

MEDICINE

and

HEALTH

in the

SOVIET

UNION



by Henry E. Sigerist, M. D.

An up-to-date and comprehensive account
by the world's most eminent authority
on the history of medicine

MEDICINE and HEALTH in the SOVIET UNION

During World War II, interest throughout the world was deeply aroused by reports of medical developments in the Soviet Union. People heard of bold new operations on the ill and wounded — of an amazing record of cures and rehabilitation — of new methods of combating contagious diseases — of striking advances in the organization of health services in the army and in industry.

Yet these remarkable developments did not come about overnight. Since the establishment of the Soviet Union, significant advances in the field of medicine and protection of health have been recorded. But nowhere was there in print an up-to-date and authoritative study of the whole history of medicine and health protection in the Soviet Union to satisfy the increasing numbers seeking information on this subject. Now *Medicine and Health in the Soviet Union* makes available a comprehensive study by the world's foremost medical historian to meet the general need for this information.

Dr. Sigerist's volume does not aim to report merely on health and medical statistics at any given moment, for these are quickly outdated. Rather it presents current developments, techniques and organization from the over-all viewpoint of protecting an entire people's health, and their place in medical history and progress. As such, it gives a more complete and detailed picture of current Soviet practice than has ever been presented.

*Medicine and Health
in the Soviet Union*

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Medicine and Health
in the
Soviet Union

Henry E. Sigerist, M. D.

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JULIA OLDER

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Preface

In 1937, when I completed my first outline of the organization of Soviet medicine, the USSR appeared to have overcome its major difficulties. The period of the Civil War, of the great famines and epidemics, seemed far remote. During the self-sacrificing years of the First Five-Year Plan (1928-1932), industry had been developed on a tremendous scale, agriculture had been collectivized. The approaching end of the Second Five-Year Plan (1933-1937) found the people beginning to reap the fruit of their labors. Consumer goods were being produced in increasing quantities; great strides were being made in education and public health; the general material and cultural standards of the population were rising steadily and rapidly while the rest of the world continued in the throes of economic depression. The Constitution which had just been adopted defined the structure of the state, codified the rights and duties of its citizens and increased their participation in government. And so, in 1937, the people of the Soviet Union had reason to look into the future with confidence, anticipating that the period of the Third Five-Year Plan would be one of steady development and progress.

Yet, these people knew that sooner or later their country would have to face the supreme test of war. As a matter of fact, World War II had already begun; from the Far East, it had spread to Africa and Spain and was threatening to engulf the rest of the world. The Soviet Union, sizing up the situation, made a desperate effort to stem the tide of war by advocating a strong policy of collective security, by hammering into the world consciousness the principle that peace and war are indivisible. But Litvinov's voice remained virtually unheard.

From the very beginning, it had been quite obvious that the Treaty of Versailles, conceived in fear and compromise, would not be a suitable instrument for peace. It atomized Europe, created fantastic borderlines and such monstrosities as the Polish Corridor. And while Versailles

established a corrective mechanism in the stillborn League of Nations, it failed to attack the basic forces that had led to World War I. As they continued to act unchecked, fascism arose in one country after another with the tacit consent of the great powers. The very success of the Russian Revolution—often denied but undeniable—frightened the ruling groups of many countries to such an extent that they accepted fascism as a bulwark against socialism. History pursued its course with iron logic. The Second World War spread to Western Europe, to the Balkans, to the USSR and, finally, to the western hemisphere. Rarely has a generation acted with more criminal stupidity than ours; history will judge it very severely. The fact that some of the statesmen who so utterly failed in the past still direct the destinies of nations is not encouraging.

When we examine the present world, we find that technology has outrun social organization in every field of human endeavor. Science has developed more rapidly than society's adjustment to the new conditions which science has created. This phenomenon lies at the bottom of our present problems. Although we have the scientific and technical knowledge needed to produce all the food which the people of the world could possibly consume, more than half the population of the globe constantly suffers from malnutrition, if not from outright famine. We possess the technical means of making all the goods that people need for decent living; nevertheless, poverty remains the curse of mankind and many millions still live on subminimum standards. We have created astounding new transportation and communication facilities that have shrunk the globe tremendously, but we have to create the social organization that would permit the peoples of the world to live and work peacefully together.

At the same time, however, education has spread, reaching ever widening circles who already refuse, or soon will, to accept starvation, misery, ill health, economic depression and imperialistic wars as natural catastrophes. Realizing that these are man-made evils which human intelligence could prevent, they rebel or will rebel against the groups that tend to perpetuate such evils, for they refuse to be coolies forever. That is why the recent world conflict took on the character of a gigantic war of liberation; that is why there is unrest in the world today. Because people everywhere wish to enjoy the benefits of science, they call for the social organization that would permit them to make full use of the present technology to raise material and cultural standards.

For more than twenty-five years, the Soviet Union has been engulfed

in a gigantic effort to apply principles of science to the basic processes of social life, to production, distribution and consumption. In a territory that covers one-sixth of the inhabited earth, populated by about 175 different nationalities, in a country that was extremely backward in many ways, a social organization has been developing that makes full use of modern technology for the benefit of all. It has already eliminated the possibility of economic crises and is thus able to give all its people the constitutional right to work. And when the tide of war flowed over its own soil, it proved strong enough, materially and spiritually, to repel and defeat the most powerful war machine the world had ever seen.

The Soviet solution may not be the only one, but it is one that has already been tested in practice. Therefore, we must study it. We simply cannot afford to ignore it.

What has happened in the world at large has also happened in medicine. Here too technology has outstripped social organization. Medicine has infinitely more to give than the people actually receive. We have the knowledge required to wipe out a great many diseases altogether, but these are still among us. True, we have succeeded in overcoming certain diseases in economically advanced countries, but we still have and continue to breed them in economically backward countries, where they remain a menace to all.

As science developed, medicine became scientific; it became highly technical, highly specialized and very efficient. Unfortunately, however, the cost of medical care increased more rapidly than purchasing power. Science played the same basic role in the industrialization of the world, so that we find ourselves today in a highly differentiated, highly specialized society of wage earners. To serve a new society, the new medical science requires new forms of service. It seems obvious that if medical care is to reach the entire population, it cannot be sold in the open market and thus be available only to those who can afford to purchase it.

The need for new methods of distributing medical services has been felt since the beginning of the industrial era; throughout the nineteenth century attempts were made to bring medical care to increasingly large groups of the population. Beginning around 1848, public health services were developed in all civilized countries. As early as 1864, Russia established a system of public medical services for its rural population; that is, for the great majority of the people. Germany inaugurated compulsory sickness insurance in 1883 under a comprehensive system of social insurance. One country after another adopted similar solutions.

Today in every country the trend in medicine is toward socialization. From a private relationship between two individuals, medicine is becoming a social institution, one link in a great chain of social welfare institutions. This development has made it possible to shift the accent from the restoration of health to the protection and promotion of health.

In some countries the process has scarcely begun, in others it is more advanced. In each case, the stage that has been reached is determined primarily by the social and economic structure of the country. The Soviet Union, a socialist country, has been able to socialize medicine completely, and to give its citizens the constitutional right to all its facilities for the protection and restoration of health. Medicine, like education, became a public service, available to all without charge. And once the economic barriers set up by private competitive medicine were removed, it became possible to organize all health services rationally, along scientific lines.

The Soviet Union has created the social organization of medicine that permits the greatest use of its present technology. In doing so, it has inaugurated a new period in the history of medicine. We study the Soviet system of medical care for this reason, not to urge any other country to adopt it. Social institutions cannot be grafted upon a foreign body but must develop organically. Since it is generally accepted, however, that we should know how other countries handle their health problems, what methods they use, what results they obtain, how can we ignore the country that has made the boldest departure in the medical field? This health program is especially absorbing and significant because it is applied not in a small territory with a homogeneous population, but throughout one-sixth of the inhabited earth, against the greatest possible odds.

I, for one, am convinced that we can learn a great deal from the USSR. We have developed a public postal service that delivers mail to remote farms. We have created a public school system that brings education to children who live in the backwoods. Once we resolve to bring health to all the people in town and country, irrespective of race, creed or economic status, I feel that the methods we develop to do so will resemble those of the USSR, despite our different social and economic structures, because, after all, the technology we use is the same.

In July 1918, the first People's Commissariat of Public Health was founded, but for many years, while the Soviet Union was developing its new health system, the rest of the world took little notice of it. The

cultural boycott continued long after the physical boycott had been lifted. The country that took the greatest interest in Soviet medicine was the Germany of the Weimar Republic, where there was a strong trend toward social medicine in the nineteen-twenties under the leadership of A. Grotjahn. Russian and German medical science had longstanding traditional ties, so that whenever an article by N. A. Semashko, the first Commissar of Health, was published in a German medical periodical, it attracted great attention.

In France, a book by A. Roubakine, *La protection de la santé publique dans l'U.R.S.S., Principes et résultats*, was published in 1933 and opened the eyes of many physicians to the principles and achievements of Soviet medicine. During the all-too-short period of the Popular Front Government, when it looked for a while as if France had found its way back to its revolutionary traditions and might be able to rejuvenate over-age institutions in time to weather the coming storm, responsible doctors realized that they could learn a great deal from the USSR. The Minister of Health himself went to the Soviet Union on a study tour. But soon reaction set in, and the catastrophe could no longer be averted.

In the English-speaking world, W. Horsley Gantt, an American student of Pavlov, wrote a series of articles which was published in the *British Medical Journal* in 1928 and which then appeared as a little book under the title *A Medical Review of Russia*. That same year, in New York, Anna J. Haines, a nurse, published *Health Work in Soviet Russia*, a book that gives an excellent picture of Soviet medicine as she had seen it. Both publications are still of interest because they describe conditions as they were prior to the First Five-Year Plan.

In 1932 Sir Arthur Newsholme, one of Great Britain's outstanding public health experts, and Dr. John A. Kingsbury of New York, the alert and enthusiastic director of the Milbank Memorial Fund, went to the USSR to observe developments. Sir Arthur had surveyed the organization of medical services in most European countries on behalf of the Milbank Fund, and both he and Kingsbury correctly felt that the survey would be incomplete if it did not include the Soviet Union, where the most dynamic developments were taking place. They went on their tour without great expectations but with eyes trained through wide experience in international public health work and with open minds. Observing conditions at the end of the First Five-Year Plan, both were deeply impressed. Their report, published in book form in 1933, was *Red Medicine: Socialized Health in Soviet Russia*. Dedicated to a great

American physician, the late William H. Welch, it had wide repercussions in England and the United States because it reflected the views of men who were recognized experts in the field and who could not be accused of political bias. A short book by N. A. Semashko, *Health Protection in the U.S.S.R.*, which presents an authoritative cross-section of the subject, was published in London in 1934 and in New York the following year.

As a student of the history and sociology of medicine whose field of research is medicine in time and space, I have been interested in Soviet developments for many years. In 1932, I decided to undertake a survey of Soviet medicine. I was then completing a study on American medicine and had found that American conditions could not be compared with those of the small European countries whereas the Soviet Union, covering an entire continent, inhabited by a great variety of nationalities, provided a more suitable basis for comparison. Both countries were young in civilization: in 1620 the *Mayflower* landed in Plymouth and in 1689 Peter the Great ascended the throne. The beginning of the twentieth century ushered in the great development of American medicine; in 1917 a new era began for Russia. Both countries were bravely looking into the future; not afraid to experiment, they were seeking new paths in medicine. The problems they had to face were similar, but the difference in their social and economic structure and in their underlying political philosophy necessarily led to different solutions. The Soviet Union presented an ideal opportunity for studying medical history in the making.

My main purpose was not to report on health and medical conditions existing in the USSR at any given moment, for such studies are quickly outdated. It was, rather, to approach Soviet medicine from the broad perspective of history, viewing it as one and not the least important aspect of the new civilization that was taking shape in that country. In other words, I set myself the task of writing a book on the Soviet Union and its methods of protecting the people's health. I wanted to write a sociological study of socialist medicine as exemplified by Soviet medicine.

I spent three years, from 1932 to 1935, learning Russian and studying the literature not only on the medicine but also on the history, social and economic structure, and institutions of the USSR. Then, in 1935, I spent an extended summer in the Soviet Union. The visit began with several months in Moscow, where I studied the central organization of

medicine and visited the various types of health institutions. I found the authorities most cooperative and had an ideal opportunity to discuss problems with a large number of health officers, medical scientists, physicians, students and patients. I attended meetings of health committees in many plants, sat in on classes in medical schools, was present at graduation exercises and thus had a good opportunity to become acquainted with the organization and functioning of medicine in the capital. Later, I traveled extensively through the Ukraine, Caucasus and Armenia, in order to see other cities and to study rural conditions and rural medical problems and services.

In the autumn, I returned to America with the boxes full of literature that I had collected. I continued my studies, then returned to the USSR for another summer of field work in 1936. Unwilling to rely on first impressions, I revisited a number of institutions, inspected others for the first time, had many more interviews, filled gaps and traveled in sections of the country which I had not visited before, notably the Tatar Republic.

After five years of intensive investigation, I felt ready to publish the results of my studies. I wrote a book that was issued in 1937 under the title *Socialized Medicine in the Soviet Union*. Then, since Soviet medicine was developing rapidly, I felt that I should endeavor to keep track of developments. I undertook my third survey tour in 1938. I would have visited Central Asia and Siberia in 1940 had the war not interfered with my plans.

My book was given a very favorable reception when it appeared in Great Britain. At that time, the Left Book Clubs were flourishing, and the book was widely read and discussed from one corner of the British Empire to another. A French translation was being considered, and a German translation, to be published in Switzerland, was ready in manuscript when both projects had to be abandoned because of the war.

In the United States, the reception was decidedly cool. The country was under a heavy barrage of anti-Soviet propaganda. Girding to meet attack, and knowing by what methods the Nazis were striving to build up fifth columns in other countries, the Soviet Union got rid of its traitors in time. In the United States, however, few persons attempted to understand the meaning and significance of the Moscow trials. Most Americans condemned them without even taking the trouble to read the record of the proceedings. Every day a complacent press told them that the "Russian experiment" had failed, that the country was close to

collapse, that the five-year plans had been failures, that the army was poor and the people disaffected.

If everything else in the USSR was rotten, how could its health system be any good? My book was branded as propaganda. In 1938 a prominent American physician, past president of a great medical association, wrote in a widely circulated publication:

"The Russian medical situation offers only discouragement. . . . Certainly it can be demonstrated from the last twenty years that progress in medicine—contributions to its advancement, whether in science or in practice—has stopped in that country."

The man who wrote these lines (who is dead now and whose name it would not be generous to mention) was *not* unusually stupid. He was merely uninformed, uncritical and thus an easy prey to propaganda. He expressed in words what most physicians in this country thought.

And then, on June 22, 1941, the Soviet Union was invaded and did not collapse in a few weeks as most military "experts" had predicted. As one man, the many nationalities rose in defense of their land. It soon became apparent that, far from being disaffected with their government, the people were ready to give their lives to preserve it. The Red Army proved to be a most formidable modern mechanized army, equipped with airplanes, tanks, a first-rate artillery and other armaments. This made it evident that Soviet industry had not been a failure. It proved to be so well organized, in fact, that entire industries were moved from the Ukraine to the Urals and beyond in a minimum of time without impairing industrial efficiency.

