1945-1950) the state spent about 100 billion rubles on public health. The 1954 budget allocated 25.3 billion rubles for public health and physical culture. In 1956 the sum rose to 35 billion rubles.

The rapid expansion of the network of urban and rural medical institutions, sharp increase in the number of doctors and middle echelon medical personnel, and extension of the medical network into the remote national oblasts of the Soviet Union brought medical facilities within easy reach of the people. This is due to the very nature of the Soviet system. Socialist humanism finds clear expression in Soviet public health.

The countries of the people's democracies (China, Poland, Czechoslovakia, Rumania, Hungary, etc.) have benefited from the Soviet experience in constructing their own health system.

The Soviet state acknowledges the right of every citizen of the USSR to obtain not only full medical attention, but also material assistance during illness, in old age or in invalidism at the expense of the state. Soviet mothers have the right to obtain the material assistance of the state during pregnancy, childbirth, and the rearing of their children. These rights are guaranteed by the Constitution of the USSR.

Article 120 of the Constitution of the USSR reads "Citizens of the USSR have the right to financial security in old age as well as in the event of illness and disability."

"This right is safeguarded by the broad development of social insurance of manual and office workers at state expense, free medical service, and establishment of an extensive network of health resorts for their benefit."

Social insurance, social security in old age, invalidism, and disability together with free medical service constitute the working class' greatest gains flowing from the victorious socialist revolution. They perform an essential function in improving the nation's health and in lowering both the sick rate and the death rate.

Soviet social insurance, provided wholly at state expense to all manual, office, and professional workers, significantly elevates their material standard of living.

State social insurance pays out allowances for temporary incapacity, sickness, pregnancy, and childbirth.

Social insurance agencies spend vast sums of money to build sanatoria, rest homes, pioneer camps, day nurseries, dietetic dining-rooms, and to promote sports and physical culture.

The USSR social insurance budget is steadily growing. The volume of state expenditures for social insurance may be judged by the figures for 1952 when the workers were paid various allowances amounting to more than 42 billion rubles. Every year state insurance funds pay for some 3 million workers in sanatoria and rest homes and for more than 5 million children in children's health camps.

Social security agencies spend huge sums from the state budget on pensions for the elderly, thereby ensuring them a peaceful, secure old age.

Soviet governmental concern is not limited to the activity of departments in the Ministry of Health. Billions of rubles are expended annually by labor unions, social security agencies, and industrial enterprises in order to protect the workers' health.

Governmental control of Soviet public health is responsible for the unity of purpose, tasks, forms and operational methods of medical establishments. All of them, whether part of the Ministry of Health system or of other departments, function throughout the country in accordance with a uniform plan and uniform methods, interlinked and so designed as to achieve the same objectives -- a reduction in the death rate of the population, continuous betterment of health, and an increase in the average life span by ameliorating working and living conditions.

In the bourgeois countries public health services are scattered among a host of state, social, private, and philanthropic institutions and organizations, which are uncoordinated and lacking in uniformity of plan or method of operation.

The organizational forms of Soviet public health changed at the various historical phases of the Soviet state, but the unity of Soviet public health with respect to plan, method of operation and coordination of Ministry of Health activities with departmental medical services under a national economic plan has remained intact throughout its existence.

As socialist construction proceeded and Soviet medicine developed the People's Commissariat of Public Health discontinued medical services to individual groups of people. These functions were taken over in the interests of greater efficiency by appropriate people's commissariats, which later became ministries, in connection with the expansion of the network of medical institutions serving these groups. This is how the medical service of the Ministry of Defense, Ministry of Communications, and Ministry of Internal Affairs came into being.

However, the existence of such departmental medical services in no way violates the principle of unity of Soviet public health. The leading medical agency is the Ministry of Health, USSR. Combining all aspects of medical activity, it ensures unity and completeness in providing the urban and rural masses with the needed facilities.

The scientific medical councils, higher medical institutions, and scientific research institutes headed by the Academy of Medical Sciences, USSR -- components of the Ministry of Health -- guarantee that medicine is progressing in the direction of meeting the practical requirements of public health. The scientific research institutes are developing the most up-to-date, effective facilities and techniques in the fields of sanitation and hygiene, diagnostics and therapy and helping to introduce them into the operation of medical institutions.

Finally, the unity of Soviet public health finds complete expression in the close combination of therapy and prophylaxis. This unity is most fully realized in the daily work of the district physician, in the district structure of medical care, and in the dispensary method employed by therapeutic and prophylactic institutions.

Another feature of Soviet medicine is the unity of theory and practice. Flowing from the achievements of socialist economics, the advances of Soviet public health are inseparably linked with the development of Soviet medicine, which in our country is founded on service to the workers.

The health ministries of the USSR and union republics and local health authorities regard the introduction of the newest and best techniques of treatment, diagnosis, sanitation and hygiene into the operations of the entire medical network as their most important task and a prerequisite to improving the quality of service.

Soviet public health has at its disposal a variety of ways in which to communicate the achievements of scientific medicine to all physicians and middle echelon personnel, namely, periodic all-union and local meetings of physicians in the various specialties, the medical press, active members of the public health organization, numerous scientific and practical conferences. Scientists as well as practical public health workers participate in these conferences, exchange experiences and report on major developments in both theoretical and clinical medicine.

The introduction of new methods of treatment, diagnosis, testing and approving new drugs is one of the most important assignments of the scientists connected with the medical councils and scientific research institutes.

The main specialists affiliated with the health ministries, oblast and urban health departments -- surgeons, internists, pediatricians, obstetricians, etc. -- are recognized as playing a big part in this work. These specialists provide general control and direction of the various branches of medicine. They help to introduce the latest drugs and methods of treatment, ensure standardization of use by all therapeutic and prophylactic institutions, and supervise the specialized and advanced training of medical personnel.

Oblast and rayon hospitals acquaint doctors, feldshers, and midwives with new methods of research and give them practical assistance.

A distinctive feature of Soviet public health as a branch of state activity is the fact that it is planned. The plan for public health is part of the overall state economic plan. The planned nature of public health ensures an even apportionment of funds, sound distribution of medical resources, and organization of the medical network for maximum efficiency and optimum satisfaction of the people's needs. It provides for a differentiated approach to the deploying of medical services in the various krais and oblasts, enables lagging rayons to be strengthened, and tends to eliminate the differences between urban and rural medical facilities.

Soviet public health has for its tasks not only the treatment of sick people, but also a general improvement in the health and physical development of the entire population, prolongation of life, lowering of mortality, elimination of various diseases, chiefly the infectious ones, a sharp decrease in all the other diseases and, finally, the creation of sanitary and hygienic conditions to prevent the occurrence of diseases. These tasks define the preventive or prophylactic character of Soviet public health.

Legislation to protect labor, defense of the interests of mothers and children, social insurance, advancement of the workers' material welfare, growth of literacy and culture -- all these achievements of socialism in the USSR create the necessary preconditions, the foundation of the extensive prophylactic activities of Soviet public health. N. A. Semashko has pointed out that we must not view prophylaxis as a narrow, purely bureaucratic function of public health bodies, but as a broad and deep concern of the Soviet government. Strengthening health through preventive measures has been the underlying philosophy of Soviet public health at every stage of its history up to the present day, a period that is witnessing the transition from socialism to communism.

In the Directives of the Twentieth Congress of the Communist Party of the Soviet Union on the sixth five-year Plan for expanding the national economy of the USSR it is written: "To ensure the subsequent development of public health, raise the standard of prophylactic activities of public health bodies, and improve the quality of medical service to the population."

The Directives make it necessary "to intensify efforts to protect labor and prevent illness among manual and office workers as well as to safeguard the water supplies, atmosphere, and soil from contamination by industrial waste products."

The prophylactic activities of Soviet public health consist chiefly of executing public sanitation measures to purify the external environment. These include safeguarding of the air, soil, and reservoirs, medical inspection of foodstuffs, housing and communal construction, and sanitary conditions in industry, school, etc. Execution of the necessary sanitation measures is provided for by Soviet labor and sanitation legislation. Responsibility for its implementation rests with the public health agencies.

The preventive philosophy of Soviet public health finds clear expression in the organization of obstetrical services and protection of children's health. All pregnant women are kept under observation at maternity clinics; children from birth on are observed at children's clinics; children's hospitals regularly check on the health of children in day nurseries, kindergartens, and schools. The health and physical development of juvenile workers, students at trade schools, etc., is fully cared for. The prevention of specific diseases is a very important function of Soviet preventive medicine. This relates principally to epidemic, acute infectious diseases and elimination of foci of diseases that have developed.

A major role in the prevention of tuberculosis, cancer, and venereal diseases is played by the appropriate clinics, which aim at early discovery, treatment, and prevention of these diseases by carrying out individual and communal prophylactic measures.

Clinics also use the preventive approach in treatment. Systematic clinical observation of various groups (workers, machine operators and front-rank workers in agriculture, scientists, etc.) permits the early detection of symptoms of serious, chronic diseases and the institution of timely treatment. The dispensary system for patients with hypertensive, ulcerous, cardiovascular and other diseases, timely treatment, correct layout of work, and improvement of living conditions constitute the most reliable means of preventing disease or complications arising from disease as well as conserving the work capacity of sick people. At the present time all urban and rural medical-therapeutic institutions lay heavy stress on the clinical method of operation.

The prophylactic theory of Soviet public health is based on dialectic materialism, on the doctrine of interrelation of organism and environment.

Bourgeois pseudo-scientists -- the eugenicists, Mendellians and Morganists -- reject the decisive influence of environment, including social factors, on health.

Relying on the bourgeois idealistic genetics of Mendel, Morgan, and Weismann, the eugenicists attempt to prove that it is not the living conditions of the people or their environment, but heredity, i.e., the conditions of the people or their environment, that determines their physical development and health as well as the occurrence of various diseases. These pseudo-scientists maintain that heredity is affected not by the environment, but by genes inherited from parents. According to these "theories," the high death rate, wars, and epidemics are favorable factors actively conducive to "purging" mankind of physically and mentally inferior elements. It is quite apparent that this reactionary bourgeois "science," invoked to defend the interests of capital, tries to justify capitalist exploitation, imperialistic wars, racial discrimination, and their pernicious effect on the health of the workers.

To such outstanding Russian scientists as M. Ya. Mudrov (1776-1831), S. P. Botkin (1832-1889), I. M. Sechenov (1829-1905), F. F. Erisman (1842-1915), and others belongs the historic merit of having resolved the question of organism-environment interrelations on materialist grounds. They demonstrated that the development and qualitative changes of an organism depend on the living conditions. The great Russian physiologist, I. P. Pavlov, played an exceedingly important role in working out this problem. He studied the principles

underlying the development of organisms and the changes induced by various external and internal stimuli; he elucidated the function of the nervous system, particularly higher nervous activity, as an instrument of communication between organisms and environment.

I. P. Pavlov demonstrated the capacity of higher nervous activity to change and improve under the influence of specific environmental conditions. He showed how much amelioration of living and working conditions as well as suitable toughening and "educating" the organism did to fortify health and build resistance to sickness.

The advance of Soviet public health is inseparably associated with the development of Soviet medicine. The Soviet public health system combines medical theory and practice to the fullest. At present there isn't a single branch of therapeutic or prophylactic medicine that is not directed by a corresponding scientific institute. The Ministry of Health embraces within its organization more than 250 specialized central, republic, oblast and kray scientific research institutions in the various branches of medicine. In addition, all medical schools conduct research. The Academy of Medical Sciences, USSR, with which a number of leading scientific research institutes are affiliated, was founded in 1944. It is our supreme scientific research institution and its purpose is to investigate and solve the most important basic problems of medicine, ever cognizant of the practical needs of public health.

The Ministry of Health, USSR, and health ministries of the union republics have scientific medical councils which plan all the scientific medical work, analyze the most important discoveries and achievements in medicine, and facilitate their exploitation and practical application in public health.

Science has extensively penetrated the practical activities of medical institutions. Many of the major hospitals, dispensaries, polyclinics, and sanitary-epidemiological stations are conducting research programs to broaden their rich daily experience.

Soviet scientists are being increasingly drawn into the practical work of public health agencies. The achievements of Soviet medicine have enhanced the practical work of public health, helped to lower the sick and death rates and raise the health level of the USSR population. The names of such leading Soviet scientists as I. P. Pavlov, A. I. Abrikosov, N. N. Anichkov, K. M. Bykov, N. N. Budrenko, N. A. Semashko, Z. P. Solov'yev, P. A. Gertsen, M. P. Konchalovskii, A. N. Bakulev, V. P. Filatov, and many others are well known in the USSR and abroad. The physiology teachings of I. P. Pavlov have made an exceptional contribution to the successes of Soviet medicine. I. P. Pavlov's teachings form the scientific basis of Soviet public health, on his

materialist principles rest the practical activities of medical institutions (protective medical regimen, sleep therapy, clinical method of operation).

The Directives of the Twentieth Congress of the Communist Party of the Soviet Union pledge the continued advance of medicine, focussing the efforts of Soviet scientists on finding new techniques of prevention and treatment.

Experience has shown that success in prevention and treatment depends on the participation of the population. Attracting the people to medical and sanitation work is possible only if there is wide propagation of medical knowledge, i.e., health education.

Health education and organization of independent action on the part of the people are the chief tools of Soviet public health. Soviet public health characteristically maintains constant contact with the masses, encourages wide participation by socially alert groups in preventive work aimed at lowering the illness rate and traumatism, and tries to ameliorate the people's sanitary working and living conditions. "Safeguarding the workers' health is the concern of the workers themselves" was used as a slogan when the Soviet public health service was being organized. During its early days and the period of civil war and devastation, when the entire population had to be mobilized to combat epidemics, medical education (the issuance of slogans, posters, leaflets, discussions, etc.) played a major role in the fulfillment of this task.

The organizational forms of popular action are varied. The sanitary activists comprise members of the permanent health commissions of local councils of workers' deputies, sanitary agents, members of sanitation posts, sanitary combatants and guards of the GSO (Gotov k sanitarnoi oborone - "Be Ready for Medical Defense" (slogan)), trainees of the Red Cross and Red Crescent Societies, and workers of cooperation councils organized in medical institutions. The sanitary activists assist public health organizations in carrying out mass health and sanitation programs -- vaccination projects, week-long and month-long campaigns to clean up houses, yards, and reservoirs, etc. They cooperate with medical workers in organizing lectures and discussions on various topics of health education.

Since the conducting of educational programs and organization of public health activists is an obligation of all medical institutions and individual workers, the specific forms of medical propaganda by the various institutions will be considered in a separate chapter (Chapter 8).

Sanitary activists function under the general guidance and supervision of district physicians, health station physicians, feldshers, and rural midwives. Day-by-day help and organization of their work is the direct responsibility of middle echelon medical personnel.

The Development of Public Health in Russia and the USSR

Public Health in Tsarist Russia

The development of capitalism in Russia was accompanied, as in other countries, by a marked deterioration in the health conditions of populated areas. The growth of towns due to the expansion and concentration of capitalist production, the congestion, filth and misery of the workers' quarters, contamination of the water, air, and soil by factory wastes -- all these things markedly worsened hygienic conditions in the cities and raised the sick and death rates.

Physical exhaustion, unemployment, dirt, and crowded housing conditions, especially in the large cities, facilitated the spread of tuberculosis, venereal diseases, and alcoholism, which under capitalism became social diseases. The unlimited work day and total absence of protective measures resulted in occupational diseases. "Consumption and other pulmonary diseases are due to the existence of capital," Karl Marx wrote in *Capital* (Vol. 1, chapter 13).

The increase in morbidity and worsening of the health of the masses directly endangered capitalist production and the fighting efficiency of bourgeois armies. Epidemics not checked in the workers' quarters spread to the bourgeois sections, constituting a threat even to the bourgeoisie. This ultimately compelled them to introduce various hygienic and antiepidemic measures.

However, the limited, narrow sanitary legislation of bourgeois countries, which kept clashing with the interests of the entrepreneurs, landlords, and manufacturers, was not enforced and so had little effect on the grim working and living conditions of shop and factory workers. Sanitary laws in capitalist countries cannot eliminate the very factors (unemployment, hunger, gross exploitation) that cause illness and raise the death rate. Imperialism and the increasing speed-up of work, imperialist wars, racial discrimination, simultaneous rise in unemployment, and uncertainty regarding the future promote mental, cardiovascular, and nervous disorders.

In capitalist public health the government's obligation is restricted for the most part to the organization of a medical inspection and state sanitation service. The public health bodies deal purely with individual medical problems, establish general regulations concerning doctors (issuance of diplomas, determination of right to

practice medicine, etc.) and only to a limited extent at that. Yet these countries have a good deal of quackery and medical charlatanism. Physicians in practice for themselves, private medical organizations, and various groups generally render medical aid for a fee, as a consequence of which this aid is available only to the well-to-do segments of the population. There is no plan governing the distribution of medical institutions or physicians. Unemployment is common among the physicians, especially in the large cities. That is why many of them are compelled to accept work outside their profession.

Medical services provided by the federal government and local bodies consist largely of mental hospitals and a few municipal hospitals and polyclinics usually requiring payment too. An insignificant amount of help is supplied by charitable organizations, hospitalization funds, and social insurance agencies.

The wealthiest capitalist country, the United States, allocates negligible funds to safeguard the people's health. A special commission investigating public health in the U. S. prior to World War II determined that 80% of all expenditures on health were paid by the people, i.e., by the patients themselves, 2% by private industry, 5% by charitable organizations, and only 1% by the government. Due to the vast sums spent for military purposes in the U. S. allocations for health needs have been shrinking every year. For example, from 1945-1951 the number of hospital beds in the U. S. decreased by almost 300,000. In view of the high costs of treatment it is no wonder that some 50% of the beds in private hospitals are empty, despite the vast need for them.

All this does not mean, however, that medical science and public health in modern capitalist countries are lacking in important achievements. Along with mounting productive capacity, general and sanitary engineering, and medical achievements, individual branches of medicine and sanitation have reached a high level in several of these countries. This is due primarily to sanitary legislation, the execution of various hygienic and antiepidemic measures (sanitary and food inspection, medical planning and municipal responsibility for cleaning streets, removing garbage, etc., sanitary measures for schools and border quarantine). As a result, the epidemic sick rate, general and children's death rates have declined considerably in several bourgeois countries.

Notable success has been attained in medical technology, in the manufacture of medical apparatus, instruments, and drugs. Impressive achievements have also been registered in hospital construction, the technical equipment of medical schools, and the elaboration of new methods of treatment.

However, neither the high level of medicine and technology nor the significant achievements in sanitation remove the basic contradictions of bourgeois medicine inherent in the capitalist system. Expert medical service, as we pointed out above, is available only to the well-to-do. Therefore, however important this or that medical achievement in a capitalist country may be, it does not become the property of the masses or promote their general well-being.

* * *

Rudimentary medical institutions and the first steps in public health in Muscovite Russia came into being during the 16th - 17th century, when Ivan the Terrible organized quarantines and patrols against the plague on the major trade routes. Hospitals and monastery almshouses were built, the Apothecary Department* set up, medicinal plants cultivated, pharmacies opened, and the first medical books -- herbals and treatment manuals -- printed. Here too belongs the attempt made under Czar Alexei Mikhailovich to train Russian doctors for the army.

The most significant reorganization of medicine and public health dates from the 18th century. Under Peter the First military hospitals and infirmaries were built in Moscow, Saint Petersburg, and other cities in addition to affiliated medical and surgical schools to train doctors, primarily for the army. A medical department, pharmacies, orphanages, and founding homes were organized.

In 1755 the initiative of the great Russian scientist Lomonosov led to the establishment of the University of Moscow, the first such institution in Russia. Its medical faculty was to become the focal point of Russian medical science as it developed over the years.

Public charity departments organized in 1775 took over operational responsibility for all the medical institutions, hospitals, orphanages, founding homes, etc. This departmental medicine and its bureaucratic system, together with its venal officials, wretched network of hospitals and "God-pleasing institutions," survived up to the middle of the 19th century.

Emancipation from serfdom and the rapid rise of capitalism in Russia from 1860-1880 required a substantial number of workers for the shops and factories in the cities and the landed estates in the country. The high sick and death rates due to the extremely low standards of sanitation and education as well as the recurrent epidemics were a

*The highest administrative medical institution of pre-Peter the Great Russia, which supervised medical workers, the purchase of drugs, etc.

serious threat both to emergent industry and to agriculture. This situation resulted in the creation of unusual new forms of medical service — factory and zemstvo medicine.

Zemstvos — local administrative bodies in which representatives of all the classes (nobility, bourgeoisie, and peasantry) were supposed to participate — were introduced into Russia in 1864 after the emancipation. In practice, however, only the landlords and kulak leaders in the villages were represented. The zemstvo was entrusted with the responsibility of organizing medical services for the rural population.

Zemstvo medicine actually did very little. Although it was supposed to be "free," most of the operational costs fell on the shoulders of the "tax-paying" peasants in the form of zemstvo taxes. The zemstvo landowners were very loath to allocate funds for medical facilities. Owing to their sparse distribution, these facilities were almost inaccessible, especially to those peasants who had no horses. Zemstvo expenditures on medicine were negligible (in 1912 some 57 million rubles in 34 provinces, or 66 kopeks per person). The number of doctors and hospitals were wholly inadequate to meet the needs; so too the sanitation measures. The police regime suppressed all public initiative, making it impossible for doctors to carry on education in hygiene and enlist the population in the struggle against disease.

Nevertheless, zemstvo medicine was a significant step forward from the pre-reform departmental medicine in that it set up a new network of zemstvo hospitals, dispensaries, feldsher and midwife schools, and a sanitary organization. Zemstvo medicine was a completely original form of rendering aid to the rural population that was unknown in Western Europe. The ablest, most advanced elements of the pre-revolutionary intelligentsia went to work in the zemstvo. Prominent zemstvo physicians evolved the district principles of operation, introduced registration and investigation of morbidity, and carried out various statistical studies of the health and physical development of the peasant and industrial laborers, thereby exposing the pernicious influence of capitalism on the health of the working people.

This was the work of the founders of Russian medical statistics, the zemstvo doctors Ye. A. Osipov, V. A. Levitskiy, P. I. Kurkin, S. M. Bogoslovskiy, F. F. Erisman, A. V. Pogozhev, and others.

From the ranks of zemstvo doctors came a number of bolshevik doctors who took an active part in building Soviet public health. These include above all the founder of Soviet public health N. A. Semashko, his deputy Z. P. Solov'yev, and Drs. I. V. Ruskov, D. I. Ul'yanov, M. F. Vladimirovskiy, A. N. Susin, and others.

Zemstvo doctors constituted the nucleus of the pre-revolutionary medical profession that merged with the Society of Russian Physicians in Memory of N. I. Pirogov organized in 1883. At Pirogov and zemstvo conferences the doctors raised various questions concerning public health and examined the grave hygienic and economic living conditions prevalent in Russia at the time.

However, despite the distinguished services of certain individuals, zemstvo doctors were unable to make a significant contribution to improving the health of the peasants both because the material resources were extremely limited and because most of these doctors entertained liberal, bourgeois views. This also affected the activities of the Pirogov Society, which in its reports and resolutions during 1905 mirrored the general revolutionary fervor of the entire liberal intelligentsia and took a liberal position during the years of reaction, but after the Great October Socialist Revolution, at the instigation of its officers, went over to the camp of the enemies of the Soviet regime.

Zemstvo medicine was to be found only in those provinces where zemstvos were introduced, i.e., in 34 provinces of the European part of Tsarist Russia. Elsewhere the population was serviced by the insignificant medical network of the Ministry of Internal Affairs. Whereas the zemstvo provinces averaged one medical district per 710 sq. km. of territory and 28,000 persons, the non-zemstvo provinces (Siberia and Central Asia) averaged one medical district per 2,000 to 13,000 sq km of territory and 40,000 to 70,000 persons. There was no medical service at all in the remote regions inhabited by the national minorities.

The situation of the industrial workers was no better. During the serious cholera epidemic of 1866, the government ordered medical facilities to be provided for the many workers affected. Accordingly, every industrialist was required to set up in his factory an infirmary containing one bed per 100 workers. The original text of the decree reads that the industrialists could limit themselves to building and equipping these quarters without actually making doctors available, and many took advantage of this loophole. These hospitals rendered only first aid, and workers requiring extended treatment were sent to a city or zemstvo hospital. But even this meager amount of aid was unavailable in most factories; in 1907 only 38% of the factories had medical facilities.

In 1912, when revolutionary fervor was high, the government, under the pressure of the working masses, passed a law on social insurance, which required factory owners to furnish first aid and dispensary facilities; special insurance funds covered hospitalization. These funds were insignificant and during World War I were virtually terminated. Nevertheless, they played an important role in the revolutionary movement by serving as a means of legally organizing the working class.

Some municipal hospitals and other medical institutions were under the jurisdiction of local administrations (the municipal dumas). However, except in a few of the larger cities, their effect was slight. Thus, data on 224 cities from 1912 to 1914 indicate that 35% of them provided no service at the expense of the local government. In most of the other cities there were only casualty wards and dispensaries with general wards. Only a few cities had a public health organization, which was staffed for the most part merely by one or two doctors.

In 1913 there were all told 142,000 hospital beds in all Russia, 1,230 dispensaries, 19,785 physicians, and no more than 50,000 middle echelon medical personnel. The peasants in pre-revolutionary Russia constituted 82% of the total population, but were attended by only 5,000 physicians. They had just 49,000 hospital beds or 0.44 per 1,000 persons.

Such were the medical facilities available to the masses of Russian workers and peasants on the eve of the Great October Socialist Revolution.

The Development of Soviet Public Health

The organizational foundations of Soviet public health and its subsequent development were laid during the preparation and execution stages of the Great October Socialist Revolution (1917-1918). Soon after the proletariat seized power in October 1917 the scattered medical activities of the individual departments were unified by the Council of Medical Boards; the medical sections of local Councils took charge of local health affairs; private hospitals, polyclinics and pharmacies were nationalized.

In July 1918 a resolution of the Council of People's Commissars signed by V. I. Lenin authorized the organization of a People's Commissariat of Public Health to which were transferred all medical institutions and the direction of medicine and sanitation in the Soviet republic (Figure 1).

Establishment of the People's Commissariat of Health led to the organizational unity of Soviet public health and to overcoming the efforts of bureaucratic, particularly insurance, doctors and the defeated Mensheviks to retain their autonomy and oppose the concept of a single Soviet medical system. The medical facilities were gradually amalgamated: all the honorable medical workers dissociated themselves from the saboteurs and became affiliated with the People's Commissariat of Health and Soviet medical institutions.

The Soviet government in its early years issued a series of major decrees to protect the health of the workers: on social insurance, on maternity and child protection (1917), on nationalization of pharmacies and medical property, on compulsory vaccination (1918), on the campaign against typhus (1919), etc.

From the very beginning Soviet public health participated directly in the solution of the basic problems confronting the young Soviet republic. Its most important tasks were to mobilize all medical resources and facilities during the period of foreign intervention and civil war (1918-1920) so as to engage the public in the campaign against epidemics and to service the Red Army.

World War I and subsequent famine and devastation together with foreign intervention seriously weakened the health of the people, causing an increase in the number of epidemics, notably typhus and relapsing fever. V. I. Lenin at the Seventh Congress of the Soviets held in December 1919 referred to typhus as a threat to the very existence of the Soviet republic when he urged: "Comrades, all attention to this problem! Either socialism conquers the lice, or the lice will conquer socialism!"*

In response to the leader's call, the medical workers under exceptionally difficult conditions mounted a fierce attack on epidemics, carried out extensive educational propaganda, campaigned for cleanliness, set up baths, laundry, and disinfection detachments. They drew into the battle the entire population -- workers, peasants, and Red Army men.

The period of transition to peaceful restoration of the national economy was characterized by the reestablishment and expansion of the network of medical institutions and by making them accessible to both the urban and the rural populations. Sanatoria and health resorts were built, home medical care provided, and medical facilities set up in the regions inhabited by the various nationalities. New types of therapy and prophylaxis came into wide use at this time: institutions were founded to protect mothers and children, to control tuberculosis, venereal diseases, and the remnants of prostitution. Newly organized consultation centers, clinics, labor dispensaries, night sanatoria, and venereological detachments carried on extensive medicoprophyllactic and socio-hygienic work. The network of medical institutions, which had grown in numbers, became firmly established by 1928. Hospital beds increased by 70,000, doctors by 45,000; rural medical districts almost doubled.

However, as reconstruction of the national economy got under way serious inadequacies were noted in the public health system. Despite major achievements, it lagged far behind the development of the national economy. It failed to provide differentiated types of medical care for the various groups of the population, preferential service to workers in the principal branches of industry, workers in state farms and newly founded collective farms, nor did it reckon with the fresh dislocation of economic regions. The historic 18 December 1929 resolution of the

*V. I. Lenin, Works, vol 30, lith ed., p 206.

All-Union Communist Party (Bolsheviks) "On Medical Service to Workers and Peasants" noted the need for a drastic overhauling of the public health organizations and suggested ways of doing so.

The years of struggle to industrialize the country and collectivize agriculture were attended by considerable growth and replanning of the network of medical institutions to conform to the development of new economic industrial and agricultural centers. Exceptionally important were the health stations in industry, which turned into front line institutions in the campaign to reduce morbidity and traumatism as well as to ameliorate the working and living conditions of the people.

The health organization proved to be a major factor. Demands for medical supervision and control mounted due to the swift growth of cities, the rise of new, inhabited localities, reconstruction and construction of new enterprises, development of new branches of industry, mechanization of agriculture, and inclusion of public nutrition within the scope of the health apparatus. Sanitary inspection was instituted in 1933 as a function of the People's Commissariats of Health in the union and autonomous republics. In 1935 the All-Union State Sanitary Inspection was organized in the Council of People's Commissars, USSR. In 1936 it became the People's Commissariat of Health. The post of state sanitary inspector (for food, industrial, school, and communal sanitation) was set up together with an extensive network of medical and disinfection stations.

As of 1936 the People's Commissariat of Public Health, USSR, took over all public health functions in the country. Public Health was given a big boost in 1936 by ratification of the Constitution of the USSR, which assured workers the right to rest, medical care at state expense, and financial security in old age and in the event of loss of work capacity.

The elimination of unemployment, continuous improvement in the condition of the workers, and active participation by increasing numbers of women in social and industrial life raised anew the question of maternity and children's protection. The 27 June 1936 decision of the Central Executive Committee and Council of People's Commissars, USSR to offer greater material and legal assistance to mothers brought about a substantial rise in the number of maternity beds, women's and children's consultation centers, kindergartens and day nurseries, as well as greater financial and legal support for mothers and children. Expansion of the network of medical institutions to rural areas and improvement of their facilities were due to a special resolution of the Council of People's Commissars, USSR, on strengthening rural medical districts.

Public health developed hand in hand with the building of socialism in the USSR. Medical institutions grew by leaps and bounds. The growth of Soviet public facilities in the national republics was particularly

indicative. For example, the number of hospital beds had increased fifteen times in the Kazakh SSR by 1941, twenty-two times in the Turkmen SSR, etc. By 1941 there were 661,431 hospital beds in the USSR, 13,512 rural medical districts, and 130,300 physicians, or almost seven times as many as in 1913.

Advances in Soviet public health based on steady growth of the country's material well-being and elevation of the cultural level caused a sharp decline in the sick and death rates in the years preceding World War II and a marked improvement in the health and physical development of the population.

The treacherous attack of the fascist hordes on our country in 1941 subjected the Soviet people to cruel trials and destroyed their peaceful, constructive work. The war posed a series of new problems for Soviet public health: providing for the needs of the Soviet Army, expansion of hospitals, organization of medical aid for wounded and ill soldiers and officers, organization of medical services for Local Antiaircraft Defense, etc. In a short time the health agencies set up a chain of evacuation hospitals with tens of thousands of medical workers.

One of the agencies' principal assignments from the early days of the war was to protect the favorable situation of the country vis-à-vis epidemics. The shifting of vast masses of people and destruction of homes and communal institutions by enemy aircraft made for unhealthy living conditions and conduced to the rise of infectious diseases. The strenuous, combined efforts of the local Councils of Workers' Deputies, public health agencies, and the people themselves helped prevent the outbreak of epidemics.

As the enemy was driven from the regions they temporarily occupied, the public health agencies were faced with the problem of reactivating medical institutions in the liberated areas and organizing facilities for invalids of the Patriotic War. The fascists destroyed thousands of hospitals, polyclinics, day nurseries, sanatoria, and other medical institutions. Even greater was the damage to the people's health.

Overcoming the medical consequences of the war, restoration, expansion, and substantial improvement in the quality of work of medical institutions, lowering the general and infectious morbidity and mortality rates — these were the main tasks confronting the public health agencies in the postwar years.

During this period various measures were carried out to improve public health and raise the standard of medical service to the population. The most important of these measures was the unification of hospitals, polyclinics, and other medical institutions, dispensaries and corresponding hospitals, maternity homes and women's consultation

centers, children's hospitals, children's polyclinics and consultation centers. The problem of providing the rural population with specialist services was solved by building up rural rayon hospitals as centers for these services and expanding the training of specialist cadres for the villages. The sanitary-epidemiological service was reorganized. Improvements were made in the medical care of industrial workers. The network of medical institutions grew considerably. The number of hospital beds increased by 60% over the 1940 figure. There are now 300,000 doctors working in the public health system in addition to some 900,000 feldshers, midwives, nurses, etc.

Due to the special attention paid to the training of medical specialists, the Soviet Union is at present one of the leading countries in the world in number of doctors per 1,000 persons; several of the union republics far exceed the foremost capitalist countries in this respect. During the same period of time the number of rural medical districts increased by 13%, feldsher - midwife stations by 59.3%.

The advances in public health, continuing improvements in material welfare, and achievements of medicine resting on the scientific foundations of I. P. Pavlov's physiological teachings helped reduce morbidity and mortality. The death rate is less than one-third what it was in 1913. The death rate of children has declined by more than half in comparison with 1940. In recent years deaths from tuberculosis have been cut by half, from other infectious diseases by two-thirds. The natural growth of population in the USSR from 1950-1955 totaled 16,300,000.

The USSR has entered a period of gradual transition from socialism to communism. The decisions of the Twentieth Congress of the Communist Party of the Soviet Union contemplate the continued vigorous development of all branches of the national economy and a sharp rise in agricultural production, with consequent major improvement in the people's material welfare and cultural level.

The directives of the Twentieth Congress of the CPSU concerning the sixth five-year plan for expanding the national economy of the USSR chart the future development of public health. They aim at ever higher standards of preventive work and medical care. The directives also include measures designed "to increase the number of hospital beds in 1960 by 28% over 1955, places in day nurseries by 44%, places in kindergartens by 45%, places in sanatoria by 10%, and places in rest homes by 13% ... enlisting the broad cooperation of the ministries and departments of the USSR and union republics in building medicoprophyllactic and children's institutions."

The Twentieth Congress decided to modernize the medicoprophyllactic institutions by installing up-to-date equipment. Output of the medical industry is to be stepped up to keep pace.

The Structure of Public Health Agencies

According to articles 76 and 78 of the Constitution of the USSR, the Ministry of Health, USSR, is reckoned with the ministries of the union republics. This means that in addition to the all-union ministry there are ministries of health in all the union and autonomous republics. These ministries are directly subordinate to the Council of Ministers of the several republics.

The Ministry of Health, USSR, provides general guidance and supervision through the health ministries of the union and autonomous republics (Figure 2). Directly under the Ministry of Health, USSR, are the Academy of Medical Sciences, various scientific research institutes, the State Sanitary Inspection Service, and the State Publishing House for Medical Literature.

The ministries of health of the union republics are responsible for medicoprophyllactic and sanitary-epidemiological services, health resort facilities, the training of physicians and middle echelon medical personnel, the manufacture and sale of drugs.

In the union and autonomous republics public health is directed by ministries of health of the union and autonomous republics, in the krays and oblasts by kray and oblast ministries of health, in the cities by municipal departments, and in the rayons by rayon health departments of the local Soviets of Workers' Deputies.

Health departments form part of the corresponding oblast, kray, municipal, and rayon executive committee of the Soviet Workers' Deputies and are subordinate both to the Soviet and to the higher health agency. Oblast (kray) health departments direct the work of rayon and municipal health departments, administer all medical institutions under their direct jurisdiction, supervise the activities of all medical and sanitary institutions and health resorts of all the departments within the oblast or kray, organize medical care for the population living in the oblast (kray), prepare and execute the overall plan of public health for the oblast, carry out measures to provide advanced training for medical personnel and raise standards, and direct the middle-echelon medical and pharmaceutical schools.

Rayon (urban or rural) health departments are agencies of the rayon Soviets of Workers' Deputies and are subordinate both to them and to the higher municipal or oblast department of health. They direct all public health activity in the rayon, draw up the rayon public health plan, directly administer all their subordinate medical institutions, and furnish them with personnel, funds, supplies, and drugs.

Rural health departments direct the rural medical districts.

Besides the Ministry of Health, USSR, several other ministries -- Defense, Transport, and Internal affairs -- also provide medical services. The special problems confronting these ministries and the particular conditions affecting their personnel have made it necessary to transfer responsibility for medical care to the respective ministries.

Ministries engaged in manufacturing and processing food products have departments charged with exercising sanitary supervision over their food enterprises, for example, the fish, meat and milk, and foodstuffs industries.

The medicoprohylactic units of the various ministries do not impair the unity of the Soviet public health system. All medical institutions in the USSR are based on the same principle and use the same methods. Their activities are coordinated under the common plan for the national economy. The Ministry of Health, USSR, and the health ministries of the union republics exercise general control over the operations of the medical and sanitary units of all departments and organizations.

They settle the basic problems of scientific methods and organization involved in advancing Soviet public health.

The manufacture and sale of drugs. The manufacture of drugs, medical supplies, and equipment is chiefly concentrated in the medical instrument and chemico-pharmaceutical enterprises conducted by the Ministry of Health, USSR.

Some drugs, medical instruments and equipment are manufactured by other ministries at the order of the Ministry of Health, USSR.

The main Pharmaceutical Administration of the Ministry of Health, USSR, a self-supporting unit, is in charge of all matters pertaining to pharmaceuticals. The Main Pharmaceutical Administration and its local agencies operate pharmacies, stores for sanitation and hygiene, factories (Galenic laboratories, packing departments, instrument repair shops, and control-analysis laboratories), and organize the sale of drugs to the public.

The Administration and its subsidiaries engage in the highly important work of collecting and storing native medicinal plants, in which the Soviet Union is very rich. Experience has shown that Galenic, vitamin, endocrine, and other drugs as well as hygienic preparations (tooth powder, tooth brushes, etc.), can be produced locally at low cost with simple equipment.

Soviet pharmacies not only dispense proprietary medicines and drugs according to prescription, but also spread hygienic information among the people, publicize new medical and hygienic preparations, and render first aid. In rural sections, besides pharmacies, there are many drug stations (branches of near-by pharmacies), which are attached to hospitals, rural medical dispensaries, and feldsher points in order to make drugs readily available to the people.

CHAPTER 2

INDICES OF THE PEOPLE'S HEALTH

Medical Statistics

Soviet public health is organized in accordance with the general plan for the development of the national economy and culture. In order to plan the network and activities of the public health apparatus both for an entire republic and for an individual medical establishment, it is necessary to know the size and density of the population to be served as well as its age, sex, and occupational composition. The preparation of an effective plan for lowering the sick rate requires data on the amount and nature of morbidity, i.e., a knowledge of the most prevalent diseases. Morbidity data provide a prime basis for evaluating the quality and results of the work both of the public health system as a whole and of the individual medical institutions.

Medical units or health stations are judged chiefly by the rate of decrease in traumatism and work incapacity, elimination of occupational disease, etc. They must therefore systematically calculate morbidity, traumatism, and occupational diseases among the workers in the enterprises with which they are connected.

To organize its work properly, a children's hospital must take into account all the children living within the area it serves and the indices of morbidity and mortality of the children in that area. Such a hospital is judged by the rate of decrease in morbidity and mortality as well as by the data on physical development of the children. Improvements in the physical development index -- an increase in the growth rate and weight gain of newborn infants, school children, draftees, etc. -- testifies to general amelioration of the living conditions of the masses and to the effectiveness of the health agencies.

The indices of morbidity, mortality, and physical development reflect the level and condition of health of the people. They are extremely important to the public health agencies, institution, and individual medical workers.

Besides these indices, valuable guidance in planning public health and appraising the medical institutions is furnished by the daily records and periodic reports submitted by the various health agencies and medical institutions. Accurate and timely reports constitute a basic prerequisite to the proper organization of medical facilities.

Reports of the individual institutions and health agencies (rayon and oblast health departments) serve as a basis for evaluating the adequacy of the medical cadres, different kinds of facilities, quality of medical care, and morbidity. Medical service for the coming period is planned accordingly; appropriate supervision of the operations of the medical institutions is instituted and checks made on execution of the work plans. No medical institution could plan its work soundly without taking cognizance of these data. Every medical worker, regardless of where he may be, must know the size, composition, and sick rate of the population that he serves and be able to analyze and report effectively on the work of his institution. It is only through up-to-date familiarity with health conditions of the people in his area that a medical worker can correctly organize his own work, concentrating mainly on the poorer districts, and accurately assess the results of his efforts.

An investigation of health and analysis of medical institutions requires use of the statistical method. Data on the numbers, composition, and shifts of the population are studied by demographic statistics. An investigation of morbidity, physical development, network and activities of medical institutions constitute the research domain of medical or public health statistics.

The statistical method is employed whenever mass phenomena are investigated. The function of statistical research is to reveal the common features and principles underlying the mass of phenomena under investigation. These features and principles, which are not revealed when phenomena are studied individually, become apparent when they are viewed in the mass or in the aggregate and are expressed by a simple average characterizing the entire body of data.

Individual phenomena within the mass of observations are accidental and since their presence or absence depends on individual causes, basic principles cannot be deduced from them. For example, the birth of any one person is accidental due to a succession of chance circumstances that might well not have arisen. All women do not have sexual relations, nor do all women engaging in sexual relations become pregnant, nor do all pregnancies terminate in births, etc. But the birth rate, as a mass phenomenon, as a definite number of births per 1,000 of population, is a rather stable quantity in every country, with only insignificant variations from year to year. Again, the distribution of newborn children by sex (the so-called sexual ratio) cannot be determined, let us say, on the basis of the data from a single family. In individual families we may encounter the most varied sex patterns, e.g., 2 boys and 1 girl, 3 girls and 4 boys, etc. It is only on the basis of an extensive amount of material embracing tens and thousands of births that we are able to establish the existence of a definite sexual ratio: 104-106 boys are born to 100 girls.

When there is a mass of observations, the varied individual deviations, so to speak, cancel each other out and the principles underlying the phenomenon under study emerge in pure form, e.g., the relationship between the birth rate and general socio-economic conditions.

The constancy (or regularity) of mass phenomena as revealed by the statistical method depends on the continuing presence of the specific causes of these phenomena. If they change or new factors appear, the previously observed principles also change. For example, the birth level characteristic of a given country drops markedly during wartime. The degree of fatality in connection with emergency surgery (strangulated hernia, perforated gastric ulcer, etc.) varies directly with the correctness and timeliness of diagnosis, hospitalization, and surgical intervention. Therefore, a sound organization of statistical research and analysis of the statistical data requires a knowledge of the principles affecting the object under study, a comprehensive preliminary qualitative analysis and sound Marxian interpretation of the phenomenon in question, for statistics, as V. I. Lenin pointed out, does not uncover laws, it merely illustrates them.

Conclusions drawn from statistics are valid only if they satisfy a number of conditions.

In order to reveal a fundamental principle statistically, it is necessary to use a sufficiently large number of observations. Conclusions regarding the seriousness of a disease or the effectiveness of a given drug cannot be drawn from observations of 5 or 10 cases.

Qualitative uniformity of statistical material is a prerequisite to making a correct analysis. The mean quantity obtained will correctly characterize the given mass only if it is computed on the basis of qualitatively similar phenomena. For example, in studying the physical development of school children it is impossible to compute the average growth or weight for all students in the first grade. This data will not be qualitatively uniform: among the first graders there are likely to be 7-, 8-, and 9-year-olds, boys and girls; the growth and weight of children vary directly with age and sex, hence the indices of growth, weight, and size of thorax will be correct only if calculated separately for the children of each age and sex group. When reporting on the operations of a hospital, it would be wrong to calculate the index of fatalities (the number of deaths per 100 patients) for the hospital as a whole inasmuch as the hospital may have an infectious section with relatively higher fatality rate and a maternity section where the fatality rate is normally very low and, for practical purposes, should be regarded as non-existent. Since mean indices for the hospital as a whole would only confuse the picture of the operations of the various sections, the fatality index must be calculated for each section and within each section for each disease.

Statistical research is conducted in four successive stages: (1) preparation of a research plan and program, (2) observation - collection of material, (3) processing - classification and summarization of the material, (4) computation of the indices and analysis.

Before starting to collect the material, a research plan and program is drawn up and a unit of observation along with registration criteria established. Each individual phenomenon subject to calculation is called a unit of observation; registration criteria are the data collected for each case. For example, in studying the morbidity rate of dysentery each case of dysentery is a unit of observation, while sex, age, occupation, date of illness, etc., constitute the registration criteria.

The cases are recorded on certain forms, cards, or in statistical logbooks. Some aspects of institutional operations are recorded in registers. For example, all hospital patients sign an admissions register kept in the admissions section. Uniform registration forms used by hospitals throughout the Soviet Union are approved by the Ministry of Health, USSR, and are obligatory.

A great many papers used for registration and operational purposes are filled out by middle echelon medical personnel (patient's daily record sheets, slips for admission to the physician's office or for hospitalization, treatment sheets, etc.). As a rule, these workers fill out the passport part of all the other forms. They do all the registration work at feldsher-midwife stations, feldsher health stations, and children's nurseries. It is easy, therefore, to see why it is so important for middle echelon personnel to be familiar with the various types of papers required for medical accounting and operations and to be able to fill out these records and reports accurately.

Most of the registration cards and forms serve a two-fold purpose: they are operational documents for executing the measures required by the registrant; collected over a certain period of time, they become material for statistical processing.

Therefore, these papers must be filled out accurately and handled with care. Ink must be used and all the questions answered in detail if the two purposes mentioned above are to be served.

We shall examine later the principal types of record forms when we analyze the individual health indices.

Observation. Material may be collected in two ways. The first involves observing and recording each phenomenon as it occurs and collecting the mass of observations for a certain period of time, say for a year. This method of current registration is used for investigating the sick, birth, and death rates, and the dynamics of a phenomenon, that is to say the changes it undergoes with time (e.g., shifts in morbidity or mortality from month to month or from year to year).

In the second method the entire mass of observations is collected simultaneously by a census or an inquiry and immediate tabulation of all the individual phenomena. A one-time census is used to determine the size and composition of the population, the number and kind of the hospitals, doctors, middle echelon personnel, etc. A simultaneous medical survey is used to gather material on the incidence of various diseases in a group under investigation (trachoma, tuberculosis, intestinal worm invasions) or on the health of certain groups (draftees, workers). Data on physical development is collected by means of simultaneous anthropometric measurements. This "one-time observation" method, as it is called, reflects the condition or statics of a phenomenon at a given time.

Classification and summarization. Following collection the material is processed (summed up). Before this work is started, the individual cards must be checked to see if they have been correctly and completely filled in. Sometimes omitted information can be readily supplied by context. For example, even though a card doesn't indicate sex, the name Mariya makes it obvious that the patient is female. In certain cases the missing information can be obtained only by referring to the institution that issued the document and checking its data. If the necessary basic information cannot be supplied, the card will have to be disregarded. Once the collected material is checked, it will have to be classified in accordance with basic, qualitatively uniform criteria. Only if the statistical material is thus correctly classified can we discover and see in proper perspective the true principles underlying the phenomenon being studied.