There was a sudden reversal of public opinion in the United States, a spontaneous wave of sympathy and admiration not unmingled with a feeling of guilt. The splendid response to the appeals of Russian War Relief was due in part to the desire of many Americans to atone for years of unfriendly actions or long-held prejudices against the USSR. People suddenly became aware that they knew little or nothing about that country and expressed eagerness to learn about it. Soon after Pearl Harbor turned the Soviet Union into our most powerful ally, it became apparent that in the future we would of necessity have much closer dealings with Russia than ever in the past, and that the people of the two countries should know each other better. Universities that had ignored the Soviet Union for twenty-five years began to take notice. In 1943 Cornell University pioneered by offering an intensive study course on "Contemporary Russian Civilization" that was well received.

A corresponding change of opinion took place among physicians. They began to hear that in the Soviet Union more than 70 per cent of the wounded were restored to the fighting lines and that the mortality among the wounded was kept to one and one-half per cent; they received reports about bold new operations, new methods of combating contagious diseases, and new studies in aviation medicine, about the efficient organization of health services in the Red Army and in the war industries. All of a sudden, the physicians of this and other countries realized that they had been misinformed or kept in ignorance about Soviet medical developments. They realized that it simply could not be true that "the Russian medical situation offers only discouragement." It also was obvious that of all our allies, the USSR had by far the greatest experience in the field of war medicine, and that we could learn a great deal from this experience.

Physicians seeking information soon found that, on account of the previous lack of interest, our libraries had been very remiss in collecting Soviet medical literature. The language, furthermore, proved to be a very serious barrier, and during the war communication with the USSR was so slow that it was difficult to obtain direct information. In response to many requests, the Anglo-Soviet Medical Council was established in London in 1942; a similar organization was created in 1943 in the United States. This is the American-Soviet Medical Society, which publishes a bi-monthly journal, the *American Review of Soviet Medicine*. Both groups endeavor to promote a closer cooperation with the medical corps of the USSR.

As a result of the suddenly awakened interest in Soviet medicine, my book was completely sold out in Great Britain as well as in the United States so that the need for a new edition soon became acute. In addition, there is much demand for the book now; increasing numbers of people seek information on the organization of health services in the USSR. There is also a growing demand for translations into foreign languages. A Spanish translation of the 1937 edition has been published recently in Cuba and requests have been received for a number of other translations. The countries that were occupied and looted by the Nazis for years face the task of reorganizing their health services from top to bottom, and they all wish to study the Russian experience.

I had always envisaged the possibility of preparing a new edition, and had continued collecting material to that end. My chief task has been to revise the book carefully and to bring it up to date, taking into

account all the developments of the last nine years. I found valuable source material for this purpose in a series of survey articles published in Soviet medical journals in 1943, when the country was commemorating the twenty-fifth anniversary of the establishment of its first People's Commissariat of Public Health. This event gave every field of medicine an opportunity to review its activities and to summarize the results achieved. Moreover, in 1942, G. A. Miterev, then People's Commissar of Public Health of the USSR, published a pamphlet that was most welcome in that it gave official statistics of health institutions and services up to the year 1941. I have also made wide use of a series of organizational charts issued in 1942 by the Central Institute of Health Instruction.

The book has been rearranged so as to be brought into a more logical order. Some chapters have been enlarged considerably, and a new chapter on war medicine has been added. Some outdated appendices have been left out but new items have been added. The book now appears under the title which I originally intended it to have, but which was changed at the request of the American publisher of the first edition.

A third edition of the book will have to be prepared by myself or somebody else, at the end of the new Five-Year Plan, when the country is reconstructed and conditions are stabilized—as much as we can talk of stabilization in so dynamic a country. In the meantime, it is hoped that the present edition will serve its purpose and will convey information on one of the most fascinating chapters in the history of medicine.

The preparation of this edition was begun more than two years ago and has suffered many interruptions. Busy as I am with many academic duties and with the writing of a comprehensive *History of Medicine*, I do not know when I would have been able to complete it had I not had the cooperation of Miss Julia Older. A keen student of Soviet affairs who spent three years in the USSR, an able researcher and experienced writer and editor, she was ideally equipped for the task. The revision of the entire second half of the book is her work and she also edited the entire manuscript and saw it through the press.

I also wish to express my appreciation to Dr. Robert L. Leslie, the driving spirit of the American-Soviet Medical Society. His constant encouragement, help and advice were instrumental in the completion of this book.

HENRY E. SIGERIST

Baltimore, Maryland
September, 1946

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*Medicine and Health
in the Soviet Union*

The Background of Soviet Medicine

To understand the organization of medical services in any country, it is essential to know its social and administrative structure, and the general principles which guide its national life. This is particularly true in the case of the Soviet Union, where society is constructed on organizational principles uniquely different from those of any other country. The basic medical problems are the same everywhere, but the special problems vary a great deal with the physical and social conditions of each country. It is relatively easy to control health conditions in a small territory inhabited by a homogeneous population of even cultural development; the same conditions are usually much more difficult to handle in a large territory with a heterogeneous population.

The Soviet Union is the largest country in the world. Its land area covers more than 8.5 million square miles, more than one-seventh of the total land area of the earth, one-sixth of the inhabited earth.¹ It is surpassed in size only by the British Empire with all its dependencies. From the Arctic regions, Soviet territory extends south to the subtropical Caucasus and Central Asia, a distance of 4,500 km. (about 2,800 miles); from the Baltic Sea and Carpathians, it sweeps east about 8,500 km. (about 5,300 miles) to the Pacific. The Urals, stretching almost directly from north to south, divide the USSR into European and Asiatic sections. Both are immense plains, both contain large mountain ranges and

¹ For these and the following figures see: "The Sixteen Soviet Republics," *Information Bulletin*, Embassy of the USSR, Washington, December, 1945; *The Soviet Union Today*, American Russian Institute, New York, 1945; *Handbook of the Soviet Union*, compiled by the American-Russian Chamber of Commerce, New York, 1936; and *The U.S.S.R. in Figures*, Moscow, 1935.

are crossed by powerful rivers flowing in north-south and south-north directions through vast stretches of land. The thinly settled Asiatic USSR, covering an area nearly four times as large as the European section, represents a huge land reserve for a growing population.

The natural resources, the potential wealth of the country are unlimited. The mountains are rich in mineral ore. The oil resources of Baku, Grozny, and other districts are estimated at 4.6 billion tons. The coal deposits in the Ukraine, the Moscow region, the Urals, and certain other areas amount to more than 1,654 billion tons. The rivers provide water-power and ways of communication, the value of which is enhanced by a system of canals. In the north is a belt of marshy plains, the tundra, bordering on the Arctic and rich in fur-bearing animals. Following south is a forest belt (taiga) which covers half of the entire area of the country and is a tremendous source of timber. The steppe belt, wooded in the north, grassland in the south, provides rich agricultural soil. A desert and semi-desert grazing belt in the southeastern European and southwestern Asiatic areas is used for pasture. And finally, there is the subtropical belt where fruits grow in abundance, where cotton, tea, and tobacco are cultivated, where silk-worms are raised.

This great and rich country was inhabited in 1940 by a population of 193 million, about one-third urban and two-thirds rural. That is the latest official figure, but experts believe that war deaths had reduced the population to about 185 million in 1945. The natural population increase is about three millions every year. Over three-fourths of the population live in the European part. The cities have grown tremendously. Moscow, which had 1.6 million inhabitants in 1914, had over four millions in 1940. In 1914 there were only 16 cities with more than 100,000 inhabitants; in 1935 there were 65, and in 1939 their number had increased to 82.

The United States, with a population reflecting perhaps a score of different national strains, is considered a country with a heterogeneous population; the Soviet Union is inhabited by 175 distinct nationalities large or small, the majority of which speak their own language or dialect. The 49 largest groups represent more than 99 per cent of the population. In 1938 newspapers were published in 68 languages besides Russian. Books and pamphlets have been published since the Revolution in 115 different languages.

When the Soviet system was established, after seven years of war, the country was a wreck. Society had taken over the means of production,

distribution, and transport, but what it had taken over was in ruins. The country had to be rebuilt from the bottom up—rebuilt along socialist lines. It soon became apparent that, under the circumstances, it would be impossible to establish integral socialism all at once.

However, within the brief period of a quarter of a century, the Soviet Union had become, in actuality as well as theory, a socialist state. A new social order has been established. It is the medical and health aspects of this new social system with which we are concerned in this book.

Before we can discuss the principles, achievements and aims of the Soviet medical and health program, we must look into its antecedents.

The Revolution made it necessary to reconstruct the medical services of the country, to build these services along new lines. Obviously, it had to start from the existing conditions; it had to use the materials, the medical institutions, and the medical personnel it found. What was Russian medicine like at the time of the Revolution? We have to know this to understand the development of Soviet medicine.

The history of Russian medicine² is a tale of terrific plagues and famines, of some brilliant achievements in a few centers, and of utter inadequacy in the open country. The beginnings were the same in Russia as they were elsewhere. For centuries Russian medicine was primitive medicine, folk-medicine, a combination of empirical knowledge and of magic rites and religious beliefs. As a matter of fact, at the time of the Revolution there were still groups of the population, particularly among the national minorities, that had never seen a physician but were treated in case of illness by medicine-men and witch doctors. It

² The standard work on the history of medicine in Russia from the beginning to the middle of the eighteenth century is: Wilhelm Michael Richter, *Geschichte der Medicin in Russland*, Moskwa, 1813-1817, 3 vols. Other publications: Maximilian Heine, *Fragmente aus der Geschichte der Medicin in Russland*, St. Petersburg, 1848.—A. Brückner, *Die Aerzte in Russland bis zum Jahre 1800*, St. Petersburg, 1887.—Franz Dorbeck, "Die Anfänge der Medizin in Russland und deren weitere Entwicklung," *Archiv für Geschichte der Medizin*, 1909, vol. II, pp. 404-418.—Fielding H. Garrison, Russian Medicine under the Old Regime, *Bulletin of the New York Academy of Medicine*, 1931, vol. VII, pp. 693-734.—L. Skorokhodov, *Kratkii Ocherk Istori Russkoi Meditsiny (Brief Outline of the History of Russian Medicine)*, Leningrad, 1926.—I. D. Strashun, "Razvitie meditsiny v Rossii" (The Development of Medicine in Russia) in *Bolshaya meditsinskaya Entsiklopediya*, vol. XVII, 1936, pp. 432-510.—W. Horsley Gantt, *History of Russian Medicine*, New York, 1937.

was not an easy task to change the attitude of these people, to make them ready to accept scientific medicine.

In ancient Russia as everywhere else, there were people who knew healing herbs, who knew how to bleed, how to apply poultices. The hygienic center of the village and town was the bath-house where people went once a week for a steam-bath. During the process, they whipped their skin with twigs and concluded with a cold shower.

In ancient Russia as elsewhere there were clerics, priests, monks, who nursed sick people and performed miraculous cures. The story of Rasputin and the Imperial Family makes it evident that the belief in such cures was not confined to the old days nor to the peasant population.

Drugs were listed. The earliest Russian medical books were herbals, collections of prescriptions, regimina, as was the case in other countries.

Until the nineteenth century, the rural districts had scarcely any medical care except that provided through folk-medicine. Epidemics of plague, smallpox, typhus swept over the country. Crop failures caused widespread famines at regular intervals. Millions of people succumbed to these visitations. But the population was fertile. New children were born, and life went on.

Conditions were different in the cities where the court, the nobility, the rich merchants required the services of real physicians. Russia had no doctors of her own in the early days so foreign physicians were called. The chronicles have preserved the names of many such physicians and surgeons who came from all parts of Europe. Some settled down in Russia; others, after a number of years of various and not always pleasant adventures, returned to their home-countries.

In the eleventh and twelfth centuries, foreign physicians came from the East, from Byzantium, Syria, Armenia. After the Tatars had been driven back, in the fifteenth century, Western physicians were called. A Venetian, Leo, attended the Court of Ivan Vasilievich in Moscow in 1490, but was executed after he failed to cure the Grand Duke's son. The customs were still barbaric, and the primitive idea that the physician was an all-powerful magician who could not fail unless he wanted to apparently continued to exist.

In the sixteenth and seventeenth centuries, when relations between the Russian and the European courts became more firmly established, an increasing number of foreign physicians went to Russia. They came from England mostly, but also from Holland and Germany. A few came from France. They were often sent by their monarchs as a courtesy to

a tsar. They were an adventurous crowd. Some became very popular, made fortunes and went home as rich men. Others mingled in politics and got into trouble. They all served the nobility exclusively, and were unavailable to the people.

Along with physicians came surgeons, who were particularly needed for the army. In 1581 an English apothecary, James Frencham, established the first pharmacy in Moscow. It served the court and was situated in the old Kremlin. A second pharmacy was built in the town itself to serve the population. Drugs were imported. They came from Amsterdam in 1678. Until the time of the Revolution of 1917, in fact, Russia imported most of the pharmaceutical products it consumed.

Drugs had to be controlled carefully since they can conceal poisons. A Board of Pharmacy was established in 1620. Its original function was to import, control, and distribute drugs. But it soon outgrew its purpose and became the central public health authority in the country. Its members were court physicians who met daily to attend to the current business. Its head was a nobleman. The Board appointed physicians and surgeons for the army and outfitted field pharmacies. Foreign physicians had to present their credentials to it, and in later years were examined by it. The Board changed its name in the course of time and assumed more and more functions. It became the Chamber of Pharmacy in 1672, then the Pharmaceutic, and from 1725 on the Medical Chancellery. In 1763 it was called the Medical Collegium, and at the beginning of the nineteenth century it became the Chief Medical Administration. It was the precursor of the People's Commissariat of Public Health.

In 1682, at the order of Tsar Fyodor Alexeyevich, the Chamber of Pharmacy established its first hospital in Moscow. This hospital was to give medical service to the indigent sick, while a special institution was provided for war veterans and people suffering from incurable diseases. A physician and several surgeons were attached to the hospital, which also served for the training of young surgeons.

We have already spoken of the efforts of Peter I to westernize Russia. It is obvious that he would not overlook so important a field as public health. Traveling in Holland he visited Leyden, the most progressive medical center of the time, famous for Boerhaave's clinic and for its anatomical theater. In Amsterdam he called upon Frederik Ruysch, whose anatomical preparations were technical wonders. In Paris he studied the work of the Academy of Science. He was keenly interested in the structure of the human body and never missed an opportunity

to be present when a cadaver was dissected. Tradition has it that he even went so far as to perform surgical operations himself.

The first task was to supply the country with a larger medical personnel. Foreign physicians were called, as before. Twelve surgeons, Swedes and Germans, came in 1678, and 50 surgeons arrived from Holland in 1697. Oculists and pharmacists followed. In 1692 Peter sent abroad a young nobleman, Posnikov, to study medicine in Padua. In 1698 a second Russian, Volkov, went to Padua. They were the first of a large number of Russians who in the following centuries went to other countries for medical training.

However, the time had come for the country to educate its own doctors. In 1706 a military hospital was established in Moscow; its model was Greenwich Hospital in England. The medical school attached to it followed the pattern of Leyden. It had its anatomical theater headed by Nicolas Bidloo, and had a botanical garden. Instruction in medicine and surgery was given to Russian students. In 1715 similar institutions were created in the new capital, St. Petersburg, among which were a naval hospital and an army hospital, the latter of which became the seat of a medical school. Other institutions followed, including a hospital for foundlings and a military poorhouse. Smaller hospitals were founded in various cities, also lazarettos and drug depots for the army.

Peter strengthened the authority of the Pharmaceutic Chancellery, part of which had been transferred to the new capital. He instituted the office of Archiater. The man who occupied this office was to be head of the Chancellery and, as such, the highest medical official of the country. The first to hold this office was a Scot, Robert Erskine. The Chancellery supervised hospitals and pharmacies, appointed medical officials, examined and licensed physicians and surgeons.

Medicine cannot develop where there is no science. Peter knew that and spared no efforts to attract scientists and to create facilities for scientific research. He had books translated into Russian, such as the *Aphorisms* of Hippocrates, the *Anatomy* of Bidloo. He purchased important collections, among them Ruysch's anatomical preparations, the natural history collection of the Dutch pharmacist, Albert Seba, a collection of minerals and shells, botanical and other collections. At the end of his life, in 1724, Peter founded the Academy of Science. It was opened after his death in 1726, and became a famous international research center. The first president of the Academy, Lorenz Blumentrost, was a

physician, and in the following years many distinguished medical men figured among the members: Duvernoi, Gmelin, Weitbrecht, Schreiber, Amman, Kaau-Boerhaave, Hebenstreit, Gorter, Pallas, and others.

With Peter I, Russia entered the European scene not only politically but also culturally. From then on the history of Russian medicine was part of European medical history. Every medical movement found repercussion in Russia, and not unimportant contributions to medical science came from Russia.

Peter's medical institutions were a promising beginning but soon after his death most of them decayed. The country was suffering from a serious lack of physicians. The schools attached to the hospitals and pharmacies did not train full practitioners but merely a kind of second-class medical personnel. In order to qualify, the candidates, as they were called, had to complete their education abroad. It was not until 1764 that a Medical Faculty was established at the University of Moscow (founded in 1755), and the first academic medical degree was given in Russia as late as 1768.

In St. Petersburg the Collegium Medicum developed into a teaching body, the Medico-Chirurgical Academy, as late as 1800. This became in 1835 the Military Medical Academy, Russia's best medical school. In 1814, the University of St. Petersburg was founded. Schools for the training of midwives had been established in Moscow and St. Petersburg in the middle of the eighteenth century.

The hospitals founded by Peter I were soon in an appalling state of affairs, and conditions did not improve until the reign of Catherine II. Catherine wanted to be an "enlightened" monarch. Her court was brilliant and she liked to be surrounded by, and to be in correspondence with, the intellectual elite of the period. To show how unprejudiced she was, she followed Voltaire's advice and had herself and her son inoculated against smallpox. In England, America, and other countries, the setting of such an example would have led to a widespread application of the method among the people, but this was not the case in Russia. There were neither sufficient physicians nor an organization capable of employing hygienic measures on a large scale.

Like Peter I, Catherine II had an extensive welfare program. Like Peter, she founded a number of new hospitals, including the Catherine, Galitzin and Pavlovski Hospitals in Moscow and the Obukhovski Hospital in St. Petersburg. Peter's foundling hospitals went out of exist-

ence after his death but Catherine had similar institutions established in Moscow (1764) and St. Petersburg (1770). A special hospital for venereal diseases was built in the capital in 1763, and the first insane asylum in 1776. Attention was given to conditions in the provinces. District physicians were appointed. A Medical Commission was created to advise the provincial governors in medical matters. In 1797, under Paul, permanent Medical Boards were established for the provincial governments.

At the beginning of the nineteenth century, during the short, liberal years of Alexander I, new universities were founded in 1804 in Kharkov and Kazan. The old University of Dorpat (now Tartu, Estonia) was reorganized in 1802. Kiev followed in 1834. Political reaction stifled the life of the universities, however. The professors were constantly watched. Whoever dared to criticize existent conditions, not only political but also medical, was discharged or exiled. Scientific life could not develop in such an atmosphere. Russian medicine was backward at a time when France, England, and Germany were developing the new clinic and laboratory. Public health was administered through a huge, clumsy bureaucracy and the sanitary and health conditions of this vast empire were in a hopeless state.

An attempt to organize medical service throughout the country was made after the abolition of serfdom. In 1864, the *Zemstvo* or local government was introduced as part of the reform program of Alexander II in order to decentralize administration and to make bureaucracy less cumbersome. The *Zemstvo* was a district assembly elected by the inhabitants of the district, but not on the basis of equal vote. Individual landowners, that is the gentry, had one-third of the votes, the bourgeoisie one-third, and the communal landowners, that is the mass of peasants, one-third. The district assembly elected its executive board and elected delegates to the provincial assemblies, which in turn elected their executive board. The *Zemstvo* was financed through contributions, with the peasants carrying most of the burden: a hectare of land (2.5 acres) paid 37 kopeks if it was "communal," i. e., peasant land; 19 kopeks if it was the land of the gentry, and only 11 kopeks if it belonged to the Crown or the Imperial Family.³

Among the functions of the *Zemstvo* were "the administration of charity and other welfare institutions, then the economic questions and the care to be given (as determined by law) to education, public health,

³ M. N. Pokrovsky, *Brief History of Russia*, New York, 1933, vol. I, p. 140.

and to the prisons.”⁴ It was soon apparent that the health problems were among the most urgent. The Zemstvo decided to take over the existing health institutions and to organize, finance, and administer the health service in the provinces and districts.

At the time of the introduction of the Zemstvo, the provincial capitals had hospitals of from 60 to 300 and more beds. There were divisions in the hospitals for the mentally sick, and asylums of from 20 to 150 beds. The district centers had small hospitals with from 10 to 25 or more beds. All these hospitals were managed by the provincial Boards of Welfare consisting of three members representing the gentry, the merchants, and the peasants. The governor was chairman. The provincial hospitals were supposed to have one physician for 50 beds, and one *feldsher*⁵ for every 25 beds, but because of the shortage of physicians this was hardly ever the case. District hospitals were served by the district physician.

It is interesting to note that most of the inmates of all these hospitals were soldiers and convicts. Peasants hardly ever came because they were charged prohibitive fees for hospital treatment.

These serfs, the overwhelming majority of the population, had no medical service whatsoever unless the landowner personally engaged feldshers or a physician or on his own initiative built a small hospital. He rarely did either. After the liberation of the serfs, the few such facilities that had been made available were discontinued, and only peasants working on state farms or farms of the Imperial Family had any kind of government medical service. This was usually provided by one physician for every three to five districts and a number of feldshers, midwives, and vaccinators. The physician was so overworked that he hardly ever saw patients; and the others usually were too ignorant to win public confidence. It was another example of bureaucracy.

Conditions were no better among the industrial workers. With the exception of the miners of the province of Perm, workers had no medical service. In 1866, a law was passed requiring factory owners to maintain one hospital bed for each 100 workers, but this law was often disregarded.

⁴ E. Ossipow, I. Popow et P. Kourkine, *La Médecine du Zemstvo en Russie*, Moscow, 1900. The figures quoted below are taken from this book, prepared for the 12th International Medical Congress.

⁵ The feldshers were a kind of assistant-surgeons. At the time that we are discussing they had scarcely any special training and learned their craft practically by assisting physicians. Later, before the Revolution, they were given a two-year course.

In 1852, Public Health Committees were organized in Russia to supervise sanitary conditions and epidemic prevention. These committees were formed from representatives of the various administrations. Epidemics had to be reported to the authorities, but since the reports were sent from office to office, the delay was so great that by the time the district physician was sent to the infected areas, the epidemic was usually over.

Such were conditions in Russia when the Zemstvo took over the medical service of the country. The task facing them was gigantic. The population was totally unprepared to accept scientific medicine.

From 1865 to 1869, the Boards of Welfare of 30 provinces turned over their medical facilities to the Zemstvo. Three more provinces followed their example in 1870, one in 1875. In these 34 provinces of European Russia, the Zemstvo thus acquired 335 hospitals (32 provincial and 303 district hospitals) with a total of 11,309 beds, also 53 asylums with 3,448 beds. In the provinces of St. Petersburg and Moscow, only district hospitals were turned over to the Zemstvo; the institutions in the two capitals became municipal hospitals.

Most of the hospitals were turned over to the Zemstvo in appalling condition. Not only were their hygienic facilities utterly inadequate but in addition many were literally falling apart. Most of the district institutions had not been built for hospitals at all; they were old houses that happened to be empty and for which nobody had any other use. They were in even worse condition than the provincial hospitals.

The first task of Zemstvo medicine, therefore, was to repair the plants it had taken over and to improve hygienic conditions as much as possible. However, funds were limited so it took many years to finish the job.

The next problem was to organize medical service so as to reach the people. Two systems developed and competed with each other for a long time; these were the so-called Touring System and Stationary System.

Under the first plan, physicians appointed by the Zemstvo and living in a particular district-center would tour that district. They would appear in a village at a given date, for instance on market days, would see patients, give instructions and then proceed to the next village. Obviously such a system had serious drawbacks. The physician spent much of his time on the road. He had neither facilities for accurate examination nor time for careful observation of his patients. He did not treat them himself nor did he see the results of the treatment. Under such a system,

medicine was actually practiced by the feldshers and midwives who lived in the villages.

The other, the Stationary System, was more expensive but infinitely more satisfactory. The plan was to cover the whole country with a network of medical stations—dispensaries and hospitals—with physicians and other medical personnel permanently attached to them. Each station was to be so located as to be easily accessible from all parts of the surrounding countryside. In case of illness, a peasant would drive to the nearest station,⁶ there to be examined, treated, hospitalized if necessary, all of course free of charge. In case of emergency, a physician would go to the patient and would leave a feldsher or a midwife with him if special care were required.

This system, undoubtedly, had great advantages. The physician stayed in one place instead of wasting energy traveling in a sledge through snow and ice. He could work with all the facilities of a medical station at his disposal. And, above all, this system brought the patient to the physician, not to the feldsher. It made the feldsher what he was meant to be, an assistant to the physician.

An increasing number of provinces adopted the Stationary System in course of time. In some thinly populated provinces where the distances between the villages were very large, the Touring System prevailed. In many other provinces a combination of both systems was applied.

In 1890, twenty-five years after the introduction of Zemstvo medicine, the 34 provinces had 1,422 medical stations in 359 districts, 1,068 hospitals with a total of 26,571 beds, and 414 dispensaries. Altogether, 717 new hospitals had been built, most of them in the villages. The number of beds had been increased by 16,157. From about 350 physicians serving the rural districts prior to 1865, the total number increased rapidly under the Zemstvo system:

1870	756
1880	1,190
1890	1,805

The number of lower medical personnel (feldshers, midwives, pharmacists) increased even more:

⁶ In the Moscow province, the diameter of a region served by a medical station was to be not more than 32-37 kilometers, so that the maximum distance a patient had to cover to reach a medical station was not more than 15½-18 kilometers, about 10-12 miles.

1870	2,794
1880	5,101
1890	6,778

The Zemstvo also took over psychiatric wards and insane asylums.⁷ In Russia as elsewhere, care of the mentally sick was a heavy burden on society, and the state had to help the Zemstvo financially in carrying on this task. In 1892, the Zemstvo had 34 hospitals for mental cases with 9,055 beds. There were 90 psychiatrists in charge of these services, a respectable number considering the fact that before the time of Zemstvo medicine mental cases in the provinces had scarcely any specialized treatment. Some of these hospitals were built in rural areas where there was opportunity for the use of occupational therapy.

Zemstvo medicine was administered by the Zemstvo; that is, by the district and provincial assemblies and their executive boards. These were not medical bodies but were made up of laymen. Their judgment was not always sound. One Zemstvo body which decided to have its patients treated by homeopathy ruled that physicians were not required for the purpose, and that priests and school teachers could administer treatment just as well. Such instances were exceptional, however; in most provinces Public Health Councils consisting of Zemstvo physicians were organized. They advised the Zemstvo in medical matters and quite naturally assumed public health functions, collecting vital statistics, issuing regulations, leading in the fight against epidemics. Beginning in 1871, the Zemstvo physicians of the districts and provinces held meetings to discuss the problems of their regions. There was no central organization and the Zemstvo was autonomous. The entire system, therefore, was sufficiently flexible to adapt itself to the special needs of the various provinces and districts.

Zemstvo physicians represented a special type of physician, often pictured in Russian novels. Chekhov himself was a Zemstvo doctor for a while. Many young men and women were among them, often Narodniki or other revolutionists who chose the hardship of a country practice in order to be nearer to the people and help them. Medical students often spent their vacations working with the Zemstvo, helping in vaccination campaigns. Idealism and enthusiasm characterized the movement.

The salaries were about 1,000-1,500 rubles a year. Often a house or

⁷ Charles Vallon, Armand Marie, *Les Aliénés en Russie*, Montévrain, 1899.

living quarters in the hospital were provided the doctor free of charge, and his traveling expenses were paid. In some districts, salaries were raised 25 per cent every three to five years. Funds were established for pensions to the physicians when they retired.

In 1892 there were 12,435 physicians in Russia, of whom 524 were women. About 2,000 of them, or some 16 per cent, were in the service of the Zemstvo.

Zemstvo medicine constituted the first attempt to give organized medical service to Russia's rural population. It was soon realized that health and disease conditions of the country were very little known. A strong movement was organized to explore what was called the medical topography of Russia; that is, the climatic conditions of a region and the physical, social, and ethnographic conditions of the population. In 1865 the *Annals of Legal Medicine and Public Health* began publication, followed in 1870 by a serial publication on Medical Topography. This was shortly after Daniel Drake had explored the Mississippi Valley in America from a similar point of view.

A law of 1866, already mentioned, required factory owners to provide medical service for their workers, also one hospital bed for every 100 workers employed. Generally the regulation was disregarded, or some provisions were shammed to satisfy the letter of the law. In some districts, however, the Zemstvo, which felt responsible for the health conditions of their areas, was strong enough to force factory owners to comply with the law. Nevertheless, the medical facilities for industrial workers were utterly inadequate.

The idea of Zemstvo medicine was sound, and it was a very interesting program, not only from the point of view of Russia but also from that of world medicine at large. It was the first attempt to organize medicine as a public service on a large scale.⁸ Under the system—as its advocates pointed out proudly—medicine was no longer a trade but a public function. There was no charity involved. The people received medical service and paid for it through their contributions to the Zemstvo.

In Russia, as in the Western European countries, the situation at the middle of the nineteenth century was such that medical service could not be provided for the majority of the population on a commercial basis.

⁸ An earlier experiment in socialized medicine was made, on a very much smaller scale, in 1818 in the German Duchy of Nassau. See K. Finkenrath, *Socialismus im Heilwesen. Eine geschichtliche Betrachtung des Medizinwesens im Herzogtum Nassau von 1800-1866*, Berlin, 1930.

Yet, many persons were becoming aware of the importance of the people's health. This was not, primarily, a humanitarian idea but one that sprang out of very practical considerations. The bourgeoisie recognized that a sick proletariat was a serious menace to its own health. A solution had to be found, therefore, one that would put the financial burden upon the shoulders not of the employer but of the employee himself. Zemstvo medicine was a program for an agricultural society; Western industrial countries not long afterward sought to meet their corresponding need through sickness insurance.

Zemstvo medicine brought medical care to people who had never seen a doctor before; hence it fulfilled an important function. Its service, however, was far from being adequate either in quantity or in quality. About the year 1900, there was one physician for every 25,000; one medical station for every 36,000. In 1913, 34 provinces with a rural population of more than 80 millions had 4,367 rural medical stations, supplemented by 4,539 feldsher stations, and 49,087 hospital beds.⁹ The physicians were not distributed in proportion to the population; before the Revolution there were districts with only one physician for every 40,000 inhabitants. It was obviously impossible to give satisfactory service with such limited personnel and facilities.