V. I. Lenin in his *Development of Capitalism in Russia* provided a classical example of the correct grouping and pertinent analysis of statistical material. By properly classifying peasant farms in accordance with a number of criteria (rent, use of hired hands, agricultural equipment, etc.), he uncovered and proved the existence of class stratification of peasant farms in Russia, i.e., the penetration of agriculture by capitalism.

In a study of morbidity it is very important to classify patients by the various age and sex groups, to arrange the various diagnoses of diseases by classes and groups in accordance with the standard nomenclature and classification, etc.

Processing the data consists of tallying the registration criteria on the cards in conformity with a definite plan and classification determined by the objective of the investigation.

The data are entered in tables previously prepared so as to summarize the results. Let us suppose, for example, that our task is to process data on the acute infectious diseases of children in region A for 1951. A total of 1,345 children up to 14 years of age were ill.

We are interested in two things: the kind of diseases and the age distribution of the children affected. In working up the material we group separately the most serious or most frequent acute infections -- measles, scarlet fever, diphtheria, whooping cough, and dysentery -- combining all the other diseases in the group "Others."

The blank summary, arranged in tabular form, will look like this:

Name of disease	Number of cases	Name of disease	Number of cases
Measles	----	Dysentery	----
Scarlet fever	----	Others	----
Diphtheria	----		
Whooping cough	----		
		Total	----

To fill out the table the cards must be broken down by diagnosis, each group added up, and the result of the tally inserted on the corresponding line.

For the material on age of the patients it is necessary to decide beforehand in what age groups we intend to sort and tabulate the data. Material grouped by age is usually divided into the following categories: infant-1 year, younger children from 1-2 years and from 2-3 years, preschool -- from 4-7 years, school -- from 8-14 years.

Accordingly, we prepare the following table for the summary:

Age	Number of cases
0 - 1 year	----
1 - 2 years	----
2 - 3 "	----
4 - 7 "	----
8 - 14 "	----
Total	----

Before arranging the cards by age groups, we must lay out the material, i.e., determine and mark with a given number (e.g., 1, 2, 3, 4, 5) which of the five age groups each card belongs to. All children less than 1 year old must be placed in the first group, children from 1 - 2 years in the second, etc. The cards thus marked are sorted into the five groups, counted, and the tally recorded. The preliminary marking helps to speed up the work of sorting and counting and prevents errors.

Separating and tallying the cards first by diagnosis, then by age, we obtain the following:

Name of diseases	Number of cases	Age	Number of cases
Measles	420	0-1 year	294
Scarlet fever	135	1-2 years	287
Diphtheria	58	2-3 years	247
Whooping cough	211	4-7 years	329
Dysentery	207	8-14 years	188
Others	314	----	----
Total	1,345	Total	1,345

Each table must have a clear heading.

Our tables are called "simple" because they have been prepared according to a single feature (disease, age).

However, simple tables usually prove inadequate for analysis. We are interested not only in the distribution of all diseases of children by individual diagnosis, but also in their distribution by age and the commonest diseases affecting infants, very young, pre-school, and school age children. In order to satisfy our needs we must arrange the table in such a way as to show both features -- disease and age -- combined.

Statistical tables distinguish a subject and a predicate. The statistical subject is that which is described by a given table, the basic feature of the phenomenon under investigation; it is arranged horizontally in the table. The statistical predicate, which consists of the various features characteristic of the subject, is arranged vertically in the table.

In our example the subject is the name of the diseases, the predicate is the age of the patients.

A composite table will have the following form:

Morbidity of children in region A with acute infectious diseases in 1951

Name of disease	Age of children					Total
	0-1 year	1-2 years	2-3 years	4-7 years	8-14 years	
Measles	--	--	--	--	--	--
Scarlet fever	--	--	--	--	--	--
Diphtheria	--	--	--	--	--	--
Whooping cough	--	--	--	--	--	--
Dysentery	--	--	--	--	--	--
Others	--	--	--	--	--	--
Total	--	--	--	--	--	--

The material is handled as follows in making a composite table: The cards are first sorted by subject, in this case by diagnosis of disease. The number of cards for each disease is noted in the last column "Total." All the measles cards are then arranged by age groups. The number of cards for each age group is entered in the corresponding column of the line "Measles," and so on for the scarlet fever, diphtheria, etc., cards. Without mixing the cards, the figures are tallied up and checked both vertically and horizontally.

The filled out composite table will have the following form:

Morbidity of children in region A with acute infectious diseases in 1951

Name of disease	Age of children					Total
	0-1 year	1-2 years	2-3 years	4-7 years	8-14 years	
Measles	60	90	98	130	42	420
Scarlet fever	8	12	19	46	50	135
Diphtheria	7	9	10	20	12	58
Whooping cough	47	50	41	51	22	211
Dysentery	92	62	34	12	7	207
Others	80	64	45	70	55	314
Total	294	287	247	329	188	1,345

A composite table affords greater possibilities for analysis. It shows not only that measles, whooping cough, and dysentery are the most prevalent diseases, constituting together some 2/3 of all the sicknesses, but also that infants and very young children are the chief sufferers from dysentery, that measles affects chiefly very young and preschool age children, etc.

A table may be a combination of three or more features. This kind of table is called "complex" or "composite." Let us suppose for example, that we want to study cases of diseases not only by age, but by sex. The table would then look like this:

Morbidity of children in region A with infectious diseases in 1951

Age and sex of children	0-1 year		1-2 years		2-3 years		4-7 years		8-14 years		Total	
	M	F	M	F	M	F	M	F	M	F		
Name of disease	M	F	M	F	M	F	M	F	M	F	M	F
Measles	32	28	49	41	48	50	64	66	22	20	211	209
Scarlet fever	--	--	--	--	--	--	--	--	--	--	--	--
Etc.	--	--	--	--	--	--	--	--	--	--	--	--

If three features are to be combined, the cards are laid out as follows. The cards sorted by diagnosis of disease are arranged by age group, then by sex. The column "Total" is filled in after adding up all the columns marked "Male" and "Female" for all the age groups.

Derived Values

Relative indices. Our tables of actual numbers now enable us to analyze the material. However, greater accuracy is ensured along with more opportunities to make statistical comparisons if we do not limit ourselves to the actual numbers, but use them as a basis for computing the so-called derived values or indices.

We have already seen from the actual numbers that dysentery chiefly affects young children. We can show this more precisely if we compute the proportion of very young children (up to 3 years of age) among all those suffering from dysentery. Adding the dysentery cases among the young children (92+62+34) to all the dysentery cases, we learn that young children make up the vast bulk or 90.8% of them ($\frac{188}{207} \cdot 100 = 90.8\%$).

This index is called the "extensive index" or "distribution index." It shows how the whole (in this instance all the dysentery cases) is distributed according to its constituent parts (patients by individual

age groups); it also indicates the proportion of patients in each age group to the total number of patients. Let us take another example. In 1913, out of 5,800 babies born in region A, 1,235 died during the first year of life (from 0-1 year of age). In 1937, out of 6,450 babies born in the same region 890 died during the first year of life. What was the percentage of infant mortality in 1913 and to what extent did it decrease in 1937?

In order to answer these questions we compute the child mortality rates for 1913 and 1937:*

$$(1) \frac{1,235 \cdot 100}{4,800} = 25.7\%$$

$$(2) \frac{890 \cdot 100}{6,450} = 13.8\%$$

Thus, the infant mortality rate of 1937 was almost half that of 1913 (a decline of 11.9%).

An "intensive index" or "frequency index" shows the force, frequency, spread, and intensity of a phenomenon occurring in a given environment (here the frequency of deaths among newborn infants).

Errors occasionally result from substituting one index for another, i.e., from judging the intensity of a phenomenon by an extensive index. For example, in 1938 a textile factory employing some 1,500 workers had 1,300 cases of sickness of which 265 or 20.4% were influenza cases. In 1939 it had 975 cases of sickness of which 240 or 24.6% were influenza cases. The proportion of influenza to the total number of sicknesses in 1939 rose by 4.2% as compared with 1938.

Can we draw any conclusions concerning the rise in the influenza rate for 1939 as compared with 1938 on the basis of the extensive rate? The answer is no. The proportion of influenza cases in 1939 rose over that of 1938 because there was an overall decline in the sick rate, and other sicknesses (gastrointestinal, trauma, etc.) decreased more than influenza.

In order to determine whether the influenza rate rose or declined in 1939, it is necessary to compute the number of influenza cases per 100 workers and ascertain the frequency or intensity of influenza among the workers in 1938 and 1939, i.e., to figure out the intensive index:

$$(1) \frac{265 \cdot 100}{1,500} = 17.7\%$$

$$(2) \frac{240 \cdot 100}{1,500} = 16\%$$

*The index of infant mortality is the number of children who die at the age of 0-1 year per 100 births during a given year.]

Thus, the influenza rate in 1939 declined by 1.7% below that of 1938.

Average values. Besides relative indices, so-called "average values" are also computed in statistics. These values are widely employed in describing physical development, analyzing the work of medical institutions (average bed occupancy in hospitals, average stay of patients, etc.). For example, the average growth, average weight, average size of chest for an entire group is computed on the basis of anthropometric determinations of growth, weight, size of chest, etc.

Average values correctly characterize the group only if they are computed for a qualitatively similar group. For example, in appraising the work of a hospital it would be wrong to compute the average stay of all the patients as a whole, without distinguishing between the illnesses, since length of stay in a hospital depends primarily on the nature of the illness.

The "arithmetic mean" is very frequently used in statistics. The simple arithmetic mean is calculated when the number of observations in all the measurements of the feature under investigation are identical. Let us suppose that it is necessary to determine the average hospital stay of 4 patients who were there 18, 17, 15, and 20 days, respectively. This is done by dividing the number of patients into the total number of days spent in the hospital by all the patients:

$$\frac{18+17+15+20}{4} = 17.5 \text{ days}$$

The number of observations relating to the individual values of the feature under investigation is more often different, in which case the "average weighted arithmetic mean" is computed. Let us suppose, for example that we are required to compute the average stay of patients in a scarlet fever ward. All told 31 patients were hospitalized as follows:

27 days	--	2 patients
28 "	--	1 "
30 "	--	5 "
32 "	--	10 "
33 "	--	6 "
35 "	--	3 "
36 "	--	1 "

Total -- 31 patients

The result is called a "variational series." It consists of variants (v), which are different values of the varying feature, length of stay in the hospital, and frequency (p), indicating how often the given variant

is encountered. In order to determine the average length of stay, each variant must be multiplied by the corresponding frequency and the resultant products added up, thereby yielding the total number of days spent by all the patients. This number is then divided by the number of patients.

27 days	x 2	=	54 days
28 "	x 1	=	112 "
30 "	x 5	=	150 "
32 "	x 10	=	320 "
33 "	x 6	=	198 "
35 "	x 3	=	105 "
36 "	x 1	=	36 "

Total = 975 days

$$\frac{975}{31} = 31.4 \text{ days}$$

Accordingly, a patient stayed in the scarlet fever ward an average of 31.4 days.

The general formula for computing the average weighted value is:

$$M = \frac{\sum v \cdot p}{N}$$

where M = weighted average; N = total number of observations; \sum = sum, v = variants, p = frequency.

Demographic Indices of the People's Health

Data on the size, composition, and movement of the population relate to demographic indices.

Size and Composition of the Population

Basic information on the size and composition of the population is derived from censuses. Western European countries started systematic census-taking at the end of the 18th century and beginning of the 19th. Colonial and semi-colonial countries even now do not have an accurate count of the native population. In Czarist Russia the first and only general census was taken in 1897.

The organization and processing of censuses in the bourgeois countries help to conceal the class structure and social class contradictions as well as the true national composition of the population, just as they did in pre-revolutionary Russia. Grouping by social classes is

replaced by kind of occupation, which makes it possible to combine both major entrepreneurs and petty craftsmen; nationality is replaced by mother tongue or religion, etc. Only censuses in the Soviet Union and the people's democracies provide a precise social-demographic picture of the country.

A partial census was taken in the USSR in 1920 and two general censuses in 1926 and 1939. They revealed that the population had grown at an extraordinarily rapid rate -- from 147 million in 1926 to 170.6 million in 1939 (Figure 3).

Western Ukraine, Western Byelorussia, and the Baltic republics of Lithuania, Latvia, and Estonia with a combined population of 23 million persons were annexed to the USSR in 1939. Thus, the population of the USSR before the Great Patriotic War exceeded 193 million persons.

Censuses also provide some clues as to the composition of the population. The 1939 census has given us accurate information about the age, sex, nationality, and social make-up of the population, about the literacy, educational level, occupation and family structure of USSR citizens. This data is necessary for planning public health as a whole and for the individual types of medical facilities: obstetric, medicoprophyllactic services for children and adults, etc.

Data on the size of the population enable us to compute the index of population density, i.e., the number of people per sq km of territory.

The USSR is far from being uniform with respect to density. The greatest concentration is in the western oblasts, Baltic republics, the Ukraine, Byelorussia, and the central oblasts of the European area of the RSFSR. Siberia, the Central Asian republics, the Extreme North, and the Far East have very low population density.

Data on population density are highly important for the public health agencies, which take cognizance not only of the size of population but also of the radius of service when planning the network of medical institutions.

Movement of Population

Movement of population (births, deaths, movings, etc.), which alters the numbers as well as the age and sex composition, is of great medical significance.

Mechanical movement of population. The migration of independent groups of people from one region to another or outside a country is called "mechanical" movement of population.

Mechanical movement of population is caused by social and economic conditions. In pre-revolutionary Russia there was a constant shifting of the male working population from village to city (for extra earnings, seasonal work), migration from the central regions (e.g., from the Ukraine) to Siberia, and, finally, substantial emigration abroad. In Soviet times these spontaneous migrations gave way to planned transfers of the labor force to newly created and developing industrial and agricultural centers in the Urals, the Kuznetsk Basin, Siberia, Kazakhstan, to virgin-soil and long-fallow lands, etc.

Major shifts took place during the war -- evacuation and re-evacuation of the civilian population, movement of troops, mass transfers to labor fronts, etc.

Mechanical movement of population has a great effect on a country's health. When large numbers of people move about, they may spread infections and import diseases into areas hitherto free from them. For example, the mass migration of 1914-1922 occasioned by the war and economic dislocation (hordes of refugees carrying their possessions) helped to spread typhus and recurrent fever epidemics. It caused the malaria epidemic of 1923-24 by bringing the disease into areas where it had been unknown.

Public health agencies must reckon with mechanical movements of population and take appropriate sanitary measures to prevent the spread of epidemic diseases.

Despite the vast scale of population movement during the Great Patriotic War, the public health agencies averted the outbreak of epidemics by taking timely preventive steps.

Public health agencies must also take into account planned transfers to new projects, seasonal work (e.g., peat digging, timber cutting), etc., in order to provide the necessary medical service and facilities for the new arrivals.

Natural Movement of Population

By the so-called natural movement of population we usually mean the birth rate and the death rate.

The birth rate and the death rate are computed on the basis of registration of all births and deaths in special departments of the Soviets, ZAGS* (Registry of Acts of Civil Status), on special "act of birth" and "act of death" forms.

*Zepis' aktov grazhdanskogo sostoyaniya

Prior to the Great October Socialist Revolution there was no civil registration of births, deaths, or marriages in Russia. Churches performed this function using birth and death registers. However, the data were inaccurate and incomplete.

Birth rate. The index of births is the number of births per 1,000 of population annually. This index, which reflects the rate of births in the various countries and depends on certain social and economic factors, is rather stable, changing comparatively slowly over a period of time. We are entitled, therefore, to talk about countries with a high, average, or low birth rate. The rate varies from approximately 15 to 50 per 1,000 of population. A low birth rate (15-20) is characteristic of European capitalist countries (France, England, West Germany, the Scandinavian countries, cf. table below), whereas a higher rate (20 and above) may be noted in non-European agrarian countries. The rate is higher in rural areas than in urban ones.

The birth rate in capitalist countries (per 1,000 of population)

Country	1901-1905	1911-1913	1926-1930	1936-1938	1946-1950	1951	1953
England	28.2	24.2	16.7	14.9	18.0	15.5	15.4
Germany (after 1946, West Germany)	34.3	28.1	18.4	19.2	16.5	15.8	15.5
Denmark	29.0	26.3	19.4	18.0	20.6	17.8	17.8
Italy	32.7	31.9	26.8	23.0	21.5	18.5	17.4
Netherlands	31.5	28.1	23.2	20.2	25.9	22.3	21.8
USA	—	25.0	19.6	17.2	24.2	24.5	24.7
France	21.2	18.8	18.2	14.8	20.9	19.5	18.6
Sweden	26.1	23.6	15.9	14.5	18.2	15.6	15.4
Japan	32.3	34.3	33.7	29.1	30.8	25.4	21.5

Throughout the 19th century (particularly during the latter half) and the 20th century the birth rate in all the capitalist countries declined markedly. Especially significant is the "catastrophic" drop that occurs in all countries during wartime, which contributes substantially to the overall population loss.

A decline in the birth rate is observable everywhere both in industrial and in agricultural countries concomitant with the development there of capitalism, stratification of villages, and growth of cities. In the 19th century the birth rate among the "lower" classes of bourgeois society — peasantry and proletariat — was higher than among the "upper" classes; however, as capitalism expanded the birth rate fell sharply even among the peasantry and proletariat. The decline of births in the capitalist countries at the beginning of the 20th

century assumed such proportions that bourgeois politicians, economists, and demographers began an eager search for devices to stimulate a higher birth rate, especially among those considered the most "valuable" segments of society, i.e., the aristocracy, bourgeoisie, and kulak leadership of the peasants.

The actual extent of the decline in births indicated by the overall birth index is concealed by changes in the age structure of the population, where as the birth rate goes down and, consequently, the proportion of children's ages, the proportion of middle ages directly participating in the birth rate rises. That is why a more accurate idea of the amount of births is provided by the so-called special coefficient of births or coefficient of fecundity, i.e., the number of births per 1,000 women of child bearing age (from 15-49 years old).

Bourgeois scientists advance different theories to explain the decline. Some attribute it to biological causes — degeneration of modern "civilized" man or depreciation of the child-bearing function of women. Others regard it as a result of the corrupting influence of large cities, increase of venereal diseases, drawing of women into industry, elevation of cultural level, etc.

None of these bourgeois "theoreticians" is able or willing to admit that the real reason for the drop in births is inherent in the capitalist system itself. The growth of unemployment and impoverishment of the working class together with stratification of the peasantry cause the workers' families anxiety and uncertainty regarding the possibility of rearing and educating their children properly. Even the moneyed classes do not want many children because they dread having to divide up their capital among numerous heirs. The low birth rate of the capitalist countries is the inevitable result, therefore, of social contradictions, a conscious refusal to have children, i.e., an artificial regulation of births due to social and economic factors.

The situation is completely different in the USSR and the people's democracies. The high birth rate of pre-revolutionary Russia was typical of agrarian countries. The USSR economy expanded and transformed the country into a first-class industrial power, but the birth rate remained high.

Motherhood in the USSR is an honorable function of women carefully safeguarded by the Soviet government. Legislation to protect female labor, social and legal protection of the interests of mothers and children, state assistance to pregnant women, unmarried mothers and mothers of many children, development of an extensive network of medico-prophylactic and social institutions to serve mothers and children, bestowal of decorations and medals for motherhood — all these secure for Soviet women a peaceful, happy motherhood and are responsible for making the birth rate of the USSR one of the highest in the world.

Death rate. The index of deaths is the number of deaths per 1,000 of population annually. The death rate varies within a comparatively small range, from approximately 8 to 25 per 1,000 of population.

A lower death rate may be noted in the industrial countries (England, the Scandinavian countries, Denmark) as well as among the white population of the United States and some of the British dominions -- Australia and New Zealand. A high death rate (15% and above) is found chiefly in agrarian, dependent countries -- in South America and the colonial countries of Asia and Africa.

A study of the dynamics of mortality in various countries shows that the death rate in Western European countries declined appreciably during the 19th century and at the beginning of the 20th century. In most of the capitalist countries the death rate remained stable during the decade preceding World War II, as it is today (cf. table). The death rate in the colonial countries is still high.

An analysis of the causes of mortality shows that a high rate depends largely on the occurrence of epidemics, extensive spread of acute infectious diseases, and high level of infant mortality.

The decline in the Western European death rate during the latter half of the 19th century is attributable chiefly to a major drop in cases of smallpox, plague, cholera, parasitic typhus, and other infections. A significant factor in the decline of the general mortality index was the drop in births, which reduced the proportion of infants in the population, a group characterized by a high death rate.

The death rate in capitalist countries (per 1,000 persons)

Country	1910-1913	1928-1938	1951	1952	1953
Austria	--	13.6	12.7	11.8	11.9
England	13.9	12.0	12.5	11.3	11.4
Guatemala	--	21.3	19.6	21.6	--
Denmark	13.0	11.0	8.8	9.0	8.9
West Berlin	--	--	12.4	13.1	13.0
Spain	22.2	16.4	11.5	9.6	9.6
Italy	19.5	14.1	10.3	10.1	10.0
Norway	13.3	10.4	8.4	8.3	8.3
Portugal	20.9	17.0	12.4	11.8	11.7
US	14.0	11.1	9.7	9.6	9.6
Trieste	--	--	11.3	11.4	11.1
France	18.2	15.7	13.3	12.2	12.8
Chile	31.0	24.4	15.9	13.8	--
Sweden	13.9	11.7	9.9	9.6	9.7
Ecuador	--	--	17.2	17.0	--
Japan	20.3	17.7	10.1	9.0	9.0

When analyzing mortality we must always bear in mind that the general mortality index in the capitalist countries used by bourgeois demographers conceals the social and class differences within the mortality figures for the various social groups. For example, the death rate in the proletarian quarters of Western European and American cities is much higher than that of the bourgeois and aristocratic sections in the same cities. This difference prevails even in the death rates of the white and colored populations.

In Tsarist Russia the death rate was high due to the general backwardness of the feudal system, the low economic and hygienic level of the country, and the outbreak of epidemics. During the Soviet regime the death rate has been declining steadily. The USSR now has an exceedingly low rate -- 8.9% (Figure 4).

Natural increase of population. Isolated data on the birth rate or death rate are not an adequate basis on which to form a balanced judgment regarding the health of a country. The character of the natural movement of the population can be determined only by studying simultaneously the birth and death processes and their interrelationship, as reflected in the natural increase of population, i.e., the difference between the birth rate and the death rate.

Three main groups of countries may be distinguished according to the type of movement of population and the extent of natural increase (Figure 5).

(1) Countries with a low death rate and a low birth rate (England, France, the Scandinavian countries). In spite of the apparently favorable mortality indices, the birth rate in these countries is low, as a consequence of which the natural increase is slight (5-7 per thousand).

(2) Countries with a high birth rate and a high death rate (the South American republics, colonial countries). Owing to the high birth rate the natural increase in these countries is somewhat higher than in the countries of the first group, but it is not large because of the high death rate (about 10-12 per thousand). However, in a number of colonial countries, despite a rather high birth rate, the high epidemicity results some years in an excess of deaths over births, the so-called negative natural increase.

It should be noted that at the present time when colonialism is collapsing the natural movement of population in former colonial countries (now independent) is marked by a declining death rate.

(3) Socialist countries -- the USSR and people's democracies -- are characterized by a special kind of natural movement of population. The USSR birth rate is high, the death rate low, and the natural increase growing. The natural increase is several times higher than that of all the western European countries combined.

In his report to the Twentieth Congress of the Communist Party of the Soviet Union, N. S. Khrushchev stated that the natural increase of population in the USSR during the years of the Fifth Five-Year plan amounted to 16,300,000 persons.

Child mortality. The death rate for the various ages is far from uniform. If the mortality indices for each age are calculated separately and represented graphically, the result is a curve resembling an arc (Figure 6). The peak is reached during the first year of life. It drops sharply thereafter, but beginning with the 30-40 year age bracket rises slowly at first and then with increasing speed. Whereas mortality at advanced ages is due to the normal, physiological processes involved in the gradual extinction of a generation -- the task of medicine and public health here is to prolong human life and push forward its present limits -- mortality among newborn children, whose organisms contain all the prerequisites for life and continued development, is a phenomenon of unquestionably pathological nature, and as such, susceptible of elimination.

The fact that the death rate is highest in infancy, exceeding that of the population as a whole, and that this index is an exceptionally important means of appraising the health of a people led physicians and demographers to set up a separate infant mortality rate. It is the number of infants (up to 12 months old) dying annually per 100 births during the same period.

A more accurate index is obtained by relating the number of children dying in a given year not to the number of children born in the same year, but to a total comprising 2/3 of the children born in the given year and 1/3 of the children born in the preceding year. Of the children who died, for example, in 1955, some were born in that year, some in 1954.

The infant death rate in the first year of life is also uneven: the peak is reached during the first month, indeed, during the first week of the first month.

The infant death rate varies considerably from country to country. Like the overall death rate of the population, it is lower in the industrial countries of capitalist Europe and higher in the agrarian countries. It is exceptionally high in the colonial countries, where it is 15-20% and more.

The indices of infant mortality vary considerably from social group to social group. In the city of Berlin, for example, infant mortality before World War II in the workers' quarters was 3 to 4 times higher than in the aristocratic and bourgeois sections. It is much higher among the Negroes (in America) than among the white population, etc.

Czarist Russia had a high infant mortality rate, but it dropped sharply after the revolution and is now exceedingly low. A further decline in the death and sick rates of children continues to be the major objective of institutions set up to safeguard mothers and children and of the public health system as a whole.

An analysis of infant mortality shows that the main underlying factors are the unfavorable and wholly remediable conditions of the environment where the infant has to live after birth and with which its still feeble organism cannot cope.

The so-called "neonatal diseases," which are particularly dangerous for premature babies, and birth traumas contribute heavily to infant mortality during the first week and first month of life. Infant mortality can be greatly reduced by protecting pregnant women while at work, systematic observation by women's consultation centers, efficient maternity hospitals, correct and special care of premature children in maternity hospitals, and special supervision by children's consultation centers after discharge from the maternity hospital.

Another major cause of infant mortality is the gastrointestinal diseases -- toxic dyspepsia, colitis, and, above all, dysentery. Gastrointestinal diseases are most dangerous during the transition period to bottle feeding and in the summertime. These arise from unsanitary surroundings, lack of breast-feeding, incorrect and poor quality bottle feeding, and inadequate anti-dysentery measures. Infant morbidity and mortality due to gastrointestinal diseases can be sharply reduced by improving the general living conditions of the population, large-scale introduction of hygienic practices, and providing babies with breast milk and good quality nutrition from infant-feeding centers.

Finally, a reduction in morbidity due to children's infections (measles, scarlet fever, whooping cough, diphtheria, etc.) and pneumonia, which is another major cause of death, may be achieved by improving the quality of infant care and adopting measures to prevent infection both at home and in such children's facilities as day nurseries and consultation centers (Figure 7).

An analysis of the causes of child mortality shows public health agencies the steps that must be taken if the death rate is to be lowered.

Morbidity

Computation of the morbidity rate, i.e., the amount of disease among the population, is exceedingly important in studying public health.

Diseases are diagnosed and reported either when patients come to medical institutions for treatment or when a group of people are given medical examinations at the same time (Figure 8).

The purpose of computing the morbidity rate is not only to detect the presence of disease and the degree of prevalence among the population, but also to provide public health agencies and medical institutions with useful information on their current work and enable them to adopt needed medical and sanitary measures.

The General Morbidity Rate

Russian medical statistics place a top priority on the investigation of general morbidity. The method of investigating general morbidity on the basis of data compiled from visits to medical institutions was worked out by the leading expert of zemstvo medical statistics Ye. A. Osipov and developed by P. I. Kurkin. The work done by zemstvo sanitary physicians in studying sickness among mill and factory workers and peasants is of great practical importance in enabling us to assess the health of pre-revolutionary Russia.

The study of general morbidity has acquired exceptional significance in the Soviet Union. Data on the level and composition of general morbidity are helpful in planning medical facilities and in determining the number of beds needed for various kinds of patients and the number of doctors and specialists. Changes in the data make it possible to evaluate shifts in the health of the population.

Before 1949 general morbidity used to be investigated on the basis of special statistical studies derived from reports of the initial visits of patients to medical institutions. Much effort and time was needed to gather and process this material. Therefore, general morbidity had to be studied selectively using data from individual cities and inhabited localities over long intervals of time. This approach, however, was not very satisfactory. Few public health organs or medical institutions, if any, were in a position to judge the nature of morbidity for any given period among the people they were serving and thus they failed to obtain information needed for their operations.

Introduced in 1949, the present system of continuous computation of the morbidity rate from medical reports and supplementary modifications and corrections enhances the usefulness of the computation, accuracy of diagnostic procedures, and possibility of detecting and registering specific types of patients.

Under the present system the morbidity rate is computed from slips and sheets containing confirmed diagnoses attached to all cards for outpatients. The diagnosis is entered on a sheet by the examining physician

after he has confirmed it. If a patient is treated by several specialists (internist, neuropathologist, ophthalmologist, etc.) in connection with the same condition (e.g., hypertension), the diagnosis is entered only once by the first physician who made the diagnosis, and is not repeated by the other physicians.

Diseases noted in a patient for the first time in his life are marked on the sheet with a plus (+) sign. These diseases include all the chronic diseases for which the patient was first treated and all the acute ones if they recurred, regardless of whether he suffered from them previously (influenza, trauma, angina, etc.). Chronic diseases for which the patient was treated in previous years are also entered on the sheet of confirmed diagnoses when first treated in the given year, but without the plus sign.

The morbidity rate is computed monthly from the statistical slips filled out daily by the statistician of the medical institution using the entries on the sheets of confirmed diagnoses. This type of report possesses a number of advantages: it is practical since monthly data on the movement of diseases and on newly arisen diseases make it possible to compare the sick rate in the regions served by hospitals and medical districts and ensure that all the sick people are taken into account, a fact of great importance in planning practical measures.

General morbidity is worked out in accordance with a special nomenclature and classification of diseases and causes of death, which are regularly revised. A uniform nomenclature and classification of diseases are prerequisite to a statistical investigation of morbidity. It is only when examining physicians designate the same disease in the same way and when statisticians include certain kinds of diseases in given classes and groups that we can compare and analyze the collected material for various years by oblasts and medical institutions.

The Soviet classification of diseases differs in principle from the international system in that it attempts to determine the etiology of diseases and their relation to environmental factors. Diseases with a common cause or common site are combined in one class, e.g., infectious diseases or diseases of the circulatory organs, etc. Within each class the diseases are divided into more homogeneous groups.

The classification of diseases, which was last revised by the Ministry of Health, USSR, in 1952, consists of the following 28 classes:

- Class I. Infectious diseases.
- Group 1. Intestinal (alimentary) infections.
 - " 2. Blood (transmissible) infections.
 - " 3. Airborne droplet infections.
 - " 4. Zoonoses.

- Group 5. Wound infections.
- " 6. Tuberculosis.
- " 7. Venereal diseases.
- " 8. Other infectious diseases.
- Class II. Parasitic diseases.
- Group 1. Mycoses (9)*.
- " 2. Helminthic diseases (10).
- " 3. Other parasitic diseases (11).
- Class III. Traumas.
- Group 1. Traumas of non-industrial nature, except intentional or birth traumas (12).
- " 2. Traumas of industrial nature (13).
- " 3. Intentional traumas (14).
- Class IV. Poisonings.
- Group 1. Poisonings of non-industrial nature, except intentional poisonings (15).
- " 2. Industrial and occupational poisonings (16).
- Class V. Industrial and occupational diseases.
- Class VI. Vitamin-deficiency diseases.
- Class VII. Rheumatism.
- Class VIII. Metabolic diseases and allergic disorders.
- Group 1. Metabolic diseases (17).
- " 2. Allergic disorders (18).
- Class IX. Neoplasms.
- Group 1. Malignant neoplasms (19).
- " 2. Benign neoplasms (20).
- Class X. Diseases of the endocrine system.
- Class XI. Diseases of the Hematopoietic system.
- Class XII. Mental disorders.
- Group 1. Psychoses (21).
- " 2. Borderline conditions (22).
- " 3. Alcoholism and narcomania (23).
- Class XIII. Diseases of the nervous system.
- Group 1. Vascular lesions of the brain (24).

*The number in parentheses indicates the order of the group in the overall classification.

- Group 2. Hereditary and familial diseases of the nervous system (25).
- " 3. Other diseases of the central nervous system (26).
- " 4. Nerve diseases (27).
- " 5. Neuroses (28).
- Class XIV. Diseases of the visual organs.
- Class XV. Diseases of the ear, throat, and nose (except infectious and other diseases of certain etiology).
- Group 1. Diseases of the ear (29).
- " 2. Diseases of the nasopharynx and pharynx (30).
- " 3. Diseases of the larynx (31).
- " 4. Diseases of the nasal cavity and accessory sinuses (32).
- Class XVI. Diseases of the respiratory organs.
- Class XVII. Diseases of the circulatory organs.
- Group 1. Diseases of the cardiac sac (pericardium) (33).
- " 2. Diseases of the endocardium (34).
- " 3. Diseases of the myocardium (35).
- " 4. Dysfunction of the coronary circulation and after-effects, except hypertension (36).
- " 5. Hypertension (37).
- " 6. Diseases of the arteries, veins, and lymphatic vessels (38).
- Class XVIII. Diseases of the mouth and teeth.
- Class XIX. Diseases of the digestive organs.
- Group 1. Diseases of the esophagus, stomach, and duodenum (39).
- " 2. Intestinal diseases (40).
- " 3. Diseases of the liver and biliary tract (41).
- " 4. Other diseases of the digestive organs (42).
- Class XX. Diseases of the bones, muscles, and joints.
- Class XXI. Diseases of the skin.
- Group 1. Pyodermas, except pyodermas of the newborn (43).
- " 2. Other skin diseases (44).
- Class XXII. Diseases of the kidneys and urinary organs.
- Class XXIII. Diseases of the male genital organs (non-venereal).
- Class XXIV. Diseases of the female genital organs (non-postnatal and non-venereal).
- Class XXV. Congenital malformations.

Class XXVI. Diseases of pregnancy, pathology of birth and the postnatal period.

- Group 1. Diseases of pregnancy (45).
- " 2. Pathology of birth (46).
- " 3. Diseases of the postnatal period (47).
- " 4. Abortion (48).

Class XXVII. Diseases of the newborn (during the first month of life).

- Group 1. Birth traumas (49).
- " 2. Infectious and septic diseases (50).
- " 3. Other diseases of the newborn (51).

Class XXVIII. Loosely defined or other diseases not included in the nomenclature.

An analysis of general morbidity shows that its structure remains more or less constant. Ahead of all the others stand the infectious diseases (influenza, for the most part) followed by diseases of the digestive organs, traumas, etc. (Figure 9).

Recording of Acute Infectious Diseases

Acute infectious diseases constitute a special danger to the population since they may spread rapidly and develop into epidemics if preventive measures are not taken in time.

Elimination of the foci of acute infectious diseases requires timely action. That is why accurate and prompt recording of these diseases has such practical significance. This reporting must be complete and up-to-date, i.e., every case of an acute infection must be detected and promptly recorded. Heads of health departments and epidemiologists must have daily summaries of developments in a city or rayon concerning acute infectious diseases, particularly louse-borne typhus, typhoid fever, dysentery, etc.

According to law, recording of acute infectious diseases is compulsory. All doctors or feldshers who come across a case must send a "special notification" card to the rayon epidemiologist in the rayon health department. This type of card is sent when any one of the following diseases is discovered or suspected: typhoid fever, recurrent typhus, paratyphoid fever, exanthematous fever, measles, scarlet fever, diphtheria, dysentery, anthrax, tuberculosis, glanders, epidemic cerebrospinal meningitis, epidemic encephalitis, tularemia, brucellosis, tetanus, rabies, infectious hepatitis, whooping cough, toxic dyspepsia, tick-borne typhus, and some others. Exceptionally dangerous infectious diseases -- smallpox, plague, cholera, and leprosy -- are to be reported separately.

On the basis of these "special notification" cards the epidemiologist verifies the hospitalization of the patient, execution of disinfection and necessary measures with respect to persons in contact with the patient, and carries out an epidemiologic investigation.

Data on acute infectious diseases are processed according to the "special notification" cards by statistical units attached to rayon, municipal, or oblast sanitary -- epidemiological stations, which forward monthly reports on infectious diseases to the next higher sanitary -- epidemiological stations.

A study of the dynamics of acute infectious diseases in the USSR shows that execution of planned measures to control epidemic diseases together with simultaneous elevation of the general economic, cultural, and hygienic standards of the broad masses has resulted in a significant decline of infectious diseases in the USSR -- louse-borne typhus, typhoid fever, etc. Such diseases as plague, cholera, and smallpox have been completely wiped out, malaria almost so.

Recording of Major Non-Epidemic Diseases

Recording of major non-epidemic diseases, which gravely affect the health of the population because of their severity and danger to persons close to patients suffering from these diseases and to their descendants, is next in importance. The following must be reported: tuberculosis (in the active stage), syphilis, gonorrhea, soft chancre, trachoma, trichophytosis, favus, and malignant neoplasms. To control these diseases Soviet public health has set up a network of specialized institutions (anti-tuberculosis, dermato-venereological, trachomatous, and oncological scientific research institutes and clinics). These institutions are required to study methods of preventing and treating the corresponding diseases and to process statistical data relating to shifts in the morbidity rate.

The above-mentioned major non-epidemic diseases are recorded by doctors in all medicoprophyllactic institutions. A notice is prepared for each new case or an entry made on a special register sent to the appropriate clinic. In addition, open tuberculosis or infectious forms of syphilis are recorded on the same kind of "special notification" cards used for the acute infectious diseases.

Data on patients suspected of having malignant neoplasms or actually suffering from them are sent directly to an oncological clinic.

Tuberculosis, syphilis, and trachoma were known in pre-revolutionary Russia as social diseases -- and are still called that in bourgeois countries -- because their prevalence is due mainly to the social and economic conditions of the working people. Tuberculosis is a disease of

poor peasants, of people working in damp cellars, stuffy, crowded shops, the result of unrestrained exploitation. The spread of syphilis and other venereal diseases, particularly in large cities, is a clear indication of the social contradictions of capitalism: alcoholism, prostitution, disorderly sex life, and destruction of the bourgeois family. Syphilis introduced by the white colonizers has led to the extinction of several native peoples in the colonial countries (e.g., the African possessions Madagascar).

In the USSR, tuberculosis and syphilis no longer have a social pathological character. Amelioration of the people's working and living conditions, the extensive network of specialized anti-tuberculous and anti-syphilitic institutions, and widespread hygienic education have resulted in a sharp drop in the tuberculosis and venereal disease rates. Trachoma too has been almost completely wiped out in the USSR. A further decrease in tuberculosis and the venereal diseases and the total eradication of trachoma are among the principal public health objectives.

Computation of Rate of Morbidity with Temporary Disability

Computation of the rate of morbidity with temporary disability is also a continuous and compulsory task. It is done on the basis of disability certificates and covers wage earners (manual and office workers in industrial establishments, institutions, state farms, machine and tractor stations, etc.).

A disability certificate is both an official document confirming the validity of a person's absence from work and a pecuniary document according to which an allowance is to be paid for temporary incapacity. All this ensures accuracy in reporting. Every completed certificate is sent for formal registration and payment to the enterprise or institution where it is recorded by the medical unit or health station of the enterprise or dispensary by place of residence. These certificates serve as the basis for the current computation of the amount of sickness among workers in the enterprise by the various departments. Data on all the cases and number of days of disability are processed every month and a monthly report submitted that notes the diseases most frequently encountered as well as the number of cases and days of disability connected with pregnancy and child birth (cf. form 3-1). Later on, the statistical divisions of oblast committees and the Central Committee of Trade Unions organize the data on morbidity by the various branches of industry. These data are summarized and processed in the All-Union Central Council of Trade Unions.

In computing disability it is not so much the number of cases as the number of work days lost that is of significance. Hence, sickness with temporary disability is judged on the basis of these three indices: (1) number of cases per 100 insured persons; (2) number of days of

disability per 100 insured persons; (3) average length of disability (determined by dividing the number of days of disability by the number of cases). These indices are computed for a certain period of time (year, quarter, month).

Illnesses with disability involving the absence of a substantial number of manual and office workers from their jobs adversely affects fulfillment of the industrial plan and results in the trade unions' spending large sums from their insurance funds. Consequently, a reduction of morbidity with disability has vast significance for the national economy and constitutes a major objective of the medical organizations serving industry.

Form 3-1

REPORT ON TEMPORARY DISABILITY

Based on disability certificates

No. of cases	Types of temporary work releases	No. of days
Acc. to initial certificates	1. Influenza	Acc. to initial certificates and extensions
	2. Angina	
	3. Abscesses, phlegmons, paronychias	
	4. Acute and chronic rheumatic diseases, incl. rheumatic heart diseases	
	5. Pulmonary tuberculosis	
	6. Carbuncles, furuncles, hidradenitis	
	7. Industrial accidents with loss of work capacity of 1-3 days, more than 3 working days	
	8. Household injuries (contusions, wounds, burns, acute poisonings, etc.)	
	9. Acute gastrointestinal diseases (acute gastritis, gastroenteritis, colitis)	
	10. Diseases of female genital organs (diseases of the uterus and <u>adnexa uteri</u>)	
	11. Cardiac diseases	
	12. Neuralgias, neuritic and radiculitic diseases	
	13. Gastric and duodenal ulcers	
	14. Pneumonia	
	15. Hypertension	
	16. Bronchitic diseases	
	17. Other diseases	
	18. Total of all diseases (lines 1-17)	
	The same per 100 workers	
	19. Leave for treatment at sanatoria or health resorts	

20. Abortions
21. Care of patients and quarantine
22. Total minus pregnancies and births (total of lines 18, 19, 20, 21) - the same per 100 workers
23. From the total number of cases and number of days mentioned in line 22, not liable to payment
24. Transfer to other work due to illness
25. Pregnancy and maternity leave

(Date) (year)

Physician responsible for filling out disability certificates
Chairman, Factory and Plant Installation and Assembly Committee

It is necessary to know the causes of disability in order to carry out concrete measures for reducing sickness with temporary disability.

A comparison of data on the composition of morbidity with temporary disability in the 1930's (the beginning of the reconstruction period) with recent data shows that substantial changes occurred in morbidity during this time. Among the principal causes of disability in the 1930's were influenza, angina, gastrointestinal diseases, industrial injuries, impetiginous diseases of the skin and subcutaneous tissue (pyodermas, furuncles, phlegmons, etc.).

Morbidity among the workers during this period clearly showed the effect of the various unfavorable industrial factors. However, the extensive effort of recent years to improve living and working conditions, particularly the vast amount of capital investments on hygiene and safety engineering, and to mechanize laborious industrial processes caused a sharp decrease in occupational illness, injuries, poisonings, etc.

The structure of morbidity with temporary disability is now scarcely distinguishable from the pattern of general morbidity for the corresponding age group. Among the acute infections, influenza and angina, accounting for almost 1/4 of all disability cases, warrant special attention. A large percentage of cases, especially costly in respect to the number of days of disability, is made up of various chronic diseases of the heart, blood vessels, nervous system, digestive organs and everyday injuries.

All this points to the need of uncovering and eliminating the unfavorable industrial factors still existing. It also calls for even greater efforts to improve household conditions (proper organization of nutrition, rest, sleep), promote physical culture and sports of all kinds, combat alcoholism and other injurious habits of everyday life, which are responsible for many chronic diseases.

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Most illnesses with attendant disability (70-75% of the cases) are due to influenza, including inflammation of the upper respiratory tract, angina, acute and chronic gastrointestinal diseases, household and industrial injuries, diseases of the nervous system (radiculitis, neuritis, etc.) and the cardiovascular system.

In addition to the mean indices per 100 workers, calculation of the proportion of sick persons is extremely important in an investigation either of morbidity with temporary disability or of general morbidity. We know from experience that among the total mass of workers a certain number never become ill, a substantial number are ill once or twice a year, and only an insignificant number are ill five or more times a year (Figure 11). However, this small percentage of "persons who are sick frequently or for a long period of time" are responsible for the greatest number of days lost through disability. Therefore, it is essential to identify the specific individuals who are ailing before effective measures can be devised to solve the problem.

Periodic Medical Examinations

Besides reports based on visits to doctors and medical institutions, periodic medical examinations serve to show the prevalence of various diseases among the population. These examinations are given to such large and well defined groups as children (in nurseries, kindergartens and children's homes, schools), juvenile workers, students in factory, mill, and trade schools, workers in shops and in different occupations, draftees, physical culturists, etc. They reveal the level of physical development and general health, the presence of diseases, chiefly in the form of pathological changes in the various internal organs and systems, and the early stages of chronic diseases.

Periodic medical examinations are widely used in the USSR for "dispensarization" [panel medicine], i.e., for the purpose of early diagnosis of, for example, tuberculosis, cancer, cardiovascular and occupational diseases, timely treatment, preventing the further spread of disease, and systematic care of patients.

Specific preventive medical examinations are also used in connection with field studies of the population undertaken to ascertain the incidence of certain diseases, e.g., trachoma, malaria, and goiter, at the different focal points.

The data on physical development constitute a major index of health. Physical development is determined by anthropometric studies of such basic indices as growth, weight, circumference of chest, lung capacity, muscular strength, and fat deposits in children (newborn, pre-school, school), draftees, juvenile workers, and physical culturists.

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Mass medical observations repeated from year to year make it possible to evaluate changes in physical development and, consequently, in the health of major population groups. Improved living conditions compared with those prevailing in pre-revolutionary times, better hygiene in the schools, and wide-scale promotion of sports and physical culture have notably advanced the physical development of school children. For example, 10-year-old boys are 14 cm taller and 1.6 kg heavier than pre-revolutionary youngsters; girls of the same age are 5.9 cm taller and 3 kg heavier.

Statistics on Causes of Death

Statistics on the causes of death are important in investigating the incidence of various diseases. The data are worked up from entries on acts of death prepared by the Registry of Acts of Civil Status from medical death certificates. These statistics, which relate, for the most part, to the urban population, show the prevalence of serious diseases that result in death. The pattern differs in countries with high and low death rates. When the general and infant mortality rates are high, acute infectious diseases, acute gastrointestinal diseases, and tuberculosis are the leading causes of death. When the general and infant mortality rates are low and average life expectancy is increasing, the proportion of middle and old age diseases, which affect the respiratory and circulatory organs, metabolism, cancer, etc., rises.

The extent and seriousness of the various diseases are determined by computing three basic indices: (1) index of morbidity -- number of persons sick per 1,000, 10,000, or 100,000 of population annually; (2) index of fatality -- number of persons dying per 100 sick persons; (3) index of mortality -- number of persons dying from a given disease per 10,000 (or 100,000) of population. The level of mortality from a given disease depends both on how widespread (level of morbidity) and on how serious (level of fatality) it is.

Graphic Representation

Statistical data are more effectively presented and more readily absorbed when they are shown in the form of diagrams. Line and plane (columnar and circular) figures are the commonest of these devices.

A line diagram is produced by two lines: at the bottom -- a horizontal line (abscissa); at the left end -- a line perpendicular to it (ordinate). A zero is placed at the point where the two lines intersect. Along the horizontal line, beginning with 0, equal segments are marked off, which represent, for example, time (days, months, years) or age (0-1 year, 1-2 years, 2-3 years, etc.), etc. Along the vertical line, going up from 0, segments representing the quantity of the phenomenon under investigation are marked off on a definite scale (number of beds, diseases, death, etc.).

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The divisions are in centimeters or millimeters. A definite numerical expression of the phenomenon being described corresponds to one division of the vertical line. Against each division of the horizontal line is placed a point at the height corresponding to a quantity of the given phenomenon. The points are then joined together by lines (curves) showing changes of the phenomenon in time, by age groups, etc. In cases where several phenomena are shown on a single line diagram, the lines are distinguished by different colors or hachures.

Line diagrams are commonly used to represent the dynamics of a phenomenon in time (cf. Figure 5). A temperature curve is a typical example.

A columnar diagram is made up of columns whose height corresponds to the size of the numbers being represented. Precision of scale is maintained, just as in the linear diagram, by drawing a vertical line on the left on which the scale of the phenomenon in question is indicated. The width of the columns as well as the distance between them must be uniform. Columnar diagrams usually represent the statics of a phenomenon (cf. Figure 7).

A circular or sectorial diagram is used to represent the composition or structure of some phenomenon expressed in extensive indices (e.g., structure of morbidity). In a circular diagram the area of the circle is taken at 100. Individual segments in percentages represent the constituent parts of the given phenomenon.

Records and Reports of Medical Institutions

The statistics of medical institutions constitute an important part of health statistics. Each medical institution keeps records of its work and makes reports covering a certain period of time.

Institutions of the same type are required to keep uniform records -- the so-called "local records and operations documentation." For the sake of uniformity of data and ease of comparison, all forms of documentation must be approved by the Ministry of Health, USSR. The Ministry also devises forms and determines when they are to be submitted, subject to the approval of the Central Statistical Administration.

Reports of the individual medical institutions are included in the system of state reports submitted by the Ministry of Health, USSR, and its local organizations to the Central Statistical Administration and its local agencies.

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Types of Records and Operations Documentation

The variety of medical institutions calls for different forms reflecting the nature of their work. The records of the individual actions taken are kept in such a way that the resultant data can be easily tabulated. The method of entering the items is determined by the particular form, which contains lines for each aspect of the operation that is to be recorded.

Two main types of local record keeping may be distinguished.

The first type is individual documentation in which the data or actions refer to individuals. There are separate blanks for each patient, e.g., the history of illness, in which are noted personal details (age, sex, occupation, previous diseases, condition on admission, subsequent examination, and discharge from the hospital, etc.) and the therapeutic and other measures prescribed for him. History of births (in maternity hospitals or departments), development of children (in nurseries, children's homes), slip for examination by doctor, etc. are examples of individual documentation.

Entries for individuals may also be made in an appropriate book. For example, hospitals maintain a so-called admissions register where they enter the names of patients in order of admission, place of residence, date, name of the person who made the diagnosis, etc.

Individual records make it possible to note the various circumstances subject to registration and the pertinent actions taken, i.e., they are primarily of operational significance. These cards, collected and tabulated for a given period of time, provide material for statistical studies of mass phenomena or the activities of medical institutions. For example, a special notification of a patient with an infectious disease alerts the authorities concerned. The cards tabulated by inhabited areas, age, sex, month, etc., indicate changes in epidemiological morbidity and the pattern, reveal sources of epidemics, etc. Temporary disability certificates serve as a basis for payment by insurance agencies. When collected for a certain period of time and processed in accordance with some program, they reveal the composition and pattern of morbidity with temporary disability among workers in a given enterprise of branch of industry.

The second type of documentation consists of journals, registers, and daybooks. An example is the daybook of a hospital. Separate columns indicate for each day the number of beds, number of old and new patients by departments, etc. The same principle governs treatment sheets, daybooks of clinics and health stations, and registries of obstetric assistance rendered in homes. The elements subject to recording naturally vary with the activities of the institution. The

principal elements for a hospital are: beds patients by diagnosis; in the X-ray room -- radioscopy, photographs; in the infant-feeding center -- the portions issued, etc.

Thus, the daybook (journal) is a document by means of which one can trace day by day the various operations of a medical institution. Maintenance of the daybook is the responsibility of middle-echelon personnel.

Medical Reports

The daily entries in daybooks, journals, registers, etc. constitute the basis on which medical institutions compile their reports for a given period of time. They then submit them to higher organizations (rayon, city, oblast health departments).

The reports have to be made on established forms. They help the institution's director to check and analyze the work done, justify measures taken or plans proposed for the next year. Reports in the hands of the higher health agencies provide material for city, rayon, oblast, and republic health plans and make it possible to verify the quality of work done by the institutions and the extent to which the plans have been carried out for the accounting period.

Reports contain information on only the most important operations of an institution. They must, therefore, be brief and include data pertinent to the aims mentioned above.

The passport section of the medical report of a medicoprophylactic institution contains information on the location and type of institution, constituent parts (structure), i.e., the kind of departments and rooms it has (X-ray and physiotherapy rooms, laboratories and other medical and diagnostic units, pharmacies, disinfection apparatus, morgue, etc.). Information is also furnished on the staff, i.e., the number of positions (doctors, middle echelon and junior medical personnel, and others working in the institution). The number of positions budgeted in the staffing pattern, the number of positions actually filled, and the persons currently in the position are mentioned. In addition, there are data on the work of the main divisions of the institutions (polyclinic, inpatient department), morbidity of the population, composition of patients by diagnoses, results of treatment.

The passport section of the report is uniform for all medical and hygienic institutions, but the other sections are specific for the given type.

The principal reports and evaluation criteria of each type of institution will be discussed in the chapter dealing with its work as a whole.

CHAPTER 3

ORGANIZATION OF MEDICOPROPHYLACTIC FACILITIES FOR THE URBAN POPULATION

The Urban Hospital

A network of institutions, chiefly hospitals, furnishes medicoprophyllactic service to the people of the Soviet Union.

Until recently hospitals offered only inpatient facilities (beds), but not outpatient service or assistance at home, which were provided by independent dispensaries and polyclinics. In 1947 the entire medical system was radically reorganized by a decree of the Council of Ministers, USSR. The various independent hospitals, dispensaries, and polyclinics were amalgamated into single institutions called hospitals.

The amalgamation of hospitals, dispensaries, and polyclinics had vast theoretical and practical significance. It substantially improved the quality of medical service and made it more accessible to the people, strengthened the district principle of organization, provided favorable conditions for raising the qualifications of physicians, especially in outpatient polyclinics, and gave them the opportunity to work in inpatient departments.

Unification was extended to other institutions as well, e.g., tuberculosis, dermato-venereological, and oncological clinics, which were combined with the corresponding hospitals, maternity homes with women's consultation centers, children's hospitals with children's consultation centers and polyclinics.

Of utmost importance in implementing the policy of amalgamation of hospitals and polyclinics was order no.870 of the Ministry of Health, USSR, dated 21 November 1949, which regulated the organizational framework, approved the norms of service, and standardized nomenclature and the categories of medical institutions. In accordance with this order, city, oblast, rayon, and district hospitals are the standard medicoprophyllactic institutions furnishing the urban and rural populations with all kinds of service. These hospitals are called "general" since they include inpatient and polyclinic facilities for all the branches of medicine. There are, in addition, specialized hospitals -- tuberculosis, infectious, psychoneurological, etc.

Patients with these and other diseases are also served by a chain of specialized clinics (tuberculosis, dermato-venereological, oncological, etc.). Industrial establishments have medical units with inpatient and polyclinic facilities, doctor and feldsher health stations. Feldsher-midwife stations are to be found in the rural areas.

Hospital Construction

Hospitals are the oldest type of medical institution known. Even in ancient Rome there were military hospitals and hospitals for slaves (valetudinaria). During the Middle Ages -- the feudal era -- hospitals were built by monasteries; they were used to take care of the poor, the sick, and the crippled, serving as a means of religious propaganda. Lazarettos came into existence (initially "Asylums for lepers in the name of St. Lazarus") somewhat later. They were followed by military hospitals which arose at the same time as regular armies.

Hospitals long retained the character of charitable institutions for indigent patients. Owing to the low level of hygiene, poor quality of treatment and care of patients, not to mention the high mortality rate, these institutions were extremely unpopular with the people. With the rise of cities, development of public health, and progress in clinical medicine the modern well-built and equipped hospitals gradually came into existence.

The first hospitals or asylums for children and elderly people were built as far back as the 10th - 11th century (Kiev Russia), or earlier than in some western European countries. In Muscovy Russia the monasteries were the first to offer hospital facilities. The first secular hospital was erected in Moscow in the middle of the 17th century. More significant were the hospitals (originally military, then urban) in Russia going back to the 18th century. Zemstvo hospitals were built in conjunction with zemstvo medicine.

Types of hospital construction changed with the rise of general and sanitary engineering and advances in medicine. At first the hospitals were centralized in a single building containing large, frequently communicating wards and dark central corridors. The one building included both the main and the secondary facilities. This layout along with improper organization and incorrect conception of how infectious diseases spread caused an enormous number of intrahospital infections such as sepsis and hospital gangrene with extensive mortality.

Awareness of the fact that infections spread by contact and that isolation is essential for prevention led to the so-called pavilion or decentralized type of construction in which the hospital consists of a series of small, detached, one- or two-story buildings (pavilions). This style of architecture provides a separate pavilion for each infectious disease, thus helping to lower intrahospital infections. However, there are a number of disadvantages: need of large tracts of land, costliness and complexity of operation and management, awkwardness in moving patients, food, linens, medicines, etc.

As technical facilities (laboratories, X-ray and physiotherapy rooms) were steadily perfected, it became increasingly difficult to use the therapeutic and diagnostic apparatus in the pavilion system. That is why rayon and rural district hospitals, which tend to occupy large areas, are now built on a somewhat different principle. Although they too have one- and two-story buildings, all the major facilities are usually concentrated in the main building. Separate structures on the grounds house maternity and infectious disease departments, dispensaries, polyclinics, and auxiliary installations (kitchen, laundry, etc.).

Large-panel construction is featured in key industrial centers. The inpatient and all the auxiliary departments are normally contained within a single 3 - 5 story building. The inpatient department consists of several sections, each of which accommodates several 25 - 35 bed wards, an area for toilets, baths, and washrooms, another for snack bar, payroll unit, staff room. Separate entrances and exits, doors, and partitions in the corridors make it possible to isolate any section in case intrahospital infections develop (Figure 12). The problem involved in transporting patients, personnel, and food in multistoried hospitals is solved by elevators.

However, it is still recommended that the infectious departments of hospitals be housed in separate buildings.

Planning and Construction of the Network of Medicoprophylactic Institutions

In planning hospitals and determining the number of beds and facilities required by the various medical specialties, account is taken of the locality, its economic, industrial, and political significance, size and density of the population, and structure of morbidity.

Order no. 870 of the Ministry of Health, USSR, dated 21 November 1949, sets forth the composition (structure) of beds by individual specialties (cf. table) in relation to the size of the inhabited area to be served and the number of beds (6, 8, 10 per 1,000 of population).

Most in demand are general medical, surgical, maternity, infectious and pediatric beds. This is due, on the one hand, to the predominance of general medical patients and, on the other, to the need for maximum hospitalization by parturient women, infectious and surgical patients, particularly emergency cases. Beds in these four specialties must be made available, therefore, even in the smallest city hospital. The larger the hospital, the better the diagnostic equipment and the more numerous the specialists in narrower fields such as neurology, tuberculosis, oncology, urology, etc.

Model distribution of hospital beds (as % of total) in cities*

Type of beds	6 beds per 1,000 persons in a city with a population of											
	30,000	50,000	75,000	100,000	150,000	200,000	250,000	300,000	500,000	1,000,000		
Therapeutic (general medical)	28.0	26.5	22.0	20.0	25.0	24.0	24.0	22.0	21.0	23.0	20.0	20.0
Neurological	---	---	---	---	---	---	---	---	---	---	---	---
Tuberculous	(5.0)	7.0	9.0	9.0	8.5	(4.0)	(2.5)	(2.0)	(4.0)	(3.0)	2.5	1.5
Pediatric	8.5	9.0	9.0	9.0	8.5	7.5	9.0	9.0	10.0	10.0	10.0	11.0
Surgical	25.0	20.0	18.0	18.0	24.0	23.0	17.5	14.0	9.0	9.0	9.0	9.0
Traumatological	---	---	(3.0)	(2.5)	---	(2.5)	(2.5)	3.0	---	(2.0)	2.5	3.0
Oncological	---	---	---	(1.5)	---	(2.5)	(1.5)	(2.0)	---	(3.0)	(2.0)	2.0
Otolaryngological	---	---	---	---	---	(2.5)	(2.0)	2.0	---	(2.0)	3.0	1.5
Ophthalmological	(2.5)	(2.5)	(2.0)	(2.0)	(4.0)	2.5	2.5	2.5	(3.0)	3.0	2.5	2.5
Gynecological	(2.5)	(2.5)	5.0	5.0	(4.0)	5.0	5.0	6.0	5.0	5.0	6.0	5.0
Maternity	16.5	17.0	16.5	15.0	15.0	12.0	12.5	12.5	12.0	12.0	12.0	12.0
Infectious	22.0	21.0	20.0	20.0	19.0	17.0	16.5	17.0	15.5	15.0	16.0	15.0
Dermatovenereological	---	---	---	---	2.5	---	1.5	3.0	3.5	3.0	2.5	3.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: % in parentheses are included in the figures for the principal specialties

*Appendix to Ministry of Health, USSR order no. 870, 21 November 1949

The modern hospital consists of an inpatient department, polyclinic, and appropriate therapeutic and diagnostic facilities with which to serve the people on its premises or in their homes (Figure 13).

The territory served by city and rayon hospitals is divided into medical districts.

Besides general hospitals with their children's divisions, medicoprophyllactic facilities for children are provided by children's hospitals combined with children's consultation centers and polyclinics. These hospitals too are organized on the district-territorial principle.

A highly developed network of clinics, which also operate on the district-territorial principle, supplements the general hospitals.

The territorial principle of serving the people by place of residence is reinforced by the industrial principle of aiding workers on the job.

In workers' settlements and major residential areas built around industrial enterprises these principles more or less coincide since the medical facilities are available to manual and office workers and their families both at place of work and at home. However, the workers of a given enterprise may sometimes be scattered throughout a city so that setting up special facilities to take care of them at their place of work is particularly important.

Medicosanitary units have been set up in major plants and factories to provide all types of care closely related to production and to study work conditions so as to devise preventive and sanitary measures. They combine a polyclinic, inpatient department, night sanatorium, and other installations.

Smaller enterprises, particularly if they are remote from the territorial medical institutions, have their own health stations, sometimes private dispensaries and polyclinics.

Finally, workers in small plants that have no medical units of their own use the facilities of the medicoprophyllactic institutions serving their area.

The District Principle of Medical Service

The so-called district principle is the basis on which are organized the operations of city hospitals, tuberculosis clinics, children's hospitals, and maternity hospitals. Each district physician (general practitioner, phthisiologist, pediatrician, obstetrician-gynecologist) attends a fixed number of people in his district, thereby eliminating the lack of personal responsibility in medical care.

The district physician is completely responsible for the health of the people entrusted to him. He not only treats patients, but also observes hygienic conditions in his district, detects diseases in their early stages, prevents the development of foci of infections, uncovers sources of contamination, and introduces prophylactic hygienic measures.

The district principle enables the physician to know his district well -- the hygienic conditions, composition of population, working and living conditions.

The district physician is the personal physician of the patients and their families. Prolonged, systematic observation of the people enables him to individualize treatments most effectively, prevent complications of disease, and help to improve the living conditions and management of his patients.

With the active assistance of the district nurse the physician also directs the sanitary and prophylactic work in his district. He must study the prevailing conditions, uncover the foci of epidemic diseases and take timely measures to liquidate them, discover, report, and treat carriers of bacilli, and carry out antiepidemic inoculations.

Education in hygiene -- conducted in the hospital as well as directly among the people -- constitutes a major activity of the district physician. Success in implementing a sanitary program requires the cooperation of an active group of sanitary workers.*

Some cities try to create single urban districts in which a general practitioner, pediatrician, and obstetrician-gynecologist serve the same people. This system has the advantage of permitting all the physicians to coordinate their work and carry out comprehensive sanitary measures.

The Ministry of Health, USSR, has based the standard structure and norms of an urban medical district on a population of 4,000 persons, approximately one-fourth of whom are children up to 14 years of age.

* Cf. ch. 8 for the kinds of groups and methods of operation.

Model structure of a typical urban medical district
with a population of 4,000**

Specialty	For one medical district	
	No. of hospital physicians by specialties	Approximate distribution of hospital beds by specialties
Internal medicine	2.0	10.0
Pediatrics	1.25	5.4
Surgery	0.9	7.6
Obstetrics and gynecology	1.0	7.2
Ophthalmology	0.25	1.0
Otolaryngology	0.2	0.6
Neurology	0.25	0.8
Phthisiology	0.6	4.2
Dermatovenerology	0.4	1.6
Total	6.85	38.4

**Appendix to Ministry of Health, USSR order no. 870, 21 November 1949

The shop district principle underlies the care of workers. The shop district physician treats workers in the various shops, studying working conditions and at the same time executing hygienic measures.

To sum up, district physicians are concerned both with therapy and with prophylaxis (sanitary, antiepidemic, sanitary-educational), as they endeavor to improve working and living conditions and prevent disease (Figure 14).

The Clinical Method

The district principle enables hospitals and district physicians to use the clinical method, thereby reflecting the preventive trend in medicine.

The clinical method involves systematic observation of the health of the people concerned and the early detection and treatment of diseases. It is used as a means of carrying out measures to improve the living and working conditions of the patients and to prevent the further spread of diseases, especially to those close to them. Thus, the clinical method contributes to the successful implementation of a fundamental principle of Soviet public health, i.e., preventive medical care. It is the most advanced modus operandi of all medical institutions.

The clinical method is employed above all by district physicians. Persons suffering from the following diseases are required to visit a clinic: pulmonary tuberculosis, rheumatic heart disease, hypertension, coronary insufficiency, nephritis, gastric or duodenal ulcer, achylia gastrica, chronic dysentery, and diabetes mellitus. In some rayons, depending on the character of the local pathology, even patients with such diseases as malaria, brucellosis, etc., may be kept under observation at a clinic.

The clinical method is concerned chiefly with the early detection of disease (functional disorders are most readily curable), systematic treatment, investigation of the causes of disease, and elimination of harmful environment factors. As such, it fully meets the conditions for fighting diseases as laid down by the great Russian physiologist I. P. Pavlov, who wrote: "Isn't it a fact that the causes of a disease are generally stealthy and begin to act in the organism of a patient before he becomes the object of medical attention? A knowledge of causes is naturally the very heart of medicine. First, only by knowing the cause can one effectively combat it. Second, and even more important, it can be prevented from acting upon or invading the organism. Only by knowing all the causes of disease can the medicine of the present be transformed into the medicine of the future, i.e., into hygiene in the broad sense of the word."^{*}

The register of patients eligible for clinical observation may be somewhat enlarged or contracted depending on local conditions and medical resources.

Besides district physicians a variety of specialists (obstetrician-gynecologists, surgeons, neuropathologists, etc.) come to the clinics. Each doctor has a separate list of patients with clinical appointments already scheduled.

Patients obtain clinical treatment either on the basis of prophylactic medical examinations or when they come to hospitals for medical assistance. Periodic prophylactic examinations are given to certain groups of people subject to clinical control (children, students, juvenile workers, workers, persons handling injurious substances, women over 35 -- for early diagnosis of cancer and precancerous diseases of the female sex organs). These examinations are the principal means of detecting tuberculosis, cancer, etc. in the early stages.

It is obvious that proper examination and timely diagnosis require a careful and thorough study of every case, essential laboratory tests, X-rays, etc. Organization of these examinations requires good preparation and publicity to ensure that all the persons concerned are included.

*I. P. Pavlov, Collected Works, vol II, Moscow-Leningrad, 1946, p 358.

Special attention must be paid to improving the methods of choosing patients for clinical observation that are now followed by city hospitals. Analysis of the case history of a patient (say with stomach cancer) frequently reveals that he came under the clinic's scrutiny in the late stages of the disease because the physician who was treating him ignored or minimized his complaints and failed to make the necessary tests. A careful, alert examination of a patient on his first visit will usually result in the timely diagnosis of a disease.

The most important feature of the clinical method is systematic observation of the patients along with execution of comprehensive therapeutic and preventive measures. These are determined only after a careful study of the working and living conditions of the people. The effectiveness of the entire system depends precisely on this investigation, which is the most laborious aspect of the job, requiring great persistence, care, and attentiveness on the part of the medical workers.

Chiefs of general medical departments of hospitals supervise and direct the clinics, while district physicians are in charge of actual clinical documentation. The principle form used is the medical card (a clinical case history) that must be carefully filled out each time the patient is examined. The information includes the results of the examination, analysis, treatment prescribed, recommendations for work arrangements, and data on subsequent observations.

In addition, a clinical card is filled out for each patient, which serves to verify the patient's visits to the doctor. The clinical card contains brief passport information on the patient, notes instances of disability, describes his appearance, states the time of the next appointment with the doctor. The other side of the card is used for notations on the main therapeutic measures taken (hospitalization, sanatorium treatment, work arrangements, etc.).

An individual program of therapeutic and hygienic measures is prepared for each person to be kept under clinical observation. It includes examination dates, laboratory and other tests, results of consultation with specialists, sanitary inspection of living and working conditions, etc.

Rayon sanitary-epidemiological stations (doctors and assistants to sanitary doctors) take part in investigating the patients' living and working conditions as well as working out proper corrective measures and checking to see that they are carried out.

Clinical cards must be checked no less than once a month to determine whether or not the patients are keeping their appointments. If they are not kept, the doctor is summoned through the district nurse, who is required to visit such patients at their homes to find out the reason for their non-appearance.

A major indication of the quality of clinical care is the changes it may have brought about in the health of the patients. A so-called epicrisis is entered once a year in the case history of each patient to evaluate these changes. It includes a brief subjective account of the patient's condition, data from objective tests, therapeutic and prophylactic measures taken, modification in working conditions. The epicrisis is prepared by the attending physician and signed by the head of the division or chief physician of the hospital. Data on temporary disability constitute an extremely important indication of the effectiveness of the clinical method.

Organization of a Polyclinic

A hospital cannot function properly without an efficiently organized polyclinic. A polyclinic provides the widest range of medical aid, which is furnished patients either in the hospital or at their homes.

The early and correct diagnosis of disease, treatment, timely hospitalization, execution of necessary therapeutic and prophylactic measures in behalf of the patients and those who come into contact with them — all these depend on the way the polyclinic is organized and on the calibre of the physicians working there.

Registration. The method of admitting patients to a polyclinic is exceedingly important. It must therefore be organized in such a way that the patient does not stay too long with the doctor; nor should he have to spend much time waiting to be taken or giving information. It is no less important that the admitting physician's time be efficiently utilized. He should not be required to wait for patients, search for and fill out papers, or do minor administrative work that could easily be handled by middle echelon personnel.

In order to avoid waiting in line at the admissions office, appointments are generally made both in person and by telephone. The precise time is set with due regard for the capacity of the various consultation rooms. Subsequent appointments are made directly by the attending physician who notes the time on a slip handed to the patient. The admissions office fills out a medical card, which is passed on to all the departments and rooms visited by the patient. Some departments (e.g., tuberculosis, venereological, dental, pediatric) have their own form of registration and case history. Case histories are kept in the admissions office where they are filed by district, street, and house number.

The work of middle echelon medical personnel in a polyclinic. These persons have major responsibilities in a polyclinic.

Each department has a head nurse charged with directing the nurses and seeing to it that hygienic standards are observed in her area. She is responsible for providing the consultation room with medical and other supplies. The head nurse of a surgical, gynecological, etc., department is required to sterilize dressings, to maintain and store the medical instruments and apparatus.

Nurses in gynecological, surgical, otological, physiotherapy, and some other rooms carry out certain therapeutic procedures under a physician's direction.

Sometimes nurses administer emergency first aid to patients in polyclinics.

The district nurse plays an exceptionally important role as chief assistant to the district physician in all his therapeutic, sanitary, and prophylactic work.

The nurse in a polyclinic gets the doctor's consultation room ready for the patients, obtains beforehand case histories from the admissions office and analyses, photographs, etc., from the laboratory or X-ray room. When required, she takes the temperature of the patients or does anything else the doctor may order. She prepares slips for the next appointment, fills out medical certificates, etc.

The hard working district nurse executes the physician's instructions in the homes of patients, carries out such preventive sanitary and anti-epidemic measures as inoculations, epidemiological tests, disinfection of foci of disease, and, when there are indications for it, takes the temperature of persons who have been in contact with sick persons. She helps in hygiene education and works with volunteer groups.

Assistance at home. Providing assistance at home is an important hospital function. It must be reliable and prompt, i.e., all house calls must be made on the same day.

It is the district physician who makes the house calls. Each visit lasts an average of 30 minutes. The physician must see to it that the patients are systematically observed and given careful, thorough clinicodiagnostic tests. He himself sets the time for a subsequent visit without waiting to be called again. When the patient has to be hospitalized, the physician makes the necessary arrangements.

A patient at home must be given skilled, specialized treatment. Thus, when the case warrants it, the district physician calls in appropriate specialists for consultation.

Chiefs of general medical departments of hospitals supervise the work of district physicians. They must systematically review the case histories of patients confined at home and personally visit all those suffering from a protracted disease, especially when the diagnosis is unconfirmed. They are required to take all steps leading to the earliest possible recovery.

Proper care of patients is an exceedingly important element in treatment. It is the district nurse's duty to visit the patients and carry out the doctor's orders.

Sanitary-prophylactic work in the district. Besides therapy, a hospital conducts planned sanitary-prophylactic and antiepidemic activities (prophylactic vaccination, control of bacilli carriers -- detection and treatment of such persons) and education in hygiene.

A major part of a hospital's antiepidemic work is the effort to control dysentery and other intestinal infections. Special units to handle these diseases have been set up in a number of polyclinics.

The entire medical staff of a hospital is drawn into its educational and prophylactic programs.

Each hospital is required to have a plan of sanitary and anti-epidemic work in the rayon both for the population as a whole and for individual sectors (industries, schools, hotels, etc.). The plan is seasonal and specific, varying with the morbidity of the rayon and the hygienic conditions prevailing in the different industries, schools, and hotels. The hospital plan is part of the master plan of the rayon sanitary-epidemiological station and is carried out under its direction.

Medical workers rely on volunteer sanitary workers. The district physician organizes a group of these men and women, trains them, and guides their activities in connection with his systematic propaganda in the field of hygiene.

The district physician and nurse are familiar with the sanitary condition of the apartment and house in which the patient lives. They discuss with him and his family subjects pertaining to hygiene and advise them on how to take care of sick people, on proper maintenance of the apartment, personal hygiene, nutrition and rest. This is a useful, easily grasped method of teaching hygiene.

Sanitary and prophylactic work must be pursued systematically, for which special time must be set aside. It is the most important task of district medical personnel who are charged with the duty of

cf. ch. 8 for the kinds of groups and methods of operation.

detecting in time and liquidating acute infectious diseases (Figure 15). They must immediately seek the help of the area sanitary-epidemiological station and their voluntary sanitary workers in correcting any unsanitary conditions they may find that are conducive to the outbreak and spread of disease.

As soon as a doctor or feldsher discovers a person with an infectious disease, he must promptly arrange for his hospitalization and take emergency antiepidemic measures at the patient's bedside and among those near him in order to try to prevent the disease from spreading. The doctor or feldsher must instruct the family on how to handle the patient's dejecta, clothing, and dishes, how to disinfect his room and possessions, and later check to see that all these things are done.

Examination of ability to work. Physicians who treat people in hospitals or polyclinics are authorized to issue temporary disability certificates. These physicians (occasionally feldshers) are confronted every day with the necessity of determining whether the people coming to them for medical help are able to work. They must take into consideration both the condition of the patients and the kind of job they have. If they are deemed incapable of working, they are issued disability certificates. Every wage earner, manual or office worker, in a manufacturing plant, institution, state farm, or machine and tractor station is entitled to such a certificate when ill.

According to the social insurance law, every worker who has completed his or her probationary period has the right to obtain funds from social insurance for the period of illness, pregnancy, or childbirth. These funds come from mandatory deductions from wages and are handled by the unions. The social insurance wage fund is growing year by year due to the steady rise in the number of manual and white collar workers. A substantial part of this fund goes for payments on disability certificates.

All medical personnel are responsible for the proper issuance and filling out of these certificates, checking on execution of the doctor's instructions by the patients, detecting malingering and abuses. A high degree of alertness is required in the struggle to decrease morbidity.

The doctor or feldsher must be very careful when issuing a disability certificate to verify inability to work and to determine how long it is likely to continue. He first authorizes leave for a short period of time (3 days) which can be extended, if necessary, after further examination of the patient. In the case of a protracted illness (more than 6 months), an extension is approved by a medical advisory commission.

A feldsher has the right to issue a medical certificate only if he treats patients independently. The district physician validates medical certificates given out by the feldsher.

Temporary disability certificates continue in force until the patients are able to resume work. In chronic, protracted illnesses, the patients are officially invalidated -- temporarily or permanently. A medical-labor examination commission determines the various classes of disability.

Disability certificates are extremely important documents. Accordingly, hospitals register them in special books and guard them like money.

Hospital management, organization of personnel. Patients in a hospital or polyclinic are attended by a single group of physicians. Each district physician is required to work in a hospital and polyclinic or to work in a hospital and make house visits.

The head physician directs the hospital and is in sole charge of all the medical and financial activities. He is responsible for administration, proper and effective treatment of patients, and competence of the hospital personnel. He systematically visits and checks on the work of the departments and the condition of the various patients.

In major hospitals and polyclinics the departments are directed by chiefs who are skilled specialists in the corresponding branches of medicine. A department chief in a hospital visits the patients daily, consults with staff physicians, checks on diagnosis and treatment, directs all medical and scientific work in the department and corresponding division of the clinic, discusses autopsy findings with the staff physicians and cases of erroneous diagnosis, observes autopsies of patients in the departments who have died, discharges patients who have recovered, reviews and signs epicrises.

Staff physicians are in direct charge of treating and observing patients. District physicians working at the same time in a hospital and polyclinic or working in a hospital and making house visits must have a carefully planned schedule so that they can render maximum service during a 6-hour working day in the hospital, clinic, or homes of patients.

District physicians now follow the familiar two-member team system whereby one is in the hospital or clinic and the other is working in the hospital or making house calls. The latter spends the first part of the day (from 9 to 12) in the hospital and then calls on patients in their homes.

It is more difficult to draw up a schedule for a physician in a polyclinic since he has to work in the hospital early in the day and then be available in the polyclinic for the convenience of patients who may come in at different hours. The following schedule is practicable:

Day of week	Hours	Place of work
Monday	9:00 - 12:00	Hospital
Thursday	12:00 - 15:30	Polyclinic
Tuesday	9:00 - 12:30	Polyclinic
Friday	12:30 - 15:30	Hospital
Wednesday	12:00 - 15:00	Hospital
Saturday	15:00 - 18:30	Polyclinic

Physicians in the other specialties more or less follow the same type of schedule. Sometimes when it would be inconvenient for surgeons, pediatricians, etc., to be assigned to the hospital and polyclinic at the same time, the physicians work alternately in both places for 3 or 4 months at a time.

Organization of a Hospital

A staff physician spends 3 hours a day in the hospital and, depending on his specialty, takes care of 3 to 6 patients. He visits and examines his patients daily, issues orders, keeps the case history up to date, talks with the department chief or invited consultants. He directs the middle echelon personnel, instructs them in the care of patients, hygiene, and technical matters when required. While visiting patients, the physician checks to see whether the nurses are carrying out his instructions correctly and punctually.

All hospitals require morning and evening visits to patients by the staff physicians on duty. Special attention is paid to postoperative and newly admitted patients as well as those in a serious condition.

A very important factor in maintaining the continuity of a hospital's work is round-the-clock duty. Many hospitals have so-called "ten-minuters" in which all the house physicians, head physician, and administrator participate. At these sessions the physician going off night duty reports briefly on developments over night, condition of the serious patients, newly admitted patients, discipline among the service personnel and patients. Here too are discussed the problems of the coming day.

Organization of middle echelon personnel. Middle echelon personnel include: a head nurse (one per division), ward manager (assistant to the head nurse of a division), ward nurses, operating room nurses, dietetic nurses, etc. Middle echelon personnel also work in auxiliary

clinicodiagnostic divisions (as masseurs, anesthetists, X-ray technicians, laboratory assistants, disinfectors, etc.), in maternity departments (midwives), in district and rayon hospitals (feldshers).

There is a head nurse in every hospital and department with more than 35 beds. She checks on hygienic conditions and housekeeping details of the department. She is responsible for medical and maintenance supplies and linens, and personally carries out special instructions for certain patients as issued by the doctor.

The head nurse supervises all the middle echelon and junior personnel in the department. She gives out assignments, enforces discipline, teaches them proper patient care, various therapeutic procedures, and checks on their work. She prepares menus for special diets and supervises their preparation in the kitchen, requisitions medicines, and distributes them among the ward nurses. The head nurse also compiles information on the admission and discharge of patients, intrahospital diseases, etc.

Departments with more than 50 beds provide assistance for the head nurse in the person of a ward manager who is in charge of the linens, supplies, and equipment of the division.

The ward nurse is directly responsible for the actual care of the patients, their hygiene, change of bed-clothes, baths, hair-cutting, etc. Weak and seriously ill patients require special attention as regards feeding, washing, and preventing bedsores.

The ward nurse carries out the doctor's instructions. She administers medicines, carries out prescribed procedures (applies compresses, mustard plasters, cupping glasses, enemas, injections, etc.), takes the temperature, delivers material for laboratory analysis, keeps up the patients' charts, prepares patients for the doctor, and helps him during examinations.

The ward nurse plays an extremely important part in curing the patients, for frequently the quality of care they receive is as important as skilled medical help. The physician has much less to do with the patient than the nurses who keep them under constant observation. Other factors in recovery are adequate sleep, the patient's impression of his condition, food, proper drugs taken on time, and various therapeutic procedures.

The patients must take the medicines prescribed for them every day at the same time in the presence of the nurse. It is not permitted that the day's supply be left with the patients on the understanding that they are to help themselves. The different medical procedures must also be carried out at set times (therapeutic baths, enemas,

injections, etc.). Occasionally patients refuse to take their medicine or submit to the procedures. The nurse has to reason with such patients and persuade them to do as the doctor ordered. The food too must be served at fixed times. A patient may not eat if he has a poor appetite or the food is not prepared according to his taste. The nurse must explain to him the importance of proper diet in successful treatment. Since she is responsible for feeding the patients and carrying out the doctor's orders, she should carefully observe the patients every day, and see to it that the doctor is obeyed. Accordingly, she must be familiar with each patient's disease and the significance of the treatment prescribed.

The entire staff should be self-controlled and tactful where the patient is concerned. He must be constantly assured that his condition is curable and required to conduct himself in restrained and orderly fashion. Under no circumstances, however, are his complaints to be ridiculed as exaggerated or unfounded.

The nurse instructs the orderlies on the rules for cleaning the wards and corridors since dust and food particles attract flies, which transmit various infectious diseases. The wards, corridors, and utility rooms must be spotless. The nurse must see to it that the dust is moistened before sweeping and that the orderlies promptly remove the dishes after the patients finish eating. The wards are to be ventilated regularly and the dust carefully wiped off the furniture. The wards must always be clean and pleasant.

The nurse should realize that often the health, indeed the very life, of her patients depends on the quality of care they are given. She is required to be particularly attentive to a seriously ill or postoperative patient, reporting promptly any unfavorable changes so that he can be given necessary help in time. Uttering words of comfort and encouragement, patiently listening to his complaints and fears, and satisfying his requests do much to influence his mood and often the course of illness.

A disinterested attitude toward one's work is generally inadmissible for Soviet workers. It is particularly intolerable for personnel in medical institutions. The nurse should always be friendly, calm, self-controlled, and neatly dressed, for appearance markedly affects the patients and inspires them with confidence. She must love her work, do her duty conscientiously and skillfully, thereby achieving her full potential as a medical worker.

Hundreds and thousands of our Soviet nurses, feldshers, and physicians showed themselves to be models of valor and self-sacrifice in the Great Patriotic War, saving soldiers under enemy fire as they selflessly tended the sick and wounded. All our medical workers should pattern themselves after these heroes.

The two-member or three-member system has a definite bearing on the quality of patient care.

Many hospitals operate on the three-member system, i.e., three persons serve the patient: doctor, nurse, and orderly. The nurse merely takes the temperature and administers the medicines, whereas the actual care of the patient -- toilet, dressing, change of bedding, feeding, etc. -- is left to the orderly along with the cleaning chores, bringing of bedpan, and serving of food. This arrangement often fails to come up to minimum hygienic standards. Yet all the elements of patient care are important and require the skilled medical training that only a trained nurse possesses. Thus, in our better hospitals, particularly those for children, the two-member system is now in vogue and patient care is entirely in the hands of the nurse. The orderly does only the cleaning, brings the bedpan, and generally assists the nurse. Even where circumstances prevent installation of the two-member system, the ward nurse's work must be organized in such a way that she spends the bulk of her time directly attending the patients. She must be relieved as much as possible from purely administrative tasks. For example, a special orderly should be used on errands between the clinical divisions and the laboratory. The nurse's working space should be right in the ward or, if she is handling several wards, in the corridor between them.

In children's hospitals mothers, with the authorization of department chiefs, are permitted to take care of their children, provided they adhere closely to hospital routine and the established rules for nursing patients.

A hospital cannot operate efficiently without proper organization of shifts or scheduling of personnel. Even now there are instances where the nurse and orderly work around the clock and then have two or three days off. The patient sees a new nurse every day. Since the nurse sees her patients once in three or four days, she cannot keep them under continuous observation. The result is impersonality in treatment and care, which for all practical purposes relieves the personnel of individual responsibility for the condition of the patient. Moreover, the long, unbroken period of duty is so fatiguing that towards the end efficiency and, with it, quality of care drop sharply.

That is why the triple-shift or double-shift has come into operation. Twenty-four-hour tours of middle echelon personnel are permitted only in emergency hospitals, first aid and health stations. It is desirable that inpatient departments of hospitals schedule the same nurses for the morning, day, and night shifts, rotating them at fairly long intervals (no less than every other month). Here is an example of a good schedule for nurses: the morning shift works from 0800 to 1430, the day shift from 1400 to 2030, the night shift from 2000 to 0830, with 30-minute overlap between shifts for ease of communication. In a two-shift system middle echelon and junior personnel may not work more than 12 hours continuously.

Night nurses substitute for the regular nurses on their days off since 10 times a month they do not work the full amount of hours.

Orderlies working 12-hour shifts change at 8 o'clock in the morning and 8 o'clock in the evening. It is undesirable for the day shift to arrive earlier because the noise would disturb the sleep of the patients.

Administrators and staff must strive incessantly to raise the calibre of middle echelon personnel. Training of nurses, feldshers, and midwives does not end in medical school, it merely begins there. Every worker should be tireless in efforts to improve himself by reading medical literature and mastering new techniques in the examination, treatment, and care of patients. Large hospitals systematically hold conferences for nurses to exchange experiences. All feldshers and nurses should be familiar with the methods of determining blood groups, applying plaster casts, making splints, transfusing blood, taking X-rays, etc. Physicians teach the medical workers in hospitals.

Method of admitting and discharging patients. A person is generally sent to the hospital by the district physician who examined him in a polyclinic or at home; in emergencies he is brought to the hospital in an ambulance. Upon arrival he is examined in the admissions department by the physician on duty who determines where he is to go. He is then carefully washed, given clean hospital clothing, has his hair cut and possessions disinfected.

The admissions department also administers first aid to all persons brought there regardless of whether they are hospitalized or not. Hence, the department must have the essential splints, oxygen apparatus, bandages, and medicines.

The admissions department registers incoming patients and the number of available beds, gives information to relatives of patients, and handles discharge slips. It fills out the passport section of an incoming patient's case history, i.e., the part containing significant personal details, and also enters the information in its journal.

Patients hospitalized by a polyclinic bring along their medical card (outpatient). Other patients are given a hospitalization slip, which is kept with the case history.

The case history includes salient data on earlier diseases, the condition of the patient's organs, and a detailed anamnesis of the sickness that led to his being hospitalized. This information is helpful in making a diagnosis and prognosis as well as in individualizing treatment.

The patient must be given a complete clinical examination without undue delay, generally within the first three days of admission to the hospital so that diagnosis can be made and treatment begun as quickly as possible. Effective and timely treatment depends on the diagnosis, which in turn is based on a thorough examination utilizing all necessary clinical, laboratory, and X-ray facilities. The case history includes the polyclinic's diagnosis, diagnosis of the hospital that admits the patient, and final clinical diagnosis, which constitutes the basis of treatment. It also contains notations of associated diseases, complications, outcome, and recovery of ability to work.

Into the case history go day-by-day details on the patient's health, medicines and procedures prescribed, routine to be followed, diet, laboratory analyses and X-rays, conclusions of consultants, and, if operated on, the nature and results of the surgery. When the patient is discharged, an epicrisis of the disease is prepared and entered into the case history and outpatient card, which are returned to the polyclinic together with instructions for follow-up.

Case histories are not only extremely important as far as treatment of the individual patient and the course of disease are concerned, but they provide essential data for evaluating the clinical effectiveness of the treatment, surgery, etc. They are also used in forensic medical inquiries. That is why medical personnel must be unusually careful in maintaining and safeguarding the case histories. The ward nurse remains in charge of them until the patient is discharged, after which they go into the hospital's files.

After the admissions department performs the necessary sanitation measures, the patient proceeds in the company of an orderly, or is carried on a stretcher, to a ward depending on the nature of the disease. The distribution of patients is particularly important in contagious hospitals. It is also desirable to segregate patients awaiting surgery, patients recovering from surgical operation, etc. This system makes it possible to set up in the various wards a common routine for all the patients, thus facilitating the task of attending them. Patients in a serious, postoperative condition must be kept in small wards or private rooms so that they can receive individual care.

Patients are discharged after recovery or upon transfer to another hospital. Those suffering from chronic incurable illnesses may be sent home whenever there is no exacerbation of the condition. Discharges are authorized by the attending physician and confirmed by the department chief. A special card is filled out for each discharged patient. These cards constitute the basis for determining the morbidity rate of hospitalized patients. Following discharge the patients come under the active observation of the polyclinic where, should it prove to be necessary, they receive additional treatment.

In the event of death, the hospital notifies the patient's closest relative and issues a death certificate. An autopsy is performed if the hospital has the appropriate facilities. Significant pathologico-anatomical data are noted in the case history. Autopsies are of major significance in raising the quality of medicine. They make it possible to check on the correctness and timeliness of the attending physician's diagnosis as well as his methods of treatment. They are useful in scientific evaluation of clinical material and in forensic medicine. Both the attending physician and department chief are required to be present at the autopsy.

Protective measures in hospitals. Successful therapy depends in large measure on the way a hospital organizes and executes protective measures. Modern Soviet hospital practice is based on I. P. Pavlov's teachings regarding protective inhibition, unity and integrity of the organism, mental and physical unity, and cortico-visceral laws concerning the origin of disease.

Pavlov determined experimentally that the higher nervous activity of man, indeed all the organism's reactions, are entirely the result of interaction between the internal and external environments. The works of Pavlov and his students on experimental neuroses showed that, due to the unity and integrity of the organism, psychic traumas or emotional shocks cause diseases to develop in the autonomic nervous system and impair the activity of various organs.

Establishment of the close connection between various organic diseases and the cerebral cortex is of exceptional importance in practical medicine, for it opens the way to therapy by acting on the central nervous system.

I. P. Pavlov also proved that for man words, (the second signaling system) like any other external environmental factor, are a powerful, tangible stimulant, sometimes extraordinarily so.

Finally, Pavlov elaborated a set of views on the significance of the inhibitory processes arising in the cerebral cortex as a defensive mechanism, a "normal weapon in the physiological struggle against the pathogenic agent."

The fundamental aim of the protective measures of a hospital, polyclinic, or sanatorium is to create for their patients such external conditions as will sustain their morale and neural and mental tonus, bringing them actively into the therapeutic process. The patients must be shielded from the many kinds of unpleasant emotions and fears (of examinations, operations, or outcome of treatment) that so often beset them.

The environment of a hospital embraces the general layout, setup of wards, routine, and conduct of personnel. A cold, official manner or whiteness throughout the wards frequently depresses the patients, especially children. The wards and other areas (corridors, dining room) must have a pleasant, livable appearance, with walls in warm colors, flowers, pictures in the halls, clean curtains on the windows, floor mats, armchairs for convalescents, shades on the lamps, good linens, pajamas. All these things add to comfort without violating sanitary regulations.

The patients are benefited if the hospital's rules regarding quiet are observed. The personnel need not whisper, but they should avoid loud talk, unnecessary noise, slamming of doors, etc. Similarly, the groans of people in operating rooms ought not reach the ears of patients in the wards.

It is very important for patients to have a long, sound sleep. We know that I. P. Pavlov attached a great deal of importance to sleep as an inhibitor of cerebral cortex activity. This is the basis for the principle of sleep therapy which is applied in several diseases. Workers in the Makarovsk hospital, Kiev Oblast, who pioneered in introducing protective measures into hospital practice have developed various techniques of inducing conditioned reflex sleep through the use of different, monotonous sound and light stimuli.

However, normal physiological sleep is essential in any disease. Therefore, for 9 hours (from 2200 to 0700) there should be complete quiet: changing of personnel, cleaning, temperature taking, etc., should all start after 7 a.m.

An adequate system of night-lights in the wards and shaded lamps near the patients' beds permit the personnel on duty to answer calls and observe the seriously ill without disturbing the others.

Here is an example of the way a typical day is organized in a hospital:

0700 - 0800	-- taking of temperature, toilet, cleaning
0800 - 0830	-- breakfast
0830 - 0900	-- visit of house physician
0900 - 1300	-- therapeutic and diagnostic activities; visit of division chief; consultation of specialists
1300 - 1400	-- dinner
1400 - 1600	-- rest, nap
1600 - 1700	-- taking temperature; carrying out of doctor's instructions
1700 - 1730	-- evening tea
2000	-- supper
2200	-- sleep

The proper organization of feeding the patients -- arrangements and appetite appeal -- require a great deal of attention. Pavlov emphasized the role of mental stimulation of the secretory nerves of the stomach, without which "the amount of juice needed to start digestion cannot be obtained." It is more important, he believed, than the chemical stimulation resulting from the direct effect of food on the mucous membrane of the stomach.

Some hospitals concentrate almost entirely on the chemical composition of the food, being largely indifferent to methods of preparation and taste. Proper assimilation of food is highly important; in fact, in many diseases it is the most essential part of the therapy.

The patients must have something to occupy their leisure hours, especially in the evening. Left to themselves, they are likely to become moody about their illness and discuss it with others in the ward.

Hospitals should have a library with a well chosen collection of books, table games, etc. They should also devise simple work therapy: for women -- knitting and embroidery. In warm weather patients, depending on their condition, might well be permitted to work in the garden (digging and loosening the soil, arranging flower-beds, seeding, watering, weeding, laying out and clearing paths, planting shrubs). In winter some might even clear away the snow. Work therapy must be adjusted, of course, to the individual patient in accordance with the doctor's advice. Patients should be given the opportunity to stay in the fresh air -- walking for ambulatory cases, lounging on the veranda for those who must recline.

A final, vital ingredient in the protective practices of hospitals is proper attitude on the part of the personnel, which goes far toward preventing iatrogenic diseases, i.e., conditions that arise from thoughtless words and remarks negatively affecting the minds of a patient. Doctors and middle echelon personnel should always bear in mind that they are not only healers, but also the patient's source of hope for recovery. That is why psychology plays such an important role in the treatment of various diseases. Depending on their personality, patients are more or less nervous and apprehensive about their health. They are likely to take thoughtless "wounding" words to heart and the ensuing suspicion and agitation lead to the development of iatrogenic disease. In talking with patients, every word must be weighed. One should not refer to their condition when they are present. In no circumstances are they to be given any information from their case history or relevant papers, since these may upset them and cause much suffering. On the other hand, soothing and encouraging words imbue even the most seriously ill patients with the hope of a favorable outcome and strengthen the organism's defensive powers. Explaining to patients in simple terms

the nature of their illness and the treatment employed will further contribute to their recovery. Upon discharge patients should be given a detailed description of the program of work, diet, and rest prescribed for them. Education in hygiene is a mandatory part of the protective measures of a hospital.