The cause of these shortcomings was evident. The Zemstvo was administered not by the majority of the people it had to serve but by a small minority, by the gentry and bourgeoisie who had two-thirds of the votes, by those classes who were less heavily taxed than the mass of the peasants. To improve the medical service of the Zemstvo would have required large funds, exceeding the resources of the peasants. The propertied classes were not willing to contribute substantially to these funds.

Yet Zemstvo medicine paved the way for Soviet medicine in several respects. It created a medical organization, created a network of medical stations all over the country that could be improved and increased in number. Above all, it accustomed the people to the idea that medicine was not a trade but a public service. The shortcomings of Zemstvo medicine were not a result of the plan on which it was built but of the social and economic system under which it worked. Once the system was overthrown, the way was free for further expansion.

While the Zemstvo medicine developed in the country, medical science began to flourish in the cities. At the beginning of the nineteenth cen-

⁹ After Miterev, *loc. cit.*

ture, foreign physicians still figured in Russian medicine. The first president of the Medico-Chirurgical Academy (1800) was an Aberdeen graduate, Sir James Wylie (1768-1854), who wrote a number of monographs on contagious diseases and made a brilliant career in Russia. He became Inspector General of the Army Medical Board of Health (1808) and was the first Director of the Medical Department of the Ministry of War (1812).

After the middle of the century, however, Russian medicine came of age. From then on, the leading medical scientists of the country were Russians. It is not within the scope of this book to give an exhaustive narrative of medical science in Russia.¹⁰ All I want to do is to trace a few lines of development, to mention a few names, in order to complete the picture of the background of Soviet medicine.

The period was brilliantly introduced by Nikolai Ivanovich Pirogov (1810-1881),¹¹ one of the most distinguished figures in Russian medicine. A great surgeon and a great topographic anatomist, he took an active part in all the wars of the century. It is largely due to Pirogov that the Military Medical Academy in St. Petersburg, where he taught, soon acquired a reputation as the best medical school in the country. His basic principles of military medicine are still followed today. Medical officers of the Red Army frequently refer to his concept of war as a "traumatic epidemic," and to his emphasis on the importance of transportation in military medicine.

Pirogov was a student of the University of Moscow who, like so many other Russians, went abroad to complete his studies. He went to Germany in 1833, but at that time the German school had not reached its height. Only to the Russian and also American physicians of the next generation was German medicine to become a decisive source of inspiration.

During the second half of the century, Helmholtz, Du Bois-Reymond, and Ludwig were the great masters of physiology in Germany. They had many Russian students who transplanted their methods to the North and created a great Russian school of physiology. Of all the medical sciences, physiology appealed to Russians the most; it had a fruitful

¹⁰ The principal scientific achievements of Russian medicine are conveniently listed in: F. H. Garrison, *loc. cit.*, and are discussed in more detail by I. D. Strashun, *loc. cit.*

¹¹ Nicolai Iwanowitsch Pirogow, *Lebensfragen, Tagebuch eines alten Arztes*, Stuttgart, 1894.

development in Russia. This certainly did not happen by chance. Physiology is the most philosophical of all medical sciences. Anatomy and bacteriology have scarcely any influence on our views on life whereas physiology has a very decided influence. Physiology could not help but appeal to the philosophical Russian mind. And from the very beginning, neuro-physiology was a highly cultivated field.

This appears clearly in the work of Ivan Mikhailovich Sechenov (1825-1905), who initiated the Russian physiological school. His researches on the physiology of the central nervous system are classic. And with him another trend, so strongly marked in Soviet science, became apparent,—the tendency not to consider science as the privilege of a select few but to popularize it and to make it available to the people.

Distinguished students of Ludwig were Cyon in St. Petersburg who later worked with Claude Bernard in Paris, and Dogiel who became professor in Kazan. In Nencki (1847-1901), a Pole, physiological chemistry had a most brilliant and very productive representative in Russia.

With Schmiedeberg, once in Dorpat, later in Strassburg, pharmacology became a physiological science studying the effect of chemical bodies on the normal and diseased organism. A student of Schmiedeberg and Sechenov was Nikolai Pavlovich Kravkov (1865-1924) who in 1899 became professor of pharmacology at the Military Medical Academy. His researches covered a wide field, extending far into experimental physiology and pathology. His work on *The Bases of Pharmacology* created a sensation in the medical world.

With Pettenkofer in Munich, hygiene became a physiological science also, that of studying the influence of the environment of man on his physiology. Pettenkofer's work had strong repercussions in Russia. Hygienists like Erisman, Haas, and others worked to improve conditions in schools, factories, and prisons. Epidemiological problems and public health questions at large were given increasing attention once Zemstvo medicine had created an organization capable of approaching them practically. For a number of years (1870-1877) the Medical Society of Kazan devoted all its activities to public health. In 1877, the Pirogov Society was organized; it called All-Russian congresses at regular intervals for the discussion of these questions. However, due to the vastness and social backwardness of the country, the difficulties were almost insurmountable and progress was slow in this field.

The dominating figure in German pathology in the second half of

the century was, without any doubt, Rudolf Virchow. His *Cellular Pathology* was published in 1858, and after 1859 cellular pathology was taught in Russian universities. From that time on, the great majority of Russian pathologists were pathological anatomists applying Virchow's method of post-mortem examination, and using the microscope for the study of diseased tissues. They made a great number of valuable contributions to descriptive pathology.

The new trends in pathology resulting from the great discoveries in bacteriology, serology, and immunology had a brilliant Russian representative in Ilya Metchnikoff (1845-1916),¹² a zoologist by training who succeeded in combining morphological views with the new conceptions. He started his career at the University of Odessa as professor of zoology, became head of the Bacteriological Institute and joined the Pasteur Institute in Paris in 1888, when he had to leave Russia on account of his political views. It was at the Pasteur Institute that he made his great discoveries: phagocytosis, the role of the reticulo-endothelial system in inflammation and immunity, bacteriolysis *in vitro*, the inoculation of apes with syphilis, the role of lactic acid on the bacterial content of the intestine, to mention only the most outstanding contributions. Metchnikoff belongs not to Russia alone, but to world medicine.

The two leading Russian clinicians in the nineteenth century were S. P. Botkin (1832-1889) in St. Petersburg and G. A. Zakharin (1829-1894) in Moscow, both great clinicians but very different in character and method of work. Botkin had studied with Claude Bernard, Virchow, and Traube. He knew the importance of the laboratory for the clinic and was the type of clinical scientist interested primarily in brilliant diagnoses, and in new disease pictures—infectious jaundice is called after him. He was, however, a therapeutic nihilist. Zakharin was more the French type of physician, the pure clinician who endeavors to reach his goal with clinical methods, careful interrogation of patients, and careful examination and evaluation of the clinical symptoms. He was, nevertheless, an excellent therapist who would apply every agent available to improve the patient's condition. No wonder he appealed to the French and that Huchard came to Moscow to learn from him.

Of all the clinical specialties, neurology and psychiatry were cultivated most, and produced men like Kozhevnikov, Bekhterev and Kors-

¹² Olga Metchnikoff, *Vie d'Elie Metchnikoff*, 1845-1916, Paris, 1920.

kov. Their names will always have an important place in the history of their disciplines.¹³

At the time of the Revolution, the best-known Russian medical scientist was in all probability Ivan Petrovich Pavlov (1849-1936). After 1890, he was director of the Oldenburg Institute of Experimental Medicine where he had his physiological laboratory and where he trained a school of physiologists of world renown. A student of Cyon, Ludwig, and Haidenhain, he was an all-round physiologist, a genial experimentalist, an investigator of keen originality. His researches startled the scientific world, aroused a great deal of opposition in the beginning—and were universally accepted in course of time. In 1888 he discovered the secretory nerves of the pancreas. Then came his famous experiments on dogs, demonstrating the phenomena of “sham feeding” or “psychic secretion.” These were followed in 1897 by his exhaustive studies on the digestive glands. His theory of conditioned reflexes based on endless experiments had a profound influence extending far beyond the medical field to psychology, sociology, and education.

In 1904 Pavlov was awarded the Nobel prize. The Tsar honored him. When he died in 1936, the People’s Commissar of Public Health of the Russian Soviet Federative Socialist Republic (RSFSR) was among those who carried his bier. And so Pavlov appears as the *trait d’union* that links the Russian medical science of the old regime to the new Soviet science.

It should now be apparent that Soviet medicine was not created from air; there were foundations to build upon. There was a scientific tradition in Russian medicine. It is always good to have traditions for a foundation so long as one is aware that traditions oblige one to look into the future, not backward. There were universities training good physicians. There was a medical organization giving service to the rural population.

And yet, in 1914, when the World War broke out, medical conditions were far from satisfactory. The number of universities was much too small and, as a consequence, there was a tremendous shortage of physicians. Their number was entirely out of proportion to the vastness of the territory. Zemstvo medicine after half a century of develop-

¹³ Gregory Zilboorg, “Russian Psychiatry—Its Historical and Ideological Background,” *Bulletin of the New York Academy of Medicine*, 1943, 2nd series, vol. 19, pp. 713-728.

ment was still in a rudimentary state. There was no central medical authority in the country; public health was administered by not fewer than eleven government departments. An economic system that gave wealth to a few and poverty to most, a government system that gave privileges to a few and handicaps to most, a bureaucracy that impeded and obstructed the whole life of the nation—all these factors prevented the people from receiving what medical science could have given them.

Consequently, health conditions in Russia were very bad. The death rate for every 1,000 inhabitants averaged 28.4—30 from 1904 to 1914. The infant mortality per 1,000 births from 1901 to 1911 averaged 244—terrifying figures. Russia still was the playground of contagious diseases. In 1914, 11,843,088 cases of acute infectious diseases were reported. How many more cases were not reported? ¹⁴

If anyone had undertaken to reorganize the public health system of Russia in 1914, he would have had to face tremendous difficulties. After eight years of imperialist and civil war, when nearly all medical facilities of the country were broken down, when famine and epidemics were ravaging the land with unheard-of violence, the task seemed almost hopeless.

The Soviets undertook it, and they did it with full confidence in the ultimate success of their efforts. This confidence was justified because, in applying the principles of socialism to the field of public health, they were creating the social organization of medicine that permitted making the widest possible use of its new technology.

¹⁴ All these figures from N. A. Semashko, *Health Protection in the U.S.S.R.*, London, 1934, pp. 12-14.

The Structure of Soviet Medicine

1. PRINCIPLES AND DEVELOPMENTS

Since the sixteenth century, with the development of a new economic order, medicine in the Western world has gradually developed into a trade. We do not like to admit this fact. We still talk as if medicine were a mission fulfilled by physicians from humanitarian motives. As a matter of fact, doctors opposed the development of a trade as long as they could, endeavoring to be salaried body-physicians to a court, to the household of a nobleman, or to a number of middle-class families. In several countries until late in the nineteenth century, the physician did not send out bills but received what the patients thought fit and were able to give him. The medical corps strove not to be dragged into the new economic order. But its attempts were in vain.

Today, medicine is a service that is purchased by the patient and sold by the physician under a competitive system. The physician has to charge for every service he sells. The sicker the patient is, the more service will be required and the better off the physician will be. The system is particularly unsatisfactory since the patient cannot possibly judge how much service his case demands. He has to trust his physician, who will endeavor to do whatever medical science requires in a particular case irrespective of costs. And yet, working under a competitive system, the physician must try to hold his patient, to satisfy him within definite financial limits. Every physician has such conflicts.

The rules that govern the economic life of our nations apply to medicine as well. Whether he likes it or not, the physician today is in business. The medical corps, opposing a development that is hardly com-

patible with the character of medical service, has attempted to protect the profession against intrusion of certain business procedures by forbidding advertising and by setting definite standards of ethics and etiquette. In spite of the system, the great majority of members of the medical profession in all countries has preserved a high moral standard. This is not an obvious effort but rather the result of traditions which originated in the pre-capitalistic era. Nevertheless, medicine definitely follows the course of trade.

When a man becomes sick, he purchases what medical service he can afford. When he goes out to buy the drugs that his purse allows him to have, he finds the market flooded with a multitude of pharmaceutical products. The pharmacist used to prepare the drugs that medicine required, working in close cooperation and under the control of the physician. However, as pharmacological science and the chemical industry developed, the manufacture of pharmaceutical preparations became an extremely profitable activity. Industry has put huge amounts of capital and all its ingenuity into this business; as a result, some very valuable and an infinity of worthless preparations have invaded the market. Whatever the regulations, the drug situation continues to be chaotic in most countries. Public and profession are equally bewildered and great waste results from the strain of competition.

It has long been recognized that the people's health cannot be protected efficiently under a commercial system of medical care. In the Middle Ages, the church made it the Christian's duty to perform charitable works, to share his wealth with the indigent, to assist the sick and the poor. It was then the physician's duty to give medical service and even drugs to the indigent sick without remuneration. Under capitalism, because the upper income groups have realized that the ill health of the poor menaces their own health, they have preserved the charity system. Today physicians still give free services, which no other profession is supposed to do, or they apply a sliding scale of fees, making the rich pay for their services to the poor. A certain amount of medical care is provided by philanthropic or charitable institutions.

Charity, however, cannot be depended upon for adequate health protection because funds are most urgently needed in periods of economic depression when money is not readily obtainable. A feeling has gradually developed, moreover, that charity is unworthy of man, that it degrades a free citizen to have to receive it, to have to be entered officially in a register of the poor, as is required in many countries. Besides, the

development of a large industrial class so increased the number of indigent sick that it soon became impossible to provide medical care for them on a charitable basis. Another solution had to be found. It was found, in social insurance.

Social insurance, including sickness, accident, disability, maternity, old-age, and unemployment insurance was gradually adopted in most Western countries beginning in 1883. The enactment of social insurance legislation was a great step forward, because it gave a certain amount of security to the low-income groups and guaranteed them medical care in case of illness. In most countries, social insurance was made compulsory, was controlled and, in some cases, supported by the state. It provided a logical solution of the medical problem for industrial countries whose indigent population consisted principally of wage-earners.

Another factor entered the scene. The protection of society against epidemics and the provision of proper sanitation wherever men live were administrative tasks which could be solved only by the state through its public health agencies. Since early in the nineteenth century, the work of the public health services has increased steadily. Not only preventive but also curative functions were gradually assumed by the state; there is now a marked tendency for state organizations to work both with social groups and with individuals. A certain antagonism has sometimes arisen between public health agencies on the one hand and the practicing medical profession on the other.

Consequently, all systems of protecting the people's health in capitalist countries are compromise systems. Medical service is given to the population by various agencies in various ways. State medicine, insurance medicine, charity medicine and private medicine exist side by side. The fight against disease is not led by one general staff but by a multitude of staffs, among which there is often very little cooperation and no leadership at all. Even in countries that have established ministries of health, like England and France, the ministries by no means control the health activities of their respective nations. It is obvious that such systems necessarily have all the deficiencies of a compromise.

There is no compromise in Soviet medicine. Its structure is easy to understand because it is rational, logical and clear.

It seems to me that the following four points are the most characteristic features of the Soviet health system: (1) Medical service is free, therefore available to all. (2) The promotion of health and prevention of disease are in the foreground of all health activities. (3) All health

activities are directed by central bodies, Ministries of Health (formerly the People's Commissariats of Health) with the result that (4) health can be planned on a broad scale.

It is universally recognized that general education is important for the welfare of a nation, that democracy is impossible unless a population has reached a certain educational level. The logical procedure, therefore, has been to make education, at least elementary and secondary education, available to all, free of charge.

The socialist state went one step further by declaring that the health of its people is equally vital to its welfare as a nation. If a society is to function successfully, it requires healthy members. Wherever this concept prevails, it follows logically that all measures for the protection and restoration of health will be made accessible to all, free of charge. Medicine, like education, then ceases to be a trade; it becomes a public function of society.

Another very characteristic feature of Soviet medicine is that it has done away with the traditional distinction between preventive and curative medicine. As a matter of fact the entire system is built upon the principle of prevention. Prophylaxis is the foremost of all medical considerations. This is expressed in the following program statement: "The Communist Party of the Soviet Union will base its public health policy on a comprehensive series of health and sanitary measures designed to prevent the development of disease." The statute of 1921, regulating the activities of the Russian Commissariat of Health, made that body "responsible for all matters involving the people's health, and for the establishment of all regulations promoting it, with the aim of improving the health standards of the nation, and of abolishing all conditions prejudicial to health."¹

There is nothing surprising about this attitude; it is entirely rational and logical. Every child knows that prevention is better than cure; besides, it is infinitely cheaper. We all wish we could apply this principle, but the social and economic structure of our countries makes it very difficult. It has been estimated that in the United States only one in every thirty dollars spent for medical care is used for the prevention of disease. In tsarist Russia, the average inhabitant paid about one ruble in health taxation of which 95 kopeks went for purposes of general treatment and

¹ Article I of the 1921 decree of the Sovnarkom (Council of People's Commissars) of the RSFSR in: N. Semaschko, "Das Gesundheitswesen in Sowjet-Russland," *Deutsche Medizinische Wochenschrift*, 1921, p. 117.

only five kopeks for sanitary prophylaxis. As early as 1920, more than 60 per cent of the total appropriation of the Commissariat of Health was spent on the prevention of disease.² It would be very difficult to figure out exactly how much money is spent on prevention today and how much on cure, because the distinction has disappeared. Every Soviet medical worker, wherever he may be situated, has as his goal the prevention of disease.

The general intent is to supervise the human being medically, in a discreet and unobtrusive way, from the moment of conception to the moment of death. Medical workers and medical institutions are placed wherever anyone, in the course of his life, may be exposed to danger. Medical supervision begins with the pregnant woman and the woman in childbirth, proceeds to the infant, the pre-school and school child, the adolescent, and finally the man and the woman at work.

This is an entirely new medical attitude. It is the result of the new social order and of its underlying philosophy. It is socialist medicine. Soviet society is a collective society without classes, in which all members are working toward one common goal. It is like one great organism, harmoniously built. The suffering of one member affects the whole organism, which obviously will protect itself against such harm. Medical service becomes a function of the collective. And this is what counts.

The Ministries of Health are not alone in their fight against disease, in their endeavor to keep the individuals socially adjusted or to readjust them, as the case may be. The trade unions seeking to improve the working and living conditions of the population, the Council of Physical Culture endeavoring to develop a strong and healthy generation, the Ministries of Education preparing the people to accept scientific medicine—all these agencies work in the same direction, all are powerful allies of the medical corps.

But more than this: all government agencies are allies; all work toward the same end. There is no mystical goal to attain, no nationalistic or imperialistic program to fulfill. The state has but one purpose: to promote the welfare of the people, of all the people, without distinction; to raise the material and cultural standard of the population; to liberate man from the bonds of poverty, ignorance and disease. This and this alone justifies the existence of the state.

In such a state, the health program is one part of the nation's general

² N. A. Semashko, "The Care of Health in Soviet Russia," published in *The Soviet Russia Medical Relief Committee*, New York, 1920, p. 16.

program. The physician, the specialist on disease, works toward the fulfillment of this general plan side by side with the other civil servants.

In his work, the physician is supported by the people. "The protection of the health of the workers is the task of the workers themselves." Soviet medicine was created on this principle and has continued to be guided by it. The physician is an instrument of the people and was created by them to protect their health.

In a society whose basic principles are scientific and whose philosophy is rational, disease loses its magical implications. It is accepted for what it is, a biological process that has to be faced openly without fussing and has to be treated scientifically.

Man has a duty to work but disease prevents him from working, from performing that duty. The state makes available to all the means of preventing and curing disease. Therefore, there is a duty to use these means, there is a duty to health. To spread disease becomes a social offense.

In such a society, health means more than the absence of disease. It has become something positive, a joyful attitude toward life.

Just as an army fighting an enemy requires a general staff and officers to direct its actions, so people fighting disease need leadership and guidance. In this war as in the other war, a general staff and cadres are required.

The word *cadre* has become one of the most frequently used terms in the Soviet vocabulary. In French, *cadre* means the nucleus of a military group, consisting of commissioned and non-commissioned officers. The formation of cadres, of expert personnel able to guide their fellow-workers, was one of the most urgent tasks of the Soviet Union—cadres for industry, for agriculture, for the army, for health and educational work, for every realm of life.

The medical workers are the cadres in the fight for health, which indicates that they are not alone in this struggle but are merely the experts who guide the people. It would be as much a mistake to assume that disease can be fought successfully by the medical corps alone as to assume that a war can be fought with officers but without soldiers. The entire population has to be permanently mobilized for health.

One need not be a military expert to know that unity of command is essential for the success of a campaign. Yet, there is not one country outside of the Soviet Union that has achieved unity of direction in its health program. For historic and economic reasons, the various health

activities are either subordinated to many different authorities, or there is no direction at all. In tsarist Russia, the medical service was divided up among not less than eleven government departments (War, Interior, Transport, Crown Domains, Education, Agriculture, Zemstvo, Municipalities, etc.); in addition, there was private practice with no direction whatever. In the United States, conditions are not much different today.

In the early days of the Revolution, a Medical Division was established by the War-Revolutionary Committee in Petrograd. Upon the personal initiative of Lenin, the Communist Party formulated its health program. The most urgent tasks follow:

1. A determined effort to carry out far-reaching public health measures for the benefit of the workers, such as:
 - a. Sanitation of living places (protection of soil, water, air)
 - b. Establishment of communal feeding along principles of scientific hygiene
 - c. Organization of medicine to prevent the development and spread of contagious diseases
 - d. Health legislation
2. Combating of social diseases (tuberculosis, venereal diseases, alcoholism, etc.)
3. The guarantee of qualified health and medical services available without charge to all.

In February 1918, a Council of Medical Departments was established in Petrograd to coordinate the medical work of the various departments. This measure, however, soon proved insufficient. Epidemics had broken out. Reactionary physicians were neglecting their duty, sabotaging the orders of the new government. White generals were starting the Civil War. The blockading of the country by the Allies was creating a terrific shortage of medical supplies—a barbaric way of fighting a nation. And the enemies of the Soviets found a most powerful ally, small but deadly, when the louse spread typhus throughout the land.

It was soon recognized that in such an emergency nothing could save lives but a central health department invested with full authority to control the entire medical service of the country.

On July 11, 1918, the People's Commissariat of Health of the RSFSR was established. For the first time in the history of medicine a central body was directing the entire health work of a nation. The first People's Commissar of Health was Nikolai Alexandrovich Semashko, a close

friend of Lenin. Born in 1874, he had led the life of a revolutionary, been arrested and exiled, emigrated in 1907, lived and worked in Geneva and Paris with Lenin, preparing himself for the tasks ahead. He returned to Russia after the February Revolution and was instrumental in the creation of the new Commissariat. He headed it for twelve years.

His task was gigantic. The entire public health service had to be reorganized along new lines. The whole nation had to be mobilized to fight devastating epidemics. The first Workers' Committees to combat these epidemics were created in the cities and larger villages in 1918. Their task was to inspect lodgings and public institutions, to teach the people cleanliness, to distribute soap, to fight the louse. The Communist Party, the trade unions, women's organizations, and youth groups joined in the struggle against disease. It was a fight not only for health but for socialism as well. As Lenin declared in 1919; "Either socialism will defeat the louse, or the louse will defeat socialism."³ Socialism was the victor thanks to the combined efforts of the whole working population under the leadership of the Commissariat of Health.

The work of the first few years was dictated by the emergency. The most urgent matters had to be attacked first. A great deal of improvisation took place. One had to use whatever equipment was available; it was little enough. The medical personnel had to be won over. To the honor of the medical profession, it can be said that in spite of political dissent, the majority of the doctors did not desert the battlefield. They saw that the people were fighting for their very existence. They dropped their opposition in increasing numbers; medical scientists of world renown offered their services to the government and cooperated loyally with the Commissariat.

Despite the adverse conditions of the early years, the systematically planned work of the Commissariat began on the first day of its existence. The foundations of socialist medicine were laid in the stormy years of Civil War. There was no hesitation in carrying out the program. A network of medical stations was created to provide medical service for mother and child and for the working population in town and country. The sanatoria and health resorts, once used only by the wealthy few, were turned over to the people. A general plan was outlined and it was a mere matter of time—and unceasing hard work, of course—to develop it so that it would fulfill its function.

³ Quoted from N. A. Semashko, *Health Protection in the U.S.S.R.*, London, 1934, p. 39.

By 1922 war, famine, and pestilence had been overcome. The young Soviet state had won its first battle. The period of recovery began and health work was carried on under a new slogan: "On from the struggle against epidemics to the fight for more healthful working and living conditions." Development was naturally slow in the beginning. The country was impoverished; the reconstruction of industry and the electrification of the country, Lenin's great vision, absorbed much of the available energy and money resources. But the policy of Soviet medicine was now clear; the work went on steadily.

The RSFSR Commissariat of Health at first controlled health work in all territory under Soviet jurisdiction. During and after the Civil War, national Soviet republics were created and, on December 30, 1922, the first All-Union Congress of Soviets proclaimed the establishment of the Soviet Union. The constitution, ratified in 1923, created Health Commissariats in all the constituent republics.⁴ Decentralization seemed advisable because of the vastness of territory and uneven development of the various regions. The same principles of Soviet medicine were applied in all the republics. The Russian Republic, largest and most important, set the pace and the Commissar of Health of the RSFSR was named Inspector of Sanitation for the Union.

The Constitution of 1923 gave the federal government the right to establish general rules for the protection of health.⁵ The Constitution of 1936 created a Union-Republic Commissariat of Public Health which we shall discuss in the next section of this chapter.

Where the entire health work of a country, preventive and curative, is controlled by a central agency, the work can be planned. This is another characteristic feature of Soviet medicine.

In capitalist countries, health work is to a large extent haphazard. The various health departments obviously have their programs, and state or private health organizations may decide to start a campaign to fight a definite group of diseases. However, these efforts are not coordinated. There is as much difference between a capitalist and Soviet health program as there is between a capitalist and Soviet budget. Besides, since curative medicine escapes control, it cannot be planned. In the Soviet Union, five-year plans and yearly plans are established. The entire work of the nation is planned and the health plan is one part of the general plan.

⁴ Article 67.

⁵ Article 11.

When a five-year plan is being prepared, every health department makes a complete survey of the conditions in its region.⁶ The department studies the economic structure of the region, industrial and agricultural enterprises, living conditions of the population, sanitary and hygienic conditions, morbidity and death rates, medical facilities available for prevention and cure, and educational facilities for medical workers. It collects all the statistical data obtainable. It then investigates the financial resources of the region to determine what contributions are to be expected from local, state, and social insurance funds. With this material in hand, the health department proceeds to draw up a plan of what must be done in the next five years, and in each year of the five, to improve existing conditions.

Not only the health departments but every medical institution, every hospital, dispensary, and research institute plans in this way. Each surveys its own field, determines what it has achieved so far, where it stands at the time, what it is going to do in the near future. When I was in Russia in 1936, the Third Five-Year Plan was already being prepared for 1938; wherever I went I found the people busily engaged in working on their own part of it.

The plans are discussed not only among the specialists, that is the medical workers, but also in the factories and farms, among the working population at large. It is the health of the people that is concerned, and it is obvious that no health plan can be carried out without their active cooperation. Therefore, it is only logical that their voice should be heard.

The various local and state plans are consolidated and they are finally made a part of the All-Union Health Plan. This is a part of the general Five-Year Plan, which establishes a definite quota for each of the five years.

When a five-year plan is put into operation on January 1st of a given year, the program begins systematically all over the country. Every medical department, medical institution, and plant must fulfill its part of the health plan. Thus, there is a definite goal toward which to work, and a norm for measuring the success or failure of a year's work.

During the First Five-Year Plan, launched in October 1928 and completed in four and one-quarter years, all medical facilities were increased. The health budget jumped from 660.8 million rubles in 1928 to 2,540 million in 1933. But industry came first, particularly heavy industry,

⁶ See N. A. Semashko, *Health Protection in the U.S.S.R.*, London, 1934, pp 42-46.

which had prior claim on manpower and materials. It would have been impossible to increase the number of physicians substantially if women had not enrolled in the medical schools in increasingly large numbers. There was a time when close to 75 per cent of all medical students were women. Women have continued to play a very distinguished role in Soviet medicine and occupy leading positions in every branch.

From 1933 to 1937, the years of the Second Five-Year Plan, the Soviet people began to reap the fruits of their labors. The new plants produced large amounts of consumer goods. Agriculture had been collectivized and food was plentiful. While industries continued to be developed very rapidly and a formidable, highly mechanized Red Army was being built, more funds, more people, and more equipment were available for health work and for cultural purposes. When war clouds were darkening on the horizon and the army budget had to be increased tremendously, it is noteworthy that there was never any curtailment of public health funds. The health budget grew from 2,540 million rubles in 1933 to 9,433 million in 1938. It was 11,960 million in 1941.

The development of health facilities during those years was stupendous. The number of hospital beds was nearly doubled, the number of maternity beds trebled. Many lavishly equipped sanatoria were built in the various health resorts. New research institutions were founded, and existing ones enlarged considerably. The number of physicians increased from 76,027 in 1932 to 112,405 in 1938. The progress was not only one in quantity but also in quality. Standards were raised throughout the profession. Medical education was reorganized, to turn out not only more but better-trained physicians. The new hospitals, dispensaries, and rural health centers had much higher standards than the old ones. The chief impression of the visitor in 1938 was that not only was there more of everything but that everything there was had been greatly improved.

These developments continued unabated until the country became engulfed in the war. Since figures speak the most graphic and at the same time the most objective language, the total growth of health facilities from 1913 to 1941 is best illustrated by the table on pages 34 and 35.⁷

The Constitution of 1936, which guarantees citizens of the USSR the

⁷ The figures are the most recent available. Those through 1941 were published by the Commissariat of Health of the USSR: G. A. Miterev, *Narodnoye zdoravookhraneniye za 25 let Sovetskoi Vlasti (The Protection of the People's Health during 25 Years of Soviet Power)*, Moscow, 1942, p. 81. Estimates for 1950 are from the Fourth Five-Year Plan.

right to rest and the right to social security, also guarantees women equal rights with men. The Constitution does not merely state these rights but indicates how they are to be ensured. Articles 119, 120 and 122 embody the basic principles that guide the health work of the nation and should, therefore, be quoted in full:

ARTICLE 119: *Citizens of the USSR have the right to rest.*

The right to rest is ensured by the reduction of the working day to seven hours for the overwhelming majority of the workers, the institution of annual vacations with pay for workers and other employees, and the provision of a wide network of sanatoria, rest homes and clubs serving the needs of the working people.

ARTICLE 120: *Citizens of the USSR have the right to material security in old age and also in case of sickness or loss of capacity to work.*

This right is ensured by the wide development of social insurance of workers and other employees at state expense, free medical service for the working people, and the provision of a wide network of health resorts at the disposal of the working people.

ARTICLE 122: *Women in the USSR are accorded equal rights with men in all spheres of economic, state, cultural, social and political life.*

The realization of these rights of women is ensured by affording women equally with men the right to work, payment for work, rest, social insurance and education, and by state protection of the interests of mother and child, pregnancy leave with pay, and the provision of a wide network of maternity homes, nurseries and kindergartens.