Words serve as a basis for psychoprophylaxis, and preparation of patients for surgery and for painless childbirth.

These protective practices are not limited, naturally, to the inpatient department of hospitals. They are equally necessary in polyclinics, sanatoria, and other medical institutions. Elimination of long lines, courtesy, use of psychology along with other therapeutic devices, explanation of sanitary problems in the prevention and cure of certain diseases, personal and differentiated hygiene are no less essential in polyclinics than in hospitals.

Control of infections in hospitals. The concentration of a large number of patients, including those with infectious diseases, is conducive, in the absence of appropriate prophylactic measures, to the spread of infections both among patients in the hospital and among the surrounding population. In order to prevent this spread, sewage, mucous, and excreta must be disinfected prior to discharge into sewer pipes or cesspools with chlorinated lime or lysol. All the solid wastes, used bandages, cotton, etc., must be burned, and the patients' possessions carefully disinfected. Linens, especially of infectious patients, must be soaked in disinfectants before being sent to the laundry and their dishes scalded and washed thoroughly. Objects used in taking care of these patients must be disinfected each time -- so too stretchers, wheel chairs, etc.

A number of precautions are taken to prevent the entrance of infections into hospitals, especially contagious hospitals. Only one patient may be admitted at a time to the examination room of the admissions department. The physician makes the diagnosis, ascertains the so-called epidemiological anamnesis, i.e., any previous infections, whether there was contact with other infectious patients, and directs him to the appropriate department where he is placed in a general ward, cubicle, or isolation ward. The examination room is carefully disinfected after each patient; the medical personnel change their gowns and wash their hands.

Contagious hospitals are equipped with complete-isolation and semi-isolation cubicles. Admissions departments are frequently laid out with these partitioned-off sections.

Complete-isolation cubicles are wholly isolated one-bed or two-bed rooms with separate entrance for the patient on the outside and lock [compartment] from the corridor for the medical personnel. They

contain a bed, bath, wash-stand, and bedpan for each patient who also has his own dishes and medical equipment for as long as he is in the hospital. Food is passed to him through a special small window.

Before entering the cubicle, the medical personnel wash their hands and put on a special gown which they remove after leaving, and then once again wash their hands. This is to prevent their transmitting infection as they move to another cubicle or to the general ward.

Poorly trained or undisciplined personnel can play a major role in spreading infections either within the hospital or among the population. The rules of asepsis, therefore, must be carefully heeded by all concerned. On coming to work they must put on hospital dress. A shower before and after work is desirable. Carriers of bacilli as well as those with a member of the family sick at home with an infectious disease are not allowed to work in a hospital. Medical personnel must carefully wash their hands after coming into contact with a patient's excreta.

Every infectious department should have its own personnel, since passage from one department to another is not permitted.

The training of medical personnel includes a detailed acquaintance with the nature of infectious diseases, sources and paths by which they spread. Constant efforts must be made to improve their skills.

Hospitals must keep careful records of intrahospital infections, for these are one of the most significant indices of poor quality of work.

Organization of Dietotherapy

Physician-dietitians in large hospitals or nurse-dietitians in small institutions are in charge of therapeutic nutrition. Proper diet is vital in therapy and, as such, warrants special attention. Appearance of the food and the way it is served are important factors. Relatives and friends of the patients must be watched lest they bring in items against the doctor's instructions that may be harmful to them.

Specialists in dietotherapy establish certain standards, prepare the menus, and devise the general feeding routine for the hospital. They are responsible for sanitary conditions in the kitchen, auxiliary and storage areas and for the observance of hygienic regulations by kitchen helpers. The latter are required to have regular monthly medical examinations. Persons with infectious diseases or bacilli carriers, especially typhoid and dysentery, are not allowed to work in the kitchen.

The taste and nutritional qualities of the food, hence its ready digestion by the patients, depend not only on the manner of preparation, but also on the way it is served and the conditions under which it is eaten. Frequently the food spills on the way, gets cold, or loses its taste and nutritional qualities due to standing too long. That is why particular attention should be paid to delivering food to the various departments of the hospital and to the possibility of warming it up when it gets there.

The ward nurse and dietitian must supervise the serving of food, be present in the wards while the patients are eating, and feed those incapable of doing so themselves. Institutions that have no waitresses usually have orderlies do this job.

In order to improve the diet of patients, many hospitals have their own farms worked by the staff with the help of local Councils and public health agencies. These farms are to be considered a supplemental source of food as well as a means of work therapy. It has been shown both in psychiatric hospitals, where physically healthy persons may stay for a long time, and in general hospitals that fresh air and light physical activity (strictly controlled) are beneficial to a number of patients.

Every rural hospital can have its own farm. Rayon and district hospitals can generally use adjacent land for gardening purposes.

Hospitals and other medicoprophyllactic institutions are helped to improve their service to the people by social organizations and cooperative groups.

Hospital Records, Reports, and Work Indices

Periodic statistical reports make it possible to judge the amount and quality of work a hospital does and the efficiency with which it uses the beds available.

The main types of documents used by the polyclinical department of hospitals are: medical card (outpatient), physician's daily work sheet in the outpatient division, and admission slip to the physician's office. Polyclinical reports are compiled from these and other records.

For the inpatient department the most important records are the admissions register, refusals of hospitalization by the admissions division, and case histories.

The patient traffic and utilization of available beds are calculated from the daily report sheets and the composite lists based on them. The data make up that part of the hospital report which deals with bed utilization, kind of patients hospitalized, length and outcome of treatment.

A register of infectious diseases is also maintained in which are noted all cases of acute infectious diseases detected in the hospital (excluding the patients hospitalized for a given infection) regardless of whether the patients became infected while in the hospital or prior to their admission.

These and other records are used for the hospital's annual statistical report, which is submitted to the rayon or city health department that has jurisdiction over it.

The report includes information on the work of the polyclinic and inpatient departments.

The passport section of the report mentions the type of hospital, equipment, number of industries in its area, affiliated health stations, and number of medical districts.

The report mentions the staff, number of positions occupied by doctors, middle echelon and junior medical personnel, work and work load of physicians in the hospital, polyclinic, and in homes.

In 1954 the Ministry of Health, USSR, introduced a new form of annual hospital report which reflects not only the totality of the hospital's activities, but also the morbidity and mortality rates of the population served by it. The various indices characterizing the hospital's work are calculated from these data, the most important being those relating to the population's health.

The morbidity rate is based on confirmed diagnoses, with only those sicknesses tallied that were discovered the first time in the patients. The number of fatal cases both in the hospital and in homes are calculated for each illness, thereby making it possible to judge the extent and timeliness of hospitalization in the given rayon or district.

The report goes into considerable detail on clinical check-ups, emergency aid, and hospitalization.

The second section of the report is used to calculate the most important indices of the polyclinic's work:

(a) observation of the district principle in the polyclinical work of the district physicians (ratio of the number of patients admitted in their district to the total number of patients received by the district physician);

(b) observation of the district principle in attending patients at home (ratio of the number of visits by physicians of the patients in their district to the total number of house calls. The higher the percentage, the better organized the work of the polyclinic -- 70 to 75% or more is considered a good index);

(c) determination of proportion of visits made by inhabitants of rural areas (ratio of the number of visits by rural residents to the total number of visits. This index shows the extent of medical aid obtained by rural residents in urban hospitals).

Another section of the report yields information on the volume of clinical service (ratio of the number of patients under clinical observation to the total number of patients with given nosologic types of diseases). It permits assessment of the action taken with respect to the clinic's patients (percentage of individuals hospitalized, sent to sanatoria, recommended for other work, placed on the permanent disability list, etc.).

The section of the report bearing on inpatient service reflects both the quantitative side of the hospital's work, for example, utilization of available beds and movement of patients, and the quality of its therapeutic and diagnostic facilities. The report classifies patients by type of disease, length of time and results of therapy, surgery performed by principal kinds of operations and anesthetics used, and post-operative complications. A special section deals with emergency surgery, mentioning the time the patient was brought to the hospital and when the operation was performed.

A hospital report contains a chart with columns representing the number of beds planned and the number of beds actually available. Estimated beds are those due to be made available during the year and for which allocations have been made. These estimates are the basis for financing the institution. Actually available beds are those for which space, personnel, bed clothes and linens have been physically provided, that is to say, completely ready for the patients. These two figures determine the extent to which the hospital has utilized its beds. For example, in a hospital with 200 planned beds and an average of 180 actually available, the plan has been fulfilled by $\frac{180 \times 100}{200} = 90\%$.

The hospital workload is usually measured in so-called "bed days." The planned number of bed days, or planned use of hospital capacity, is determined by multiplying the number of planned beds by the average number of days of bed occupancy projected for the year. For example, in a hospital with 200 planned beds and average number of days of bed occupancy per year 340, the number of planned bed days will be $200 \times 340 = 68,000$ bed days.

The number of days actually spent in bed is noted in the report in the column "Number of days spent in bed by all patients." The figure is derived from the day book by adding up the number of patients present

at 9 a.m. every day. For example, on 1 January there were 15 patients, 2 January - 16, 3 January - 12, or a total of $15 + 16 + 12 = 43$ bed days.

The average length of bed occupancy or bed utilization is determined from the number of days the patients spent in bed. This is done by dividing the number of beds actually available into the number of days the beds were occupied. For example, in a hospital with 65,410 bed days and 190 beds actually available, each bed was occupied an average of $\frac{65,410}{190} = 344.3$ days during the year.

The beds cannot be occupied every one of the 365 days in a year. Some of them have to be repaired or periodically disinfected, patients are changed, and often beds are empty due to unskillful arrangements.

The Ministry of Health, USSR, has set the norm of bed occupancy in urban and rural hospitals at no lower than 340 and 310 days a year, respectively. Failure to maintain this standard is indicative of poor management.

It may happen, however, that the utilization index shows a number of days in excess of 365. Suppose that a hospital has 20 beds all actually available and occupied. One or two patients are brought in whose condition warrants hospitalization. They are placed in a ward or corridor on reserve beds or in the duty room, etc. These beds are not included in the estimates, nor is their number stated in the report, but the time spent by the patients in these beds is added to the number of bed days. When this happens often, the utilization index will exceed 365 days a year, indicating that the hospital is overcrowded.

The annual report also permits a determination of the average number of days spent by a patient in the hospital, i.e., index of length of stay in bed. This is calculated by dividing the number of patients attended (the number of patients attended is the total number of patients who were admitted, discharged, and died during the report period) into the number of days spent in bed by the patients. For example, in a hospital that had 65,410 bed days and treated 4,088 patients, the average length of stay was derived from $\frac{65,410}{4,088} = 16$, i.e., a patient spent an average of 16 days in bed.

The so-called bed turn-over, or average number of patients in the beds for a year, is closely related to the above-mentioned index. For example, during a given year 4,088 patients entered a hospital that had 180 beds available. Thus, the beds were turned over, so to speak, $\frac{4,088}{180} = 22.7$ times, i.e., an average of 22.7 patients occupied each bed during the year.

All these indices serve to measure the extent of bed utilization. The rate of bed turn-over varies with the length of time a patient stays in bed, which in turn varies with the nature of the illness. For example, the average length of stay in contagious hospitals is 17 or 18 days, the shortest 7 or 8 days in maternity beds, the longest in psychiatric hospitals, tuberculosis departments, particularly by patients with bone tuberculosis.

Although the length of stay is generally determined by the nature and course of the illness, a decrease in length of stay and, consequently, increase in bed turn-over largely depend on the accuracy of diagnosis, timeliness of hospitalization, care and treatment given by the hospital. New and more effective therapeutic methods are sharply reducing the duration of illnesses, e.g., pneumonia, through use of the sulfanilimides and penicillin. Length of hospitalization may be shortened by early diagnosis, timely admission to hospital, use of various kinds of examinations and analyses in the clinic, that is, even before the patient is hospitalized.

An important qualitative measure of a hospital's work is the mortality index, the ratio of the number of patients dying to the number of patients leaving the hospital (discharged + dead), expressed in a percentage. For example, in a hospital which during the year had 4,088 patients of whom 143 died, the coefficient or index of mortality is $\frac{143 \times 100}{4,088} = 3.5\%$.

This index is computed for each department and for the individual illnesses. A decrease in mortality from various illnesses or after surgery is undoubtedly a major indication of effectiveness of treatment. For example, the use of antidiphtheria serum reduced deaths from diphtheria from 35.1% in 1892 to 4% in 1936; the sulfanilimides and penicillin decreased the pneumonia mortality rate many times.

The quality of diagnoses is determined by the degree of coincidence (polyclinic and hospital, hospital and pathologicoanatomical). Data on results of treatment, postoperative complications, duration of treatment for the different categories of patients also go into the composition of the qualitative indices.

The quality of emergency surgery is evaluated from the speed with which patients are admitted to the hospital after the onset of illness and the amount of time required to perform the operations after admission, measured in hours.

The report presents in detail an account of the hospital's surgery, permitting the results in each group of patients to be evaluated, post-operative complications elucidated, etc. The higher the percentage of

patients brought early to the hospital (up to 6 hours after onset of illness), the better the ambulance service and the higher the quality of diagnosis by the district physicians. Cases where patients are brought in 24 hours after the onset of illness must be regarded as gross defects in hospital organization.

Analysis of patients requiring emergency aid (percentage of patients operated on, fatalities among surgical and medical patients) shows convincingly that timely hospitalization and surgery are major factors in the recovery of patients.

All medical workers must be familiar with the quantitative and qualitative indices of hospital work and discuss them at their conferences, for they constitute the foundation of hospital planning.

Medical Service to Industrial Workers

Industrial workers are served by a network of special establishments in addition to the regular medical institutions providing aid at their homes. These establishments are extremely important in that they bring medical aid within easy reach of the workers, make it possible for doctors to study industrial conditions and discover the causes of morbidity and traumatism. They also enable the doctors to plan and carry out, jointly with management and union officials, hygienic, prophylactic, and therapeutic measures to lower the sick rate and improve working conditions in a given enterprise. Medical units are organized in all major industries.

Medical Units

A medical unit is a complex of therapeutic and prophylactic facilities affording the manual and office workers of a given enterprise all types of medical care. This is the so-called closed medical unit. Sometimes it also serves members of the workers' families and other people living in the area, in which case it is called an open medical unit (Figure 16).

Combining all the medical facilities in an enterprise makes it possible to improve the quality of medical service, adapt it closely to the working conditions of that enterprise, and carry out comprehensive medicoprophyllactic measures.

The medical unit is organically connected with the enterprise and, like the other units, helps to fulfill the overall industrial plan.

The chief of the medical unit is directly under the jurisdiction of the head of the rayon health department or, in large enterprises, the head of the city or oblast health department.

Medical units arose during the Great Patriotic War in defense plants. The development of a powerful defense industry under war conditions employing hundreds of thousands of new workers, chiefly women and adolescents, confronted public health agencies with special problems. When the war ended, medical units were organized in other branches of industry with more than 3,000 workers, and in some with lesser numbers, e.g., coal and iron (over 1,500 workers), mining and chemical (1,000 or more workers).

Medical units provide all types of specialized therapy in a polyclinic or hospital. They carry on hygienic and preventive work in the shops. Large plants organize as a part of their medical unit feldsher stations in various shops to provide first aid along with hygienic and safety advice.

Medical and Feldsher Stations

Plants with 1,000 or more workers have medical stations, those with 400 to 1,000 workers have feldsher stations. Sometimes health stations are set up even when there are fewer workers. These health stations are usually part of the urban hospitals. Small plants lacking their own health station are served by the rayon or urban hospital of their area, which appoints a special doctor for this purpose.

The basic task of medical units and health stations is to reduce morbidity and traumatism, make medical aid accessible to the workers, improve living and working conditions by executing comprehensive sanitary and prophylactic measures, and to observe and check on execution of laws relating to industrial hygiene.

Since the health station is a direct part of the plant, it concentrates its activities on the prevailing morbidity and hygienic conditions, working closely with the management, union, and workers' organizations. It is set right in the plant and maintains daily supervision over sanitary conditions, provides first aid for injuries and acute illnesses, and, with appropriate indications, prescribes treatment in a sanatorium for those who need it, special diet, etc. (Figure 17).

The expenses involved in maintaining and equipping the health station is shared by public health agencies and industrial organizations. The plants provide space, maintenance equipment, transportation; they pay for public utilities and the salaries of technical personnel. The public health agencies supply the medical personnel, apparatus, and medicines. These agencies carry out improvement programs in plants through the health stations.

Besides public health agencies, industrial ministries, factory managements, and trade unions also spend money on medical facilities.

According to a decree of the Council of Ministers, USSR, ministries and departments in constructing new plants or renovating and enlarging old ones must at the same time provide medical facilities, day nurseries, and living quarters for medical personnel. These are the norms: for plants numbering over 10,000 workers -- a hospital with 12 beds per 1,000 workers and a polyclinic to handle 150,000 visits a year; 5,000 to 10,000 workers -- a hospital with 75 beds and a polyclinic to handle 75,000 visits a year; 2,000 to 5,000 workers -- a hospital with 50 beds and a polyclinic to handle 50,000 visits a year; 800 to 2,000 workers -- a medical health station; 300 to 800 workers -- a feldsher station.

Nurseries attached to plants must be built with 12 places per 1,000 female workers.

Plant managers and unions are required to build sanatoria, night sanatoria (prophylactoria), nurseries, dietary dining rooms, rooms for personal hygiene of the female employees.

The directives of the 20th congress of the Communist Party of the Soviet Union oblige the appropriate ministries and departments "to improve industrial hygiene and safety arrangements in industrial plants, particularly in mines, hot shops, and in plants injurious to the health of the workers, exploiting for this purpose the latest achievements of science and engineering."

The Shop Area Principle

Physicians of medical units serve the enterprises in accordance with the shop area principle. The shop area physician, a general practitioner, attends the workers of one or more shops depending on the number of persons.

The shop area physician works in a polyclinic, hospital, and shop. He must be in the shop no less than 9 hours a week where he studies the working conditions, becomes familiar with the technical processes, discovers unfavorable environmental factors that may cause sickness or injury and takes an active part in efforts to overcome them. Since he is acquainted with the working conditions of the various types of workers in his shop, he is in a better position than anyone else to judge the work capabilities of the ill and correctly solve problems related to layout of work (Figure 18).

In accordance with the shop area principle, besides the general practitioner a number of specialists also work in the health unit, chiefly surgeons, obstetrician-gynecologists, and dermatovenerologists.

These physicians too study the causes of injuries, the effect of working conditions on women, particularly pregnant women, and seek ways of preventing injuries and pyodermic diseases.

The medical unit affords the manual and office workers of the plant all kinds of polyclinical services, including hospitalization, if there are facilities for it. If not, the unit makes arrangements in hospitals of the open medical network. If the employees live in a workers' settlement, the medical unit will make house calls even on members of the family. It is important for the shop area physician to keep in touch with the local district medical officer who normally makes the house calls.

The medical unit spends a good deal of time in organizing help for injuries, carrying out periodic medical examinations and keeping various groups of workers under clinical observation.

Medical Help in Injuries and Accidents

Proper, timely help in injuries depends largely on the available first aid facilities mandatory at all plants.

First aid facilities must be provided as long as the plant is operating. The quality of service for the night shifts must not be permitted to decline. It is important that first aid be decentralized as much as possible, i.e., brought close to where injuries are likely to occur. Feldsher stations have been set up for this purpose in very large shops. Elsewhere there should be present in every shift and very individuals capable of rendering aid until the doctor comes. These individuals may be members of the Red Cross or Red Crescent who have passed the "Be Ready for Medical Defense" tests, specially trained team leaders, middle echelon or junior technicians, etc. Every shift should have a medical post of workers instructed in the principles of first aid and capable of taking charge of the medicines, splints, and stretchers.

Effective organization of traumatologic aid requires that the workers be instructed in the principles of self-aid and mutual aid. Accordingly, those who man the medical posts are systematically taught safety engineering, how to apply splints, sterile bandages, and tourniquets, how to move injured persons, etc. The crew foreman may also be the organizer and director of first aid. The foremen have medical kits which are periodically checked by feldshers. Persons who work alone should be taught self-aid and provided with individual packets of sterile bandages.

All these arrangements make it possible to give first aid right where injuries occur and have the victims brought safely to the health station or medical unit, an extremely important factor in subsequent treatment, particularly in preventing complications.

The teaching of self-aid and mutual aid is especially important where the workers are off by themselves or in small groups quite a distance from one another and from the medical station (in mines, lumber camps, or in fields driving tractors or combines, etc.).

Feldsher health stations handle minor injuries. For serious injuries they merely render first aid before bringing the victims to the polyclinic of the medical unit. Polyclinics have their own surgeons and specialists in trauma and they provide additional outpatient treatment as required.

In order to render first aid for injuries and poisonings the feldsher health station must be supplied with all the necessary medicines and equipment.

Sterile bandages and careful sterilization of instruments are required for the proper treatment of wounds. The head of the station must always keep in mind that the timeliness and quality of first aid affect both the duration and course of the condition, the patient's ability to resume work, and sometimes even his life.

The surgeon of the medical unit or hospital is in charge of all traumatologic help. His duties include checking on the quality of service, competence of the staff, availability and condition of the instruments, dressings, medicines, etc.

In order to study the causes of injuries and their prevention, workers in the medical unit and health stations together with safety engineers and the factory committee's representative on the commission for labor protection take part in investigations of accidents as well as check on the implementation of safety measures.

The health station also gives first aid in acute illnesses and sends the patients to the polyclinic for further treatment. The staff executes the doctor's orders regarding injections, dressings, simple physiotherapy, etc.

Periodic Medical Examinations and Clinical Service

Medical units, particularly shop area physicians, emphasize periodic medical check-ups. They examine all job applicants in order to bar those for whom work in the given plant or occupation is contraindicated. The personnel office does not have the right to hire anyone without a certificate from the shop physician of the medical unit or health station.

Adolescents as well as workers coming in contact with toxic substances are examined at regular intervals set by special order or instructions of the Ministry of Health, USSR. The purpose of these

examinations is to uncover occupational diseases as soon as possible, institute timely treatment, diet, change to other work, and alter when necessary working arrangements. The orders for each occupation provide that specialists participate in the examinations, which may include laboratory analyses and X-rays.

Specialists of the medical unit also conduct specific mass medical examinations to uncover cases of tuberculosis, cancer, and other diseases. Workers with these conditions are then directed to the clinic of the medical unit or to an appropriate dispensary for treatment and systematic observation.

Most of the medical duties in the clinic and all the paper work are concentrated in the hands of the shop physicians. These keep under observation groups of healthy manual and office personnel (the most valuable producers) as well as sick workers in accordance with instructions of the Ministry of Health, USSR. All young people under 18 years of age are also subject to clinical observation by a special section of the medical unit or, if there is no such section, by the shop area physician.

An individual program of treatment is drawn up for each clinical patient. Systematic observation, use of different kinds of treatment, hospitalization when required, sanatorium or health resort therapy, and alteration of working arrangements are the most important measures that may be taken.

Results of the clinical method are evaluated from the number of measures taken, the patient's condition, and, above all, from the number of cases and days of disability.

Investigation of Rate of Sickness with Temporary Disability

Personnel of the medical unit, primarily the shop physician and health station chiefs, must be thoroughly familiar with the amount of sickness accompanied by temporary disability prevailing in a given shop and in the plant as a whole. The plan for therapeutic and hygienic measures is based on an analysis of morbidity by the medical unit and health stations.

The level and changes of morbidity are judged from the results of the therapeutic and prophylactic work done by the staffs of the medical unit and health station.

Under the present system each completed disability certificate to be submitted for payment is recorded by the medical unit in a special book and on the worker's personal medical card. This enables the shop

On the forms and methods of the clinical approach, cf. Chapter 3, "The Clinical Method."

physician to follow up systematically every case of illness involving disability. The data compiled for a certain period of time (month, quarter, year) indicate changes in morbidity throughout the plant. The data are also entered monthly on form 3-1 by the factory-plant committee.

Statistical processing of the data on morbidity includes all disability certificates, both those subject and those not subject to payment in the given month. Account is taken not of the calendar days, but of the number of work days. The number of workers in a plant is taken for the purpose of computing the intensive indices per 100 workers from the first number for the current month.

The shop physician supplements the monthly report on form 3-1 with details on sex, age, occupation, and breakdown of the group of "other" illnesses.

Every injury is noted in a special book, which facilitates the task of analyzing the pertinent material and ascertaining the circumstances, operations, units, benches, groups of workers most prone to injury, and the nature of the injuries.

Recording each illness with temporary disability on the individual worker's card is important because sick persons can be put on record and frequent and chronic sufferers detected. They can then be sent to a clinic, sanatorium, or health resort, etc.

A Single Overall Hygiene Program

Following its analysis of the sanitary conditions in the plant, extent and nature of morbidity and traumatism, the medical unit works out jointly with the plant management and union a single, overall hygiene program. The program specifies the time allotted for implementation of the measures and designates those responsible (management, union, medical institution). The program is discussed by all the interested parties and signed by the director of the company, head of the medical unit, and representative of the factory-plant committee.

The program outlines safety measures, improvements in ventilation and illumination, hygienic conditions and layout, and in the everyday services for which the management is primarily responsible.

The union vigorously cooperates in providing sanatorium-health resort facilities and processing applications for rest home accommodations. It also helps to organize groups of sanitary activists.*

*[Men and women workers displaying special interest in public health -- translator's note.]

The program contemplates measures to control individual diseases and injuries, improve medicoprophyllactic service and hygiene education, train sanitary activists and guide their leaders.

Sanitary-Prophyllactic and Antiepidemic Work

Sanitary-antiepidemic work occupies a major portion of the time of the medical unit, particularly the shop area physician and his staff. The unit and health station are the champions of the sanitary and antiepidemic measures of the health agencies in the given plant.

Every day the medical workers inspect sanitary conditions in the shops, snack bars, dining-halls, showers, and toilets. From time to time they even visit workers' settlements, homes, and stores.

All activities relating to industrial hygiene are carried on under the direction of the industrial sanitation physician. Inspection of the sanitary condition of the non-working areas is conducted in cooperation with the city sanitation physician of the sanitary-epidemiological station. In plants where there is no industrial sanitation physician, the shop physician helped by the nurse inspects the shops, ventilation, illumination, issuance of special protective clothing, the condition of protective devices, and enforces safety measures, etc.

The medical unit makes suggestions to the management regarding hazards and sees to it that the necessary steps are taken to eliminate them.

The entire staff of the health station is engaged in sanitary-prophyllactic work. Each member has a specific area which he checks on daily, e.g., shop, dining hall, homes, store, bakery, etc.

Daily checks by the heads of health stations are important to ensure the successful implementation of the sanitary measures planned.

The staff of the medical unit in their sanitary-prophyllactic work rely on various groups -- insurance delegates, sanitary posts in shops and homes, communal sanitation representatives and cooperation councils.

The sanitary-antiepidemiological program includes preventive vaccinations, detection and cure of bacilli carriers, recording of all cases of acute infectious diseases, education in hygiene (talks, lectures, articles in wall newspapers, speeches at conferences, radio discussions) and work with the sanitation activists (organization of a local Red Cross group, preparation for taking "Be Ready for Medical Defense" tests, etc.).*

*On the forms and methods of operation of sanitation activists cf. Chapter 8.

The medical unit must maintain very close contact with the management and party and communal organizations. It must systemically acquaint them and the public health agencies with the morbidity, traumatism, and sanitary conditions prevailing at the company.

Organization and Activities of Tuberculosis, Dermato-Venereological, and Oncological clinics

The USSR medicoprophylactic network includes special institutions which concentrate on combatting tuberculosis, cancer, and venereal diseases. The organization of work and methods of prevention and treatment used by these facilities are due to the unusual course and prevalence of the diseases.

In Tsarist Russia tuberculosis and syphilis were social diseases largely caused by social and economic factors. To control them is one of the main responsibilities assigned by the Party to Soviet public health.

Tuberculosis, the venereal diseases, and cancer are serious conditions requiring prolonged treatment and constant observation. The first two, moreover, constitute a great danger for persons close to the patient, particularly members of his family. Cancer and tuberculosis can be effectively treated only when they are diagnosed early, often a very difficult task, which requires appropriate medical organization and methods of operation. That is why special facilities in the form of clinics have had to be created (Figure 19).

The clinical method is at present the core of all Soviet medical practice. It was first applied to tuberculosis and the venereal diseases. The network of clinics founded in the earliest years of Soviet public health has now been expanded to the point where they are to be found in every city. In recent years oncological clinics have come into existence to cope with cancer.

In addition to the above-mentioned, the USSR also has special trachoma and goiter clinics in areas where these two diseases are prevalent, psychoneurological clinics for nervous and mental diseases, and medico-physical culture clinics to check on physical culture activities and sports, which are popular all over the country.

Until recently clinics offered medical and preventive services only for ambulatory patients and their families. After the hospitals and polyclinics were merged, however, inpatient facilities were made available to the clinics, thus expanding their scope.

Oblast and kray clinics are centers for organization and methods. They are responsible for recording shifts in tuberculosis, venereal diseases, and cancer morbidity, guiding the local clinics and the

general oblast network, and training medical personnel in new diagnostic and therapeutic techniques.

Clinics carry on a broad program of hygiene education, featuring exhibits, lectures, reports, posters, and leaflets.

Some clinics (e.g. tuberculosis) have subsidiaries -- night and day sanatoria, dietetic dining rooms, healthful areas.

The clinical method requires above all active efforts to detect diseases in the earliest stages when frequently even the patients themselves are unaware of them and thus do not seek medical assistance. Early diagnosis of tuberculosis, cancer, and other diseases is the concern of all physicians. The district physician of a hospital or medical unit who observes sick people daily must be particularly alert to their complaints and arrange for all those with suspicious symptoms of a serious disease to have a special examination. Surgeons and gynecologists are among those doctors with increasing responsibility for making timely diagnoses.

Diseases may be detected in their early stages by periodic medical examinations of various population groups (school children, adolescent workers, different occupational and age groups). These examinations are conducted by clinics, polyclinics, hospitals, health stations, and school physicians. Once tuberculosis or a venereal disease has been diagnosed and registered, the clinic examines the patient's family and those living with him.

The staff follows up to see if all the patients visit the clinic as suggested and, if not, calls them to ascertain the reason. Thus, the clinic provides systematic treatment and observation, a main prerequisite to the effective control of these diseases. Besides detecting and treating diseases, sending patients to a polyclinic, hospital, sanatorium, forest school or healthful area, the clinic makes heavy use of visiting nurses to improve the working and living conditions of sick people.

The visiting nurse system is an integral part of the clinical operation. The nurses inspect the homes of patients, uncover the unfavorable sanitary aspects, and give advice on how to overcome them. Through regional councils, factory committees, and plant managers, they seek to improve both the living and working conditions of the patients, for example, by assignment to lighter work, suggestions for proper diet, and, sometimes, by offering material assistance. These nurses become acquainted with the relatives and friends of the patients, arrange for them to be examined in the clinic, explain how to prevent diseases and how to take care of sick people.

Since clinics are closely connected both with the general medical network and with communal organizations, factories, and institutions, they can go beyond individual prophylaxis to executing broad sanitary measures affecting the people as a whole in manufacturing establishments, residential areas, schools, and restaurants.

A distinctive feature of Soviet clinics is the maximum cooperation they receive in their sanitation activities from factory managers, councils, unions, and other communal organizations.

The Campaign against Tuberculosis

The campaign against tuberculosis, which, like other social diseases, is a legacy of capitalism, has been one of the principal tasks of Soviet public health from the moment it was organized. It achieved great success during the years that socialism has been built. The tuberculosis mortality rate in 1941 was 2-1/2 times below that in 1913, while the morbidity rate was one-third the 1913 figure.

The deprivations suffered by the people of the USSR during the Great Patriotic War and the deterioration of sanitary conditions could not but be reflected in a certain rise in the tuberculosis morbidity and mortality rates. Therefore, in the early part of the war the government was greatly concerned with helping the tuberculous patients and enlarging the network of specialized clinics. According to a decree of the Council of People's Commissars, additional beds were made available in hospitals and night sanatoria. Special dietetic dining rooms were set up for tuberculous patients who were given supplemental rations. Child patients were assigned sanitary quarters in nurseries and kindergartens.

In addition to the regular medicoprophylactic facilities, a special network has been set up to control tuberculosis: institutes and clinics, hospitals, night and day sanatoria, forest schools, divisions and sections within medical units, and polyclinic departments of urban hospitals.

The essence of the struggle against the disease is early detection. Some cases are diagnosed during a visit to the doctor for other conditions. It is necessary to pay special attention not only to those in whom tuberculosis has been found, but to those suffering from influenza, subfebrile temperature, etc.

A most useful method of control is periodic examination of large groups of the population -- children of all ages in children's institutions (centers, nurseries, kindergartens, regular and trade schools), juvenile workers, youths of pre-military age, and draftees, workers in various industries, employees in children's or in public food establishments, etc.

Various diagnostic techniques are used in preventive medical examinations -- X-rays, tuberculin tests (in children), laboratory analyses of sputum. Fluorography -- a modern method of X-raying the lungs that makes it possible to examine over 100 persons an hour -- is very helpful in expediting and facilitating diagnosis.

All patients in hospitals, regardless of the nature of their illness, pregnant women coming to maternity centers, etc., are required to have a clinical examination for tuberculosis, which includes a chest X-ray. It is also compulsory to examine persons who come into contact with tuberculous patients whether at home or at work.

Medical workers must always keep in mind that tuberculosis is to be handled like the dangerous infectious disease that it is: elimination of the foci of infection, sanitary measures, compulsory hospitalization of all those infected, examination of persons in contact with them, current and final disinfection of the apartment, etc. The sanitary-epidemiological station must be drawn into this task. Special notification cards must be sent to the appropriate agency for all confirmed cases of open forms of tuberculosis.

Preventive measures include an extensive campaign of hygiene education, issuance of literature, vaccination of all newborn children in maternity hospitals, revaccination of preschool and school children, and improvement of working and living conditions.

Special attention should be paid to the work arrangements of tuberculous employees in factories, who are forbidden to work on night shifts or overtime. They can be transferred to work involving few hours per day, with the difference in wages made up by social insurance.

Medical institutions must keep tuberculous patients under constant observation so that changes in their condition can be noted and therapeutic and prophylactic measures promptly taken. Of exceptional importance is improvement in their living conditions and retraining them in personal hygiene habits. Here the visiting nurses of the clinics play a major role.

Physicians in health stations and medical units together with phthisiologists, plant managers, and unions must have an overall plan for antituberculosis propaganda among the employees and for providing the individual sufferers with the medicoprophylactic care they need.

The general rise in standard of living, expansion of facilities, and introduction of effective drugs (streptomycin, phthivazide [isonicotinic acid hydrazide derivative] PASA, etc.) have resulted in a sharp decrease in tuberculosis morbidity.

Control of Skin and Venereal Diseases

Soviet public health has made considerable progress in controlling skin and venereal diseases. The morbidity rate dropped sharply after the Great October Socialist Revolution due to elimination of the main factors contributing to their spread — unemployment and prostitution — in broad network of venereological institutions in cities, sending of thousands of special venereological teams, especially in the early days of the socialist regime, to rural areas and outlying districts to combat syphilis, the scourge of Tsarist Russia, not to mention elevation of the people's cultural level and the extensive hygiene propaganda. In 1941 the syphilis rate was one-tenth that in 1913, the 1941 gonorrhoea rate one-fifth that in 1913.

Venereal diseases are combated by special venereological clinics, teams, departments in hospitals, and the general medical network.

Skin diseases remain a major problem. Particularly widespread are pyoderma and fungus infections like trichophytosis and favus. The prevention and treatment of these conditions, which arise chiefly because of unfavorable working conditions ("microtraumas," chemical irritants) and unsanitary living conditions, require the clinical approach.

Skin and Venereological clinics and scientific research institutes are medical establishments and at the same time scientific centers for the organization of medicoprophylactic measures to combat skin and venereal diseases in the oblast or kray. They report and process data on the morbidity rate, train and improve the skill of personnel, and cooperate with other medical organizations.

Effective control of skin and venereal diseases requires timely diagnosis and discovery of the sources of infection, compulsory and complete course of treatment, elimination of the foci of new cases, mandatory hospitalization of all patients with infectious forms of syphilis — all organized by the clinics.

The nature of venereal infections, which leads certain patients to conceal both the disease itself and the source, requires a great deal of tact and persistence on the part of medical workers, particularly the visiting nurses, to induce them to come for medical examination and systematic treatment. No less prudence and tact are needed to persuade those in contact with the patients (family and friends) to submit to an examination.

Some patients do not continue their treatments to the end due to the rather frequent disappearance of subjective feelings of pain. It is therefore incumbent upon all medical workers to see to it that treatment is systematically continued until complete recover. In

certain cases Soviet law provides for compulsory examination, treatment, and criminal punishment for those who refuse treatment.

All cases of syphilis in its infectious stage must be entered on special notification cards which are sent in sealed packages to the rayon or city health department within 24 hours of detection.

Individuals who handle food or who work in such everyday service establishments as barbershops and baths, children's institutions, or any place engaged in detection of venereal or contagious skin diseases are required to submit to regular medical examinations.

Education plays a key role in the prevention of these diseases. The clinics cooperate with health agencies and medical units, issue general educational literature and materials on methods of handling patients. They provide facilities to enable physicians in health stations, medical units, and city hospitals to increase their skill in diagnosis and treatment.

Control of Malignant Diseases

The campaign against cancer is now being intensively waged in the USSR. Besides searching for an effective cure, the main problem is early diagnosis of cancer and so-called precancerous conditions. Internists, surgeons, gynecologists, and otolaryngologists are needed as well as qualified general practitioners, fieldshers, and midwives, who must be made "cancer conscious."

The most reliable method of early detection of cancer and precancerous conditions is the preventive examination of persons over 40, (introduced in 1948) by physicians attached to health stations, industrial medical units, urban and rural hospitals, and women's consultation centers.

Persons found to have precancerous diseases (e.g., achylia gastrica, erosion of the uterine cervix) or suspected of having cancer are placed under clinical observation and given appropriate treatment.

Experience has confirmed the value of mass medical examinations. Among the 23 million persons in cities and villages examined between 1948 and 1952 .11% (24,000 persons) and 0.99% (more than 200,000 persons) were found to have cancer and precancerous conditions, respectively. Re-examinations showed a sharp reduction in the number of persons with inoperable malignancies, the disappearance of neglected cancers of the skin, lip, breast, and uterine cervix. The extensive propaganda on initial symptoms of the disease and the need of prompt visits to the doctor is an important factor in the struggle against cancer, since the early signs occasion no discomfort and are thus frequently ignored.

Oncological clinics and stations, consulting rooms or departments in large hospitals make up the special network organized by the Soviet Union to control cancer. The key element is the clinic, which makes early diagnosis and provides skilled treatment — surgical and X-ray — for patients sent there by city, oblast, and republic medical institutions. The clinic is well equipped with various X-ray and radium diagnostic and therapeutic machines, a laboratory to make biopsies, and other facilities.

The oncological clinic has an inpatient department for observing and treating patients and accommodations for those coming from the oblast for examination or ambulatory treatment. This clinic is a center for organization and methods of combatting cancerous diseases in the oblast, kray, or republic. It seeks to enhance the skills of the physicians, processes statistical data on morbidity and mortality, and plans propaganda among the masses.

CHAPTER 4

ORGANIZATION OF MEDICAL AND SANITARY FACILITIES FOR THE RURAL POPULATION

The fundamental tasks of Soviet public health in the rural areas are: to provide free, readily available skilled and specialized medical assistance on the same principles as those for the urban population and to introduce large-scale measures to improve sanitary conditions. However, the peculiarities of agriculture and the unusual working and living conditions of the rural population, the way in which new places are settled, and the geographic dispersion of the inhabited areas have required Soviet public health to devise and apply special administrative forms and methods of operation for the countryside.

Zemstvo medicine was the first to create rural health facilities in prerevolutionary Russia. Prior to the rise of the zemstvos there was virtually no medical assistance available to the Russian village. The advent of zemstvo medicine is inextricably bound up with the development of capitalism in agriculture. During the 50 years of its existence zemstvo medicine built a network of institutions and elaborated ways of organizing medical and sanitary facilities for the farm population. Medical districts came into being with dispensaries and hospitals, stations with feldshers and midwives trained in zemstvo schools. Some of the district and provincial zemstvo hospitals were outstanding for their time.

In sum, elucidation of the principles underlying the proper organization of medical facilities and sanitary-statistical investigations of morbidity and physical development of the rural population carried out by prominent zemstvo physicians constitute the major achievements of prerevolutionary Russian medicine.

However, despite the persistence and keen desire of the leading physicians to improve the quality of service, the practical results of their work were insignificant. The Tsarist autocracy and its administrative arbitrariness were an insuperable obstacle. The doctors' efforts ran athwart the prevalent economic and political conditions and thus received no cooperation from the authorities. Expenditures for medical assistance, especially sanitary measures, were negligible. Soviet public health thus inherited a meager set of poorly organized and equipped facilities, accessible to comparatively small numbers of people and directed by general practitioners and feldshers. Only 6% of the medical districts had small hospitals, the other districts providing only outpatient service.

The history of rural health in the USSR corresponds to the main stages of development of the national economy. During the years of civil war and intervention and the subsequent period of reconstruction Soviet public health was primarily faced with the task of restoring and normalizing the rural medical facilities destroyed by the war.

Along with restoration and expansion of the rural medical districts, new types of installations came into being -- tuberculosis clinics and stations, stations to combat trachoma, skin and venereal diseases, day nurseries, women's and children's consultation centers; there was also a good deal of hygiene propaganda. By the end of the reconstruction period the number of rural medical districts had almost doubled from 4,300 in 1913 to 7,531 in 1928. The number of doctors rose from 4,975 in 1913 to 10,941 in 1928.

The mass collectivization of peasant farms, which began in 1929 under the guidance of the Communist Party and Soviet Government, marked a turning point in the history of rural public health. The system of collective farms destroyed once and for all the factors responsible for stratifying and impoverishing millions of peasants. It created the conditions for economic growth in the village and for systematic elevation of the cultural and material level of the peasants, thereby producing new and favorable circumstances for the development of public health.

The "Model Regulations for a Collective Farm," which formulates the principles for organizing agricultural work and managing farms, confronted farm leaders with the task of "raising the cultural level of members of the collective farm, introducing newspapers, books, radio, movies, clubs, libraries, reading rooms, baths, and barbershops." It also required them "to provide light, clean lodgings in the field, to improve streets in the villages, to plant various kinds of trees, particularly fruit trees, and to help collective farmers to improve their houses and make them more attractive."

The "Model Regulations for a Collective Farm" provide for the material support of farmers in sickness, old age, and disability. Women are relieved of work before and after childbirth, while continuing to receive half of their average earnings.

Public health was not able immediately to deal with the new problems and demands posed by the collective farm village. The historic decree of the Central Committee of the All-Union Communist Party (B) of 18 December 1929 "On Medical Facilities for Workers and Peasants" noted the wide gap between public health and the needs and tempo of the rapidly developing national economy, including agriculture, and showed how to overcome it. The Party's decision initiated the reconstruction of rural medicine. Additional facilities were erected in convenient

locations to keep pace with the progress of collectivization and the emergence of new economic centers. Between 1928 and 1941 the number of rural medical districts and doctors rose from 7,531 to 13,500 and from 10,941 to 19,992, respectively. During the same period feldsher and midwife stations increased more than tenfold (from 3,113 in 1928 to 34,511 in 1941).

The work of rural medical districts is based on the seasonal and organizational peculiarities of farming. It takes cognizance of the special problems of those living in field camps during the summer, first aid, and prevention of injuries due to the mechanization of agriculture. The mass use of women in agriculture required more day nurseries, at first seasonal, then permanent.

The reorganization of public health was legalized by the decree of the Council of People's Commissars "On Strengthening the Rural Medical Districts," which set forth measures to organize and equip these districts and to improve the working conditions of the physicians. It outlined the course of rural public health for the entire period to follow.

By way of implementing this decree, the People's Commissariat of Health, USSR, in June 1938 issued "Regulations for Rural Medical Districts," which defined precisely their tasks and the direction they were to take. Each district was assigned a jurisdictional area covering all the populated places, collective farms, state farms, machine and tractor stations, shops, local factories, etc. The limits of the districts were then determined by oblast health departments and approved by the people's commissariats of health of the union republics in accordance with the size of population, number of populated places, etc. This permitted a more efficient utilization of medical resources and facilities.

Feldsher and midwife stations underwent substantial changes in method of operation. Formerly they were largely autonomous and had little to do with the medical districts as they provided primitive medical care and introduced prophylactic measures only sporadically. However, the "Regulations" incorporated them into the respective medical districts.

Through integrating all the medical facilities located on its territory (feldsher and midwife stations, collective farm maternity hospitals, day nurseries, etc.) the rural medical district became the center of all village medical activities.

During the years of the Great Patriotic War rural public health was assigned the crucial task of maintaining the medical facilities and existing level of service, which it executed with distinction. The network of institutions located on non-occupied territory, so far from

shrinking actually expanded, the number of districts increasing from 13,512 in 1941 to 14,746 in 1946. The rural medical districts completely proved their value under the difficult war conditions, which involved mass shifts of the population (evacuation and re-evacuation), transportation and economic dislocations, shortage of medical personnel and drugs.

The districts disinfected incoming groups of people, systematically inspected inhabitations where infectious diseases were noted, detected people with fevers and kept under observation those with whom they had contact, and tried to hospitalize every one with an infectious disease within a day or two after it was discovered. The sanitary activists rendered major assistance to the medical districts in this work.

The post of rayon pediatrician was set up during the war in rural rayons and a visiting nurse added to the staff of the medical district in order to improve child care. The number of day nurseries, children's consultation centers, and milk kitchens increased substantially. Many seasonal nurseries became permanent and not a few collective farms built orphanages.

A new form of independent activity on the part of the people developed during the war -- nursing units of the Red Cross and Red Crescent. The nurses, who were recruited from the local population and trained by the Red Cross, became the principal assistants of rural doctors and feldshers.

Rural public health after the war developed side by side with agriculture. Progress was achieved not only in expanding facilities, but also in training more competent physicians and in providing the services of specialists. The center of these activities was the rayon hospital.

The decisions of the 19th Congress of the Communist Party of the Soviet Union and the 1953 and 1954 Plenums regarding further strengthening of the organization and economy of collective and state farms, growth and consolidation of machine and tractor stations, and development of virgin and unused lands made new demands on rayon and rural public health agencies and institutions. Their main tasks today are to achieve a further decrease in the sick rate of farm workers, help them to raise their productivity, and reduce disability.

Medical personnel must aim at bringing about a healthier way of life for all, steadily reducing the number of infectious diseases, improving methods of diagnosis and treatment, providing better medicoprophylactic facilities for children, and promoting among the masses, chiefly the youth, physical culture and sports. These will be accomplished by building new medicoprophylactic and pharmaceutical facilities,

especially in rayons where virgin and unused lands are being developed, filling vacancies for doctors and middle echelon personnel in rural medical institutions, and equipping these institutions with therapeutic and diagnostic equipment and laboratories.

The Rural Medical District

The District Hospital

The jurisdictional area of a rural medical district includes the various inhabited places, collective and state farms, machine and tractor stations, local factories, etc., situated on its territory.

The accessibility of medical aid is determined not only by the number of doctors and middle echelon personnel, but also by the jurisdictional range, condition of roads, transportation facilities, and, above all, by the location of the medical establishments. The principal institution is the rural district hospital, which is located as centrally as possible in the most populated area (Figure 20).

On the periphery of the district are found feldsher-midwife stations, health units (in state farms, lumber and peat camps), day nurseries, and collective farm maternity hospitals. These are built with due regard for the location and size of populated areas as well as for the economy of the district. First and foremost, facilities must be provided for the manual and white collar employees of major machine and tractor stations (which are now becoming the technical and economic centers of agricultural production) and workers in state and collective farms living at a considerable distance from the hospital. The various institutions mentioned above are part of the rural medical district and subordinate to the district hospital. They function in accordance with the overall district plan and are directed by the chief physician of the district hospital.