Such are the general principles of Soviet medicine, sketched in very broad lines. The following chapters will tell how these principles are applied to the various fields of public health and in what direction socialist medicine is moving.

2. ADMINISTRATION

In the Soviet Union, as elsewhere, the administration of the health program depends on the general administrative structure of the country.

Article 13 of the Constitution says: *The Union of Soviet Socialist Republics is a federated state, formed on the basis of the voluntary association of the following Soviet Socialist Republics possessing equal rights: The Russian Soviet Federative Socialist Republic (RSFSR)*

GROWTH OF MEDICAL FACILITIES IN THE USSR, 1913-1941

34

TYPE OF FACILITIES	UNITS	1913	1928	1932	1938	1941	1950 (plan) *
Hospital Facilities (Non-Psychiatric)							
City	Beds	93,223	158,514	256,158	450,694	491,543	—
Village	"	49,087	59,230	116,075	153,129	169,888	293,400
	TOTAL	142,310	217,744	372,233	603,823	661,431	985,000
Psychiatric Facilities	"	36,240	30,016	39,945	66,265	73,992	100,000
Maternity Hospitals							
City	"	5,192	18,241	26,984	74,480	75,612	76,000
Village	"	1,632	9,097	16,673	60,323	66,261	65,000
	TOTAL	6,824	27,338	43,657	134,803	141,873	141,000
Sanatoria and Health Resorts	"	2,000	36,100	63,300	102,000	132,000	250,000
Urban Medical Centers	Institutions	1,230	5,673	7,340	12,645	13,461	15,485
Rural Medical Centers	"	4,367	7,531	9,883	11,594 **	13,512	16,385
Tuberculosis Dispensaries and Stations	"	43	498	498	925	1,048	1,192

Medicine and Health in the Soviet Union

TYPE OF FACILITIES	UNITS	1913	1928	1932	1938	1941	1950 (plan) *
Venereal Disease Dispensaries and Stations	Institutions	12	800	683	1,351	1,498	—
Women's and Children's Consultation Centers							
City	"	9	1,383	2,126	3,103	3,499	6,190
Village	"	—	768	1,162	1,765	2,304	—
	TOTAL	9	2,151	3,288	4,868	5,803	—
Permanent Nurseries							
City	Capacity	550	53,748	257,659	460,911	554,448	—
Village	"	—	8,306	342,519	280,568	299,598	—
	TOTAL	550	62,054	600,178	741,479	854,046	1,251,000
Seasonal Nurseries (Village)	Capacity (in thousands)	10.6	195	3,929.1	3,242.3	4,045.6	4,677.5
Physicians	Total Number	19,785	63,162	76,027	112,405	130,348	212,140
Health Budget	(In Millions of Rubles)	—	660.8	2,540.0 †	9,433.0	11,960.0	—

* The figures in this column are based on early and incomplete estimates for the Fourth Five-Year Plan (1946-1950).

** On January 1, 1938

† For 1933

The Ukrainian Soviet Socialist Republic
The Byelorussian Soviet Socialist Republic
The Azerbaidzhan Soviet Socialist Republic
The Georgian Soviet Socialist Republic
The Armenian Soviet Socialist Republic
The Turkmen Soviet Socialist Republic
The Uzbek Soviet Socialist Republic
The Tadzhik Soviet Socialist Republic
The Kazakh Soviet Socialist Republic
The Kirgiz Soviet Socialist Republic
The Karelo-Finnish Soviet Socialist Republic
The Moldavian Soviet Socialist Republic
The Lithuanian Soviet Socialist Republic
The Latvian Soviet Socialist Republic
*The Estonian Soviet Socialist Republic.*⁸

The Union Republics have the constitutional right "freely to secede from the USSR."⁹ "Uniform citizenship is established for all citizens of the USSR. Every citizen of a Union Republic is a citizen of the USSR."¹⁰

The Republics are sovereign. Each has its own constitution, which fully conforms with the Constitution of the USSR but takes into account the specific features of the Republic.¹¹ This sovereignty is restricted, however, by the fact that the central government exercises far-reaching functions. If this were not the case, a uniform system of planned economy would not be possible, nor would it be possible to protect the people's health on a planned basis.

Article 14 of the Constitution states: *The Union of Soviet Socialist Republics, as represented by its highest organs of power and organs of state administration, has charge of:*

- a) *Representation of the Union in international relations, conclusion and ratification of treaties with other states;*¹²
- b) *Questions of war and peace;*
- c) *Admission of new republics into the USSR;*

⁸ The five last-named republics were admitted during World War II, and the Constitution was amended accordingly.

⁹ Article 17.

¹⁰ Article 21.

¹¹ Article 16.

¹² An amendment to the Constitution passed in 1944 gave the Union Republics Commissariats (now Ministries) of Foreign Affairs and of Defense.

d) *Supervision of the observance of the Constitution of the USSR and ensurance of the conformity of the Constitutions of the Union Republics with the Constitution of the USSR;*

e) *Ratification of alterations of boundaries between Union Republics;*

f) *Confirmation of the formation of new territories and regions as well as new autonomous republics within the Union Republic;*

g) *Organization of the defense of the USSR and the direction of all the armed forces of the USSR;*¹³

h) *Foreign trade on the basis of a state monopoly;*

i) *Safeguarding the security of the state;*

j) *Determining the plans of national economy of the USSR;*

k) *Approbation of the unified state budget of the USSR as well as of the taxes and revenues which go to form the Union, Republic and local budgets;*

l) *Administration of the banks, industrial and agricultural establishments and enterprises and trading enterprises of all-Union importance;*

m) *Administration of transport and communications;*

n) *Direction of the monetary and credit system;*

o) *Organization of state insurance;*

p) *Contracting and granting loans;*

q) *Establishment of the basic principles governing the use of land and the exploitation of all that is beneath it, as well as of forests and waters;*

r) *Establishment of the basic principles in the spheres of education and public health;*

s) *Organization of a single system of national economic accounting;*

t) *Establishment of the principles of labor legislation;*

u) *Legislation governing the judicial system and judicial procedure; criminal and civil codes;*

v) *Laws governing citizenship of the Union; laws governing the rights of foreigners;*

w) *Passing of amnesty acts for the entire Union.*

What is the administrative structure within the Republics?

The administrative organization of the tsarist empire consisted of the *guberniya* (province), *uyezd* (district), *volost* (canton), and *selo* (village).¹⁴ Divisions were artificially made without consideration for eco-

¹³ See footnote 12.

¹⁴ See Bertram W. Maxwell, *The Soviet State, A Study of Bolsheviki Rule*, Topeka, Kansas, 1934, p. 100.

conomic needs. They served as instruments for imposing the will of the autocracy upon the population by means of a heavy bureaucratic machinery.

After the Revolution, a redistribution took place along economic lines. The country was divided into *raions* or districts, each consisting of a number of villages and eventually of towns, and constituted an economic unit. Historical boundaries based on private ownership of land disappeared, and the country was mapped out rationally and scientifically. The impetus for this reorganization came chiefly from the plan for electrification. Since electricity was to become the backbone of the national economy, the utilization of energy was the guiding motive in this redistribution.

The next and larger administrative unit is the *krai* (territory) or *oblast* (region). Each of these units consists of a number of *raions*. The system of *krais* and *oblasts* was not utilized everywhere, however, since the Soviets insisted that no group representing one nationality should be governed by another nationality. In order to ensure free cultural development for every ethnic element, national minorities living within a Union Republic were organized as autonomous republics or regions, depending upon their size and importance.¹⁵

"The organs of state power in territories, regions, autonomous regions, areas,¹⁶ districts, cities, and rural localities . . . are the Soviets of Toilers' Deputies."¹⁷ Until 1937, only the city and village soviets, or councils, were elected directly by their respective cities or villages. The higher soviets up to and including the All-Union Soviet were elected indirectly. Each soviet elected delegates to form the next higher soviet. However, the 1936 Constitution specifies that all soviets be elected directly by the voters of the respective administrative unit.

The soviets of territories, regions, autonomous regions, areas, districts, cities, and rural localities are elected for a term of two years.¹⁸ They "direct the activities of the organs of administration subordinate to them, ensure the maintenance of public order, the observance of the laws and the protection of the rights of citizens, direct local economic and cultural

¹⁵ See J. A. Morrison, "The Evolution of the Territorial-Administrative Structure of the USSR." *The American Quarterly on the Soviet Union*, 1938, vol. I, pp. 25-46. A chart of the political-administrative divisions of the USSR as of October, 1945 appears in Appendix I of this book.

¹⁶ The *okrug* or area is an administrative unit between *raion* and *oblast* which is being gradually abolished.

¹⁷ Article 94.

¹⁸ Article 95.

construction and draw up the local budget."¹⁹ The executive and administrative organ of each soviet is the Executive Committee elected by it and consisting of chairman, vice-chairman, secretary, and members.²⁰ This Committee is directly accountable both to the soviet which elected it and to the executive organs of the higher soviets.²¹

The highest organ of state power of a Union Republic is the Supreme Council (*Verkhovny Sovet*) elected by the citizens of the Republic for a term of four years. It is the sole legislative body. It elects a Presidium and forms the body known as the Council of Ministers, formerly the Council of People's Commissars of the Union Republic. This Council represents the highest executive and administrative power in a Union Republic.²²

The autonomous republics within the Union Republics are organized along similar lines. Decisions and orders of Councils of Ministers of Autonomous Republics can be suspended, however, by the Council of Ministers of the respective Union Republic, just as this latter body can annul decisions and orders of executive committees of local soviets.²³

The highest organ of state power of the USSR is the Supreme Council (*Verkhovny Sovet*) of the USSR.²⁴ It has exclusive legislative power and consists of two chambers: (1) the Council of the Union (*Sovet Soyuza*) elected by the citizens of the USSR on the basis of one deputy for every 300,000 population; (2) the Council of Nationalities, consisting of an equal number of deputies, representing the various nationalities, elected directly in the same manner as the deputies to the Council of the Union. Both chambers are elected for a term of four years; both have equal rights. Laws must be passed by both chambers.

The Supreme Council elects a Presidium which among other powers has the right to interpret existing laws, to hold popular consultations (referenda), and to annul decisions of the various Councils of Ministers if they do not conform to law.

The Supreme Council, at a joint sitting of both chambers, forms the government or cabinet—the Council of Ministers of the USSR.²⁵ This Council consists of Chairman and Deputy Chairmen, all the Ministers and the chairmen of the State Planning Commission, the State Bank

¹⁹ Article 97.

²⁰ Article 99. In small rural localities, the Executive Committee consists only of chairman, vice-chairman, and secretary (Article 100).

²¹ Article 101.

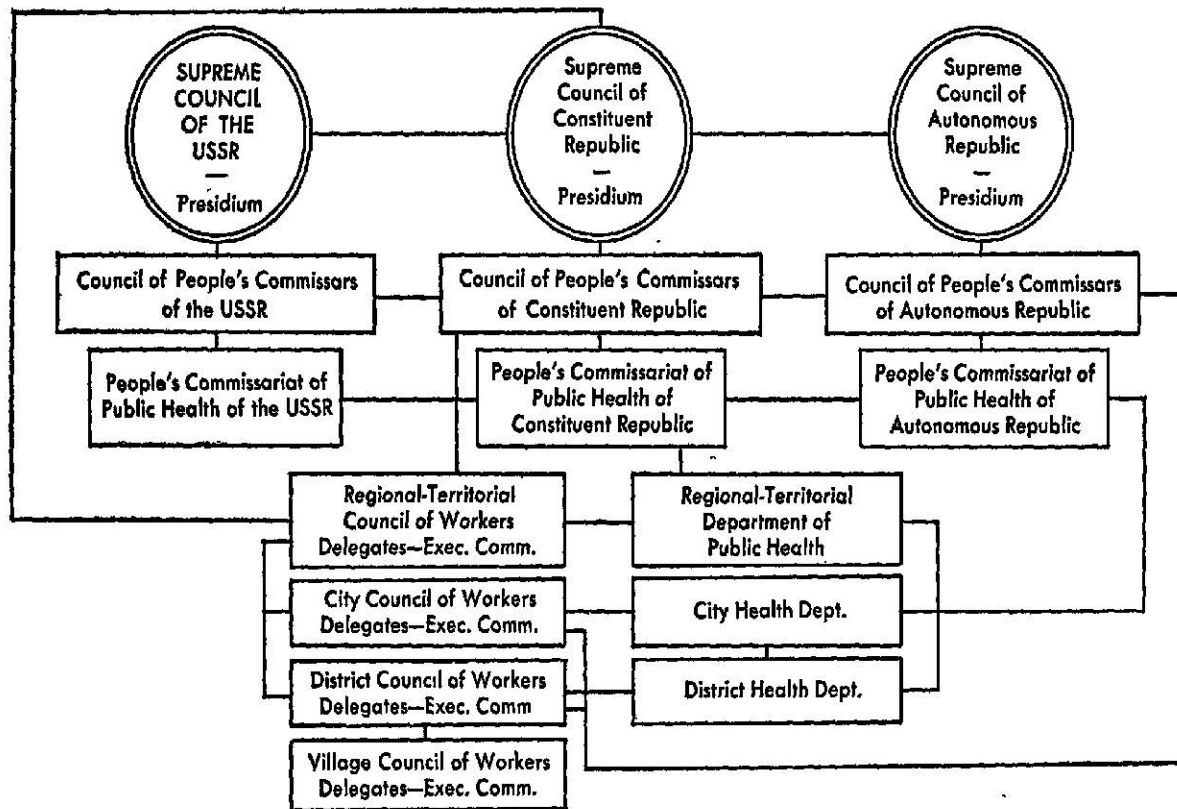
²² Articles 57-63, 79.

²³ Article 82.

²⁴ See Articles 30-56.

²⁵ Articles 56, 64-78.

CHART I. ADMINISTRATIVE STRUCTURE OF PUBLIC HEALTH IN THE USSR



Administration, the Committee on Art, the Committee on Higher Education. A number of other agencies, such as the Economic Council and Labor Reserves Administration are agencies of the Council but without voting rights. It coordinates and directs the work of the All-Union and Union-Republic Ministries. Its decisions and orders are binding throughout the USSR and it has authority to suspend decisions and orders of the Council of Ministers of the Union Republics.

After this brief survey of the general administrative structure of the country, we can now discuss the problem of health administration. How is the protection of the people's health directed in the Soviet Union? What place does health administration occupy in the general scheme?

The health program is not dictated from above, but is, on the contrary, administered in a most democratic manner. Since the principle has been established that the health of the people is their responsibility, it is logical for them to take a large and active part in the administration of health. Health administration, like every other branch of Soviet administration, assumes the form of a pyramid with an exceedingly broad base. This broad base is new to the world. In capitalist countries, health administration does not go beyond the municipal or the county health department.²⁶ It is the concern of specialists. The people are the object of administration and have little share in it. In the Soviet Union, the base of the health pyramid is formed by innumerable health committees organized in every factory, every farm, wherever people work.

Every Soviet enterprise has its trade union factory committee (*fab-kom*) or local committee (*mestkom*) and its Party committee (*Part-kom*). The factory or local committee is elected by all members of the enterprise, the Party committee by all Communist Party members working in the plant. The local committee, as a rule, has at least five sub-committees to deal with matters of wages, social insurance, housing and works kitchens, protection of labor, and cultural matters.²⁷

²⁶ There are conspicuous exceptions. See Ira V. Hiscock, *District Health Administration, A Study of Organization and Planning*, Milbank Memorial Fund, Lancaster, Pennsylvania, 1936.

²⁷ *V pomoshch FZMK. Sbornik materialov po rabote fabriko-zavodskikh i mestnikh komitetov (To the Assistance of the FZMK. Collection of Materials for the Work of the Factory, Plant and Local Committees)*, Moscow, 1943. See also George Kieser, *Why is Russia so strong?* Biene, Switzerland, 1945; and Germina Rabino-witsch, "Soviet Trade Union Functions and Activities," *American Review on the Soviet Union*, February, 1946, pp. 3-16.

I have attended many meetings called by committees in various kinds of enterprises. Questions of production, of international politics, art and literature were discussed, and in 1936 such particularly timely questions as the new Constitution and the abortion bill. I remember a meeting in the State Institute of Physiology in Moscow which was attended by all members of the Institute from director to charwoman. The subject considered for several hours was the prospect of the year's sugar-beet crop. It seemed odd to hear a heated discussion on such a subject in a scientific research institute. Yet the reason for it was clear. The Soviet scientist does not live on an island, isolated from the rest of the world. His work is part of the general construction plan of the country. He is not only a scientist but a citizen with great responsibilities, a builder of socialist society. How could he afford to be disinterested in the national economy?

The committees devote a great deal of their effort to improvement of the workers' health. In cooperation with physicians, they endeavor to improve the medical services provided by their establishment. They see to it that the most rational use is made of the social insurance funds. They control the hygienic conditions of the plant, the social services, the nurseries, kindergartens, and the care given to school children. They have a voice in deciding which workers are to be sent to rest homes, to sanatoria, or to health resorts. They organize health lectures and exhibits. A continuous health campaign is carried on all over the Union.

It is very important that the apex of the health pyramid be intelligent and strong, but the success or failure of the work will largely depend on the base. Health measures will never be carried out unless the population responds to them. Soviet medicine has progressed so rapidly because the working population has organized itself to participate actively in the administration of health. The medical corps is not alone in its fight against disease; it can rely upon the cooperation of the innumerable health nuclei and committees. It is no exaggeration to say that many millions of people, outside the medical corps, are working for the protection of health.

As we have mentioned, the villages and cities are administered by their local soviets. Among the powers and functions of the village soviet defined by a decree of the Central Executive Committee issued on January 1, 1931, it exercises the following in the field of public health:²⁸

²⁸ Quoted from Sidney and Beatrice Webb, *Soviet Communism: A New Civilization?* New York, 1936, vol. I, p. 469.

- a) *It supervises all the hospitals and sanitary facilities which are maintained on the village soviet budget.*
- b) *It takes all necessary steps for the organization of sanitary inspection, and combats venereal diseases.*
- c) *It advances the knowledge of personal hygiene and develops physical culture programs.*
- d) *It appoints guardians to insane persons.*

In the sphere of social insurance:

- a) *It keeps the register of insured persons and disburses the benefits.*
- b) *It forms artels or cooperative workshops for invalids.*
- c) *It takes special care of invalidated Red Army men, of veterans of the Civil War, and all persons who suffered at the hands of kulaks and counter-revolutionaries. It establishes them on collective farms.*
- d) *It supervises the activities of the mutual aid societies.*
- e) *It appoints guardians to blind, deaf and dumb persons, etc.*²⁹

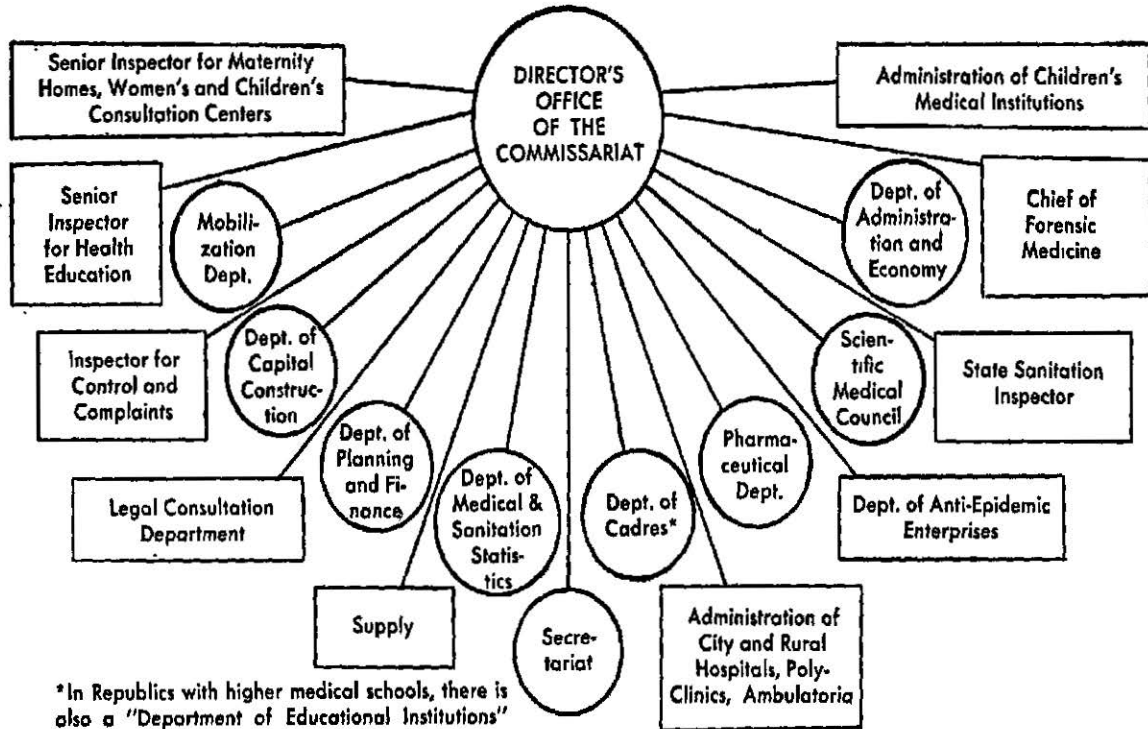
The soviets of small towns have similar functions. The soviets of the large cities have a status of their own.

In the next higher administrative units, the *raions* or districts—of which there are over 3,000—executive committees are organized in sections or departments. One of those, according to a decree of the RSFSR of January 1, 1931, must be the Health Department. At the head of the department is the *Raion* Inspector of Public Health who exercises far-reaching functions and is responsible for all health work in the district.

The large cities are administered by city soviets, which in Moscow and Leningrad are very large bodies indeed, with thousands of members—the elected deputies. City soviets, like all others, elect their Executive Committee and Presidium and organize various departments. The Health Department is one of the six departments obligatory for every city. In order to facilitate the administrative task of the city soviet, however, the larger cities are divided into city *raions*, comparable to the boroughs of New York City. Moscow has ten, Leningrad and Gorky have eight each. Every *raion* has its own soviet cooperating closely with

²⁹ The legislation concerning health work in the village is collected in: *Organizatsiya lechevno-profilakticheskoi i sanitarnoi raboty na sele. Sbornik ofitsialnykh i spravochnykh materialov (Organization of medico-prophylactic and public health work in the village. Collection of official and reference materials)*, Moscow-Leningrad (Medgiz), 1941.

CHART II. STRUCTURE OF PEOPLE'S COMMISSARIAT OF HEALTH IN ALL UNION REPUBLICS EXCEPT RSFSR AND UKRAINIAN SSR



the city soviet. And each *raion* soviet has its various departments, among them a health department.

The health department of a city *raion*, as we shall see later, controls complete medical facilities, preventive as well as curative. It is the task of the *raion* health department to inspect, control, and advise all medical institutions in the district. Eventually, the *raions* will probably be subdivided so that the administration may get closer to the people and may better know their individual needs.

The next higher unit in the administrative pyramid is represented by the *krai* and *oblast*. Their health departments control all medical activities within their respective areas.

The central administrative organ for the protection of health within a Republic is the Ministry of Health, formerly the People's Commissariat of Public Health.³⁰ Each Union and Autonomous Republic has its own Ministry, which directs and controls the entire health work of the Republic: preventive, diagnostic, curative. It also controls medical education and research, and in the RSFSR, the Ukrainian and the Georgian Republics it controlled the medical industries until a separate Ministry of Medical Industry was created in June 1946. Never has a health authority had more power, never a better opportunity to do creative work on a large scale to protect and restore the people's health. The chart on page 44 illustrates the structure of the Health Commissariat, now Ministry, of a Union Republic.

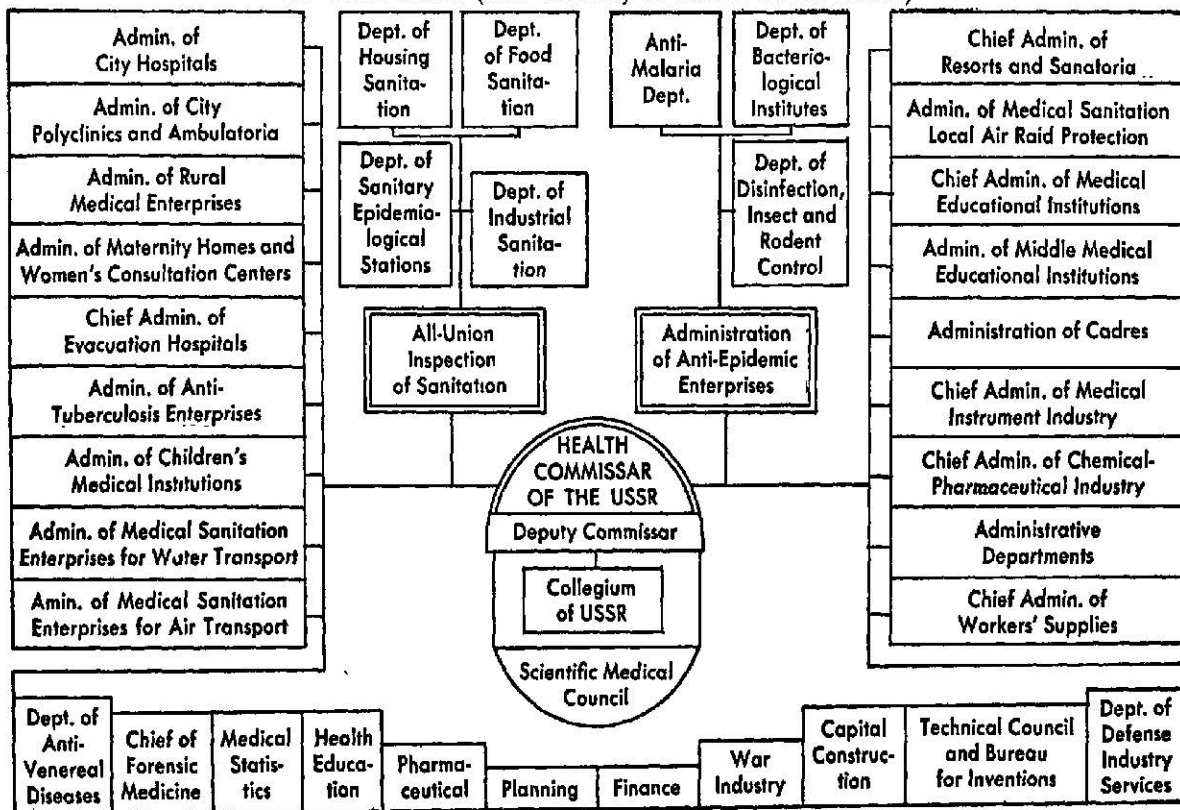
The local health departments are accountable to their executive committees in administrative matters. As far as medical and public health questions are concerned, they are directed entirely by the Ministry. As a matter of fact, they are the local organs of the Ministry.

As has been mentioned, the Commissariat of the Russian Republic (RSFSR) was the first to be established, in June 1918. It set an example for the Commissariats in the other republics. It has continued to be the most important of these bodies; its activities today as the Ministry of Health of the RSFSR cover by far the widest area.

The Constitution of 1936 was responsible for a new development in the administration of public health by making provisions for establish-

³⁰ In Russian, *Narodny Komissariat Zdravookhraneniya* (usually abbreviated to *Narkomzdrav*), which literally means People's Commissariat for the Protection of Health. If we speak of Commissariat of Health and health departments, it is for brevity's sake. The Russian word used is always *zdravookhranenie*, *protection of health*.

CHART III. STRUCTURE OF PEOPLE'S COMMISSARIAT OF HEALTH PROTECTION OF THE USSR (now Ministry of Health of the USSR)



ment of a People's Commissariat of Public Health of the USSR. There are two types of Commissariats of the USSR defined by articles 75 and 76 of the Constitution:

ARTICLE 75: *The All-Union People's Commissariats direct the branches of state administration entrusted to them throughout the territory of the USSR either directly or through bodies appointed by them.*

ARTICLE 76: *The Union-Republic People's Commissariats direct the branches of state administration entrusted to them as a rule through People's Commissariats of the Union Republics bearing the same name, and directly administer only a definite number of enterprises according to a list confirmed by the Presidium of the Supreme Council of the USSR.*

The new Commissariat was a Union-Republic People's Commissariat like the Commissariats of Justice and of Finance. It was not meant to replace the Commissariats of Union Republics but to form the apex of the various administrative pyramids. It administers directly a certain number of medical institutions that are considered of all-Union significance, but otherwise its chief function is to work out policies, to direct and coordinate the work of the Union Republics' Commissariats, now Ministries, of Health. Its elaborate structure is illustrated by the chart on p. 46.³¹ It is obvious that all aspects of medicine are represented in this Commissariat since it is the highest administrative authority in matters of health.

As already indicated, there are no longer People's Commissars, People's Commissariats or Councils of People's Commissars in the USSR. On March 15, 1946, the Supreme Soviet of the USSR changed the titles to Ministers, and the bodies to Ministries and Councils of Ministers. The Assistant or Vice-Commissars became Deputy Ministers. The changes are solely in terminology.³²

The Minister of Health is assisted in his work by the Collegium and by the Scientific Medical Council. The Collegium is an advisory body in administrative matters. It consists of the Minister, the Deputy Ministers, the President of the Medical Workers' Union, the head of the Bureau of Finance of the Ministry, and a peasant delegate. Medical, la-

³¹ From K. V. Maistrakh, *Organizatsiya zdравookhraneniya (Organization of Health Protection)*, 2nd. ed., Moscow, 1945, p. 18.

³² See A. Denisov, "Constitutional Questions at the Session of the Supreme Soviet of the USSR," *American Review on the Soviet Union*, May, 1946, p. 59.

bor, or other specialists are invited to join the meetings of the Collegium whenever special advice is required. Connected with the Collegium is the Planning Commission, which is comparable to the general staff of an army. When the Collegium decides upon a health policy, it becomes the task of the Planning Commission to work out the details, and to submit them to the Collegium for final approval. It is obvious that the Planning Commission is particularly busy when a major offensive is being prepared, before the launching of a five-year plan.

The Scientific Medical Council is a body of medical scientists without administrative responsibility who advise the Ministry in scientific matters. Before a new health policy is put into effect, it is essential to ascertain that all scientific means available have been utilized. The Ministry which is responsible for the people's health not only directs the use of weapons to fight disease but has to forge these weapons. It therefore employs the services of men connected with research and clinical institutes operated by the state and controlled by the Ministry.

The United States Public Health Service and many of the state departments of health also have their own research laboratories. So too had the German Gesundheitsamt in which Robert Koch made some of his most important discoveries. Health departments in capitalist countries, however, have limited functions. The work of their laboratories, therefore, is restricted to certain fields of medical science, with special emphasis on communicable diseases. Medical research is done primarily in universities or in private research institutions and, as a rule, in a more or less haphazard way.