Due to substantial variations in the density of population and geographic and economic conditions prevailing within the oblasts of the USSR, the jurisdictional area and population size of the rayon rural medical districts differ greatly among themselves. There are, for example, five categories of rural district hospitals.

Rural hospitals of the highest (first) category are rated at 50 beds. They must have specialized beds for medicine surgery, obstetrics, pediatrics, infectious diseases, and tuberculosis. The outpatient department matches these specialties. The hospitals are usually well equipped with therapeutic and diagnostic apparatus, laboratory, physiotherapy room, and, not infrequently, X-ray facilities. These hospitals are scarcely to be distinguished from their urban counterparts in quality of service.

Rural hospitals of the lowest (fifth) category are rated at 10 beds divided into beds for infectious diseases and beds for maternity cases since these are emergencies which every hospital must be prepared to handle. This type of hospital must have two physicians -- one a general practitioner, the other a surgeon.

Rural medical hospitals operate in accordance with the district principle and have the following functions:

- (a) Reduction of morbidity, mortality, and invalidism;
- (b) Prevention and timely suppression of acute infectious diseases;
- (c) Execution of medicoprophylactic measures to protect the health of mothers and children;
- (d) Execution of medicoprophylactic measures to control tuberculosis, skin and venereal diseases, malaria, malignancies, and locally prevalent diseases such as trachoma, tularemia, and brucellosis;
- (e) Clinical observation of the health of various groups of the population;
- (f) Inspection of sanitary conditions in residential, industrial, and public areas;
- (g) Providing of medical facilities for workers in collective and state farms and machine and tractor stations during the sowing and harvesting seasons;
- (h) Elevation of the hygienic level of the population;
- (i) Organization of independent activities by the people in connection with public health problems.

The rural district hospital carries out its program with the help of all the medical personnel and institutions located within its jurisdiction, the most important being the feldsher-midwife stations.

The Feldsher-Midwife Station

Feldsher-midwife stations have been set up as a component of rural public health in order to render medical assistance more accessible to the people where district hospitals have a large area to cover and the population is fairly small. They are usually located on the outskirts of medical districts in the most heavily populated places farthest away from the district hospitals. If a machine and tractor station or a large collective farm is more than 3 to 5 km from a hospital, a

feldsher-midwife station is opened up. A district usually has several stations, one per village Soviet (an average of 4 stations), which pays for the cost out of its own budget.

Two middle echelon medical workers -- a feldsher and a midwife (Figure 21) -- run the station. There are still a few feldsher or midwife stations (with a single employee), but these are gradually being reorganized into feldsher-midwife units.

The feldsher offers emergency medical assistance, in his office or at the patient's home, until the doctor comes. The early detection and isolation of persons suffering from acute infectious diseases is extremely important.

Where a doctor or consultation is required, the feldsher sends the patient to the district hospital or discusses the case with a doctor when the patient comes to the feldsher-midwife station. The station is equipped with the necessary instruments, bandages, and medicines.

The station may have several beds for women in labor and for patients with infectious diseases as well as a pharmacy for selling patent medicines and hygienic supplies, which is managed by the feldsher. These pharmacies are a means of raising the health level of the rural population.

The feldsher is largely independent. He has the right not only to treat patients and write out prescriptions, but also to issue disability certificates (for a period of up to 3 days) to manual and office workers in collective farms, machine and tractor stations, and other state institutions. This part of the feldsher's work, as indeed the entire operation of the feldsher-midwife station, is supervised by a physician from the district hospital through systematic on-the-spot visits.

Feldsher-midwife stations play a major role in sanitary-anti-epidemic work. Their closeness to the people enables them to detect promptly persons with or suspected of having contagious diseases and to arrange for their immediate isolation, which, as we know, is the most important prerequisite for eradicating the focus of an epidemic.

These stations are also useful in providing obstetrical assistance, keeping pregnant women and breast-fed infants under clinical observation, and carrying out sanitary-prophylactic plans (which will be discussed in the appropriate sections).

Investigation of Morbidity in the District

The rural medical district plans its medicoprophyllactic and sanitary-antiepideologic work on the basis of investigations of the sanitary conditions and the amount of sickness prevalent in the district.

A variety of sources are used to investigate morbidity. Registration of acute infectious diseases from special notification cards filled out by the physician or feldsher who first made the diagnosis is highly important in that it permits the execution of emergency measures to cope with the diseases, observe those in contact with patients, disinfect the foci, and impose a quarantine. A study of morbidity is needed before a program of preventive vaccinations, detection and treatment of bacillus carriers, hygiene propaganda, etc., can be devised.

District hospitals also maintain records of individual patients suffering from tuberculosis, malaria, trachoma, skin and venereal diseases. The data is considered in the overall program of medicoprophyllactic measures both for the patients themselves and for relatives and friends whom they may be endangering.

Recent years have witnessed many changes in the method of studying the general morbidity of the farm population. The new record forms and hospital reports introduced in 1949 have made it possible to investigate the general morbidity of the entire district on the basis of patients' visits for medical help.

The annual hospital report describes the composition of the patients diagnosed by doctors either in the clinic or at their homes. The data covering 32 of the most prevalent diseases permit the doctors to assess the morbidity of the population and plan appropriate therapeutic and prophylactic measures (selection of patients for clinical, hospital, or sanatorium treatment, work arrangements, educational propaganda, etc.).

As a result of recent innovations in the technical and economic aspects of agriculture and the growth of machine and tractor stations and collective farms, the investigation of morbidity with temporary disability (from disability certificates registered in local unions) has acquired considerable importance.

Morbidity is calculated monthly from form 3-1, which is similar to that used by the health stations and medical units of industrial enterprises. An analysis of morbidity with temporary disability reveals the pattern of illness, duration of disability, the number of cases and days of disability per 100 workers, and its seasonal nature.

The productivity of collective farm labor has been increased by the systematic issuance of certificates to sick workers requiring their release from work. There is now one form for everybody. These

"Certificates of Temporary Release from Work on Account of Illness," as they are called, may be issued by a district hospital or feldsher-midwife station, which retains the stubs (control slips). The latter provide the materials for investigating disability of collective farm workers by disease, sex, age, job, duration and seasonality of illness.

Organization of District Medical Facilities

The rural population is served by feldsher-midwife stations, district, rayon, and oblast hospitals, which reflect the special features of rural medicine (Figure 22).

The main job of feldsher-midwife stations located in outlying parts of the district is to provide emergency aid and to make timely diagnoses of persons with acute infections and to arrange for their isolation. They also provide outpatient treatment within the limits of the feldsher's competence and rights. The stations carry out the doctor's orders regarding, for example, injections, cupping glasses, infusions, massages, and physiotherapy.

The regulations governing the rural district hospital provide for regular visits by its physicians to feldsher-midwife stations for the purpose of checking their work, consultation with patients, and conducting of educational propaganda (decree no. 992, Ministry of Health, USSR, 4 December 1950).

Prior to the arrival of the doctor, the feldsher and midwife summon to the station the patients whom the doctor is to examine. The physician should schedule his visits in advance so that people in remote areas can see him without having to make a special trip to the hospital. In addition, the physician is required to make house calls for sudden serious illnesses, injuries, complications in births, etc.

The feldsher also examines patients in the hospital and at their homes, which is reflected separately in the reports of the district hospital. However, his role here is secondary. The chief physician of a rural district hospital must organize the work in such a way that the physicians carry the main load, with the feldshers acting only in case they are absent, sick, or there is an unusually large number of patients. Thus, the ratio of patients handled by the doctors and feldshers to the total number coming to the hospital is an important indication of the quality of medical aid rendered by the hospital.

Visiting hours in the clinic must be scheduled for times that are maximally convenient for collective farmers. For example, 8 to 9 o'clock in the morning might be satisfactory in the fall and winter months, but at hours before or after work in the field or during the dinner break during the busy months of planting and harvesting.

In most of the district hospitals the patients receive general treatment. However, medical and diagnostic services have been improving from year to year as the hospitals acquire new laboratories and apparatus. The doctors are developing increasing skill in employing the latest techniques of research and therapy. The district hospitals have thus been converted into excellent medical institutions capable of rendering essential medical service to ever larger numbers of people.

To provide expert medical assistance, hospitals and clinics must have advanced therapeutic and diagnostic equipment, specialists of various kinds, and specialized beds. This kind of service is afforded chiefly by rayon and oblast hospitals to farm workers sent there by the district physicians.

The organization of specialized assistance to the rural population will be considered in the section dealing with the rayon and oblast hospitals.

Clinical Facilities for the Rural Population

The expansion of clinics in recent years has been a major step forward in raising the quality of rural medical care. The clinical approach became possible as a consequence of the development of agriculture since the war. It was first tried in the Chudnov rayon, Zhitomir oblast, Ukrainian SSR, whence it quickly spread to many rayons of the Russian, Byelorussian, Ukrainian, and other republics.

The success of the clinical method depends primarily on sound preparation and organization. The district physicians are the most important element. They draw up the local plan of clinical check-ups in accordance with the rayon master plan. The local plan must be approved by the village Soviet and managers of the collective farms, machine and tractor stations, and state farms. Their active support is necessary in order that all the eligible workers receive medical examinations and the doctors have the necessary facilities. The cooperation of the soviet and managers is particularly important if hygienic improvements are to be carried out and special arrangements made to suit the needs of sick workers and those under clinical observation. The scope of the investigation and quotas of persons to be included are determined by the district physicians in accordance with local conditions and resources.

The Ministry of Health, USSR, has issued instructions that top priority for clinical observation be given to skilled workers (drivers of combines and tractors), students in schools for mechanized agriculture, administrative personnel of machine and tractor stations and state farms, collective farm workers, outstanding farmers and animal breeders, and youths from 15 to 18 years old. These persons are given

medical checkups at least once or twice a year including, wherever possible, chest X-rays. These check-ups result in the discovery of persons who need various kinds of treatment, further observation, or special work arrangements. Besides healthy individuals, the clinical approach is applied to those suffering from tuberculosis, hypertension, ulcers, etc.

The rayon hospital provides guidance on clinical organization and methods, sends specialists when needed to take part in the medical check-ups, conducts more detailed examinations, and gives specialized treatment jointly with the district physicians. The feldshers are required to take part in this work. They actively assist in the preliminary choice of patients to be given check-ups, compile lists of workers in collective farms, state farms, and machine and tractor stations who are eligible for clinical observation, and execute the doctors' orders. The feldshers play an important role in investigating the working and living conditions of those under clinical observation and seeing to it that their recommendations are carried out.

Effective examination of ability to work and the solution of problems related to work arrangements for sick persons are possible only when medical workers carefully study agricultural production in all its branches.*

Obstetrical Facilities

One of the main problems in organizing rural obstetrical facilities is to make this most important form of medical aid maximally accessible to pregnant women. We have enough beds to take care of all women in labor, but experience has shown that the beds are used as a rule only when they are no more than 5 km away from the women's homes. Since the district hospital usually has a larger service radius it is easy to understand why feldsher-midwife stations and collective farm maternity hospitals are so important.

Rural localities have comparatively few special women's and children's consultation centers, so the feldsher-midwife stations and district hospitals perform their functions. The stations are required to keep a record of all pregnant women on their territory and to arrange for them to be kept under systematic clinical observation. Midwives must teach pregnant women hygiene, child care, including proper feeding and prevention of infectious diseases. The midwives also follow up to see that the collective farm regulations are implemented with respect to releasing the women from work before and after childbirth, with retention of half their earnings for the days worked during the preceding years.

* Cf. Chapter 3, section "The Clinical Method," for the forms and methods of organization.

Midwives and other district medical personnel have the important task of carrying on propaganda against abortions.

Midwives are responsible for helping all pregnant women to achieve full term, normal births. Births should preferably take place in a district hospital, but this is possible only when it is close to where the women live. If not, normal cases should be handled either in the feldsher-midwife station or in the collective farm maternity hospital. If for some reason this proves to be impossible, the midwife must assist in the woman's home. Every case of birth at home without a midwife in attendance is to be regarded as evidence of unsatisfactory obstetrical arrangements and, above all, poor organization of the feldsher-midwife stations since there are enough of these stations to take care of all women in childbirth.

Through continuous observation of pregnant women the midwife is in a position to detect or suspect the presence of a disease or pathological condition. In this event she must send the patient to a physician or have him see her during his next visit to the feldsher-midwife station. The midwife will also have to arrange for her hospitalization, shortly before she gives birth, in the district or rayon hospital.

All pregnant women living in a village where a district hospital is located or in the center of a rayon or adjacent populated area are directly served by district or rayon hospitals. The maternity beds in district and rayon hospitals are used, therefore, largely by women living nearby.

Collective farm maternity hospitals, which have come into existence in the USSR due to the collectivization of agriculture, constitute a great achievement of the collective farm system. The farm sets aside place for the hospital, provides fuel and food for the women, and assigns a woman to do the cooking and cleaning. These hospitals have 2 or 3 beds and are intended for normal births with a midwife in attendance (Figure 23). Should there be any complications during labor, the midwife must immediately summon a physician from the district or rayon hospital.

Collective farm maternity hospitals are built to enable women to give birth under more sanitary conditions than prevail in their own homes. Hence, medical workers should fully support the construction of hospitals throughout the collective farm network.

Of great value to mothers and infants is postnatal care which is also afforded by the midwife or physician from the district hospital. The midwife visits the mother at home during the first 9 days after birth. Thereafter the mother and child come to the district hospital or feldsher-midwife station.

Medical Facilities for Village Children

All district institutions provide medical services for children. Every rural rayon hospital has a children's department or separate beds in the medical department. Its polyclinic also treats children's diseases. There is a rayon pediatrician in every rayon center who normally serves as head of the children's department in the rayon hospital. He also directs the rural medical district's efforts to reduce the children's morbidity and mortality rates, helps to organize seasonal day nurseries and trains their supervisors.

Visits to infants is an important factor in preventing diseases. The midwife of a feldsher-midwife station or special nurse from the district hospital has the task of instructing mothers in the proper care and feeding of their children.

Particular days and hours are scheduled for mothers and infants to visit the hospital in order to prevent healthy children from having contact with sick ones coming for treatment because children are known to be highly susceptible to infections. It is best, however, for a child with fever to be treated at home by a physician or feldsher.

Much of the rural medical districts' preventive work is taken up with systematic inspection of hygienic conditions in children's institutions (schools, children's homes, day nurseries), periodic medical check-ups, treatment of ailing youngsters, and vaccinations against diphtheria, dysentery, tuberculosis, and measles as planned by the rayon sanitary-epidemiologic station.

Temporary day nurseries are required by the special circumstances of agriculture. At the height of the season they accommodate several million children. District medical workers assist the managers of collective farms in choosing a suitable place and equipping it, furnishing proper food, and ensuring adequate hygienic conditions.

Before entering the nurseries, all children are given a medical examination to exclude those with contagious diseases. While in the nurseries the children are given check-ups from time to time. As a rule, medically untrained farm women work with the children in the nurseries. Although they are given some instruction during the winter by the supervisors, they require daily guidance.

District Sanitary-Antiepidemic Activities. Propaganda on Hygiene

Preventive and antiepidemic work is the most important function of a rural medical district. Considerable progress has been made in lowering the morbidity rate, especially of infectious diseases.

Collectivization of agriculture, technical advances, and elevation of the material and cultural level of the farmers have been largely responsible for improving sanitary conditions in populated areas.

During the years following the war there was a tremendous amount of residential and industrial construction. The five-year plans provided for the rebuilding of thousands of villages in the western rayons of the USSR that had been burned and destroyed by the German invaders. Construction is still going forward all over the country. New state farms and machine and tractor stations are being set up on hitherto undeveloped lands.

The rural medical district under the direction of the rayon sanitary-epidemiologic station makes preventive sanitary surveys of plans for the layout and distribution of residential zones, animal raising farms, cattle yards, industrial plants, water works, and the landscaping of streets and yards. The district also inspects routinely farmsteads, restaurants, schools, day nurseries, barbershops, dairies, sources of water supply, etc. The various areas subject to sanitary inspection are assigned by the district to individual medical officers. The latter are required to arrange for the building of baths and disinfection chambers, and to check to see that they are in continuous operation. The officers maintain close contact with village soviets and collective farm managers.

The position of sanitary feldsher has been set up in many district hospitals to increase their efficiency in sanitary work. This feldsher inspects hygienic conditions in populated areas, machine and tractor stations, collective farms, state farms, and factories within the jurisdictional area of the district hospital to which he is attached. He carries out systematic preventive antiepidemic measures, epidemiologic investigations, and eliminates epidemic foci. At the orders of the rayon sanitary-epidemiologic station, the sanitary feldsher checks to see whether the managers of the machine and tractor stations, collective, and state farms have implemented the overall plans for sanitary improvements. He works directly under the chief physician of the district hospital and chief physician of the rayon sanitary-epidemiologic station.

At present due to the steady mechanization of agriculture it is becoming increasingly important to better the working and living conditions of machine operators and farm workers. Appropriate measures must be devised after carefully investigating the farms and machine and tractor stations, work arrangements of the drivers, causes of accidents, and skin and other diseases directly related to agriculture. The program drawn up must include instructions for managers on how to overcome any defects noted. Specialists of the rayon sanitary-epidemiologic station directly supervise and participate in this work.

Systematic inspection of sanitation in inhabited areas and the other places mentioned above is essential to prevent the outbreak of epidemics. The antiepidemic program of the district must also include specific measures to deal with individual infectious diseases. For example, in connection with intestinal infections, it is vital to protect the water supply, build and correctly maintain toilets, remove and decontaminate impurities, combat flies, observe personal hygiene, and discover and treat bacillus carriers.

To combat malaria, it is necessary to drain swamps and destroy mosquitoes, report and treat all cases of the disease, and in the fall provide treatment against recurrence of the disease in individuals who have already had it, etc.

Some of these measures cannot be effectively implemented by the district medical workers alone. The community as a whole together with the local soviets, farm and machine and tractor station managers must do their share.

Active immunization of the people by vaccination is carried out in accordance with the sanitary-epidemiological station's plan. The carriers of dysentery, typhoid, etc., are reported, treated, and, in the case of those working in dairy farms, children's institutions, restaurants, or other places where food is handled, transferred to other jobs.

In order to eradicate foci of infection, it is necessary that timely epidemiological checks be made, that people in contact with those suffering from infectious diseases be kept under observation, and that disinfection of the area and prophylactic vaccinations be carried out. All patients with infectious diseases must be isolated and transported to the hospital or promptly treated in their homes.

A highly important function of rural medical institutions is to provide care during the sowing and harvesting campaigns. The staff makes preparations in the winter long before the field chores begin. It is responsible for insuring adequate sanitation in the field camps. The plans must include the following measures: (a) sound location for the camps and construction; (b) sanitary arrangements — for showers, dining halls, pure drinking water and food; (c) sanitary disposal of garbage and sewage (by burning or burial in special pits); (d) opening of seasonal nurseries and children's playgrounds; (e) training of nursery workers, cooks for brigade dining halls, etc. These tasks are largely performed by middle echelon personnel — feldshers, midwives, and nurses.

Due to increasing mechanization the prevention of injuries and proper organization of first aid under field conditions are extremely

important. Medical personnel must be familiar with the causes of injuries and conditions of agricultural work and together with the farm and machine and tractor station managers try to eliminate the causes.

The farm hands must be taught the elements of personal hygiene and safety arrangements as a means of accident and disease prevention. They also need to know self-aid and mutual aid. This information can be imparted in one-year training courses for farm leaders, in crop and zootechnical courses, etc.

First aid facilities must be set up as close to the workers in the field as possible, thereby helping to prevent skin infections and complications in injuries. During the season the feldsher and nurse must come to the fields daily both to render first aid and to carry out prophylactic measures.

The principles of first aid should be taught in the winter to leaders of field teams and drivers of tractors and combines who work at considerable distances from medical stations. If provided with first-aid kits, they can help themselves or others in case of injury.

Before work in the fields begins, persons with malaria are treated for possible recurrence, steps taken to give other jobs to farmers found during a medical examination to be suffering from a disease, and work conditions rendered sanitary.

Sanitary posts are organized from among workers of the various brigades in order to administer first aid. They are taught the basic principles and supplied with medicines, bandages, and stretchers.

There are different kinds of sanitation activists (health workers) in the villages — sanitation representatives, members of sanitary posts, active members of the Red Cross and Red Crescent. The organization, training, and direction of these activists are carried out by rayon medical institutions (rayon sanitary-epidemiological station), rayon committees of the Red Cross and Red Crescent, and district medical workers.

Besides those in field camps, sanitary posts are set up in machine and tractor stations, state farms, collective farms, schools, and hostels. Their job is to give first aid before the doctor comes, carry on hygiene propaganda, and check on sanitary conditions in the places where they work.

Rural sanitation representatives constitute a multimillion man army of aides to medical workers. Selected from among the literate, leading collective farmers or other agricultural workers, they help to carry out general hygienic, antiepidemic measures.

Hygiene propaganda which is the obligation of every medical institution, physician, feldsher, midwife, and nurse carry on, is particularly important in rural areas because of the prevalent superstitions, prejudices, and unhygienic practices and traditions. The program is extremely varied. Depending on the pattern of morbidity, it necessarily deals with infections and other diseases, the health of mothers and children, accident prevention, alcoholism, sports, and physical culture. The campaign must be waged not only within the walls of medical institutions, but also at great distances — in field camps, hostels, clubs, reading rooms, and libraries.*

The Rural Rayon Hospital

The rural rayon hospital is the main center of specialized medical assistance for the farm population. According to the regulations of the Ministry of Health, USSR (decree no. 369, 15 September 1947), the rural rayon hospital (with outpatient department or polyclinic) is the only medical institution furnishing specialized services on both an inpatient and an outpatient basis. It also supervises the district hospitals jointly with the rayon sanitary-epidemiological station. The rayon hospital is required to devise and execute antiepidemic and medicoprophylactic measures aimed at decreasing the rayon's morbidity rate and combatting tuberculosis, cancer, skin and venereal diseases, etc. (Figure 2h).

The structure and staffing pattern set up by the Ministry of Health, USSR, for rural rayon hospitals (decree no. 278, 27 March 1952) provides for five categories of these hospitals — 150, 100, 75, 50, and 25 beds — depending on the size of population and area of jurisdiction.

A rayon hospital maintains inpatient facilities with specialized departments or wards (in small hospitals) and polyclinics for the different branches of medicine. As a minimum each hospital has departments for medical, surgical, maternity, and infectious disease cases, wards for children and tuberculous patients, and the appropriate number of staff physicians who also work in the polyclinic. The polyclinic of a rayon hospital must have a dental section. The hospital generally has X-ray and physiotherapy rooms along with a diagnostic laboratory.

Patients living in a district within the jurisdiction of a rayon hospital are accepted directly by the hospital. Patients living in other districts, however, are referred to the rayon hospital by physicians of district hospitals or other medical institutions within the rayon.

* Cf. Chapter 8 for the methods of hygiene education and the work of sanitary activists.

District physicians send patients to the rayon hospital when they cannot be given specialized treatment locally or when they require consultation, X-ray or laboratory services.

Specialists in the rayon hospital are widely used in clinics throughout the rayon.

Combining the main types of specialized medicoprophylactic facilities, the rural rayon hospital is the rayon center both for information on organization and methods and for direction of the rayon's medical work. The latter is effected in different ways, the most useful being direct, personal, systematic contacts between specialists of the rayon hospital and district medical workers. The specialists regularly visit the districts, meet with patients, sometimes perform operations or other specialized procedures in the local hospitals, and introduce new techniques of research and therapy.

The rayon hospital strives to increase the competence of district physicians by organizing regular conferences in the hospital on various scientific, practical, and clinicodiagnostic topics. Depending on its size, the hospital may provide facilities and advanced training for district physicians temporarily released from their regular work by the oblast health department. It plays a particularly important role in developing the skills of middle echelon personnel -- the feldshers, midwives, and nurses. For example, several rayons in the Moscow oblast use the following time-tried method of training these people. According to the plan worked out by the chief physician of the rayon hospital jointly with the head of the rayon health department, two or three feldshers or midwives come to the rayon hospital for one month (144 class hours), while their places are taken for this period of time by probationary nurses from the hospital. Thus, although rural medical workers may be studying full time while on temporary leave, there is no break in the medical care of the population.

Another approach, involving only partial release from work, requires the rural medical workers to spend an entire working day once a week in the rayon hospital, returning in the evening to their duty station. This cycle lasts for 5 or 6 months (a total of 144 class hours). The chief physician of the hospital organizes the courses and assigns the students to various physicians on the staff, enabling them to spend a certain number of hours in each department of the hospital.

Large, well equipped rayon hospitals can also help district hospitals to train laboratory technicians, physiotherapy, dietary, and surgical nurses.

The facilities, courses, and conferences set up for middle echelon personnel greatly contribute to the growth of their knowledge and skills.

The Oblast Hospital

The most advanced forms of therapeutic and diagnostic service is furnished the rural population by oblast hospitals, tuberculosis, oncological, and other clinics.

The oblast (kray, republic) hospital, which is found in every oblast (kray, republic), is the leading medical institution. It often houses the clinics of medical institutes, which further improves the quality of its therapeutic and diagnostic work. The most prominent specialists of the oblast (surgeons, internists, pediatricians, obstetrician-gynecologists, etc.) usually work here.

The oblast hospital has departments in all the clinical specialties, X-ray rooms (diagnostic and therapeutic), diagnostic, serologic, and biochemical laboratories, electrocardiography room, and pathological-anatomical department.

The oblast hospital also has polyclinic facilities to match the inpatient departments.

In some cities the oblast hospital functions both as an oblast center and as a municipal hospital. However, its main task is to furnish the rural population of the oblast with specialized medical services. Patients living in rural medical districts are referred to the oblast hospital by the rayon or directly by the district hospital if a definitive diagnosis cannot be made locally, if there is need of further clinical investigation or consultation with or treatment by a urologist, neurosurgeon, otolaryngologist, ophthalmologist, etc. Special accommodations are provided for patients who come from remote rayons for consultation or specialized outpatient treatment.

The services of oblast specialists are available not only in the oblast hospital, but locally in the rayon and rural medical district. These physicians make trips there and carry on a great variety of therapeutic and teaching work. They meet with patients, instruct district and rayon physicians in the latest techniques of research and treatment, help local specialists to organize clinical check-ups, arrange conferences on scientific and practical subjects, etc.

Besides the scheduled visits of specialists, the oblast hospital offers emergency aid by means of the ambulances and airplanes it has at its disposal. The planes are used to bring patients from outlying districts when local assistance is insufficient.

The oblast hospital is also responsible for helping public health agencies and rural medical institutions in matters related to methods, organization, and advanced training of physicians and middle echelon personnel. The assumption of these duties marks a qualitatively new stage in the development of oblast hospitals, which are now required to:

- (a) Study the condition and structure of the medical facilities furnished by rayon and district hospitals, to produce and analyze statistics on sickness in the oblast, to study the pathology of the kray;
- (b) Schedule visits to the rayons of the oblast by various specialists for the purpose of organizing scientific and practical conferences, consulting with local health departments on methods and organization, and assisting hospital physicians to raise the quality of medicoprophy-lactic work;
- (c) Consult on problems related to the organization and structure of hospital and extrahospital assistance;
- (d) Analyze the work of rayon and district hospitals and present the results to those concerned, submit to the oblast health department proposals for improving medical and sanitary services and lowering the morbidity and mortality rates.

The cabinet for organization and methods found in every oblast hospital is the chief organizer and participant in this work.

Another highly important function of the oblast hospital is to train specialists and improve the skills of doctors and middle echelon personnel. It is responsible for the so-called primary specialized training of young physicians and the routine work of enhancing their skills.

This training assumes various forms, as elaborated over the years. Facilities are provided for physicians to spend from 3 to 6 months in the oblast hospital on leave from their regular jobs studying various aspects of clinical and diagnostic work. Or they may take courses one day a week while continuing their regular work. The physicians may attend conferences on scientific and practical problems held in the oblast center or in the rayons and towns of the oblast (rayon and interrayon conferences) where oblast specialists read papers and give lectures.

Of equal practical significance in satisfying the needs of rayon and district hospitals is the training of middle echelon personnel. The oblast hospital gives specialized and advanced courses to laboratory and

X-ray technicians, surgical nurses, nurses for X-ray, physiotherapy, and electrocardiograph rooms. It gives instruction in nutrition, medical physical culture, massage, etc.

Other oblast institutions (tuberculosis, venereological, oncological and other clinics, sanitary-epidemiologic stations, etc.) carry on similar work.

Training programs for middle echelon personnel are also made available locally. For example, the M. F. Vladimirovskii Scientific Research Clinical Institute of the Moscow Oblast, which functions as an oblast hospital, systematically schedules trips to rayon centers by its specialists to set up theoretical and practical courses in accordance with a certain program. These courses may also be taken by technicians from the neighboring rayons.

The combined efforts of all three elements making up the USSR network of medicoprophy-lactic institutions — district, rayon, and oblast — make it possible at this stage in the development of medicine to furnish comprehensive and expert medical service to the toilers in rural economy of our country.

CHAPTER 5

PROTECTION OF THE HEALTH OF WOMEN AND
OBSTETRICAL FACILITIES

As a result of the Great October Socialist Revolution, the USSR was the first country in the world to grant women equal rights with men. Article 122 of the USSR Constitution not only secures for women the right to work, rest, and education, but also guarantees their use of these rights: "Women are afforded equal rights with men to work, payment for work, rest, social insurance, and education, state protection of the interests of mothers and children, state aid to mothers of large families and to unmarried mothers, leave with pay during pregnancy, maternity hospitals, day nurseries, and kindergartens."

The Soviet system of protecting mothers and children includes not only medical institutions, but also laws to regulate women's labor, the work of pregnant women and nursing mothers, social and legal services to safeguard marriage, the family, and guardianship. Then too there are the trade unions and other social organizations which are concerned with helping women to rear their children.

The wiping out of unemployment, the use of women in all branches of the national economy and culture, and the unrestricted right to take up any profession or specialty have created the preconditions for women to enjoy an independent and secure life while bringing up their children.

The state systemically passes laws to encourage mothers and protect children. In recognition of its responsibility, the government by decree of the Central Executive Committee and Council of People's Commissars, USSR (27 June 1936) increased the amount of financial aid available for the education of children, gave grants to mothers of many children, considerably expanded the network of day nurseries, maternity hospitals, and kindergartens, stiffened criminal penalties for nonpayment of alimony, and changed the laws on divorce to strengthen the Soviet family.

The socialist government's concern for mothers and children found clear expression in the order of the Presidium of the Supreme Soviet, USSR, 8 July 1944 "On Increasing State Aid to Pregnant Women, Mothers of Many Children and Unmarried Mothers, Strengthening the Protection of Mothers and Children and On Awarding the Honorary Title 'Mother-Heroine' and Establishing the Order 'Honor of Motherhood' and the Medal 'Medal of Motherhood.'" In accordance with this decree, issued during the Great Patriotic War, the government appropriated vast additional sums of money to aid mothers of many children and unmarried mothers, to expand the network of medical institutions, and increase the privileges

of pregnant women and mothers. "Concern for children and mothers and for strengthening the family," this decree states, "has always been a main objective of the Soviet government."

The Twentieth Congress of the Communist Party of the Soviet Union paid a great deal of attention to problems concerning the education of children. The decision to increase by 1960 the number of places in day nurseries by 14% and in kindergartens by 45% provides a good start in the enormous task of providing education in state nurseries and kindergartens for all children of nursery and preschool age whose parents want it.*

The decision of the Twentieth Congress "to improve the working and living conditions of working women" was clearly reflected in the Order of the Presidium of the Supreme Soviet, USSR, 26 March 1956, "On Extending Pregnancy and Maternity Leave" from 77 to 112 calendar days.

Due to elevation of the material and cultural level of workers, protection of female labor, and activity of medical institutions caring for mothers and children, the morbidity and death rates of women and children in the USSR dropped sharply as compared with the prerevolutionary level. In 1913 Tsarist Russia had only 19 day nurseries with 550 beds and a few consultation centers with a total of 6,800 maternity beds capable of accommodating only about 1% of all women in childbirth. The network of medical institutions began to expand rapidly only after the Great October Socialist Revolution. The most important components are the women's consultation centers, children's hospitals with children's consultation centers and polyclinics, and day nurseries.

Order no. 870 of the Ministry of Health, USSR, resulted in the merger from 1949 on of maternity hospitals and women's consultation centers and in the setting up of gynecological departments in maternity hospitals. After unification the maternity hospital became a general institution providing women with all kinds of obstetrical and gynecological help — outpatient (polyclinic, women's consultation center) and inpatient. The maternity hospital works on the district principle. A city district hospital has 1 obstetrician-gynecologist and 7.2 maternity beds per 4,000 of population. Depending on the size of population and jurisdictional area maternity hospitals have 150, 120, 100, 80, 60, 40, or 20 beds.

In addition to the specialized hospitals, the maternity departments of general city and rayon hospitals also furnish obstetrical and gynecological services.

*S. Khrushchev, Report to the Central Committee, Communist Party of the Soviet Union, 20th Congress of the Party, State Publishing House for Political Literature [Gospolitizdat], 1956, p. 96.

Women's Consultation Centers

A woman is kept under observation by a consultation center from the time she becomes pregnant until she gives birth. The center teaches her hygiene and gives her whatever medical aid she may require during pregnancy and after she gives birth. It prepares her for motherhood and instructs her in infant care.

Consultation centers in maternity hospitals serve women in their homes. In addition, medical units provide comparable facilities for working women at their place of work.

Observation of pregnant women. The center must try to reach every pregnant woman in the rayon. Accordingly, it has to be in close touch with the people. Through mass propaganda in homes, farms and factories, the staff explains to women the need of coming to the center.

Health stations and industrial medical units play an important role in explaining the work of consultation centers and urging pregnant women to visit them. The centers issue medical certificates for pregnancy and childbirth, pregnancy certificates for release from overtime work, etc.

A healthy woman during normal pregnancy visits the consultation center 6 to 8 times, or an average of once a month. If for some reason she fails to keep her appointments, the center seeks to find out the reason by sending a visiting nurse or a midwife to the woman's home.

It is particularly important for a woman to try to come to the center during the first three months of pregnancy, thus permitting a determination to be made of the term. This is necessary in connection with pregnancy leave and to make an early diagnosis and institute prompt treatment for any pathological condition that may be present. Working women have leave beginning 56 days before and ending 56 days after childbirth. In the case of abnormal childbirth or the birth of two or more babies, postnatal leave is extended to 70 calendar days.

The consultation center is judged by such factors as the month in which pregnant women first come under observation, the number of subsequent visits, the services extended to the women, and the results of pregnancy with respect to the number ending in normal, full term babies.

The center maintains a continuous check by gynecological examination, measurement of blood pressure, urine and blood analyses, Wasserman reaction, etc. Women found to be suffering from diseases of the internal organs or other conditions are referred for treatment to the appropriate specialists in the rayon or city hospital. Special attention is paid to women suffering from tuberculosis or venereal disease. They are sent as a rule to tuberculosis or venereological clinics for registration and treatment.

All the information derived from medical examinations, laboratory tests, and the doctors' conclusions are entered into the case history and on the personal card of the pregnant woman. The card goes to the maternity hospital when she is admitted.

Hygiene education. The center must teach pregnant women essential hygienic habits and methods of infant care. For this purpose it arranges private talks, public lectures and exhibits, distributes books and pamphlets, and sets up a "school for mothers" with a well defined program of studies.

Exhibits constitute a form of hygiene propaganda that should be set up in every consultation center. They can be made up of posters, sketches, and slogans illustrating such things as infants' clothing, objects used in the care of infants, a properly built bed, etc. The workers of the center aided by volunteers can easily prepare these materials.

A major task of the woman's consultation center is to reduce the number of illegal abortions. Believing that it is up to the woman herself to decide whether or not she wants to become a mother, the government withdrew its prohibition against abortions. According to the Decree of the Presidium of the Supreme Soviet, USSR, 23 November 1955, an abortion may be performed -- but only in a hospital -- on any woman who requests it upon the order of a consultation center or hospital physician. Abortion is prohibited when the woman's health would be endangered thereby (e.g., in the case of an acute infectious disease or inflammation of the sexual organs, etc.).

Consultation centers must try to reduce the number of abortions by propaganda, increasing the amount of social and legal assistance available to mothers, and teaching the use of contraceptives. Women must be told by the staff that abortions, even when performed in hospitals, may affect their health adversely.

Abortions performed outside of hospitals, whether by doctors or by other individuals, are strictly forbidden and punishable by criminal penalties.

Social and legal services. The consultation center also concerns itself with the legal rights and interests of mothers and children. It therefore has on its staff lawyers to advise mothers how to get allowances for having many children, pensions, and social insurance. The lawyers help in matters pertaining to labor protection, transfers when needed to other jobs, and leave, and represent them in court. They arrange for placement of children in nurseries and kindergartens to make the everyday life of mothers easier. The social and legal staff maintains liaison with factory and plant committees, industrial

managers, institutions of various kinds, hostels, etc., to effect improvements in the material conditions of the women for whom they are responsible. They are particularly concerned about unmarried mothers and women whose financial, home, and family circumstances are unusually difficult.

The social and legal staff relies heavily on visiting nurses and midwives who encourage women to come to the center, observe them systematically, investigate their working and home conditions, teach hygienic practices and infant care, check on whether the women are following the doctors' instructions.

Women are visited for social as well as for medical reasons, particularly those in unusually difficult financial straits, unmarried mothers, and mothers who have given birth for the first time. The nurse is very sympathetic and becomes the friend and advisor of these women.

The visiting nurse plays an important role in persuading women to undergo preventive medical examinations.

Gynecological facilities. Women are given post-partum care by being kept under clinical observation and treated for whatever conditions may be troubling them either on an inpatient or outpatient basis. The consultation center records gynecological diseases diagnosed and registered in its rayon. Cancer and precancerous conditions of the sexual organs have come in for a good deal of attention in recent years. Accordingly, the maternity hospital conducts mass prophylactic examinations of working women and housewives over 35 years of age. Those in whom a malignancy is found are promptly hospitalized for radical treatment. Those suffering from precancerous diseases are treated and kept under observation by the consultation center.

Obstetrical Facilities

Obstetrical facilities are the next link in the chain of services to pregnant women. Women in cities and workers' settlements today are hospitalized when about to give birth. In the villages, however, births to some extent still take place at home with medical assistance (of midwives). The increasing number of maternity beds in the country, particularly in collective farm maternity hospitals, is providing hospital facilities for ever larger numbers of women. In outlying districts and certain rural areas it is still possible to find a handful of women not making use of these facilities even though they are readily available. This is principally due to the fact that the medical institutions, consultation centers, midwives, and district workers are not carrying out effective educational work to induce women to go to the hospital. A contributing factor is the poor distribution of maternity beds.

The specific, frequently emergency character of obstetrical assistance makes it imperative that it be maximally accessible to the population.

The Maternity Hospital

A maternity hospital must satisfy the same general requirements as a regular hospital, and it functions in more or less the same way. It has a department for normal births and a department for women with fever (doubtful). Each department has its own reception and admissions unit, lying-in unit (labor, delivery and operating rooms), postnatal wards and wards for the newborn babies. In addition, there is an isolation area with separate entrance and facilities for women suffering from puerperal septic diseases. In a small maternity hospital where it is impossible to construct a self-contained section for these women, the institution is required to provide special wards that are fairly isolated from the other areas. The maternity hospital may also have an observation department or wards for women with pathological conditions and a gynecological department (Figure 25).

Prevention of infections. The physiological processes of birth heighten the susceptibility of parturient women to infections. It is very important therefore that all the rules of hygiene be strictly observed in a maternity hospital. Each woman applying for admission is questioned and given a preliminary superficial examination after which she is sent to the examining room of either the normal or doubtful department. To the latter come all women with a temperature above 37.5° and an undiagnosed infection, women having a miscarriage, women suffering from syphilis or gonorrhoea or a contagious skin disease (favus, scabies), etc.

In the examining room a midwife looks over the women and takes whatever measurements are required. The women are given a special antiseptic treatment before being admitted to the labor room. In order to prevent infection all the rules of hygiene must be carefully observed with respect to the person of the women, their beds, and everything with which they may come into contact. They are provided with individual bedpans and other necessities. It is absolutely forbidden to visit women while they are in the maternity hospital.

In the event of complications or a disease arising inside the hospital the women are transferred to the doubtful or septic department. Mothers are generally moved with their babies in order to effect the maximum isolation of sick women from healthy women.

Women may not be discharged from the hospital until they (and their babies) are completely well, usually 8 or 9 days after a normal delivery with no ensuing complications. The hospital shows its concern to the very end, as it permits no mother to leave unless there is someone to take her home. If not, the hospital provides an escort.

Care of women in childbirth. A satisfactory outcome depends largely on the care given the women, timely treatment, and prevention of complications. Women's consultation centers play a major role in ensuring normal pregnancy and birth. If pathological conditions are detected, the women are promptly hospitalized. The merger of consultation centers and maternity homes has provided for close cooperation in keeping the women under continuous operation.

Of great significance in deliveries is the now widely used method of painless birth through psychoprophylactic preparation of the parturient women, which is based on the principles of Pavlovian physiology. This preparation is begun by the consultation center during the final weeks of pregnancy and continues in the hospital right up to the time of delivery. It consists not only of the physician's private talks with the women individually, but also the hospital background -- quiet, relaxation, concern and encouragement on the part of the staff to inspire confidence in a happy outcome, etc.

Care of the newborn. Maternity hospitals set aside children's rooms for the newborn. This not only protects them against infections through maintenance of adequate hygiene, but also affords mothers the quiet they need. The infants are taken care of by the pediatrician and special nurses.

The maternity hospital is responsible for the life and health both of mothers and of their babies. It is a well known fact that most of the infants who die before they are a year old do so during the first few days after birth, i.e., while they are in the hospital. The reason is that the act of birth involves an abrupt transition from the intra-uterine environment to the outer world to which the young organism is not yet adapted.

The care accorded infants, particularly in preventing infections, is a decisive factor in keeping them alive. For example, antituberculosis vaccination of the newborn is now compulsory.

Premature infants must be kept in a special nursery and handled with extreme care. The experience of our better hospitals has shown that with good care infants weighing as little as 900 to 1,000 g. can survive.

Most deaths of the newborn result from pneumonia, asphyxiation, hemorrhages due to birth traumas, and septic diseases. Thus, proper care includes maintaining a constant temperature of between 22 and 24° in the wards, individual heating of the cribs of prematurely born infants, prevention of asphyxiation by high pillows and the use of oxygen, frequent feeding (7 or 8 times in 24 hours) the first time through a tube, and, finally, prevention of infections. The newborn

must not be allowed to touch one another. Those attending them are required to wear sterile masks and strictly observe all the rules of hygiene pertaining to the care of the newborn.

Birth injuries are a major cause of deaths. They can be largely avoided by carefully watching the mother during delivery.

Statistics show that the mortality rate differs markedly from hospital to hospital. This is undoubtedly due to the differing standards of care given the babies.

The maternity hospital notifies the children's consultation center of every birth, giving the date, name, and address, and special instructions if the child was born prematurely, is sick, a twin, etc.

Since childbirth is a normal physiological act, every death of a woman or infant must be regarded as an extraordinary event. An autopsy must be performed to ascertain the cause, and the case thoroughly discussed at medical conferences. The cause of death of women in labor are noted in reports. Deaths from puerperal infection or umbilical sepsis are intolerable. These testify to poor organization and violation of the rules of asepsis by the maternity hospital in question.

Maternity Hospital Reports and Work Indices

A maternity hospital submits an annual report to the rayon (city) health department containing a passport part and sections dealing with the activity of the consultation center, inpatient department, and auxiliary services.

The passport part gives a detailed picture of the structure of the institution, its staff and equipment. In the section of activities of the consultation center mention is made of the number of pregnant women served, abortions, and gynecological diseases. Visits to middle echelon personnel as well as to doctors are tabulated.

The report presents a complete analysis of the pregnant women, when they first came for assistance, and the outcome of the pregnancies. It cites the number of gynecological diseases detected in the area served by the consultation center, and the results of prophylactic examinations.

The section on hospital activity analyzes the use of the available beds and composition of the patients. Data on complications in childbirth, post-partum diseases, surgery, and diseases of the newborn are given in detail. This information is helpful in evaluating the scope and quality of the maternity hospital's work. The following are the basic indices of the consultation center and inpatient department:

(a) Visits to consultation centers -- The average number of visits per pregnant woman before and after delivery (calculated by dividing the total number of visits before and after delivery by the total number of women who gave birth during the period under review);

(b) Time of visits by pregnant women to the consultation center -- ratio of the number of women up to 3 months pregnant coming under observation to the total number of pregnant women registered;

(c) Time of maternity leave -- ratio of the number of pregnant women who gave birth 11 or more days earlier or later than the regular term to the total number of pregnant women who received maternity leave;

(d) Extent of hospitalization of gynecological patients -- ratio of the number of patients hospitalized for each disease to the number of diseases registered;

(e) Results of prophylactic medical examinations -- ratio of the number of women with gynecological diseases or malignancies to the total number of women examined.

These are some of the qualitative indices used in evaluating the work of the inpatient department:

(a) Frequency of complications during childbirth and post-partum diseases -- ratio of the number of different complications and diseases to the total number of babies delivered (special attention must be paid to cases involving hemorrhage, laceration of the perineum and uterus, genitourinary and intestinal-vaginal fistulas, and septic diseases);

(b) Morbidity of the newborn -- ratio of the number of individual diseases of the newborn to the total number of babies born alive;

(c) Mortality of mothers -- ratio of the number of women dying to the number of babies delivered;

(d) Mortality of babies -- ratio of the number of babies dying to the number born alive;

(e) Percentage of premature babies among full-term babies -- ratio of the number of premature babies born alive to the total number of babies born alive;

(f) Percentage of stillborn babies -- ratio of the number of still-born babies to the total number of babies born.

Such indices are computed for the gynecological department as: fatality rate, average term of bed occupancy, amount of surgery for the various gynecological diseases.

CHAPTER 6

ORGANIZATION OF MEDICOPROPHYLACTIC FACILITIES FOR CHILDREN

Medicoprophyllactic facilities for children are furnished by children's hospitals with children's consultation center and polyclinic, the children's department of a general hospital, children's sanatoria, etc. The children's hospital is the principal institution (Figure 26). In its absence the children's consultation center and polyclinic are combined with the children's department of a general hospital. The merger of consultation centers, polyclinics, and hospitals has made it possible to organize services for children in accordance with the so-called single pediatrician system. Prior to the merger there were consultation centers for children up to 3 years old and separate polyclinics for children from 4 to 14 years old, an arrangement that satisfied neither the doctors nor the people. For example, if two children of different ages in the same family were ill with the same disease, say measles, they were treated by two physicians from different institutions (consultation center and polyclinic) who frequently acted independently of one another even though the situation called for uniform therapeutic and prophylactic measures.

The amalgamated children's hospitals now operate on the district principle within the framework of a single standard urban district served by a pediatrician (medical rating of 1.25). This district pediatrician treats children of all ages, from birth to 14 years. In a district of 4,000 population there are about 1,000 children, of whom one fourth are 2 years old and younger. The pediatrician is assisted by one or two nurses who work in the consultation center as well as come to the homes of the children.

This physician normally works under the so-called three-link system (hospital - polyclinic - home). Where the district has a great many children or is sparsely settled, the preferred method is alternation, i.e., one pediatrician works for a few months only in the district (polyclinic, house visits) while another works in the hospital. Then they exchange places.

Children's Consultation Centers and Polyclinics

The merger of consultation centers and polyclinics with hospitals and the organization of care for all children in the district under a single pediatrician should not obscure the vital role of the consultation center.

The center is essentially a clinic for infants and young children who are kept under observation from the minute they are born until they are three years old. Since centers are found all over the USSR, they

embrace the entire younger generation and are the major element in the campaign to lower the sick and death rates of children. Through propaganda they increase the people's knowledge of health and develop good hygienic habits while combatting deeply rooted prejudices and customs (baby's pacifier, keeping children too warmly dressed, fear of fresh air especially in the winter, additional food during weaning, unsanitary conditions at home, etc.).

The consultation center is responsible for the health and life of every child under its supervision. Hence, the basic indices of its work are the sick and death rates of the children it serves.

In order to reach all the children, the center must have accurate information about every birth in the rayon. It is the duty of maternity hospitals to send the pertinent data to the center every day.

After a physician examines a child and familiarizes himself with the sanitary conditions prevailing in its environment, the physician draws up an individualized plan. The first visit to a newborn infant must be made by the physician in the child's home. Visits are made systematically throughout its first year of life.

Infants cannot be properly raised by medical advice given to mothers in the consultation center alone. Mothers have to be given practical instruction in child care and actual help at home. In addition, the child's health must be systematically observed and efforts made to see that the doctor's orders are carried out and that the mother visits the center regularly. This work is the responsibility of visiting nurses.

These nurses are chosen from among the most experienced and competent nurses who love their work. They are the principal assistants of the district pediatricians and make home visits as assigned. Each visit and the work done is recorded on a special form for the information of the physician.

The consultation center is especially concerned with women who have given birth for the first time, women whose home circumstances are difficult, sickly children, twins, or prematurely born infants. The visiting nurse is required to see them as often as possible beginning right after birth until things become normal again.

It is highly desirable for the nurse to visit a future mother even before the baby is born so that she can start to train her early in infant care and call on her the first day she returns from the hospital.

Close liaison between the children's consultation center and the women's consultation center ensures that all concerned are informed about every woman in the final stage of pregnancy.

Efforts must be made to persuade mothers and children to come to the center regularly. An infant should be brought there at least twice a month for the first 3 months after it is born, once a month during the next 9 months, and once every 3 months thereafter. If the infant is not brought to the center, the visiting nurse must find out the reason why. The center weighs and examines the child, prescribes the diet according to age and condition, and gives preventive inoculations.

The center usually has an infant-feeding station or distribution point to furnish milk and other baby food. There are also some stations to collect breast milk for children whose mothers are unable to supply their own due to illness.

As described above, consultation centers carry out extensive educational programs on the care of children, prevention of diseases, etc., as part of their normal activities. The children's and women's centers have legal advisers to protect the interests of mothers and children. The same social and legal staff may serve both centers at the same time.

A center combines treatment and prevention, thereby enabling the same physician and nurse to keep healthy and ailing children under continuous observation.

Efforts are generally made to provide separate arrangements for handling the younger and older children. If circumstances permit, it is advisable for the younger children to visit the consultation center, the older children to visit the polyclinic. If a district pediatrician has to treat children of all ages in the same place, separate waiting rooms should be set aside for the two groups. Neither the center nor the polyclinic should allow healthy children to come into contact with sick children due to the danger of infection. Healthy children must be examined in different rooms (with separate entrances) from those set aside for sick children. Before being allowed into the waiting room, all children, including the healthy ones, are screened by the nurse on duty who examines the mucous membranes of the nose and throat and the skin, takes the temperature, and inquires of the mother whether anyone at home has an infectious disease.

In departments for sick children, all the patients likewise pass through a "filter." Children suspected of having an infection are kept in isolation rooms where they are examined by a physician, after which the rooms are disinfected. Even in small consultation centers and polyclinics not equipped with rooms especially constructed for the purpose, the children must pass through the "filter" one at a time.

Children should be examined at home by a physician rather than come to a consultation center or polyclinic if they have an acute infectious disease, high temperature, severe intestinal disease, or if they have had contact with individuals suffering from an infectious disease.

The center provides a sick child with all kinds of specialized help including, when necessary, home visits by an otolaryngologist, ophthalmologist, surgeon, etc. Whether at home or in the clinic, the child is cared for by the same district pediatrician and the same district nurse.

When he discovers an acute infectious disease, the physician sets up a quarantine and hospitalizes the child. Together with the nurse he gives the necessary instructions to the members of the family, notifies the school, kindergarten, or nursery authorities as the case may be. The apartment of the sick child is disinfected and a special notification sent to the rayon epidemiologist.

Children's consultation centers and polyclinics carry out programs of preventive inoculations against diphtheria, dysentery, typhoid fever, measles, and the appropriate vaccination for children who may have contact with sick persons. The district pediatrician is required to be on the alert for carriers of bacilli so that they may be isolated and treated.

The consultation center maintains a history for each child in which pertinent information is recorded on its physical development, sicknesses, inoculations, etc.

The district pediatrician keeps under clinical observation older children who have had infectious diseases as well as those suffering from rheumatism, malaria, and tuberculosis.

The children's polyclinic draws up a general health plan for its rayon including: clinical observation of preschool and school children and working youths, selection of children for placement in sanatoria and health resorts, supervision of physical culture activities in the rayon and medical check-up of physical development, mass prophylactic inoculations, health campaigns, inspection of hygienic conditions in schools, kindergartens, and nurseries, improvement of home conditions, hygiene propaganda among the children, parents, and teachers.

In small towns and villages that have no special children's facilities, children and adolescents are handled by the general medical network. Almost every city and rayon hospital has a children's department and pediatric facilities. If not, the regular physician takes over, but he examines the adults and children separately at different

hours. The general network also undertakes mass prophylactic medical examinations of school children, vaccinations, inspection of sanitary conditions in schools, pioneer camps, etc.

Children's Hospitals

Children's hospitals must meet the same general requirements as regular hospitals, as set forth in the chapter "The City Hospital." But they have certain features of their own due to the child organism and the kind of diseases affecting it. It should be noted that almost half of all the youngsters in hospitals are suffering from a contagious disease (measles, scarlet fever, diphtheria, dysentery). Thus, the problem of preventing intrahospital infections and the quality of care afforded the young patients are of primary importance.

Infants are usually kept in special nurseries. Mothers remain in the hospital if they are breast-feeding their children.

Control of intrahospital infections starts from the moment a child is admitted. The admissions division makes a detailed epidemiological anamnesis regarding previous infections, vaccinations, possible contact with infected children in school, nursery, or at home. Depending on the data, the child is placed either in a general or an isolation ward. He is disinfected along with all the objects he may have touched.

Children's hospitals for infectious diseases have special wards with a partitioned space for each child.

The departments of a hospital must be isolated from one another, with separate entrances and permanent personnel who are not allowed to go from department to department. Each department has its own supplies, linens, dishes, toys, etc.

In the partitioned wards the various items like toys or thermometer are assigned to the individual patients. In the general wards they must be disinfected when passed on from one child to another.

An important factor in controlling intrahospital infections is the behavior of the staff, which must maintain strict discipline.

Sick children require special care, their recovery frequently depending on it. In children's hospitals nurses have this responsibility. They must be efficient, precise in their work, and faithful in carrying out the doctor's instructions.

Nurses must be alert and promptly report any changes in the children's condition to the doctor. Diet is important, hence both nurses and physicians must observe how the children eat and, if they refuse, find out the reasons why. Very small or weak children must be fed by the nurses.

Nurses in charge of sick children have to be exceptionally pleasant and attentive since many children find the hospital and separation from their parents unbearable. The children must be distracted and entertained.

Convalescent children need a program of study and play. Thus, many children's hospitals have special teachers on their staff.

Children's Hospital Reports and Work Indices. The annual report of a children's hospital goes into full detail on all aspects of its medical and prophylactic activities.

The report includes among other things the number of children under observation by the center by the various age groups (up to 1, 1 to 2, 2 to 3), children discharged and dead, visits by physicians and nurses to newborn infants (during the first 3 days after the mothers left the maternity hospital, children with a positive Pirquet reaction, local forms of tuberculosis, rickets, and chronic alimentary disorders (hypotrophy). These data are used to appraise the quality, regularity, and effectiveness of the institution's medicoprophyllactic services.

Consultation centers and polyclinics stress prophylactic inoculations (against smallpox, diphtheria, and tuberculosis) and treatment for worms. The report mentions the number of children subject to vaccination, revaccination, and examination for worms as well as the number actually revaccinated and treated for worms.

A detailed analysis is made of the results of check-ups of kindergarten and school children. Note is taken of the number of children suffering from tuberculosis, rheumatism, cardiovascular disturbances, decrease in acuity of hearing or sight, and speech disorders. The report also describes the prophylactic work of the dental clinic.

Visits by children to the polyclinic and home visits by the staff are recorded separately. Cases of infectious diseases and hospitalization are given special attention.

Other sections of the report present data, just as reports of other hospitals do, on the number of patients who recovered or died and the number of bed-days. There is emphasis on intrahospital infections and refusals of admission to the hospital.

The section "Composition of Patients and Outcome of Treatment" lists the diseases for which the majority of children were hospitalized (acute childhood infections, tuberculosis, rheumatism,

pneumonia, dyspepsia, etc.). In each category the figures are broken down into those for children up to one year old and those for children from one to two years old.

The report makes it possible to calculate the principal indices characterizing the quality of work of a children's hospital:

(a) Extent of visits to newborn infants -- ratio of the number of visits by doctors and nurses to the total number of infants up to one month old under observation by the center;

(b) Regularity of observation of children up to two years old -- ratio of the number of children up to two years old under systematic observation by the center to the total number of children of the same age living in the jurisdictional area of the center;

(c) Fulfillment of the plan of prophylactic inoculations -- ratio of the number of vaccinated and revaccinated children to the total number subject to vaccination and revaccination;

(d) Inclusiveness of medical examinations -- ratio of the number of kindergarten and school children examined to the total number attending the kindergartens and schools served by the hospital;

(e) Completeness in hospitalizing children with acute infectious diseases -- ratio of the number of hospitalized children to the total number sick;

(f) Timeliness of hospitalization -- ratio of the number of patients hospitalized during the first three days of illness to the total number hospitalized;

(g) Deaths of children by individual diseases (separately for children up to one year old, from one to two, and older, separately for children dying at home and in the hospital) -- ratio of the number of children dying in each group to the total number of diseases registered.

The number of older children is calculated by subtracting the number of children up to one year old and from one to two years old from the total number of children (column "Total").

Day Nurseries

Day nurseries are educational institutions for children ranging from 2 months to 3 years in age. They enable mothers to work and at the same time participate in the economic, cultural, social, and political life of the country. Their growth is closely related to the

expansion of the national economy and the increasing use of women in industry. The nurseries are both medical and social institutions in the development of which various government departments and trade unions are keenly interested. Therefore, economic organizations, certain ministries, unions, collective farms, social insurance agencies, and, of course, parents share in the construction and maintenance of these centers.

Nurseries are built by the ministries concerned at plants employing a large number of women -- 12 places per 100 female workers. Management and supervision are in the hands of public health agencies regardless of the department that may have jurisdictional or financial responsibility.

Types of nurseries. Nurseries are of seasonal or permanent character. The former are set up in rural communities during the summer, thereby enabling the mothers of young children to participate in the field work. Priority is given to the children of working mothers of large families, unmarried mothers, and disabled veterans of the Patriotic War.

Nurseries differ in organization and length of time the children remain there: day - up to 10 hours; extended day - up to 12 or 14 hours; round-the-clock. Shift nurseries are available for the children of women working in the day and night shifts. There are also rayon nurseries, which take care of children where the women live. Nurseries for breastfed children are necessarily near the women's place of work so that they can regularly come to their children during special breaks. Nurseries may have places for 120, 100, 80, 60, 45, or 20 children. The larger buildings (80 places and over) are directed by pediatricians, the smaller ones by middle echelon medical personnel trained for the job. In addition, the staff may include a physician (full or part time, depending on the size of the institution).

Organization of work. All children must be examined by a consultation center physician before they are admitted to a nursery. Those suffering from an acute infectious disease, gonorrhea, syphilis, trachoma, or tuberculosis in a contagious form are not accepted.

The visiting nurse or senior nurse of the nursery is required to visit the home of a child placed in the nursery in order to determine the absence of infectious diseases in the child's family or among those living with him in the same place.

The children are segregated by age groups, 18 to 20 older children, 15 to 17 younger children. Each group is supervised by a nurse and maid. The number of age groups varies with the number of children. In a nursery with four groups, the first has infants up to 9 months old; the second -- "sliders," i.e., children from 10 months to 1 year and 2

months old; the third - children from 1 year and 2 months to 2 years old; the fourth - children from 2 to 3 years old. When the children are few, they are divided into two groups: younger (unable to walk) and older (able to walk). Each group should have a separate section and entrance.

Nurseries have the following areas: dressing, reception, children's rooms with at least 2.25 square meters of space per child, play, sleeping, isolation, veranda for naps in the open air, toilets, kitchen, laundry, storeroom.

The work involves setting up a routine for each age group, feeding and teaching the children, providing medical care, and preventing infections. The nursery director and physician are responsible for the medical care and hygiene. A teacher is in charge of the educational activities. A group nurse and maid do the actual supervising of the children.

The length of time the children spend in the nursery depends on their mothers' hours of work. However, when a shift ends late in the evening, the children remain overnight so that they may have their normal sleep from 9 p.m. to 6 a.m.

Feeding the children. This is an extremely important part of the nursery's work. Efforts must be made to continue breast feeding as long as possible -- at least 5 or 5-1/2 months.

Soviet law requires nursing mothers to be released from their jobs every 3-1/2 hours for half an hour to feed their infants. Space is provided for this purpose in the reception room of the nursery where they may wash their hands and put on a robe before starting.

Children on a mixed diet get additional food from the nursery to take home.

Older children are fed according to a menu prepared every ten days by the physician, nursery director, and cook, with size of portion determined by the Ministry of Health, USSR, for the various age groups.

Proper physical development and weight gain constitute an important index of correct nutrition. All children must therefore be weighed frequently and those who are underweight given special attention.

Improvement of the nutrition of children in nurseries, just as in hospitals, depends largely on the initiative of the staff. Planting a garden of vitamin-rich plants (hip-bearing roses, black currants, spinach, blueberries, and others) serving of vitamin-rich drinks, etc., are among the things that can be done in this direction.

Sickly children, those with rickets or tuberculosis are given special handling -- extra food, naps in the open air, and treatment.

Medical care of children in nurseries. The children are systematically observed by a doctor or feldsher or midwife (in the country). They are examined before admission and during their stay, the older at least once a month, the younger at least twice a month. All pertinent health data (physical and mental development, nutrition) are noted in each child's history. The nurse is responsible for day-by-day observation. She records her impressions and reports to the doctor when he visits the nursery. On each visit the doctor or feldsher must check on the sanitary conditions and quality of the food.

A sick child is treated, depending on where he lives, by either the nursery or consultation center physician. Children with dyspepsia, conjunctivitis, stomatitis, pyodermitis, furunculosis, etc., are allowed to remain in the nursery provided they are kept in the isolation area, which must be away from all the others and have its own equipment and toilets. Permitting these children to remain in the nursery saves a considerable number of work days for the mothers who would otherwise have to be released from their jobs to take care of them.

Prevention of infections. The prevention of infectious diseases is an important function of the day nursery. Unfortunately, cases of intranursery infections are still fairly common. They constitute the main reason why nurseries are closed for a long time and their beds unoccupied. Newly admitted children and their families are carefully examined to prevent their introducing infections.

The nurse examines the children every morning on arrival. She checks the mucous membrane of the mouth and throat, takes the temperature, and, when undressing the children, inspects the skin for rashes. Those suffering from an infectious disease or suspected of having one are promptly sent home. If a child gets sick while in the nursery, he is kept in the isolation area until the doctor comes.

The nursery keeps in close touch with the consultation center. The center must immediately inform the nursery of every child with an infectious disease and of those close to the child. Bacteriophage treatment and vaccinations against smallpox, diphtheria, and measles are given in the nursery.

A group is quarantined when one of its members is found to have an infectious disease. Children in this group are not allowed to have contact with other children. A quarantine may be set up in a nursery for children with whooping cough, chickenpox, or mumps. Children with loose stools or chronic dysentery should also be kept apart. The quarantine system is important because it relieves working mothers of the need to nurse their sick children and thus saves them considerable time.

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If medical personnel in nurseries are careful to observe all the rules of hygiene and conduct an effective educational program among mothers, the children can be wholly safeguarded from infections.

The medical personnel too must be regularly examined. No one should be permitted to work in a nursery if he has an active case of tuberculosis, venereal disease, trachoma, a contagious skin disease like scabies, or is a carrier of bacilli (typhoid, dysentery, diphtheria).

Nursery Reports and Work Indices

The work of a nursery is measured by the extent to which the available beds are used. The number of days the children occupied the beds as well as the number of days missed, together with the reasons therefor, are noted in the daily journal. Information on the movement of the children is obtained from the admission records. A tabulation is made of the number of children admitted during the period under review, the number departing with the reasons therefor, and the number remaining at the end of the period. The most important indices of a nursery's work are:

(a) Use of nursery places -- ratio of the number of children on the rolls to the number of places in the institution;

(b) Use of nursery capacity -- ratio of the number of days the children used the beds to the planned number of bed days multiplied by 100.

The quality of a nursery's work is also evaluated from an analysis of the children's physical development, morbidity rate, the number of days the children were absent and the reasons therefor. Such reasons as illness or intranursery quarantine testify to poor care on the part of the medical personnel and inadequacies in prophylactic measures.

Children's Homes

Children's homes provide accommodations for orphans, children who have lost touch with their parents, children of unmarried mothers who, in accordance with the Decree of the Presidium of the Supreme Soviet, USSR, 1 July 1944, are entitled, in case of need, to place their children in these institutions, and children of sick mothers.

Children remain in these homes until they are 3 years old when they are released either to their parents or foster parents, or for adoption, or for transfer to preschool homes maintained by the Ministry of Education.

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The sanitary requirements, construction, maintenance, and organization of children's homes are largely the same as for nurseries. However, since the youngsters in these homes are isolated from the conditions and influences of the normal environment and have no family, their psychological, physical, and educational development calls for special attention.

It is very important that infants up to 6 months old be provided with breast milk, a main factor in the effort to control mortality in children's homes. Milk may be obtained from wet nurses or from maternity hospitals and consultation centers.

To control infectious diseases, aside from the measures mentioned in connection with day nurseries, children's homes are required to keep newly admitted children in quarantine until it is ascertained that they are not introducing infections. Any child suffering from an infection is promptly sent to the hospital. The homes provide isolation areas for sick children not requiring hospitalization.

All the children are regularly examined by a pediatrician.

CHAPTER 7

THE SANITARY-ANTIEPIDEMIC ORGANIZATION

The tasks of the sanitary-antiepidemic organization are determined by the fact that Soviet public health is governmental in character and preventive in emphasis. Sanitary measures are designed to improve the natural environment along with the living and working conditions of the masses whose active cooperation is required.

The health of the population is affected by unfavorable environmental factors. For example, the existence of swamps contributes to the spread of malaria. Negative macroclimatic and microclimatic conditions favor influenza and diseases of the upper respiratory tract. Incorrect nutrition, lack of hygiene, and poor food give rise to gastrointestinal disorders. Unhygienic working and living conditions are a source of skin infections, injuries in industry and at home. These examples can be multiplied at will. Unfortunately, the part played by the individual environmental factors in causing disease has not yet been fully elucidated. It is the prime responsibility of Soviet medicine to investigate in detail the role of the environment in inducing cardiovascular, endocrine, and metabolic diseases, cancer, etc., for only a knowledge of the etiology of diseases can lead to the development of effective methods of preventing them. Consequently, the successful control of sickness requires above all improvement of sanitary conditions in industry and at home, better nutrition, and elevation of the hygienic level of the masses.

Certain agencies have the job of guiding, planning, and coordinating all sanitary-antiepidemic measures in the USSR. Their practical work is closely associated with advances made by the science of hygiene in studying the influence of the environment on the human organism and setting up hygienic requirements and standards accordingly.

Sanitary-prophylactic work impinges on every aspect of life, every branch of the national economy. It would be impossible to lower the sick rate and raise industrial productivity without it. Proper sanitary arrangements in factories and farms are essential for the progress of our country, particularly in this period of transition from socialism to communism.

Advances in socialist industrialization, the building of new and rebuilding of old cities, the growth of urban organization, automation of labor in industry and agriculture, widening prosperity and elevation of the general cultural level of the Soviet people have created the necessary prerequisites for improving the health of our people.

However, improvements in sanitation and control of epidemics do not come about spontaneously. They are effected by state control and supervision, legislation, and establishment of compulsory norms and requirements based on scientific knowledge.

The directives of the 20th Congress of the Communist Party of the Soviet Union regarding the 6th five-year plan conceded the necessity of "improving labor protection and disease prevention for manual and office workers in industry and safeguarding the water, air, and soil from pollution by industrial emissions."

USSR legislation on sanitation provides for compulsory standards in the layout and construction of cities, factories, homes, medical institutions, schools, etc. It sets up norms for the installation of utilities in populated areas and factories, the sale of food products, antiepidemic measures, etc.

It is the duty of every manager of a factory, machine and tractor station, collective or state farm, school principal, teacher, etc., to concern himself with sanitation. Compliance with the pertinent regulations is as necessary for individuals as it is for institutions and organizations. Medical personnel have the chief responsibility for directing and checking on these matters. They are required to keep administrators and teachers informed of developments and to explain to them the significance of various measures proposed.

The inspection of water, air, and food involves the use of special methods and trained people -- sanitary physicians and feldshers.

Success in this field depends largely on extensive propaganda and enlisting the active support of the population. While all medical institutions, doctors, and middle echelon personnel take certain steps to cope with different diseases, overall direction of the work rests with the sanitary-antiepidemic organization.

Tsarist Russia had no single state-wide sanitary organization and no sanitary code. The government passed laws from time to time of police character to deal with certain epidemics. Local ordinances were haphazard, issued as a rule in connection with extraordinary events such as a cholera epidemic or famine. Only 20 zemstvo provinces had a health organization, which was staffed with an insignificant number of physicians (only 257 in 1913). From the meager sums set aside for medical services in prerevolutionary Russia (20 kopecks per person in 1910), only 5 kopecks per person were spent on sanitation. Although the zemstvo health organization is entitled to credit for its contribution to the development of sanitation (organized records on epidemic morbidity, introduction of vaccination, statistics relevant to the working and living conditions of the laboring and peasant classes), its scope and practical accomplishments were slight.

An extensive network of sanitary-antiepidemic institutions came into existence during the years of socialist construction. Its most important element is the sanitary-epidemiological stations of which we now have approximately 6,000.

The Sanitary-Epidemiological Station

The sanitary-epidemiological station carries on all the sanitary-antiepidemic work within its area of jurisdiction including direction, coordination, and inspection of the sanitary-antiepidemic activities of the other medical institutions. Each station consists of a sanitary-epidemiological division, sanitary-bacteriological laboratory, and disinfecting division (Figure 27). The sanitary-epidemiological division is made up of a sanitary section and an antiepidemic section. The sanitary-bacteriological laboratory has sections dealing with housing and communal sanitation, food hygiene, and bacteriological problems. The disinfecting division has a unit engaged in antiepidemic disinfection work.

Sometimes, if local conditions warrant, the station may have a parasitological division, which directs antimalarial and anthelmintic work as well as the activities designed to control measles, rabies, and brucellosis.

The laboratories of stations in large industrial cities have industrial-sanitary divisions.

Sanitary-epidemiological stations in the republics, oblasts, krais, and some cities (those under republic jurisdiction) have sections specializing in preventive sanitary inspection.

Sanitary-epidemiological stations are responsible both to local public health bodies and to the superior stations or agencies of the sanitary-antiepidemic service.

Sanitary-epidemiological stations register all cases of contagious, parasitic, and helminthic diseases, food and industrial poisonings, and occupational diseases. They conduct epidemiological investigations, arrange for the transportation and hospitalization of people with contagious diseases, inspect foci of infection, check on implementation of antiepidemic measures by the various medical institutions.

The disinfecting division carries out temporary and permanent disinfection of focal areas of disease, prophylactic disinfection, disinfection, deratization, and the appropriate treatment of persons who have come into contact with those suffering from a contagious disease and disinfection of their things.

The station conducts educational programs among the people designed to increase their knowledge and develop hygienic habits. It also organizes and trains sanitation activists.

Staffing Pattern of Medical and Administrative Personnel for a Rayon (okrug) Sanitary-epidemiological Station

Position	Category for a rayon with a population of		
	more than 60,000	from 30,000 to 60,000	up to 30,000
	I	II	III
I. SANITARY-EPIDEMIOLOGICAL DIVISION			
Sanitation physician for residential-communal sanitation	1	--	--
Sanitation physician for school sanitation	1	--	--
Sanitation physician for food hygiene	1	1	--
Physician-epidemiologist	2	1	--
Assistant to sanitation physician	6	3	2
Assistant to epidemiologist	3	3	2
Instructor in hygiene propaganda	1	1	--
Medical statistician	2	1	1
II. LABORATORY			
Director of laboratory - sanitation physician or physician-epidemiologist	1	1	1
Physician-bacteriologist	1	--	--
Laboratory technician	2	1	--
Laboratory technician-bacteriologist	1	1	1
Attendant	1	1	1
III. DISINFECTATION DIVISION			
Director of division - assistant to the epidemiologist	1	1	--
Attendant	1	--	--
Disinfection instructor in focal disinfection	1	1	1
Disinfection instructor in focal disinfection	4	1	1
Disinfection instructor in room disinfection	2	1	--
Total	32	18	11

IV. ADMINISTRATIVE-CLERICAL PERSONNEL

Chief physician	1	1	1
Secretary-typist	1	--	--
Office manager	1	1	--
Senior book-keeper	1	1	--
Total	4	3	1

Note: if the station has a sanitation inspector, the staffing pattern includes an additional disinfection instructor and two disinfectors.

The station provides expert advice on problems in hygiene and epidemiology, cooperates with all the medical institutions in its district, and conducts advanced courses for medical personnel.

A sanitary-epidemiological council serves as an advisory body on scientific methods to the head physician of the sanitary-epidemiological station.

The oblast, city, and rayon sanitary-epidemiological stations differ somewhat from one another. Each type is divided into three categories depending on the size of population served, number of inhabited places, and kinds of establishments in the area. The division of sanitary-epidemiological stations into types and categories determines both their structure and staffing pattern.

Preventive and Routine Sanitation Inspections

Preventive sanitation inspection ensures conformity with sanitary standards in the planning and building of industrial plants, public utilities and hydraulic works, health resorts, schools, etc.

Our country is now engaged in a major construction effort both in industrial and undeveloped regions. In the building or rebuilding of large cities or small inhabited localities the opinion of the sanitation physician must be as authoritative as the architect's. Construction plans and methods for inhabited areas must meet sanitary requirements with respect to water supply, baths, laundries, and personal service shops, protection against pollution of the air of residential sections and homes by industrial emissions, streets and sidewalks, landscaping, and garbage disposal. This inspection is carried out by sanitary-epidemiological administrations of the ministries of health of the union republics and divisions of preventive sanitation inspection of the republic, oblast, and city sanitary-epidemiological stations.

The stations have specialists on the different types of inspection required. There are state sanitation inspectors to check on the plans for populated places, safeguards against air pollution, industrial

hygiene, protection of reservoirs, water supply and sewerage, food hygiene, and sanitary conditions in schools. They cooperate with architects, engineers, designers, and builders in the planning stage of new projects (choice of place, layout, drawing up of the designs) and while the construction is in process.

Routine sanitary inspection of establishments in actual operation (factories, public buildings, schools, etc.) is the responsibility of sanitation physicians and their assistants in the several divisions of sanitary-epidemiological stations -- residential and communal, food, industrial, and school.

The residential and communal division inspects sanitary conditions in its jurisdictional area (city, settlement), individual homes and public buildings. It is charged with keeping the city clean, safeguarding water supplies by establishing sanitary protection zones for the water pipes and maintaining a systematic laboratory check on water purity, processing of sewage, safeguarding the air, inspecting sanitary conditions in water works, sewers, baths, barber shops. Following systematic observation, it requests the managements concerned to conform to the sanitary code and it follows up to see that the necessary corrective measures are taken.

The food sanitation section inspects all places engaged in the manufacture, sale, storage, consumption, and transportation of food (processing plants, meat packing plants, slaughter houses, dairies, markets, restaurants, snack bars). The staff checks on the quality of the food and acts to prevent food poisoning.

As part of the five-year plans, the giants of the food industry -- meat, fish, canning, refrigeration, bread -- grew swiftly to meet the needs of the people and the responsibilities of the food inspection agencies of the government mounted accordingly. The ministries engaged in the manufacture of food products created special services to check on sanitary conditions in the various industries. They work closely with and are supervised by the sanitary-epidemiological administrations of the health ministries of the union republics and the local sanitary-epidemiological stations. Inspection of poorly equipped plants is especially important.

Individuals suffering from infectious diseases or who are carriers of bacilli constitute a great danger to the public if they are employed in food plants, water works, bath houses, barber shops, etc. Soviet law therefore requires that all workers in these establishments be examined every month and be certified as free from the carrier state. The others must be removed from their jobs and not allowed to return until they receive authorization to do so by a sanitary physician.

The sanitary-epidemiological station registers all food poisonings and toxic infections. Each such case must be carefully investigated to determine the source of the infection and appropriate measures taken against it.

The industrial-sanitary division routinely inspects sanitary conditions in factories and adherence by their managers to established standards with respect to ventilation, light, control of dust, humidity, temperature, noise, and other harmful factors. The industrial sanitary physician and his assistants see to it that workers are issued special protective outer garments and safety equipment when necessary and that the doctor of the medical unit or health station instructs new workers and foremen in the principles of hygiene. The division also registers and investigates the causes of industrial poisonings and diseases.

The sanitary-epidemiological station inspects schools, kindergartens, outpatient departments for children in hospitals, gymnasiums, Young Pioneer camps and other youth organizations. It is concerned with proper heating, ventilation, illumination, cleaning, etc., and ensuring that the directors and teachers maintain sanitary standards, correct the defects, and instruct the younger generation in proper hygienic habits.

The sanitary physician sets down his conclusions on the sanitary conditions of the various establishments he has inspected (together with laboratory analyses and other data) in a special journal kept at each place.

Soviet legislation empowers the sanitary-epidemiological agencies to protect the health of the workers and enforce observance of the sanitary norms and regulations promulgated by the state. The sanitary physician reports failures on the part of management to comply with his requests. In the event of continued refusal, the head of the station has the right to impose a fine, prohibit the use of or confiscate the product in question, and even to close the place and bring those guilty to court.

Antiepidemic Work

Antiepidemic work constitutes one of the most important activities of Soviet public health.

It is a well-known fact that there were many major epidemics in Tsarist Russia. Soviet public health has had to wage a fierce, all-out struggle against this legacy before achieving its great success in eradicating such terrible diseases as cholera, smallpox, plague, and malaria (as a mass disease) and in reducing the number of cases of exanthematous, typhoid fever, scarlet fever, diphtheria, etc.

Epidemics may be controlled or prevented by general hygienic measures and by special antiepidemic measures — improving sanitation in inhabited areas, laying sewers and water pipes, timely cleaning up of cities, building baths and laundries, introducing hygienic practices in food handling, etc.

The battle against infectious diseases is a major national problem that requires enormous effort not only by public health agencies and institutions but also by other Soviet organizations. Hence, the government wages antimalaria, antituberculosis, and antitularemia, etc. campaigns in accordance with a single, overall plan. Three main elements are involved in dealing with acute infectious diseases: (1) medico-prophylactic measures aimed at early detection, rendering harmless or destroying the sources of infection (plus isolation of those suffering from such diseases and treatment of carriers of bacilli); (2) measures to eliminate the factors facilitating the transmission and spread of infections (disinfection, general sanitary measures, etc.); (3) measures to prevent healthy people from contracting these diseases (by immunizing them).

Malaria is a good example of this approach. All patients are registered and systematically treated. Medicine is administered in the spring to prevent recurrences. Preventive treatment is instituted for those in danger of infection. Since malaria is transmitted by the Anopheles mosquito, steps are taken to destroy the insect's breeding places. Petrolization, dusting of reservoirs by airplane, and swamp drainage projects are executed not only by antimalarial stations of public health agencies or sanitary-epidemiological stations, but also, in accordance with the government plan, by different departments and ministries and, lastly, by the people themselves.

Prophylactic vaccination is an extremely important method of preventing infectious diseases. As the science of medicine advances (microbiology, immunology), the number of infections that may be prevented by vaccination increases. In the USSR vaccination against smallpox is compulsory for all children up to one year old and revaccination when the children are 4 to 5, 10 to 11, and 18 to 20 years old. Children are vaccinated against diphtheria before they are 8. Workers in food plants, railroads, medical institutions, seasonal workers, migrants, and others when there are epidemiological indications for it, are vaccinated against typhoid fever, paratyphoid, and dysentery. Vaccinations against tetanus, rabies, and measles when there are indications for it, tuberculosis, etc., are very common. Specific prophylaxis is a major weapon in the battle against germ diseases. More than 100 million persons are vaccinated against various diseases (other than smallpox) annually in the USSR.

Another vital factor in curbing infectious diseases is effective organization of antiepidemic work. The disease must be detected and accurately diagnosed as early as possible and patients promptly hospitalized. A special notification must be sent immediately to the epidemiologist of the local sanitary-epidemiological station who will start an investigation to discover and decontaminate the source of the disease.

Carriers of bacilli play a big role in spreading germ diseases. Those who have had these diseases or who have been in contact with infected persons must be examined to determine whether they are carrying the bacilli. Every medical institution is required to register all carriers of typhoid, dysentery, and diphtheria. It must also register persons suffering from malaria and report on bacteriophage therapy for chronic cases and treatment to prevent recurrences.

Success in sanitary and antiepidemic work depends to a considerable extent on active participation by the people. The nature of the diseases, methods by which they spread, and measures of individual and group prophylaxis must be explained to them. It is obvious that the vigorous support of all urban and rural hospitals and clinics is likewise needed. Early diagnosis, hospitalization of the sick, and vaccination are their contribution.

The sanitary-epidemiological station plans and executes antiepidemic measures in the city. But in the country this work devolves upon the district physician aided by the sanitary feldsher and all other district medical personnel.

There are several tens of thousands of sanitary feldshers throughout the USSR. Their task is to check on the implementation of suggestions and decisions of sanitary-epidemiological agencies, make routine inspections, report on violations. They do much of the paper work, including preparation of the periodic reports and writing up in legal form the sanitary physician's decisions on the levying of fines.

Sanitation feldshers are also responsible for obtaining samples of suspicious food products, water, or soil for laboratory examination. At times they may be required to make very simple investigations on the spot and report on their findings.

Sanitation feldshers are charged with the task of disinfecting foci of epidemics. They use whatever method may seem appropriate and later check on the effectiveness of any disinfection or disinfestation they may have carried out.

Under certain circumstances the feldshers may temporarily substitute for physicians with all the rights of the latter.

The work of the sanitary-antiepidemic organization is bolstered by the existence in almost every kray and oblast of an institute of epidemiology and microbiology and hygiene, which conducts extensive theoretical and practical research and manufactures sera and vaccines.

The sanitary and antiepidemic program of a sanitary-epidemiological station is planned on an overall basis. It includes a complex of essential measures for the individual establishments to be inspected and for prophylaxis (each disease separately) that are to be carried out by the station itself, medicoprophyllactic institutions, and other organizations. The plan must be complete and detailed specifying the decisions to be implemented by the local executive committee of the Soviet of Workers' Deputies, e.g., the decree on spring cleaning of yards; the section dealing with laboratory control of water supplies should list the wells and hydrants from which samples of water are to be drawn, kind of investigations, times, names of officials in charge, etc.

The main guarantee of a plan's effectiveness is systematic follow-up. This supervision is the responsibility chiefly of the sanitary-epidemiological station and constitutes its day-by-day work. Its reports contain information on staff and equipment, all kinds of routine and preventive inspections, antiepidemic measures carried out (hospitalization or evacuation of people with acute infectious diseases, results of epidemiological studies, disinfecting activities), bacteriological and serological analyses, steps taken to deal with the individual diseases, administrative sanctions applied (e.g., fines) and the results.

The effectiveness and quality of a station's work can be appraised from the data on sanitary conditions and establishments in its jurisdictional area, morbidity rate of the population, etc. The chief indices are:

(a) Completeness and time of hospitalizing persons with infectious diseases -- ratio of the number of patients hospitalized between the 1st and 3rd days, on the 4th day, etc., from onset of the disease to the total number of patients registered (separately for each disease);

(b) Quality of epidemiological investigations -- ratio of the number of investigations and sources of infection discovered to the total number of diseases registered (separately for each disease);

(c) Time of carrying out final disinfection -- ratio of the number of final disinfections carried out simultaneously with hospitalization (up to 12 hours and more than 12 hours from the time of hospitalization) to all the orders for disinfection executed;

Among the indices characterizing the quality of routine sanitary inspections are:

(a) Implementation of the plan with respect to routine inspection of individual buildings and establishments -- ratio of the number of places actually inspected to the number of places subject to inspection according to the plan;

(b) Effectiveness of sanitation inspection -- ratio of the number of places with sanitation violations removed to the total number of places inspected in which violations were noted;

(c) Implementation of the plan with respect to medical examination of persons subject to examination -- ratio of the number of persons actually examined to the number of persons subject to examination (separately for each group).

A number of other indices can be calculated in the same way.

CHAPTER 8

EDUCATION IN HYGIENE

Tasks and Organization of Education in Hygiene

Education in hygiene is a fundamental part of Soviet public health and the duty of every medical institution and worker, physician, feldsher, midwife, and nurse.

Improvement of the masses' working and living conditions, prevention of disease, fortifying of health and physical development, teaching of hygienic practices in the home and at work — with the peoples' active cooperation — are the principal tasks and ultimate goal of public health.

Education in hygiene is an integral part of communist teachings and, as such, must be on a high ideological and cultural level and based on the findings of progressive medicine. The high ideological and scientific level, spreading of knowledge about the structure and functioning of the body, and the causes of disease help to develop a materialist world outlook, liquidate remnants of the past in the consciousness of the people, and root out surviving harmful prejudices and superstitions.

Education familiarizes the people with the problems of Soviet public health, organization of medical facilities, and the achievements of Soviet medicine.

Education in hygiene is not the sole responsibility of public health agencies and institutions. Schools, clubs, libraries, social organizations also participate in the work.

Education carried on within the walls of hospitals and at patients' homes is of utmost importance. Sick persons usually show a great deal of interest in their diseases and listen attentively to doctors and other medical personnel. The teachings of I. P. Pavlov on the unity and integrity of the human organism, on the interaction of the first and second signaling systems, and the predominant role of the central nervous system explain why the words of medical personnel are potentially of great importance in hastening the recovery of sick people.

Lectures and chats on hygiene must be readily intelligible, persuasive in form of presentation and optimistic in content.

Since propaganda is incumbent on every medical institution and sanitary-epidemiological station, the directors are required to plan and supervise this aspect of the work of their staffs, which is scheduled during regular working hours. The content of the lectures and informal talks, which are given in factories, hostels, collective farms, schools, and hospitals, is determined primarily by the nature of the institution, the practical problems it has to face, the type of patients, and morbidity of the population.

Public education through lectures, (reports delivered in clubs, houses of culture, and large auditoriums) is organized and carried out by personnel of the Houses of Hygiene Education, which have lecture bureaus of trained speakers (Figure 28).

Besides lectures, the Houses employ other devices such as stationary and mobile exhibits, films, local newspapers, and radio broadcasts. They organize courses and circles for citizens particularly interested in hygiene (sanitary activists). As sources of guidance and methods, the Houses have appropriate facilities: stationary exhibits, movie and lecture halls, libraries and reading rooms, shops to make visual aids, storerooms for literature and visual aids.

There are rayon, oblast, city and republic Houses. The Central Scientific Research Institute for Education in Hygiene is the USSR Center for scientific knowledge and methods.

General organizational guidance, the planning of facilities and staff is handled by the hygiene education division of the sanitary-epidemiological administration of the Ministry of Health, USSR, and the corresponding divisions (or inspectors) in the health ministries of the Union republics. In oblast, city, and rayon health departments this work is the responsibility of the local House of Hygiene Education (Figure 29). Should the city or rayon center have no House, this function is performed by the sanitary-epidemiological station, which has a special instructor on its staff for this purpose (feldsher or physician's assistant). In oblast and republic stations a physician specializing in hygiene education assumes the task.

Major medical institutions have a cabinet for hygiene education or inspector (physician or middle echelon worker) to provide guidance.

The inspector of hygiene education in a hospital organizes the work inside the institution (among the patients, relatives, and visitors) and among the people within its jurisdiction. He draws up plans assisted by the House of Hygiene Education or the sanitary-epidemiological station, keeps records, helps his staff to obtain instructional materials and aids for displays in the building, issues wall newspapers and bulletins, etc.

A record is kept of the lectures, talks, and courses given in a "Register of Work in Hygiene Education." Entries are made on the basis of passes presented at the place of the lecture, talk, or course, or by written statements of the speakers. These entries provide the information used to compile the periodic reports.

Methods of Hygiene Education

In carrying on his educational work, the hygienist appeals directly to the sensory organs of man, to the first signaling system (e.g., by showing posters, sketches, slides, movies -- the visual method), and to the second signaling system by using the written and oral word which, as I. P. Pavlov put it, is the "second signal, the signal of signals."

All human mental processes are based on the close interrelationship between the first and second signaling systems. Since the processes of perception are bound up with those of thought, it would be incorrect to regard them wholly in terms of their influence on the first or second signaling system. Actually, any method of hygiene propaganda works on both. In practice, a combined approach is frequently used, thereby increasing the impact, comprehensibility, and, consequently, effectiveness of the message.

Hygiene propaganda uses oral, written, and visual techniques. The first includes lectures, reports, conversations, oral readings, evenings of questions and answers, and radio broadcasts. Books, pamphlets, brochures, booklets, slogans, wall newspapers, blackboards of questions and answers comprise the written approach. Visual materials are posters, slides, photographs, models, plastic molds, films, displays, and theatrical productions.

The oral method is the commonest and perhaps most effective because the material can be very specific with due regard for the peculiarities of the time and place of delivery.

There are formal lectures, chats with patients in a clinic, at home, in a hospital, advice to mothers entering children in day nurseries, conversations with people during sanitation and epidemiological investigations. The lecture form is suited to large audiences where much material has to be set forth and the complexity of the subject requires particularly logical and systematic presentation.

Talks usually fall to the lot of middle echelon personnel. The listeners are drawn into the discussion and full use made of their experience, knowledge, and ideas. The speaker, however, retains the leading role; the participants raise questions, express doubts, and object, thereby affording him an opportunity to explain the material more clearly and to convince the skeptics.

In order to be an effective speaker a medical worker must constantly strive to deepen his medical, political, and general knowledge. He should keep abreast of current events, read the newspapers, study the culture and way of life of the local population, and systematically read technical and belle-lettristic literature.

For his talk to be interesting and intelligible, the speaker must first become familiar with his audiences, their intellectual level, and learn what things concern him. It is recommended that he base his talk on concrete material drawn from the records of his institution, cite examples from the life of the group whom he is addressing (the workers in a factory, state farm, inhabitants of a district, etc.), and quote from his literary readings.

All talks, lectures, and reports require serious preparation. This includes the writing out of an outline and a summary, the former consisting of brief notes, figures, newspaper items, literary quotations, etc.

Here is a rough outline for a talk on "Influenza and How to Deal with It":

1. Influenza - very common disease.
2. Influenza - not a mild disease.
3. Ways of transmitting it (concept of droplet infections).
4. Prevention.

The outline can be even more detailed:

1. Influenza - very common disease.
2. Influenza - not a mild disease:
 - (a) harm to the state;
 - (b) harm to the patient.
3. Ways of transmitting it (concept of droplet infections).
4. Prevention of influenza:
 - (a) conduct of patients;
 - (b) hardening the organism;
 - (c) preventive vaccination.

Here is a typical summary of a talk on the same subject:

1. Influenza - very common disease;
In one factory out of 100 cases involving disability 32 were due to influenza.
2. Influenza - no mild disease:
 - (a) harm to the state.
In 1954 the factory Krasnaya Zarya suffered a loss of almost one million rubles due to underproduction resulting

from the disease. Approximately one-half of all disbursements from social insurance funds were for disability certificates issued in connection with the disease.

- (b) harm to the individual.
Possible complications: bronchitis, pneumonia, pleurisy, pulmonary abscess, lung gangrene, aggravation of tuberculosis, otitis media, frontitis, damage to the heart or nervous system.
3. Ways of transmitting influenza (concept of droplet infections). Sprays from the mouth are ejected in conversation to a distance of 1 meter and up to 3 meters in coughing or sneezing. Large droplets remain in the air for half an hour to an hour, small droplets up to five hours.
4. Prevention of influenza and complications.
Early visit to the doctor and faithful obedience to his orders.
- (a) behavior of sick persons.
They must cover their mouth and nose with a handkerchief when coughing or sneezing. Nursing mothers must wear a gauze mask over their mouth and nose. The beds must be partitioned off by a screen. No one should be allowed to use a patient's dishes, towel, etc.
- (b) Hardening.
Taking the sick rate for influenza in a naval school in Leningrad for first year students at 100, the figures show that as they became more hardened the number of cases dropped for 2nd year students to 86, 3rd year students to 52, 4th year students to 42, and 5th year students to 19.

A summary contains three parts: introduction, body, and conclusion. The purpose of the introduction is to acquaint the listeners with the subject and its importance and to arouse their interest in it. The body contains the basic factual material, proofs for various contentions, analysis of the question from all sides. The conclusion briefly recapitulates the main points and calls for action.

Presentation of the material may start with a specific example and then go on to a generalization, or vice versa. In speaking before a mass audience it is usually preferable to begin with something concrete and familiar to everybody. There are various ways of enhancing the effect. A simple gesture, apt comparison or literary quotation often clarifies an idea. Special visual aids (posters, charts, slides, etc.) help to illustrate and make the talk more vivid. These aids should be quite large, with a minimum of text. Some lecturers use small photographs, medical preparations, etc., to be passed from listener to listener. The main objection to this kind of demonstration is that it distracts the listeners from the lecture proper.

The following rules should be kept in mind when preparing a summary:

- (1) Separate, numbered pages are used;
- (2) The text is written on one side of the page;
- (3) Every item, every sentence begins with a new line;
- (4) The main ideas are given numbers, the others letters;
- (5) The writing should be large and legible, and in ink;
- (6) Particularly important passages are underlined in colored pencil or marked in some other way;
- (7) Numbers and quotations are written down or noted with "cf. appendix," "cf. book," "cf. page";
- (8) If visual aids are to be employed, the time they are to be shown is noted at the appropriate places.

The first two or three sentences of the speech should be written down or committed to memory. However, the text as a whole should not be read since this kills the living word. The language should be in the simple colloquial style, avoiding foreign words and technical terms. Heavy use should be made of proverbs, comparisons, and examples.

A very effective exploitation of the spoken word is in the form of an address at meetings of one kind or another. The medical worker should take advantage of every opportunity to speak before workers or collective farmers, the content being related to items on the agenda and based on local material. The speech should include specific suggestions.

Chats with sick persons require exceptionally careful preparation. One must be on guard against the possibility of wounding or frightening them. The talks or lectures should be optimistic in tone, inspiring the patients with faith in the treatment and favorable outcome of the disease. At the same time they should teach them how to take care of themselves, to practice hygiene in their daily lives, and to eat according to the principles of sound nutrition.

Evenings of questions and answers on medical subjects are extremely popular. These programs, at which various specialists answer the questions of the listeners, are very lively and attract a large audience. The people are notified about forthcoming programs over the radio, in the newspapers, or by posters.

The printed word has a number of features which make it more accessible and convenient for the people.

It is useful to recommend additional reading material. This may be done:

- (a) at a clinic, where the patient may be referred to literature about his disease;
- (b) by a wall or factory newspaper or library reading room posting a list of suggested books and articles for further reading;
- (c) at the end of each talk or lecture;
- (d) in hospitals and clinics by posters or display cases.

In addition, booklets, pamphlets, and brochures may be distributed to the population.

A good way of using printed materials is that of reading aloud -- a lively and interesting form of hygiene education. Its value lies in the fact that it increases the number of people to whom the written word may be made accessible. Before starting to read from a text, it is desirable to introduce it by mentioning the name of the author and the subject. It is necessary to read slowly, expressively, and loudly.

It is recommended that the reading of a popular scientific piece be interrupted by questions, additions, explanations, and checks to see whether the listeners understand the meaning. These digressions also provide brief breaks. However, there should be no such interruptions in the case of reading from a piece of literature because they would destroy the mood.

Medical workers discuss public health problems in the press, particularly local newspapers. The material should be of topical interest, concrete, and of practical concern. Liveliness and brevity should characterize the style of writing. Here are various ways of presenting the same subject in a newspaper:

I. Don't Forget Hygiene!

Hygiene is a science dealing with health. Whoever wants to be healthy must meet the requirements of this science.

One of the most important hygienic habits is the washing of hands before eating.

During the course of a day a person's hands get very dirty. It is a question not only of the dirt that one can see, but also of the invisible dirt. It is enough to shake hands with a friend at work, to turn the knob of a door, to hold money or some other object that was held by another, for a great many invisible microbes to fall on your hands. These microbes may include the disease-causing kind. From your hands they can travel to your food, and from the food into your internal organs.

Protect yourself against infectious diseases!

Wash your hands before eating!

2. Remember

When you go into the dining hall, remember where you were today and what you did.

You rode in the trolley, you met some friends in the street, you walked into the office of a factory, you spoke on the telephone, you paid your union dues. This means that you held the handrail of the trolley, a door knob, money, telephone receiver, shook the hands of your friends.

Remember all this and you will realize how many germs from different things might have come into contact with your hands! Remember that this is the way disease-causing germs spread!

Always remember to wash your hands before eating!

3. Save a Second - Lose a Month

While observing sanitary conditions in our dining room I noticed that some of the workers didn't wash their hands.

I went over to a friend of mine, Misha Karasev.

"May I ask you a question?"

"Certainly."

"Will you answer truthfully?"

"Of course!"

"Did you wash your hands before eating?"

Misha was silent a moment, then said:

"To tell you the truth, I didn't."

"And why didn't you?"

Then Misha got wound up trying to prove that he was a good worker, anxious to save every minute he could, so he had no time to wash his hands.

"You saved a minute," I said, "but if you get typhoid or dysentery, which are transmitted by dirty hands, you'll lose a month or more. Is it worth the risk?"

Comrades, those of you who don't wash your hands before eating, think this over very carefully! A little later I'll come back to see how you're getting on with washing your hands in the dining room.

The first example is not very good. It is rather dry and theoretical. The second is more lively and interesting, and more closely connected with the dining room. The third is the most concrete. In describing her conversation with Misha, the medical worker breaks down his unsound arguments. The title is arresting: "Save a Minute - Lose a Month."

It isn't only medical workers who write on public health matters in the newspapers. The sanitation activists also exploit this medium as a weapon in the struggle to raise the health level of the people. Medical workers help by suggesting topics and making contacts for them with the papers.

Activists hang up slogans and posters in hospitals, clubs, reading rooms, factories, and apartment houses.

An interesting kind of hygiene education is the "question box" and "answer board" (advice by mail). Questions are written on pieces of paper and deposited in a box resting on a small piece of plywood or cardboard (about 75 x 100 cm). The answers are soon posted on the bulletin board. "The answer board" is intended to be read by a great many people. The answers must be serious, detailed, fairly simple, and include references to sources of additional information.

Posters are the commonest forms of visual aids. They are of two kinds. The "agitation" poster deals with a narrow theme that is to be widely popularized. The "propaganda" poster usually has several pictures and a good deal of explanatory text; the colors are more restful. There are also posters combining both approaches. Photographs too are of value in that they enable medical workers to make extensive use of local material.

For exhibits, "health corners," "answer boards," and wall newspapers photographs provide clear documentary evidence of Soviet activity, institutions, and achievements. Clever captions greatly enhance their usefulness.

Exhibits usually propagandize the growth of the public health budget, network of medical institutions, staff, lowered sick rate, etc. Popularization of the statistical data is greatly aided by the use of graphs.* It is often necessary to enliven a graph. This is most easily done by adding an appropriate illustration or photograph.

In addition to such flat objects as posters, illustrations, photographs, slides, diagrams, charts, etc., considerable use is made of three-dimensional models, dioramas, plastic molds, and natural preparations.

A very simple display or "health corner" is readily put together by middle echelon personnel from a few posters or photographs, pictures of scientists, slogans, local material in the form of charts, wall newspaper, and literature. Such exhibits can be mounted on cardboard and easily moved from place to place.

Moving pictures are an excellent means of carrying on visual agitation and propaganda. Medical workers should try to get local groups sponsoring films to include some on health topics.

Local radio stations can also be used, especially for brief lectures. A good type of speaker is the citizen actively interested in public health (he should describe his experiences). Radio talks should be prepared on the assumption that the audience is likely to be highly diversified, consisting of adults and children, healthy and sick people. The language must be simple, with the main ideas repeated to ensure full comprehension.

Features of Hygiene Education in Various Medical Institutions and Among Different Groups of People

Hygiene propaganda is one of the duties of the sanitary-epidemiological station along with its routine inspections and antiepidemic activities.

Workers must be familiar with the elements of industrial hygiene, the different ways of improving working conditions (mechanization of time-consuming processes, control of dust, gases, and noise), personal

*On graphs, cf. chapter 2.

hygiene, etc. It is particularly important to reach employees in food processing plants, water works and other public utilities. This should be done through regular courses and lectures or reports.

For the population as a whole the station should arrange for lectures and informal talks on sanitary conditions at home, removal of garbage, the importance of planting trees and shrubs.

Mothers should be taught at inoculation centers the significance of vaccination, disinfection, and early hospitalization of persons with contagious diseases. Appropriate stories should be placed in factory newspapers and wall newspapers for recreation rooms and propaganda centers, booklets issued, posters and slogans displayed.

The approach to children is adapted to the age level. Nursery and pre-school age youngsters are taught hygienic habits and instilled with a positive attitude toward cleanliness and water and a negative attitude toward filth, slovenliness, and untidiness. They should grow accustomed to fresh air, adopt good food and sleep habits. Useful pedagogic devices are games (e.g., bathing dolls, washing handkerchiefs, etc.), picture books, stories. In school the students acquire knowledge of how to take care of their health along with new hygienic habits. This is all elementary for the lower grades, but in the upper grades the youngsters study human anatomy and physiology along with various problems in hygiene, take courses in BGSO and GSO ["Be Ready for Medical Defense"] circles, read pertinent literature.

In handling patients in a polyclinic or hospital, it is necessary to be aware of the psychological problems involved and to show great interest in their disease and anxieties. Here hygiene education assumes a psychotherapeutic character as it strives to gratify the patients' curiosity about their condition and at the same time relieve their anxieties, inspiring them with confidence in the treatment they are getting and in a favorable outcome of the disease. The approach will vary with the circumstances. In a polyclinic, for example, the work can be performed in the physician's office, waiting room, or registration section. The physician's office is a good place for individual and group talks. The waiting room lends itself to displays, wall newspapers, and remarks by medical personnel. The registration section might well pass out reading materials. Clubs, reading rooms, and propaganda centers should arrange for movies, exhibits, and plays in addition to lectures.

Hygiene education among the rural population is of exceptional importance, for it can help raise the productivity of farm laborers and their general cultural level along with improving their working and living conditions. The main things to be emphasized are improvement of sanitary conditions in the state or collective farm, machine

and tractor station, and homes, personal hygiene, inculcation of healthful habits in children, antialcoholism, and control of infectious diseases. The nature of agriculture requires the expenditure of much effort to explain how to avoid injuries and skin diseases, how to render first aid in case of accidents and acute infectious diseases. Any educational program for a rural medical district must take cognizance of the seasonal character of farming and the various diseases associated with it.

The propaganda of a feldsher-midwife station is coordinated with the work of the local Soviet and social organizations and approved by the chief physician of the district hospital. The station's program consists chiefly of talks, distribution of literature, lectures in clubs of collective farms, and local radio broadcasts.

The place in which the talks are given is determined by the subject and audience: in farm maternity hospitals and nursery schools - with mothers; in schools - with students and teachers; in field camps - with workers in collective and state farms, machine and tractor stations; in feldsher-midwife stations - with pregnant women and patients, lessons for sanitary activists.

Rural hygiene education stresses the training of activists. The program of a feldsher-midwife station includes: (1) organization and training of sanitary activists; (2) scheduling of the propaganda work; (3) arranging of mobile exhibits, health boards, supplying of reading and recreation rooms and collective farm clubs with literature. The station selects, trains, and appoints public sanitation representatives to collective farms, machine and tractor stations, schools, and hostels. It also teaches farm workers how to render first aid to themselves and to others and trains "Be Ready for Medical Defense" leaders.

People's Activity in Public Health

The people share in the work of public health agencies and medical institutions. This activity is a principle of Soviet public health whose success would be impossible without it. The people's interest in public health and understanding of its importance combined with their energetic participation guarantee continuing improvement in the quality of the service rendered. The organization of medical facilities is one of the major tasks of the Soviets of Workers' Deputies.

The Soviets are aided by permanent commissions for public health, which are made up of elected representatives, deputies who unite around themselves a large group of medical men. Members of these commissions together with sanitation activists check daily on sanitary conditions in cities, workers' settlements, and rural localities. They inspect water supplies, landscaping, conditions in medical institutions and in manufacturing, trade, and food companies. They report on the results at executive sessions of the Soviets of Workers' Deputies, which then take whatever action may be appropriate.

The Red Cross and Red Crescent are of great help in public health. They do a good deal of work among the people, particularly in spreading knowledge of medicine and hygiene in GSO groups ("Be Ready for Medical Defense of the USSR" *Gotov k sanitarnoi oborone SSSR*), sanitary squads, BGSO groups ("Be Ready for Medical Defense" *Bud' gotov k sanitarnoi oborone*) in schools. They enlist the help of sanitary activists in behalf of various public health programs.

The Minister of Health, USSR, issued a special order "On the Joint work of Public Health Agencies with the Red Cross and the Red Crescent," 30 October 1954, no. 218), making it the duty of all directors of oblast, kray, rayon, and city health departments, and hospitals to cooperate personally with the Red Cross and the Red Crescent and help them to organize mass training of the population in the GSO and BGSO, set up sanitary posts, sanitary squads, and sanitary representatives, and persuade members to become blood donors. Accordingly, the directors are required to assign the sanitation squads, posts, sanitation representatives to the nearest health stations, dispensaries, polyclinics, medical districts, feldsher-midwife stations, and sanitary-epidemiological stations. The directors are also required to give the sanitation activists daily guidance. The latter are also used by medicoprophylactic institutions in connection with mass sanitary improvements.

The work of these public spirited citizens in the preventive phases of public health is very varied.

In factories they help medical workers to check on observance of sanitary norms and regulations for the maintenance of shops, food, administrative, and residential areas, cultural and welfare facilities, and industrial safety devices. They spread knowledge of general and personal hygiene along with methods of preventing sickness and accidents. Activists organize health lectures and talks, give first aid in emergencies, and transport injured persons to the medical station. They are under the direction of the head of a medical unit of health station, shop physicians, or physicians of a polyclinic, hospital, or sanitary-epidemiological station.

In rural localities the activists help medical workers to educate the people on the prevention of agricultural traumatism and infectious diseases (mass prophylactic examinations, inoculations, disinfection, notification of acute infectious diseases, etc.). They check on sanitary conditions in field camps, yards, and houses, dining rooms, stores, sources of water, etc. They interest the people in village planning, organize health lectures and talks, render first aid in case of accidents, transport the injured to the feldsher station or rural district hospital (outpatient department). They are under the supervision of a sanitary-epidemiological station, district physician, or feldsher.

In schools and other educational institutions the activists assist medical personnel in spreading propaganda on the rules of personal hygiene and see to it that they are obeyed, check on sanitary conditions in the class rooms, food areas, shops, gymnasiums, cloak rooms, toilets, and yards, calling the attention of the school doctor (or nurse) to violations. They organize health lectures and talks by medical personnel, render first aid in accidents. They are under the direction of medical workers in the rural district, sanitary-epidemiological station, school physician, or nurse.

In institutions and private homes sanitary activists help medical workers to check on sanitary conditions and report violations to the health agencies. They cooperate in the execution of measures designed to prevent the spread of infectious diseases (detection, vaccination), participate in the organization and supervision of disinfection. They give warning of all cases of acute infectious diseases, organize health lectures and talks by medical workers, render first aid in accidents, help victims of accidents and those suddenly becoming ill to get to the hospital. They are under the supervision of a sanitary-epidemiological station or district physician.

Sanitation activists must serve as an example to the people. They should take part in meetings of workers, farmers, and students on health problems and see to it that sanitation is given full consideration in socialist commitments and agreements as well as in plans for industrial improvements.

Sanitation representatives are chosen at general meetings of manual and office employees, and collective farmers from among those literate persons who are most actively interested in public health problems. They give an account of their work to the group that chose them.

Efforts should be made to have sanitation representatives in every populated area and on every collective farm.

Sanitation posts are organized in factories, collective and state farms, machine and tractor stations, workers' quarters, schools, and institutions. They are manned by active members of the Red Cross and Red Crescent and have some medical training (they have earned the GSO or BGSO emblem). The sanitation posts render first aid in the case of accidents in shops, field camps, or schools. They are equipped with stretchers, medicines, and bandages. They also check on sanitary conditions in their plants or institutions.

Insurance delegates are active members of trade unions working in close cooperation with the medical staff of industrial enterprises. They see to it that sick workers get the medical attention they need, that medical certificates are correctly used, and that sick persons

obey the doctor's orders. They help to take care of patients who live by themselves. The work of these delegates is a factor in lowering the industrial sick rate.

Assistance councils consisting of representatives of office and manual workers in factories and various kinds of institutions take an active part in the work of medicoprophylactic institutions. In accordance with the regulations approved by the All-Union Central Council of Trade Unions and the Ministry of Health, USSR, these councils discuss the programs of the institutions, help to work out ways of improving medical service, decreasing and preventing sickness, especially that involving temporary disability, organizing medical aid at home, health propaganda, antiepidemic measures, and sanitary inspections, etc. If sanitation activists are to function efficiently, they must be properly trained and systematically supervised by medical personnel. The latter can ensure high calibre people by:

(1) Participating in the election of activists (selecting candidates, being present and speaking at general meetings). A group of activists is usually formed once a year, but medical workers must study and choose people to help them throughout the year. Sometimes a future activist may be encountered in a hospital or polyclinic and his interest subsequently strengthened when a former patient is elected to a public post. It is also possible to meet potential sanitary representatives in GSO societies or in hygiene courses for tractor drivers, milkmaids, collective farm cooks, etc.

(2) Training activists. The persons chosen take special courses depending on the group they are in. Those attending classes with insurance delegates study industrial hygiene and methods of lowering the sick and accident rates. Sanitation posts practice first aid, etc. These courses are given without interrupting regular work. In the country classes are held in farms and machine and tractor stations if a physician or feldsher is available to provide the instruction.

(3) Maintaining contact with the activists. Medical workers must keep in constant touch with their activists (to pass out assignments, exercise supervision).

(4) Check on the activists' work. If it turns out that certain activists do poor work, send in no reports, or fail to develop, the appropriate organization (e.g., collective farm management) is asked to give them a hearing. Those who do not justify public trust are relieved of their duties.

(5) Strengthening the activists' authority. Every effort should be made to strengthen the activists' authority. In their lectures, reports, and informal talks medical workers must refer to the activists

as performing useful and respectable work possessing national significance. The press and wall newspapers are required to carry accounts of their activities. Their authority is enhanced when newspaper articles on health questions are signed jointly by a medical worker and an activist, or only by the latter.

(6) Encouraging activists. By directly supervising their work, medical personnel become acquainted with the ablest of these public-minded citizens. Health departments, business concerns, and collective farms are authorized to reward those who have done outstanding work. They may be officially thanked on behalf of the rayon health department or executive committee of the rayon Soviet. Another form of encouragement for good work is publication of accounts of activists' experiences in newspapers (with mention of their names) or even in special booklets.

Certain oblasts and rayons are famous for the brilliant way they managed to enlist mass participation in public health activities. For example, in Geokchai (Azerbaijan SSR) and Rogacheva (Byelorussian SSR) the people did an exceptionally fine job in cleaning up inhabited places and homes, building baths and toilets, decontaminating wells, planting trees and shrubs, etc. In Zhitomir (Ukrainian SSR) the people were of great help to the public health agencies in reconstructing the network of medical institutions destroyed by the fascist invaders.

CHAPTER 9

PLANNING AND FINANCING OF PUBLIC HEALTH

A distinguishing feature of Soviet public health as a branch of governmental activity is its planned character. The national economy is developing in the USSR not haphazardly, as in the capitalist countries, but systematically.

The party and government plan the national economy, scientifically applying the objective economic laws of socialist development. The importance of planning is set forth in article 11 of the Constitution of the USSR: "The economic life of the USSR is determined and directed by the state economic plan in the interests of increasing the people's wealth, ensuring a steady rise in the workers' material and cultural levels, and strengthening the USSR's independence and defensive capacities."

National economic planning is possible only when all the tools and means of production belong to the people. In a capitalistic society, which relies on private property, planning on a state-wide scale is impossible. National planning, as practiced in the USSR and the countries that have chosen the road to socialism, it must be emphasized, is one of the major advantages that socialism possesses over capitalism.

All branches of the economy and culture in our country, including public health, are developing in accordance with a single, overall state plan.

Planning embraces the most important aspects of public health work; distribution of material resources, personnel, medical facilities, equipment, etc., with a view to ensuring their utilization in the most efficient way possible.

Sound planning of the facilities and programs of medical institutes helps to solve general problems involving state policy and to promote industrial expansion. For example, the swift growth of public health in the union republics was an expression of the national policy of the Soviet government aimed at developing to the maximum the economy and culture of the formerly backward national regions of Tsarist Russia and raising them to the level of the leading Soviet republics.

The most important problem in recent years -- exploitation of undeveloped lands and the creation of well equipped and staffed collective farms and machine and tractor stations -- has required appropriate action by public health agencies to provide the necessary high quality medical facilities and personnel. Many other examples could be cited.

The advantages of socialized public health are clearly revealed by comparing it with the medical system existing in the capitalistic countries, e.g., the United States. Although this country has a large number of hospital beds and physicians, it turns out, as the chief medical inspector wrote in the Journal of the American Medical Association, that in 1947 40% of the rural areas of the country had no hospitals, that there were no physicians at all serving in 81 regions, while the bulk of the profession flooded the large cities in the hope of creating a well paying private practice.

The planned character of Soviet public health makes it possible to organize medical facilities in various populated places, krays, and oblasts according to the nature and importance of the local economy, climatological and geographical features, and distribution of the population.

Data on the age, sex, and occupational composition of the population as well as on the morbidity rate are essential since this information determines the requirements for the different kinds of medical aid.

Directives of the party and government and orders of the Ministry of Health relating to the individual oblasts, rayons, or to medical services for various groups, e.g., the workers in certain branches of industry or juvenile workers, are taken into account in drawing up the plans.

A comprehensive program for public health expansion includes the following interrelated elements: (a) network of institutions, (b) medical staff, (c) data on the number of workers and wage funds, (d) construction and equipment of facilities, (e) supplies, e.g., linens, fuel, (f) finances (budget).

Plans are drawn up for one year, five years, sometimes longer.

The annual budget estimates of the individual medical institutions are the most important of all. They are combined with those of the rayon and city, which are merged in turn with the oblast, republic, and all-USSR estimates.

Certain elements are used to characterize the size, structure, staff, and program of every health facility. For a hospital they are: number of beds by specialties, number of positions for doctors and middle echelon personnel, number of consultation rooms in the poly-clinic, and various activities. In the case of a sanitary-epidemiological station it is necessary to know the number of laboratory analyses, number of establishments in its jurisdictional area subject to sanitary inspection and control, etc.

Estimates for the coming year are based on the work done during the first half of the current year, anticipated accomplishments for the entire year, and reports of the preceding year. For example, the overloading of doctors' or feldshers' offices with patients in violation of the norms -- possibly due to an increase in the number of people served -- suggests the need of adding more medical positions. A low index of average bed occupancy by patients with certain diseases when all those suffering from these diseases were hospitalized suggests the possibility of transferring some of the beds to other departments. On the other hand, a very high index of bed occupancy (more than 340 days a year), especially when some sick persons could not be accommodated and there were deaths at home, would justify an increase in the number of beds for certain departments.

An effort should be made to adhere to the typical structure and staffing pattern established by the Ministry of Health, USSR, for the given type of institution. The figures should be arranged in chart form. A completed table for a rayon hospital will look something like this:

Principal indices of a hospital's work	Beds			
	1954 (report)	1955 plan	1955 completion expected	1956 (plan)
Total number of beds	70	70	72	75
Including:				
medical	20	20	22	23
surgical	17	18	18	20
maternity	10	12	12	12
children's	5	8	8	8
others	18	12	12	12
Number of days beds occupied a year	335	330	348	340
Number of bed-days for the year	23,450	23,100	25,056	25,500
Number of outpatient visits	95,400	96,000	96,200	96,500
Number of medical positions etc.	16	16	16.5	18

The concluding or financial section contains the institution's estimates of the amount of money needed to carry out the plan.

The budget includes only beds actually available for use, i.e., not merely beds as such, as specified in the estimates, but ready for the patients with linens and other necessities. The average number of

beds per annum is the usual basis for calculation. Supposing that in a certain hospital the number of beds in the general medical department was increased from 20 on January 1st to 26 on July 1st, the average number of beds for that year would have been 23, i.e.,

$$\begin{aligned} 20 \text{ beds} \times 6 \text{ months} &= 120 \text{ bed months} \\ 26 \text{ beds} \times 6 \text{ months} &= 156 \text{ bed months} \\ &= 276 \text{ bed months} \\ \frac{276 \text{ bed months}}{12 \text{ months}} &= 23 \text{ beds} \end{aligned}$$

The norms established by the Ministry of Health, USSR, are applied in calculating the number of bed days. Hospital beds cannot be used every day in the year since some of them have to be repaired, disinfected, etc. Hence, public health agencies estimate an average occupancy of 340 days for city hospitals and at least 310 days for rural hospitals. The planned number of bed days for 23 medical beds would be 340 days \times 23 beds = 7,820 bed days.

The number of doctors and middle echelon personnel required is ascertained from the prevailing norms. For example, a general practitioner sees 5 persons an hour, a surgeon 10 persons, an ophthalmologist 8 persons, etc. A doctor is allotted 30 minutes for each home visit, a district nurse 40 minutes.

The Budget of Medical Institutions

Medical institutions are supported by the state. In the USSR, unlike the capitalistic countries, due to the socialistic economy and socialistic ownership of the means of production, the entire national income belongs to the workers. The bulk of the income goes for further expansion of socialistic production and for satisfaction of the people's every day and cultural needs.

The national economy and cultural upbuilding of the USSR are financed by the state budget, which is approved every year by the Supreme Soviet of the USSR. The state budget is the basic financial plan of the country, providing for its revenues and expenditures for the coming year.

In contrast to the capitalistic countries, where most of the revenue comes from taxes and levies on the population, the major portion of the USSR budget (87% in 1954) is made up of income from the socialistic economy (turnover tax, deductions from profits, etc.).

Taxes and levies as well as state loans constitute an insignificant percentage of the income (11.1% in 1954), all of which is returned to the people in the form of allocations for cultural services, payments for winnings in state lotteries, etc. In addition, the workers receive substantial sums from state social insurance funds.

Expenditures are another item in which the USSR state budget differs radically from that in the capitalistic countries. In these countries the budget is used to enslave the workers and progressively lower their standard of living, whereas in the USSR the budget reflects the basic economic law of socialism, which aims at maximum satisfaction of the steadily growing material and cultural needs of society as a whole. The budget in capitalistic countries is fundamentally military in preparation for a new world war. For example, American military expenditures make up about 80% of the total budget, with scarcely 1% devoted to public health. On the other hand, the picture in the USSR is completely different in that state expenditures on social and cultural affairs keep on rising from year to year. In 1954 they were 25% of the total, or 141 billion rubles, in 1955 they were 147 billion rubles. Some 35 billion rubles were allocated in 1956 for public health and physical culture, 53.6 billion rubles for social insurance, social security, and grants for unmarried mothers and mothers of large families.

The USSR state budget is a composite of the union, republic, and local budgets. The union budget, as prepared by the Council of Ministers, USSR, finances the most important sectors of the national economy, defense, and major social and cultural measures. Local Soviets of Workers' Deputies draw up their own budgets -- oblast (kray), rayon, city, and village.

Each organization or project is financed by its own budget. The major institutions (Academy of Medical Sciences, scientific research institutes, etc.) are covered by the union budget, hospitals and clinics serving an oblast or rayon by the oblast or rayon budget (Figure 30). The individual estimates for each hospital, nursery, sanitary-epidemiological station, etc., in the rayon are added together to make up the budget of the rayon public health department, which determines the standards to be met. The composite total is then studied and approved by the rayon executive committee of the Soviet of Workers' Deputies.

Fieldsher-midwife stations are financed by the village budget. The city budget takes care of the city hospitals, nurseries, and health stations under the jurisdiction of the health department.

The composite rayon budget is a total of the village, city, and rayon estimates.

The composite oblast budget consists of the rayon, city, and oblast estimates.

Most of the medical institutions are under the jurisdiction of the local soviets so that the bulk of expenditures on public health is covered by local budgets.

Preparation of Individual Estimates

The individual estimates of an institution are the list of expenditures by separate items needed to support the institution and its work for the coming year. They are based on certain indices which define the scope of its activities, normal outlays for food, medicines, and repairs, staffing pattern, and wage scale. In addition, they include the instructions of the next higher public health agency and the projected allocations and expenditures for the current year.

Institution budgets, which follow the form approved by the Ministry of Finance, USSR, are arranged by item and work index. A hospital budget, for example, will contain the following:

- Item 1 - salaries.
- Item 2 - social insurance payments.
- Item 3 - clerical and administrative expenses.
- Item 4 - business and official trips.
- Item 5 - expenses for educational purposes and scientific research, acquisition of library books.
- Item 9 - costs of feeding the patients.
- Item 10 - procurement of medicines and dressings.
- Item 12 - capital investment for equipment and supplies.
- Item 14 - procurement of soft goods.
- Item 16 - major repairs to buildings and installations.
- Item 18 - other expenses.

Items 1 to 10 represent the regular recurrent expenses incorporated in the estimates of every institution. Items 12, 14, and 16 represent occasional expenses.

Item 1 (salaries) covers all the workers of the institution in accordance with the existing staffing pattern and official pay scale. It includes the salary of substitutes when the regular personnel are absent.

Item 2 provides payments for state social insurance from the salaries specified in item 1. In the case of medical workers the payments are 5.9% of the annual wage fund.

Item 3 takes care of clerical and office expenses, postage, telegraph, and telephone costs along with maintenance (heat, light, water, rent, transportation, laundry, etc.).

All these expenses must be based on sound calculations and prevailing standards for the various items.

The estimates must mention the place, type of heating, number of automobiles, amount of linens to be laundered, etc.

Item 4 states the number of projected trips, length of time, transportation, food, and lodging costs in accordance with established standards. Besides official trips, the item covers attendance of doctors and middle echelon personnel at courses, meetings, and scientific conferences.

Item 5 is particularly important for medical schools and scientific research institutes since it covers expenses for both theoretical studies and practical work. It also covers the acquisition of books and periodicals for libraries.

Item 9 is a major element in hospital budgets. Food expenses are calculated per bed-day in accordance with the established norms. They will differ, of course, from department to department. In the maternity, children's, and tuberculosis departments the norms are somewhat higher than in the others, and the estimates for each type of bed are calculated separately. The total food costs are obtained by multiplying the norms for feeding one patient a day by the planned number of bed-days.

Item 10 covers expenses for the procurement of drugs, dressings, small medical instruments, disinfectants, X-ray film, etc. The expenses are calculated at the rate of one bed-day for a hospital and one medical visit for a polyclinic. The estimates are necessarily based on the norms established by the health department as well as on the estimates and actual disbursements of the past year.

Items 12 and 14 provide for one-time capital investments to acquire medical equipment, apparatus, furniture, linens, clothing, bed necessities, etc. In justifying this item, it is necessary to list the available equipment and supplies, the number and kind of objects it is proposed to acquire along with the cost of each according to state prices.

Item 16 deals with expenses for major repairs (justified on technical grounds) estimated by a construction organization or by an engineer or builder invited by the institution. Appended to the figures is a breakdown of the necessary work together with the costs.

Item 18 (other expenses) includes expenses for cultural and educational propaganda among patients and for other things connected with hospital care.

The budget of a sanitary-epidemiological station is prepared in the same way.

Item 1 (salaries) is based on the established staffing pattern for sanitary-epidemiological stations and the appropriate pay scale.

Item 5 (scientific research) can include, in addition to the above-mentioned, expenses for scientific missions, procurement and maintenance of experimental animals, chemical reagents, laboratory vessels, etc.

Item 9 (costs of feeding patients) is naturally not in the budget of sanitary institutions.

Item 10 (procurement of medicines) includes bacteriological preparations, drugs, disinfectants, payments for blood donors.

Item 14 provides for the procurement of linens (robes, towels) and special protective clothing in accordance with established norms.

The preparation of other items in the estimates for a sanitary institution does not differ in principle from the preparation of estimates for other medical institutions. However, in case of an epidemic requiring extraordinary measures, a supplemental request is made (in item 18).

The figures are prepared by an accountant, checked, signed by the head of the institution, and submitted for approval to the health department exercising jurisdiction over the institution.

The estimates approved by the health department director are the financial plan governing the operation of the institution. The latter does not have the right to make any changes thereafter or to transfer funds from one item to another.

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APPENDICES

Appendix 1

Regulations for Rural Feldsher-Midwife Stations

Approved by the Ministry of Health, USSR
31 December 1954

1. "Feldsher-midwife station" is the name of a public health unit which submits its own budget estimates and is located in a rural locality. Administratively, it is under the jurisdiction of the agency supplying its funds, but as far as its medicosanitary work is concerned, it is responsible to the rural district hospital (outpatient department) or rayon hospital (if the station is in its area).
2. A feldsher-midwife station is opened or closed by the rayon health department by agreement with the oblast (kray) health department and health ministry of an autonomous or union (having no oblast division) republic.
3. A feldsher-midwife station is set up to serve the population of a rural soviet in a village, machine and tractor station, state farm, or lumbering establishment inhabited by 300 to 800 persons, provided that there is no rural district hospital or rural district clinic within a radius of 4 or 5 kilometers.
4. The staffing pattern of a feldsher-midwife station typically consists of 1 feldsher, 1 midwife, and 1 (female) orderly.
5. The head of a feldsher-midwife station is a feldsher (or feldsher-midwife) who has completed his (her) middle grade medical education. The midwife of the station must have completed specialized middle grade medical education. The rayon health department appoints and dismisses the head of a feldsher-midwife station and the midwife.
6. The head of a feldsher-midwife station maintains records and submits reports in the established form and at fixed times to the chief physician of the rural district hospital (outpatient department).

He appends to the report an explanatory memorandum with an analysis of the statistical data on morbidity, directing attention to the reasons for the various diseases (traumatism, infectious diseases, angina, etc.).

Copies of the reports must be kept on file at the station until they are delivered to the archives after a certain period of time.

7. A feldsher-midwife station affixes to the various documents that it issues a circular seal and stamp with its name on it.

8. A feldsher-midwife station must have adequate quarters -- at least 3 rooms -- and be furnished in accordance with the table of equipment approved by the Ministry of Health, USSR.

9. It may happen that a collective farm maternity hospital is built in the villages served by a feldsher-midwife station. In that event, if there were no need for a special midwife, the midwife of the feldsher-midwife station would be required to work at the same time in the maternity hospital.

10. The midwife of a feldsher-midwife station is administratively subordinate to the head of the station. The actual direction of her work is provided by the chief physician of the district hospital (outpatient department) or obstetrician-gynecologist of the rayon hospital.

If a feldsher-midwife station has a maternity section, the midwife does her practical work in accordance with the regulations for a collective farm maternity hospital.

11. The head of a feldsher-midwife station prepares jointly with the midwife a quarterly work program for the station, submitting it for approval to the chief physician of the rural district hospital (outpatient department) or rayon hospital.

12. The head of a feldsher-midwife station and the midwife of a feldsher-midwife station shall systematically endeavor to increase their scientific skills and political knowledge. At regular intervals the rayon health department shall arrange for them to take advanced courses or specialized training in a rayon or district hospital. They shall also participate actively in conferences of medical workers.

13. The head of a feldsher-midwife station has the right to prescribe from the dispensary any drugs that may be needed, including poisons and potent preparations, in doses not to exceed the maximums established by the Pharmacopoeia. The feldsher accounts for and stores group A and group B drugs in accordance with the rules and instructions of the Ministry of Health, USSR, and under the supervision of the chief physician of the district hospital (outpatient department).

14. A dispensary of the second group may be organized in a feldsher-midwife station located in a village where there is no dispensary in accordance with the regulations for dispensaries approved by the Ministry of Health, USSR.

In this case the head of the feldsher-midwife station shall at the same time manage the dispensary and discharge the duties specified in the regulations for dispensaries.

15. The head of a feldsher-midwife station has the right to issue information on birth certificates, inoculation records, and certificates of death at home, if he treated and observed the patients while they were alive.

16. The head of a feldsher-midwife station has the right:

(a) to issue to members of collective farms certificates releasing them from work for temporary disability, the period not to exceed 3 days; extensions may be authorized only by a physician in the rural district hospital (outpatient department), rayon hospital, dispensary, etc.;

(b) to issue medical certificates in accordance with prevailing instructions for issuance of these certificates to insured persons, provided that the feldsher who manages the station has been included by the oblast (kray) health department (ministry of health of an autonomous republic, Ministry of Health, USSR, in republics having no oblast division) on the list of feldshers authorized to issue medical certificates, together with an indication of the period for which his authority is valid.

17. The feldsher of a feldsher-midwife station and the midwife have the right to issue certificates releasing women from work for pregnancy and childbirth if a village or rayon hospital (outpatient department) is located at a considerable distance or in emergencies.

Duties of the Head of a Feldsher-Midwife Station
With Respect to Medicoprohylactic Work

18. The feldsher (or feldsher-midwife) of a feldsher-midwife station provides the population of his district with free medical help and in emergencies he assists sick people living outside his jurisdiction. He discharges the following functions:

(a) To examine people at the station and in their homes, to render first aid in acute diseases and accidents (wounds, bleeding, poisoning, etc.) and then summon a physician or send the ill person to a district or rayon hospital (outpatient department) depending on his condition; in certain cases he accompanies the patient himself;

(b) to send as early as possible to a district hospital (outpatient department) patients whose condition has not been definitely diagnosed and those requiring medical attention;

(c) to select and prepare for consultation with the visiting physician of a district or rayon hospital cases presenting complex problems;

(d) to treat (under a physician's supervision) patients with trachoma, skin and venereal disease, tuberculosis, and cancer; to uncover the sources of infection and examine individuals in contact with the patients;

(e) to participate actively in clinical check-ups of the population living within the jurisdiction of his station, to select groups for examination by a physician; to maintain continuing observation and check on the correct application of recommendations for working conditions; to carry out improvements in sanitation ordered by a physician; to carry out propaganda among the people on the purpose and problems of planned improvements in working and living conditions and on the role of collective farmers and the managers of collective farms, machine and tractor stations, state farms, factories, etc.; to see to it that persons subject to clinical check-ups appear on time at the appropriate medical institution; jointly with the midwife to assist the managers of collective farms, machine and tractor stations, state farms, and various enterprises (lumbering, peat digging, etc.) in rearranging the work of pregnant women, nursing mothers, juvenile workers, and disabled veterans, to check on their working, living, and recreational conditions;

(f) to give medical examinations to children in day nurseries, kindergartens, children's homes, and schools if these institutions do not have their own medical staff;

(g) to work actively with public spirited citizens interested in public health and with the local Red Cross (Red Crescent) in their efforts to set up sanitary posts in the brigades and teams of collective farms, machine and tractor stations, state farms, lumbering and peat digging camps, etc.

(h) to carry out all the medicoprophyllactic, sanitary-anti-epidemic, and sanitary-educational work assigned to him in accordance with the plan approved by the chief physician of the district (out-patient department) or rayon hospital.

Principal Duties of the Midwife of a Feldsher-Midwife Station

19. The midwife of a feldsher-midwife station discharges the following functions:

(a) to discover among the people living within the jurisdiction of the station all pregnant women as early as possible in their pregnancy to observe their condition and carry out all the medical and preventive measures to ensure a favorable course and outcome of the pregnancy;

(b) to establish the term of pregnancy; to issue to collective farm women certificates for release from work before and after childbirth in accordance with the Model Regulations for a Collective Farm.

(c) to see to it that every woman in childbirth obtains medical help by bringing them to the feldsher-midwife station or collective farm maternity home, or sending them to the district or rayon hospital, or helping women to give birth at home in the event that they cannot be accommodated in a hospital;

(d) to observe the condition of new mothers at home following discharge from the hospital or after giving birth at home;

(e) to observe the health and development of children during their first year of life, paying special attention to the newborn and physically weak infants;

(f) to discover women with gynecological diseases and refer them to a physician or treat them in accordance with a physician's instructions;

(g) to maintain the type of records established for the obstetrical-gynecological service of feldsher-midwife stations, to submit reports on her work to the head of the feldsher-midwife station;

(h) to conduct propaganda on problems pertaining to health protection for mothers and children;

(i) in the event that the midwife is absent, the head of the station is required to perform the duties outlined above;

(j) the head of a feldsher-midwife station has the right to ask the midwife to handle any medicoprophyllactic task that may be assigned to the station as long as it is within her normal working day and range of experience.

On Sanitary-Antiepidemic and Sanitary-Educational Work

20. The head of a feldsher-midwife station together with the midwife is required under the direction of the chief physician of a rural district hospital:

(a) to execute planned sanitary-antiepidemic measures in collective farms, machine and tractor stations, state farms, peat digging, and lumbering camps; to check on the cleaning up of inhabited places; to make the round of farmhouses; to check on sanitary conditions in schools, day nurseries, kindergartens, children's field camps; to carry out prophylactic inoculations of children and adults as specified in the plan of the rayon health department;

(b) to discover and register persons suffering from malaria, to provide treatment and prophylactic chemotherapy;

(c) to carry out anthelmintic measures, anamnestic examinations of individuals groups of people for taeniasis, diphyllbothriasis, ascariasis by asking questions concerning parasites or segments of them (the inspection of proglottids is compulsory), sending them, when necessary, for laboratory analysis to a district or rayon hospital; to register all those found to be suffering from these conditions and give them vermifuge treatment; to institute measures aimed at eradicating the eggs of the worms;

(d) to notify the chief physician of a rural, rayon or district hospital and the rayon sanitary-epidemiological station of every case of infectious disease;

(e) to execute sanitary-antiepidemiological measures to eradicate the focus and prevent the spread of infectious diseases; to keep under observation those in contact with people suffering from these diseases; to conduct propaganda, etc.;

(f) to report to the rayon sanitary-epidemiological station establishments with unsatisfactory sanitary conditions and all violations of the sanitary code by the managers of collective or state farms, village soviets, machine and tractor stations, lumbering, and peat digging camps, and by the administrators of schools, kindergartens, and nurseries, etc.

21. In accordance with the plan approved by the chief physician of the district hospital (outpatient department), the head and midwife of a feldsher-midwife station conduct systematic health propaganda among the population by means of reports, newspaper articles, talks in reading rooms, schools, hostels, and field camps. This educational activity is to be regarded as an inseparable part of their medicoprophyllactic work.

22. Successful implementation of the sanitary-antiepidemic and hygienic measures requires the head and midwife of a feldsher-midwife station to enlist the cooperation of local organizations and active members of the Red Cross, rallying in their day-by-day work on the village soviet's commission for the improvement of living conditions.

The Female Attendant of a Feldsher-Midwife Station

23. The attendant of the station must be a woman at least 18 years of age who can read fairly well, preferably one with work experience in a public health agency.

24. The institution financing the feldsher-midwife station appoints and dismisses the attendant on the recommendation of the station head.

25. The attendant is supervised by the head and midwife of a feldsher-midwife station.

26. The duties of the attendant are:

(a) to keep the station clean and neat, to take care of the furnace;

(b) to obtain pieces of equipment and medicines when needed;

(c) to assist the medical workers in handling and taking care of patients, obstetrical and other work not requiring special education.

Appendix 2

Regulations Governing the Rights and Duties of Feldshers (Women Feldshers, Feldsher-Midwives)

Approved by Order of the Ministry of
Health, USSR, no. 343, 6 June 1946

I. In accordance with the decisions of the Council of People's Commissars, the title of feldsher (woman feldsher, feldsher-midwife) is assigned to individuals who have completed feldsher school and obtained the diploma signifying completion of the feldsher or feldsher-midwife school or who have passed the examinations without attending the lectures of a feldsher or feldsher-midwife school.

II. Feldshers (women feldshers, feldsher-midwives) train for work in:

1. Independent feldsher or feldsher-midwife stations where without supervision they render inpatient, consultative, and outpatient aid, make house calls, and carry on sanitary-prophyllactic work.

2. City and rayon hospitals and clinics where they work under the direction of physicians.

3. Executing measures to combat and eradicate infectious diseases, performing necessary prophylactic inoculations (in accordance with the special instructions of the Ministry of Health, USSR), inspecting schools, kindergartens, and day nurseries.

III. In the absence of a physician, a feldsher (woman feldsher) who has completed his (her) medical education and has had at least three years of practical experience may substitute for the physician in the health unit of a factory, clinic, or small hospital (up to 10 beds) provided that arrangements are made for consultation with a physician in the nearest hospital; he (she) may take temporary charge of a rural medical district or substitute for the district physician during his absence.

IV. Feldshers (women feldshers, feldsher-midwives) in hospitals and elsewhere have the right -- both independently and under the supervision of a physician -- to perform the following medical procedures:

1. Minor surgery: (a) opening of superficial abscesses and phlegmons; (b) removal of foreign bodies not requiring complex methods and not involving destruction of substantial amounts of tissue; (c) making skin sutures and ligatures to check bleeding (in wounds and incisions) with observance of all the rules of asepsis; (d) venipuncture, taking of blood from a vein, phlebotomy by means of venipuncture; (e) subcutaneous, intramuscular, and intravenous injection of medical preparations and solutions (physiological saline, Ringer's, glucose); (f) taking of blood for a Wasserman, Widal, or Weil-Felix test and for the malarial plasmodium; (g) determination of blood groups; (h) application of tourniquets; (i) reduction of simple dislocations, application of ambulatory splints for fractures (simple and compound), and fixation bandages for fractures and dislocations; (j) application of plaster casts; (k) application of adhesive extension for fractures; (l) use of ethyl chloride and novocain for local anesthesia; (m) tamponing for nasal and uterine bleeding; (n) simple extractions of teeth.

2. Catheterization and irrigation of the urinary bladder with a soft catheter.

3. Application of dry and wet cupping glasses, leeches, mustard plasters, compresses, and poultices.

4. Irrigation of the stomach, enemas (cleansing, siphon, medicated, nutrient), insertion of colonic tubes.

5. Examination of the urine for albumin, examination of the blood for the ESR and hemoglobin.

6. Taking of throat and nasal smears.

7. Performing physiotherapeutic procedures as ordered by a doctor (Minin, quartz, and Sollux lamps, dry-air baths, etc., massage, and gymnastics.

8. All types of conservative treatment for eye, ear, nose, and throat diseases: irrigation, lubrication, instillation, application of salves, removal of superficial foreign bodies, scarification of the conjunctiva, application of dressings.

9. Doing obstetrical work in the absence of a midwife: (a) normal deliveries, (b) opening of the amniotic sac, (c) resuscitation of the fetus in asphyxiation, (d) use of Credé's method in the postpartum period, (e) manual detachment of the placenta, (f) digital removal of a miscarried fetus, (hemorrhage), (g) suturing of first and second degree perineal lacerations, (h) anesthetization in childbirth in accordance with the instructions of the Ministry of Health, USSR.

10. Rendering first aid in accidents (injuries, poisonings, drownings, hangings, etc.)

11. Carrying out independently all types of disinfection.

12. Inspecting in his district sanitary conditions in food establishments, baths, showers, water supplies, and making appropriate reports, bringing deficiencies to the attention of the state sanitation inspector.

13. Carrying out health propaganda among the people.

V. Feldshers (women feldshers and feldsher-midwives) may, in addition to the procedures enumerated above, do other work under the direct supervision of a physician, such as: (1) assisting during operations; (2) taking X-rays of fractures and dislocations; (3) performing duodenal probes; (4) performing blood transfusions; (5) administering inhalation anesthesia; (6) injecting anesthetics intravenously and rectally; (7) inserting a bougie into the urethra; (8) using a tampon to check hemorrhage.

Note: Physicians may not authorize feldshers to perform any surgery other than that specified in this section.

VI. Feldshers in charge of independent medical units, temporarily directing medical districts, or substituting for doctors during their absence have the right to prescribe from the dispensary over their own signature any drugs required by the patients, including poisons or potent substances, in doses not exceeding the maximum for a single dose stipulated by the Ministry of Health regulations.

All other feldshers in an emergency have the right to prescribe drugs from the dispensary over their own signature, but no poisons or potent substances except:

- (a) silver nitrate in no higher than a 2% solution;
- (b) mercury bichloride solution no higher than 1:1,000;
- (c) caffeine and its salts;
- (d) opium tincture no more than 5.0 per prescription;
- (e) stypticin;
- (f) ergot extract or ergot fluidextract;
- (g) santomin tablets.

XIV. After 5 years of service fieldshers are entitled to two months of advanced training at their main place of work with full pay.

XV. Fieldshers are liable to disciplinary action -- or, under certain circumstances, criminal punishment in accordance with the criminal code of the union republics -- for administering improper treatment, negligence, or carelessness in discharging their official duties, or for failure to use the rights conferred by section IV of these regulations in cases threatening the lives of their patients or for performing unauthorized medical functions.

Appendix 3

Regulations Governing the Rights and Duties of Midwives

Approved by order no. 343 of the
Ministry of Health, USSR, 6 June
1946

I. In accordance with the decrees of the USSR "On the Training of Middle Echelon Personnel, Dentists, and Pharmacists" and "On Improving the Training of Middle Echelon Personnel," the title of "midwife" is reserved for those persons who have completed midwife school and received a diploma or who have passed the examinations of a midwife school without attending the lectures.

II. The midwife's functions consist of:

1. Performing obstetrical duties under the supervision of a physician in a city or rayon obstetrical-gynecological institution (maternity hospital, maternity department in a general hospital, women's consultation center, obstetrical-gynecological room in a factory, etc.).

2. Rendering independent obstetrical aid in a collective farm maternity hospital, consultation center, or on a traveling basis within the district.

3. Making visits to homes and factories.

III. In her actual work a midwife must:

1. Diagnose normal and pathological pregnancies, term of pregnancies, and establish the period of maternity leave in a collective farm maternity hospital, midwife station, health station, or consultation center.

2. Distinguish between a normal and pathological course in births and be capable of handling births and the postnatal period.

3. Use gynecological methods of studying and diagnosing women's diseases as a basis of prompt referral to a physician; know the rules concerning indications for termination of pregnancy and sending the women to the hospital as early as possible.

4. Use conservative methods of treating gynecological diseases, including physiotherapy (under the direction of a physician).

5. Keep a diary of clinical observations of ill women and women in childbirth in a collective farm hospital or midwife station; take the temperature and graph it, take the weight, pulse, respiration, measure the pelvis, blood pressure, etc.; report obstetrical-gynecological diseases on statistical forms.

6. Consult with a physician and do other things required to prevent complications in pregnancy.

7. Know the methods of caring for newborn and breast-fed infants, feeding techniques, organization of supplemental feeding, and decanting of breast milk; use methods of preventing inclusion conjunctivitis in infants and puerperal sepsis; render first aid to a sick infant; prevent and treat the diseases of infants.

8. Carry out hygienic measures and propaganda in behalf of feminine hygiene, protection of mothers and children.

9. Carry out disinfection procedures in maternity hospitals and in the homes of women in childbirth (cleans mothers and babies during postnatal visits).

10. Isolate patients, carry out disinfection and disinfestation measures in homes and medical institutions; know the epidemiology and prophylaxis of the commonest infectious diseases (measles, scarlet fever, diphtheria).

11. Know the main types of narcotics and anesthetics and methods of using them.
12. Apply all the necessary rules of asepsis and antisepsis in her routine work; store and sterilize (in an autoclave) surgical instruments, dressings, and articles used in caring for patients; prepare sutural material.
13. Make surgical dressings, help the physician in obstetrical-gynecological operations and intravenous infusions; make venipunctures and laboratory tests (determination of blood groups, analysis of the urine for albumin, analysis of the blood for hemoglobin and the ESR).
14. Make subcutaneous injections, catheterization; use cupping glasses, compresses, leeches, enemas (simple, medicated, nutrient), douche, irrigation.
15. Know the dosage of the principal drugs, including those with potent action, rules for storing and accounting for medicines, methods of using them; compound the main drugs and solutions of antiseptic preparations; easily read, copy, and write prescriptions on the instructions of a physician.
16. Make beds with due regard for the individual circumstances of the patients; know the methods of moving them.
17. Know the methods of taking care of the skin, ears, mouth, nose, and throat, particularly of children.
18. Observe the junior medical personnel assigned to her and guide their work.
19. In a case requiring emergency medical assistance, the midwife is obliged to arrange for transportation of the patient to the nearest hospital or clinic, or if this is impossible, to make an urgent request for a physician from the nearest medical district, rendering first aid until he comes.
- IV. In emergencies requiring obstetrical or gynecological assistance and where a physician is not available, the midwife has the right and is obliged to:
 1. Resuscitate the fetus in asphyxiation.
 2. Open the amniotic sac if the indications call for it.
 3. Use manual means in pelvic presentations.

4. Use modern methods of removing the placenta in the postnatal period.
5. Manually investigate the uterine cavity and remove the placenta.
6. Insert a tampon in the vagina.
7. Suture first or second degree perineal lacerations.
8. Use Stroganoff's method in eclampsia, magnesium therapy, venesection in massive doses, provide the patient with complete rest.
9. Use approved methods of treatment for shock (injections of morphine or pantopon, intravenous infusions of glucose with strophanthin, etc.).
10. Investigate manually the uterine cavity in atonic hemorrhage, inject pituitrin, apply angiopressure to the abdominal aorta; use Kocher's forceps in case of uterine laceration, promptly summoning medical help.
11. In cases of bleeding or placenta previa, promptly send the patients to a hospital or call a doctor, using in exceptional cases Villet-Ivanov's method.
12. Make early diagnosis of extrauterine pregnancies, give treatment for shock, use Trendelenburg's position, provide rest, and give medical aid.
13. Use anesthesia in births in accordance with the instructions of the Ministry of Health, USSR.
14. Prescribe from the dispensary over her own signature any drugs necessary for emergency treatment, using the dosage established by the instructions of the Ministry of Health, USSR; store and account for medical preparations.
- V. Midwives with middle grade medical education who have shown themselves in their work to have adequate theoretical and practical training are permitted to instruct students of middle grade medical schools in practical subjects.

Appendix 4

Regulations for the Assistant to a State Sanitation Inspector (Sanitation Physician)

Approved by the All-Union State Sanitation Inspection Service, People's Commissariat of Public Health, 20 March 1940

1. The assistant to a state sanitation inspector (sanitation physician) is a person of middle grade medical education trained to perform the following tasks:

- a. To inspect all establishments in a populated area under the supervision of a sanitation physician;
- b. To execute individual assignments made by the sanitation physician (collect materials on the spot relating to the sanitary conditions in an establishment and transfer the data to a card, check on execution of requests made by the sanitation physician, make epidemiological investigation of cases of infectious diseases);
- c. To carry out independently all types of disinfection and disinfestation, using whatever methods may seem appropriate, and to check on the effectiveness of the disinfection and disinfestation;
- d. To conduct hygiene propaganda among the people, encouraging independent activity;
- e. To draw up reports of sanitary inspections;
- f. To do clerical work, including the keeping of all types of sanitary-epidemic records, under the supervision of the sanitation physician;
- g. To obtain samples if there are appropriate sanitary or epidemic indications and send them to the laboratory for analysis, and, whenever, required, to make simple on-the-spot investigations, duly reporting on the results.

2. The assistant to the state sanitation inspector (sanitation physician) inspects minor food enterprises, shower rooms, washstands, etc., making notes in the sanitation journal on all inadequacies observed for the information of the state sanitation inspector (sanitation physician):

a. He describes sanitary conditions in small places and reports on sanitation violations; the sanitation physician himself is required to describe the major manufacturing, food, and communal establishments;

b. On the instructions of the sanitation physician he carefully collects samples of food products, water, soil, etc., for analysis by experts;

c. He checks on execution of the proposals and decisions of the sanitary-epidemiological station regarding the closing down of places, removal from circulation or destruction of products, sanitary measures in factories, communal buildings, etc.;

d. He checks on the availability of baths, showers, washstands, etc., and their condition, disinfection equipment, and the taking of medical examinations by individuals who are required to do so;

e. He officially registers the decisions of the sanitation physician regarding the levying of fines, prepares the text, records, and follows up on the course of the decisions.

3. The assistant to the state sanitation inspector (sanitation physician) receives an identification card containing his photograph and the signatures of the chairman of the rayon executive committee and rayon sanitary-epidemiological station plus a list of the establishments (in the rayon, city, or district) assigned to him for inspection and a statement that he has the right of direct access for this purpose and is authorized to take samples for analysis by experts.

4. The state sanitation inspector (sanitation physician) is required to give his assistants systematic instruction on the regulations covering the places they are assigned to inspect.

5. The sanitary-epidemiological station of an autonomous republic, kray, or oblast is responsible for advanced training of the assistants by arranging for them to take appropriate courses.

6. The assistant to the state sanitation inspector (sanitation physician) works according to a plan approved by the sanitation physician, the execution of which must be checked at least once every ten days.

Appendix 5
Public health, report form no. 14

USSR
Ministry of Health

Approved by the Central Statistical
Administration, USSR, 13 July 1954, No.323

Budget _____

Report submitted to the rayon health
department through the rural district
hospital (clinic) for the year beginning
January 5 by feldsher-midwife stations,
feldsher stations, midwife stations,
collective farm maternity hospitals

§ _____

REPORT FORM FOR
FELDSHER-MIDWIFE STATIONS
FOR 195__

Name of institution _____
Oblast (kray), ASSR _____, rayon _____
Inhabited locality _____
(write in name and postal address)

Feldsher-midwife station, feldsher station, midwife station, collective
farm maternity hospital (underline); permanent, seasonal (underline)

The station is located in a state farm, machine and tractor station,
collective farm, forestry station, lumber camp, peat bog (underline)

The station (collective farm maternity hospital) serves _____
(number)

inhabited localities _____ collective farms
(number)

Transportation, no transportation (underline); kind _____
(write in)

Hydraulic hose, no hydraulic hose (underline)

I. STAFFING PATTERN*

Total no. of positions at end of year under review	Including		
	Feldshers (feldsher- midwives)	Junior Midwives medical personnel	

Authorized positions	1	2	3	4
Filled	2			

*Data compiled on the basis of the staffing pattern filed with fiscal
agencies.

II. SERVICE TO PATIENTS*

Patients treated

outpatient department		at home				
total no. of visits	plus visits by pregnant women	total no. of visits	incl. visits of nurses	total no. of babies deliv- ered	incl. those involving subsequent hospitalization of new mothers	
1	2	3	4	5	6	7

*Including visits in connection with babies delivered at home.

At end of year under review
no. of children up to 1 year old (11 months, 29 days) _____
" " " from 1 to 3 years old (2 years, 11 months, 29 days) _____

Number of pregnant women registered during year _____

Circulation of "feldsher-midwife station report"

III. HOSPITAL ACTIVITY

No. of beds at end of year under review (actually avail- able + those undergoing repair)	Incl. those of new mothers	In year under review patients admitted dis- charged	Total no. of bed-days for all patients
1	2	3	4

No. of parturient women admitted _____; total of bed-days for all
parturient women and new mothers _____; babies delivered _____

No. of deaths among pregnant, parturient women, new mothers _____

Cause of death: (a) hemorrhage _____ (b) eclampsia _____.

Born alive _____, incl. premature babies _____, stillborn babies _____

No. of infant deaths _____, incl. premature infants _____

IV. REFERRALS TO CONSULTATION CENTERS AND HOSPITALS

No. of pregnant women referred to consultation centers	Number sent to hospitals		
	pregnant women	new mothers	with postnatal complications
1	2	3	4

V. HYGIENE PROPAGANDA

No. of talks delivered _____
 No. of public health inspectors _____, incl. those who attended seminars as part of an approved program _____

VI. NUMBER OF PATIENTS WITH TRACHOMA

Total no. of patients incl. children: up to 6 yrs. old inclusive from 7 to 14 yrs. old inclusive	No. of cases of trachoma newly diagnosed during the year			No. of patients registered at the end of the year		
	1st stage	2nd stage	3d stage	1st stage	2nd stage	3d stage
1	1	2	3	4	5	6
2						
3						

_____ 195_____, director

FIGURES

DECREE

The Council of People's Commissars at its session of July 11th decided:

1. To establish a People's Commissariat of Health to be assigned the direction of all medical institutions in the R.S.S.F.R. for the purpose of unifying all affairs pertaining to medicine and sanitation in the country.

2. To transfer to the People's Commissariat of Health all the activities and facilities of the Council of Medical Boards.

3. To charge the People's Commissariat of Health with responsibility for unifying the activities of all the medical departments attached to all the Commissariats and to direct their work henceforth until complete unification is effected.

4. To make the following temporary appointments to the Board of the Commissariat of Health pending confirmation by the Central Executive Committee: comrades Semashko, acting People's Commissar, Solov'yev, deputy, Dauge, Golubkov ... Bonch-Bruvevich, Pervukhin, members.

V. Ul'yanov (Lenin) [signed], Chairman, Council of People's Commissars

Bonch-Bruvevich [signed], Executive Director, Council of People's Commissars

Pervukhin [signed] Secretary of Council

Moscow, the Kremlin
 July 11, 1918

Figure 1. Decree of the Council of People's Commissars establishing the People's Commissariat of Health.

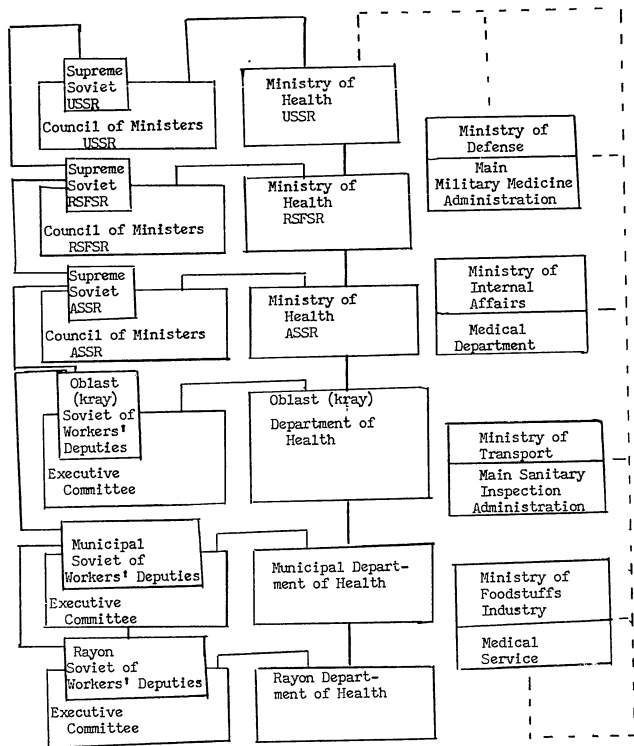


Figure 2. Administration of medicine and sanitation in the USSR.

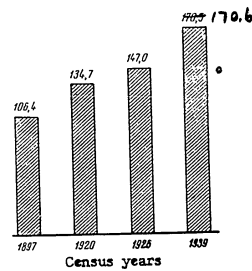


Figure 3. Size of population in Russia and in the USSR (in millions)

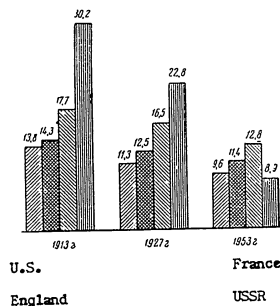


Figure 4. The death rate in the USSR and the capitalist countries (per 1,000 of population)

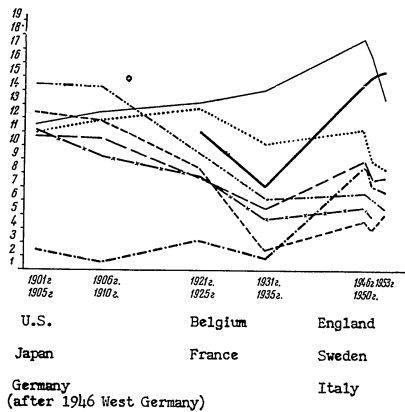


Figure 5. The natural increase of population in capitalist countries (per 1,000 of population) by five-year periods from 1901 to 1953.

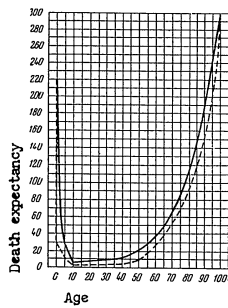


Figure 6. Death expectancy at various ages (USSR, 1926)

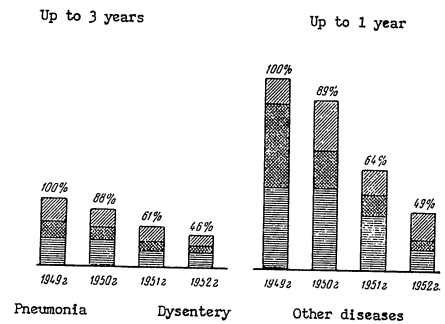


Figure 7. Rate and causes of mortality of infants (according to the Moscow consultation centers and polyclinics compared with 1949, taken for 100)

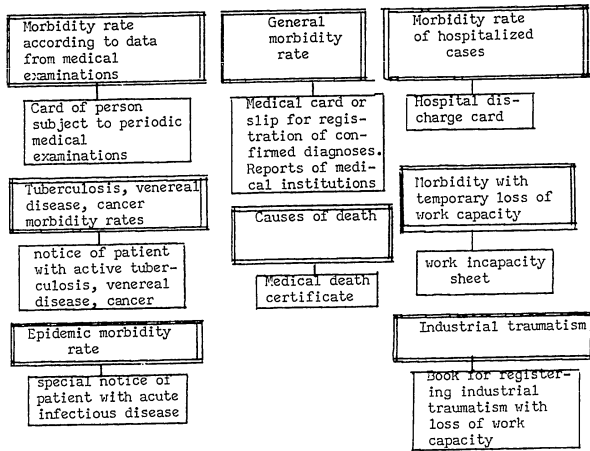


Figure 8. Outline of an investigation of morbidity.

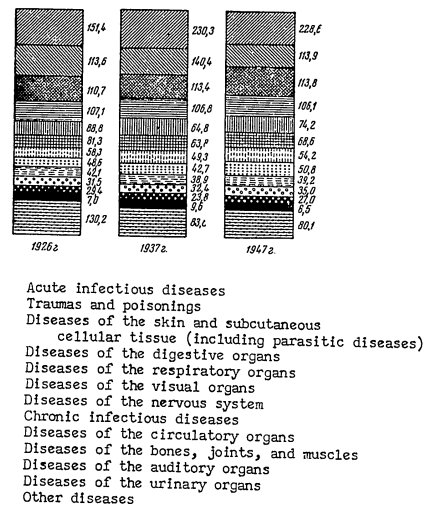


Figure 9. The pattern of morbidity in Moscow.

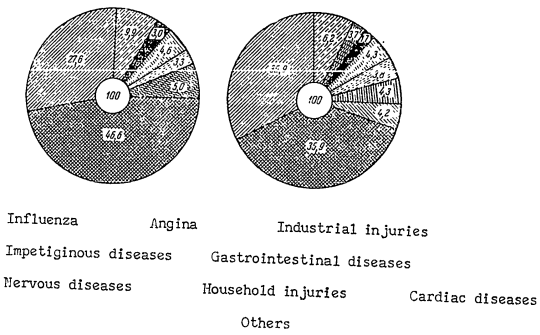


Figure 10. Structure of morbidity among workers with temporary disability at N. chemical plant (on the left) and N. textile factory (on the right). The number of cases of illness per 100 workers is shown here.

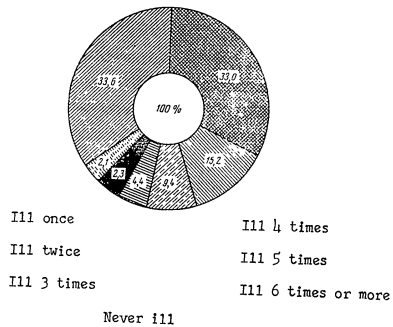


Figure 11. Number of cases of temporary disability among individual groups of workers at N. factory.

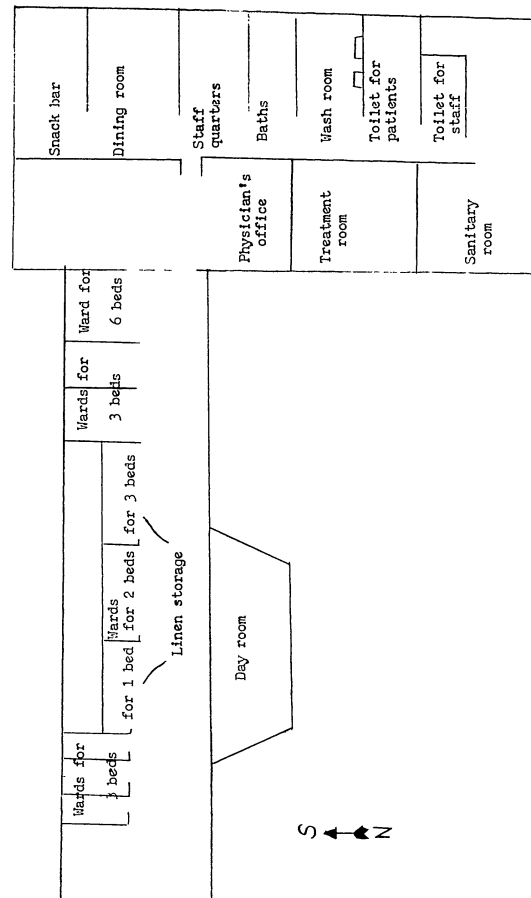


Figure 12. Diagram of a 25-bed ward section.

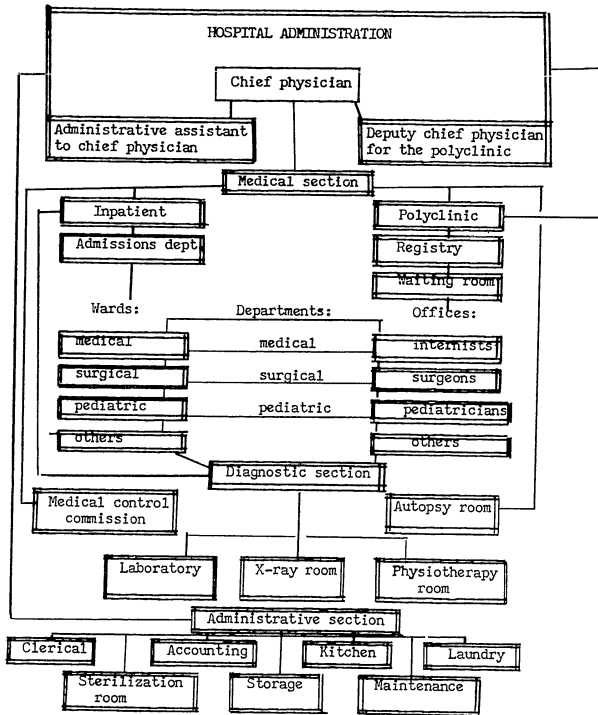


Figure 13. Structure of a city hospital.

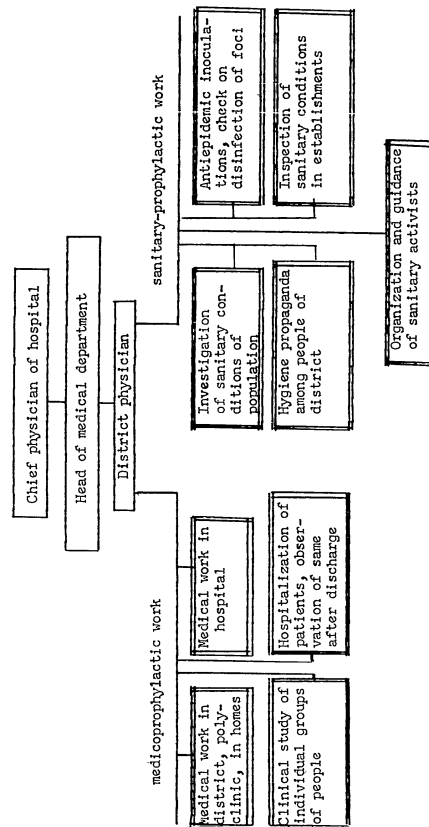


Figure 14. Outline of work of a district physician.

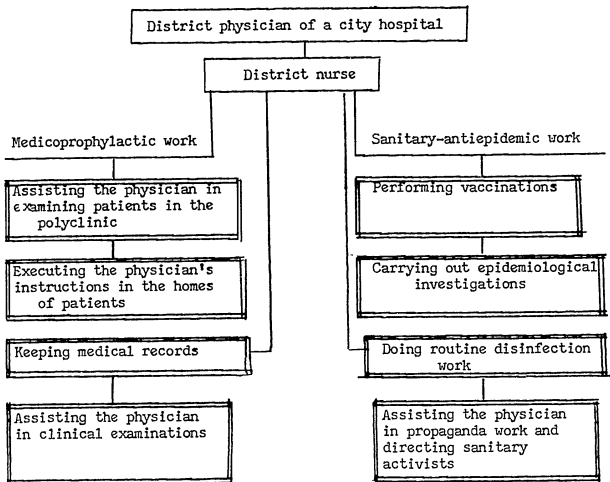


Figure 15. Outline of work of a district nurse.

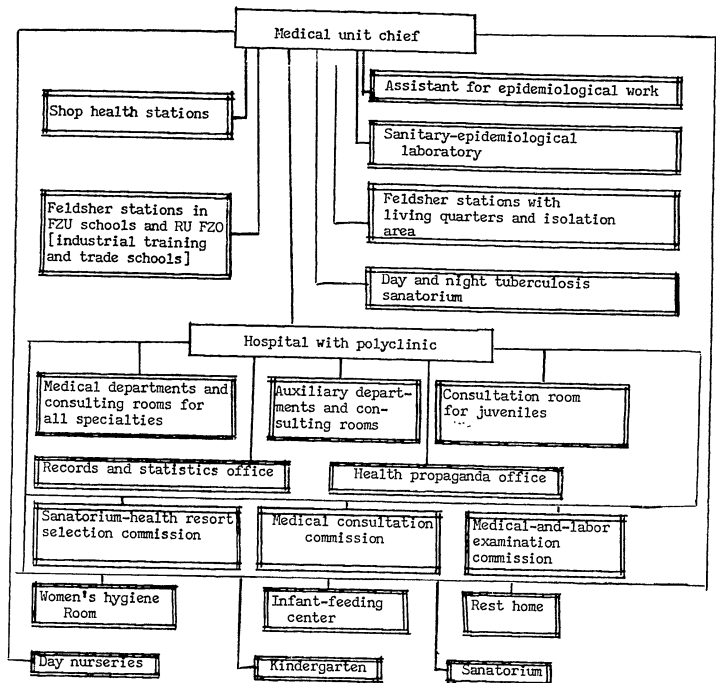


Figure 16. Structure of a medical unit in an industrial enterprise.

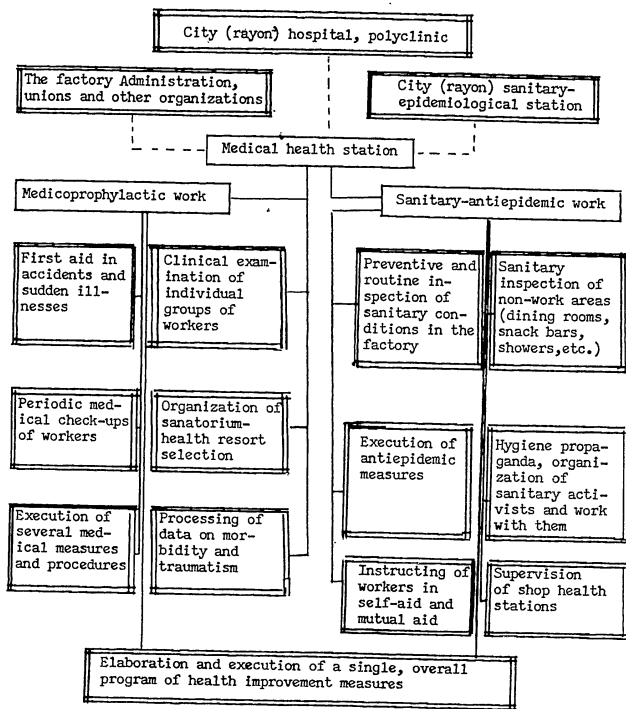


Figure 17. Outline of work of a medical health station in a factory.

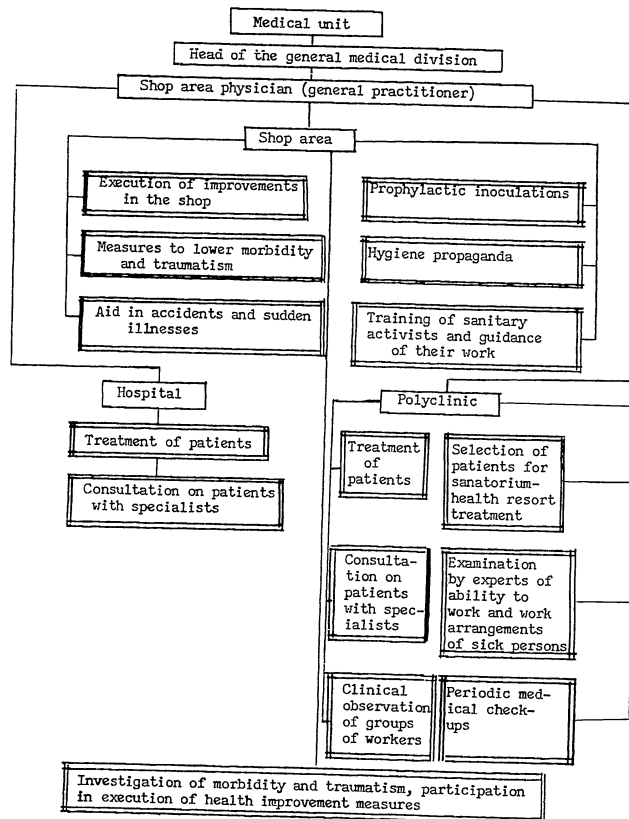


Figure 18. Outline of work of a shop area physician.

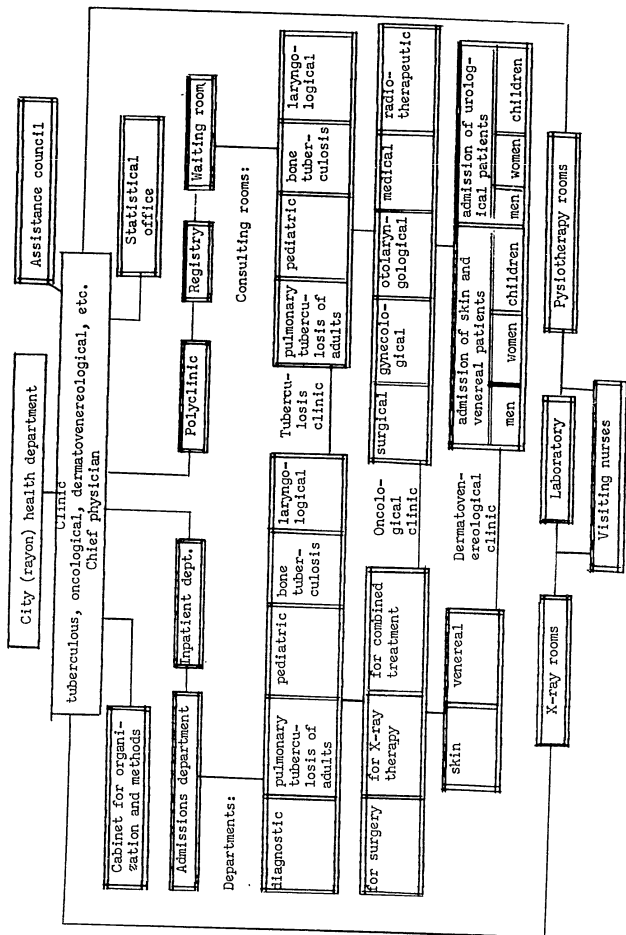


Figure 19. Structure of a clinic in the USSR.

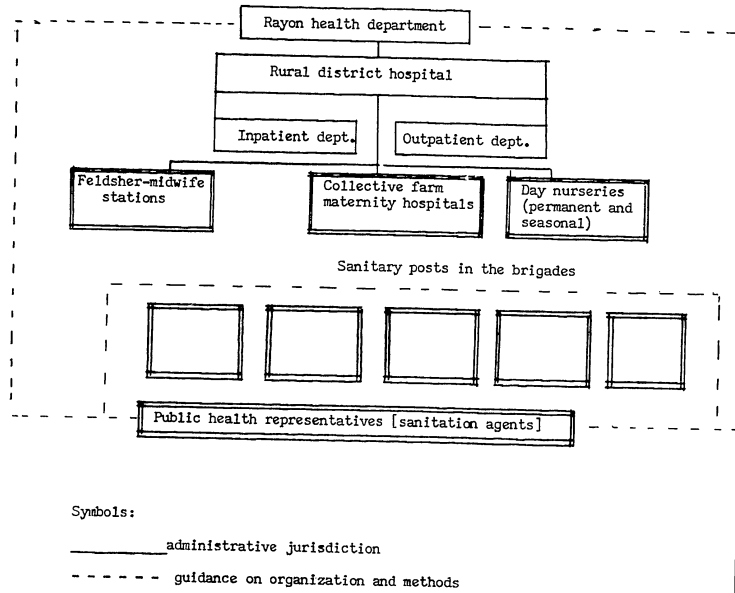


Figure 20. Organization of a rural medical district.

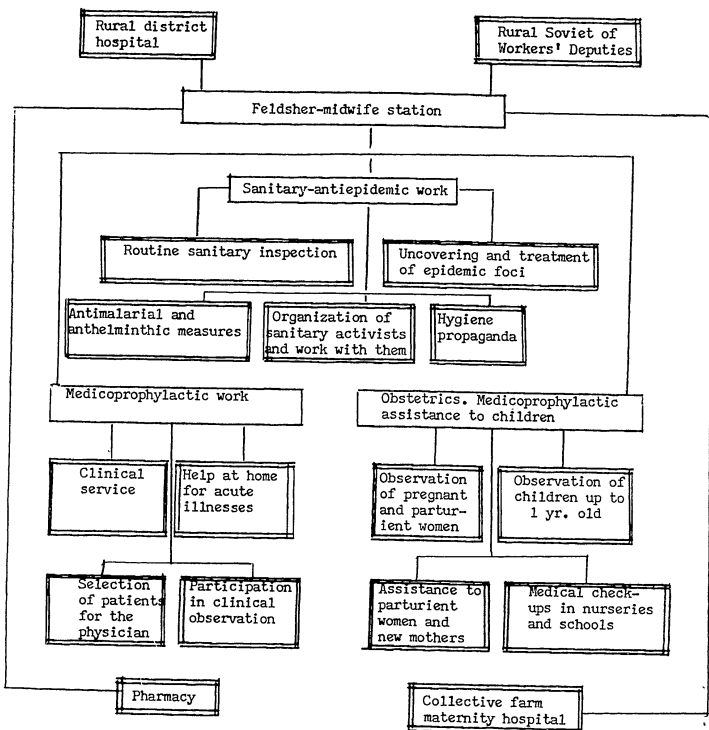


Figure 21. Outline of work of a rural feldsher-midwife station.

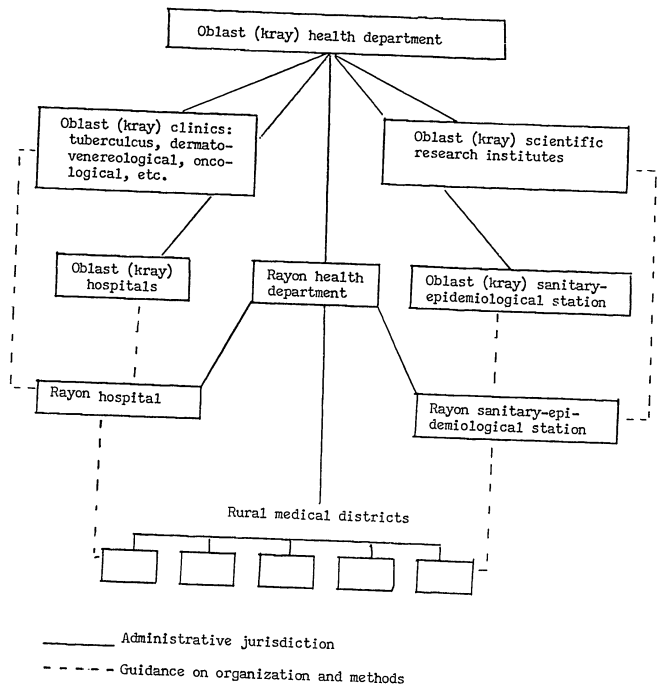


Figure 22. Medicoprophyllactic facilities for the rural population.

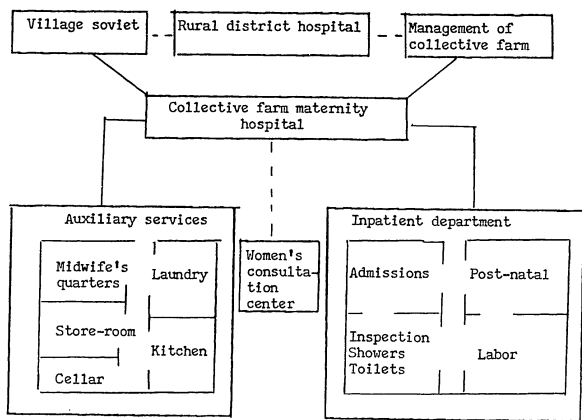


Figure 23. Structure of a collective farm maternity hospital.

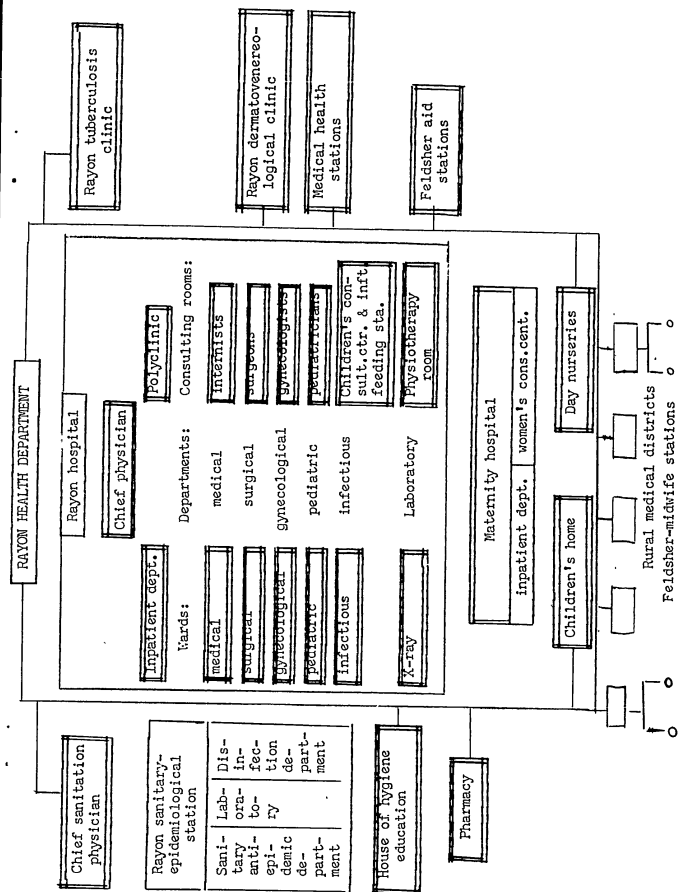


Figure 24. Organization of public health in a rural rayon.

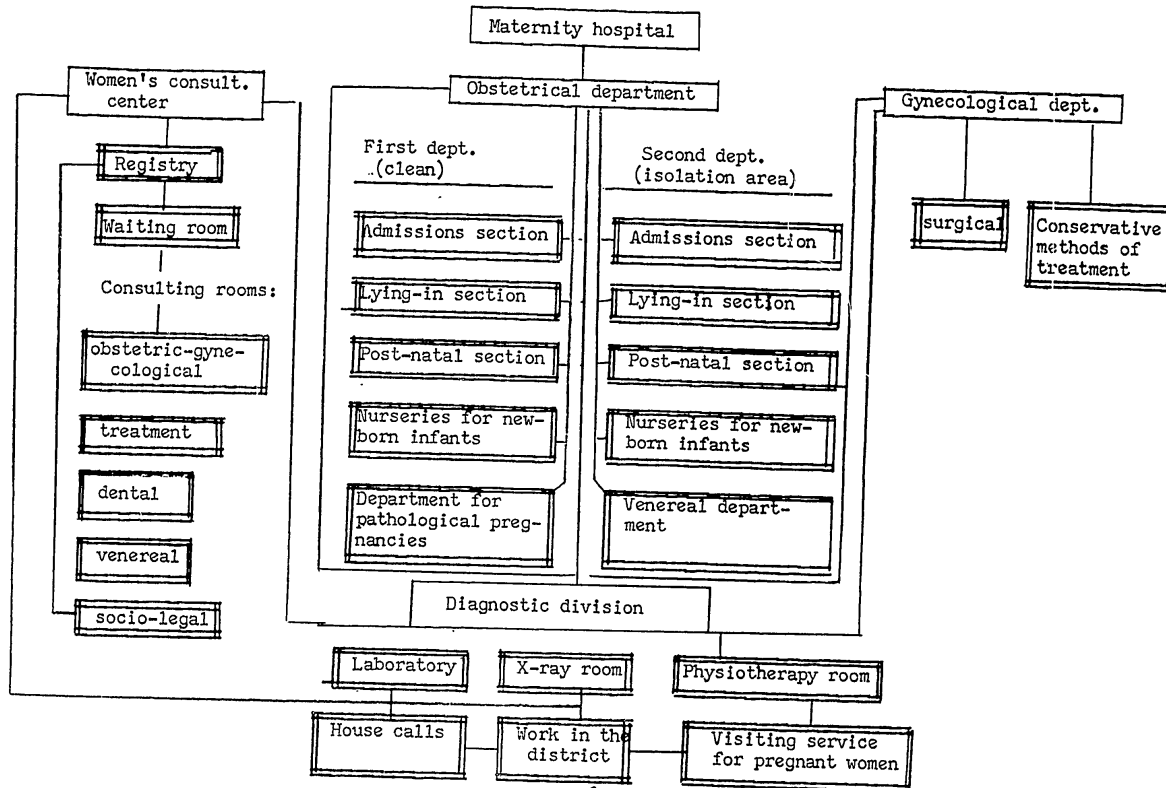


Figure 25. Structure of a maternity hospital.

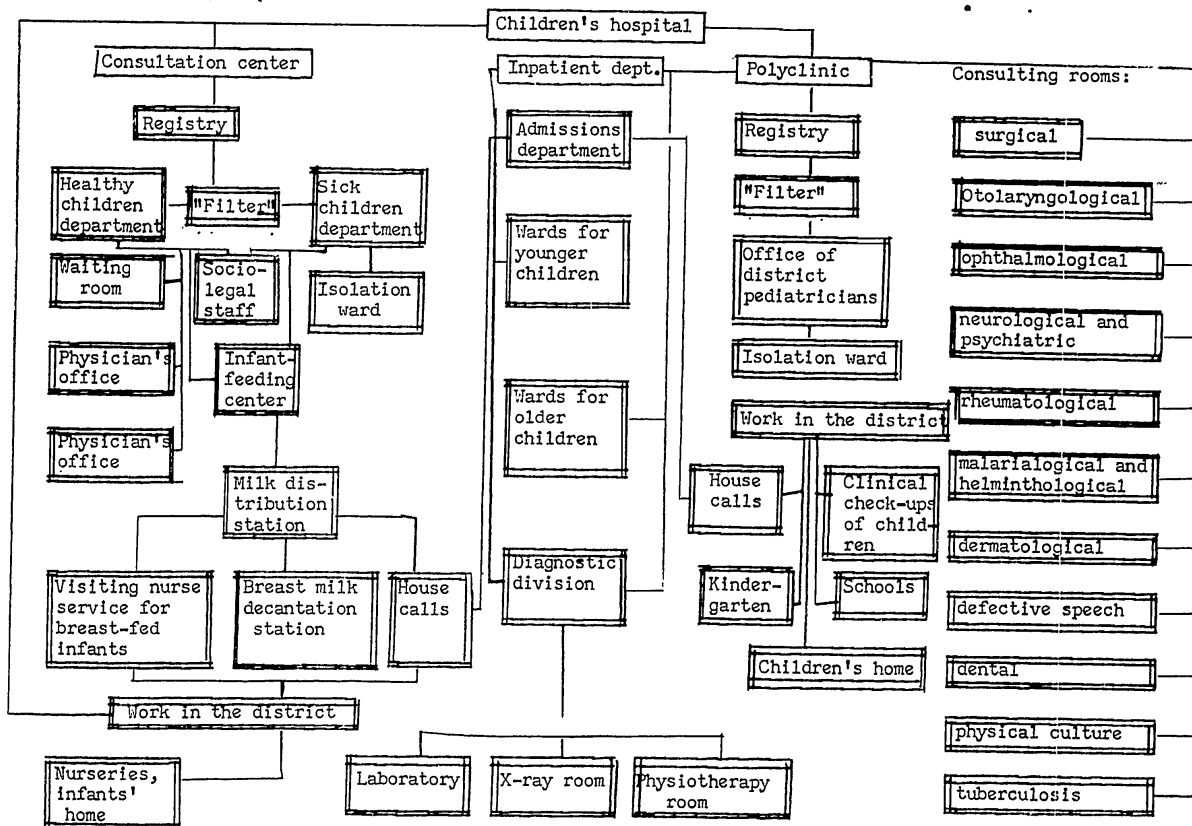


Figure 26. Structure of a children's hospital

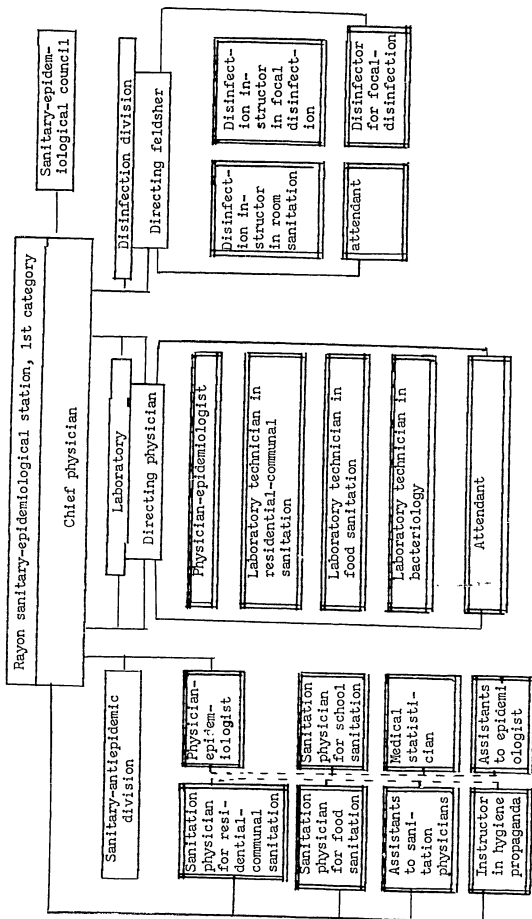


Figure 27. Structure of a rayon sanitary-epidemiological station.

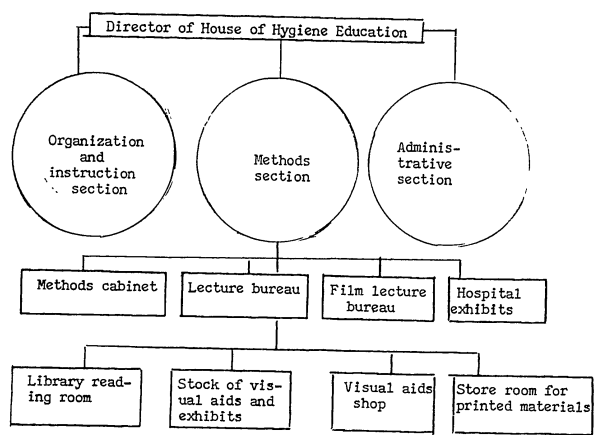


Figure 28. Structure of a House of Hygiene Education

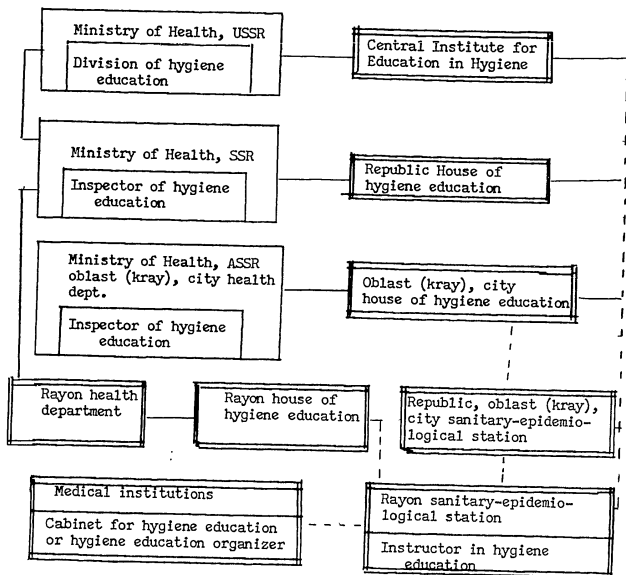
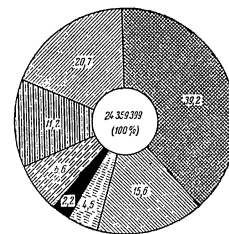


Figure 29. Hygiene education agencies and institutions.



- Medicoprophyllactic institutions and measures
- Medicoprophyllactic assistance to children
- Institutions and measures to combat tuberculosis
- Obstetrics
- Hygiene propaganda institutions and measures
- Medical schools and middle grade institutions, scientific research institutes
- Other

Figure 30. Structure of the public health budget (1949).