The situation is basically different in the Soviet Union, where the Ministry handles problems covering the entire field of medicine. It therefore has to have a large number of state scientific institutes with both laboratories and clinics, to which it can refer its problems for further investigation. (These institutes will be described in later chapters, especially IV.) I have visited many of them. Along with the new All-Union Academy of Medical Sciences, which was founded in 1944 and absorbed the former All-Union Institute of Experimental Medicine, these institutes are the chief research centers. They also train scientific workers and serve as model institutions to be copied by the provinces.

The heads of these state scientific institutes form the Scientific Medical Council of the Ministry, to which other scientists are called according to the nature of the problem under discussion. In this way science and life, theory and practice, are brought together in an ideal way. The Ministry

is constantly advised by the leading scientists of the country. The scientists, on the other hand, have the great satisfaction of knowing that they are contributing actively to the welfare of the nation, and that the results of their investigations will be applied without delay and on a nationwide scale.

One important aspect of health administration which has yet to be discussed is sanitary inspection. These functions were defined in various decrees of the Central Executive Committee and the Council of People's Commissars of the USSR and of the RSFSR issued in 1933 and 1934.³³

The Health Minister of the USSR is the Union's chief inspector of sanitation.³⁴ Thus, uniform regulations for the entire country can be enacted and sanitation can be controlled in places where local authorities fail in their task. It is generally considered, however, that sanitation is the concern of the individual republics, and the Deputy Minister of Health is the chief sanitation inspector in each republic. Inspectors of sanitation are also attached to the health department of every subdivision of government down to, and including, the *raion*. The number of inspectors for each type of health department is prescribed by decree. In cities there is one for every 25,000 population. In 1936, Moscow had 31 and Leningrad 25 municipal inspectors with additional inspectors for every city *raion*.³⁵

The Ministries set norms and issue regulations concerning sanitary conditions, particularly in the following fields: (1) food (food industry, retail stores and eating places), (2) industry, (3) housing, (4) schools, (5) water transportation, (6) railroad transportation, (7) health resorts. However, inspection can be extended to other fields and institutions if circumstances make it advisable.

Inspectors visit the various places at frequent intervals, and the State Sanitary Inspection has the power to close unhygienic plants and to fine the persons responsible for the conditions.³⁶ This inspection, carried out

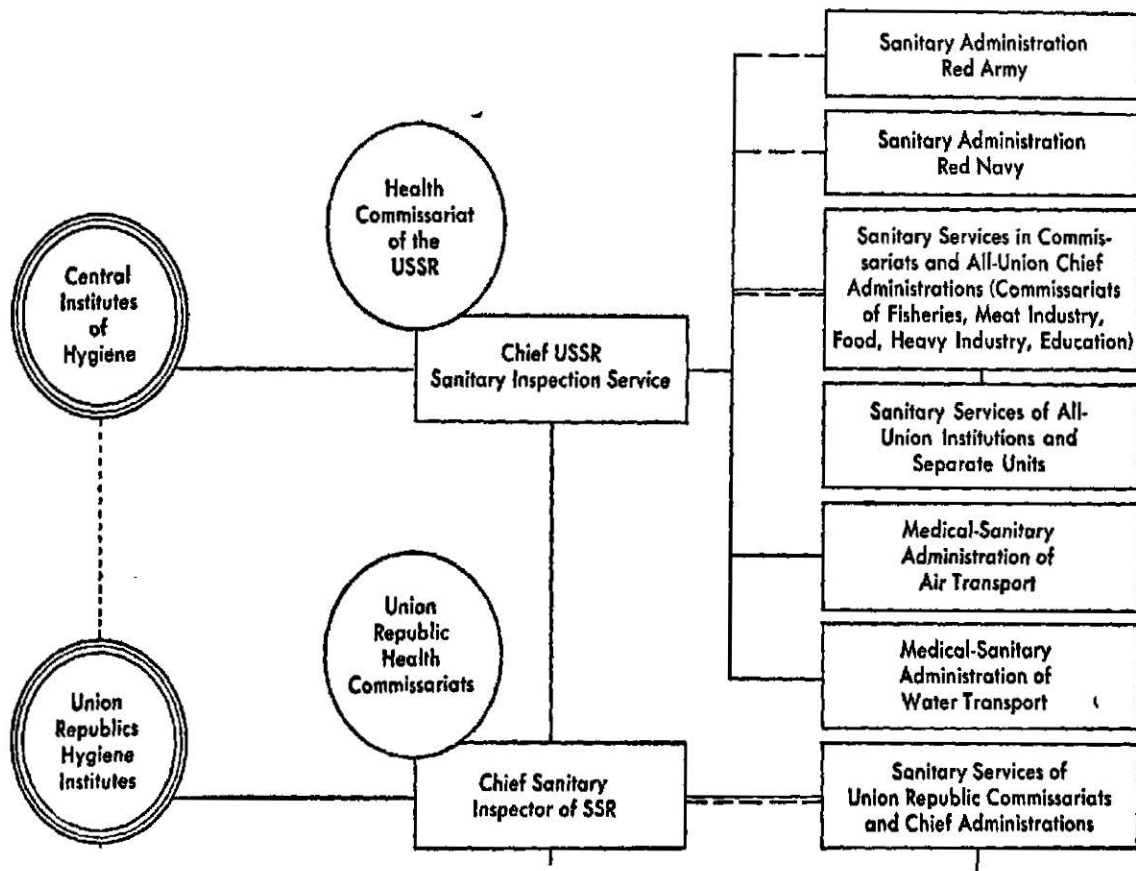
³³ *Zakonodatelstvo R.S.F.S.R. po zdravookhraneniyu 1930-1934 (Health Legislation of the R.S.F.S.R., 1930-1934)*, Moscow-Leningrad, 1935, pp. 43-50.

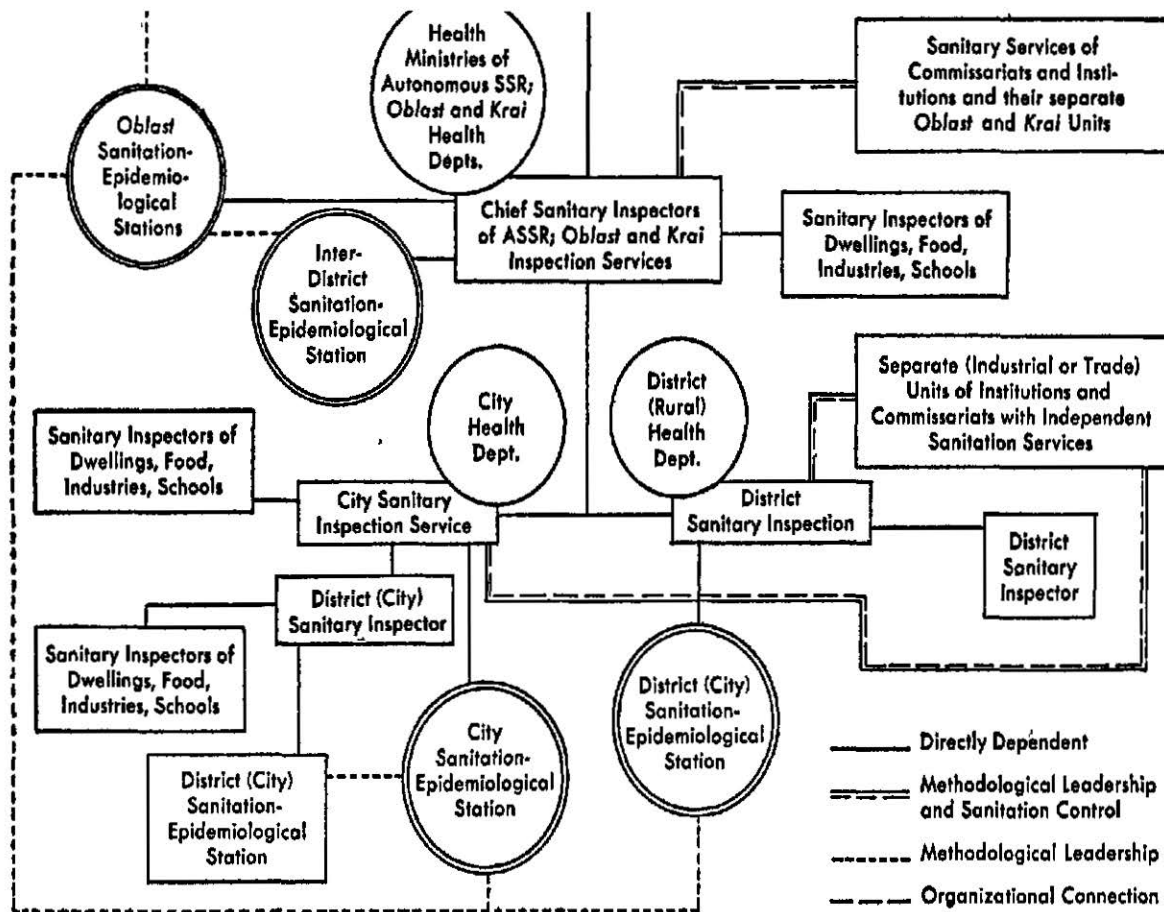
³⁴ Before the creation of the federal Commissariat of Health in 1937, the Health Commissar of the Russian Republic was chief sanitation inspector of the Union.

³⁵ See the chart on p. 50.

³⁶ For example: *Pravda* of Sept. 9, 1936 reports: "To-day the Leningrad State Sanitation Inspection ordered the department of pasteurized bottled and dietetic

CHART IV. STRUCTURE OF THE STATE SANITARY INSPECTION SERVICE OF THE USSR





rigorously, is a most powerful means of protecting the people's health. It was very wise to make individuals and not enterprises responsible for sanitary conditions. When a factory, hotel, or other enterprise is fined for unhygienic conditions, the fine is often considered as an overhead charge. But when the responsible individual has to suffer for having neglected his duty, it teaches him a lesson.

The habits of the Russian people have been changed radically in a very short time. The cities are spotlessly clean and the foreigner soon learns that cigarette butts are not supposed to be thrown on the street but into special cans placed at every corner. I remember a long railroad ride from Moscow to Kazan during which the conductor came to clean my compartment about every two hours, which was more often than I liked. When I asked her to let me sleep in peace, she said: "Well, citizen, I have to clean the compartment because the inspector may come in at any station and the car must be kept as clean as it was when we left Moscow—but I will do it without disturbing you." No visitor is allowed to go into food factories, medical institutions, or nurseries without sterilized gown and cap. Such regulations may sometimes seem exaggerated but they are part of a great educational program, and far-reaching results cannot be expected unless there are strict rules that must be followed literally.

There is one more organ that we should mention, although it has no place in the administrative pyramid. The Central Executive Committee of the Communist Party has a Committee on Public Health (*Partkomzdrav*). Like its other organs, this Committee has no administrative functions. Its task is to watch developments, study conditions, and issue policies. It obviously has a great influence.

There is no doubt that in the public health field Lenin's principle "centralized direction and decentralized activity" has been fully realized.

milk of the Third Milk Factory in Leningrad to close because of unsanitary conditions. In this department, whose task is the production of dietetic articles of highest quality, it was found that pasteurization was insufficient, vessels were poorly washed, and that the premises were dirty. The director of the factory, the supervisor, the foremen of the pasteurization and bottling departments, and the manager of the storehouse were fined by the Inspection Service."

3. PERSONNEL

In the Soviet health program, the chief medical worker is the *physician*. He puts the teachings of medical science into practice and leads his countrymen in their fight against disease and toward a healthier and happier life.

At the time of the Revolution, Russia was suffering from a serious shortage of physicians. The Civil War broke out, and had to be followed by a war against epidemics. As a result, the need for physicians became greater than ever. The Soviet Government socialized the services of all physicians and mobilized them. With the exception of a small minority that deserted abroad or joined the White Armies, physicians responded to the call and performed their duty. A great many were sent to the various fronts where the Red Army was in active service; others were distributed through the country where civilian needs were most urgent.

Casualties among physicians in the years 1918–1922 were terrific. Many fell on the battle front, many succumbed to epidemics. In certain eastern regions, not a single physician escaped typhus or relapsing fever, and the death-rate among them was as high as 70 per cent.³⁷

When war and epidemics were overcome and physicians were demobilized, there was the paradoxical situation that, despite the great need for their services, many found themselves unemployed. With the socialization of medicine, the great majority of physicians had come into the service of the state. But state funds were so exhausted that it was impossible to employ them all. This was particularly true in the impoverished provinces, which did not have the money to employ the large number of doctors that was needed.

In 1923, there were 5,440 physicians in Moscow and 4,190 of them were in the state service. Salaries were very small and doctors tried to increase their income through private practice. Moreover, the 1,250 physicians who had no employment had to rely on private practice as their only source of income, and a very uncertain source in an impoverished population. Of these, 956 were officially registered at the Labor Office as unemployed. In Leningrad, conditions were similar. Of 3,240 physicians, 2,608 were in the state service, 632 had no employment, and

³⁷ N. Semaschko, *Deutsche Medizinische Wochenschrift*, 1924, vol. 4, p. 722.

496 were registered as unemployed.³⁸ Preference in employment was obviously given to experienced physicians. Hence it was mostly young doctors who found themselves without work.

These were hard years for the medical corps as well as for other large sections of the population. The situation, however, was abnormal and transitory, the result of peculiar circumstances. In the years that followed, physicians were gradually absorbed by the state services although a certain amount of private practice continued during the period of the New Economic Policy and has continued on a constantly shrinking scale up to the present. Private practice was never forbidden. It has practically disappeared due to the great expansion and improvement of state medical services. There is no reason to pay money for a service that can be obtained just as well or even better free of charge.

As soon as conditions began to settle somewhat, great efforts were made to increase the quantity and quality of the medical personnel. As a consequence, medical education began to receive much attention.³⁹ The old medical schools had survived the Revolution and their work had gone on without interruption as thousands of young men and women entered the medical schools. Most professors had remained in their chairs, and since there was no one to replace them they were left unmolested as long as they did not oppose the new regime.

The first changes that were made in the medical schools did not relate to the curriculum. The traditional German plan of a five-year course with a large number of theoretical lectures, clinics, and laboratory work was permitted to continue. Incisive changes were made, however, in the constituency of the student body. Before the Revolution, the great majority of the students had been recruited from the bourgeoisie. Women had been admitted only to special schools, and the number of Jewish students allowed to enter the state universities was restricted to 3 per cent of the total enrollment.

The Revolution opened the doors of the universities to everybody, regardless of sex or race. Since educational facilities were limited, however, preference was given to the children of workers and peasants.

³⁸ N. Semaschko, *loc. cit.*, p. 722.

³⁹ The status of medical education in 1924 is discussed by N. Semaschko, *Deutsche Medizinische Wochenschrift*, 1924, vol. 49, pp. 1587-1588.—An American observer's opinion on the subject is given by W. Horsley Gantt, *British Medical Journal*, 1924, June 14th. Conditions in 1931 are described by A. Roubakine, *Revue d'Hygiène et de Médecine Sociale*, 1931. About present conditions see the general literature and the references which follow.

Doctors were needed and thousands of young people entered the medical schools, many of whom were hardly prepared for highly specialized academic studies. Entrance requirements were exceedingly low. If an entrance examination were given at all, it often was reduced to a mere formality. In many cases, the recommendation of a secondary school or of a workers' committee sufficed. The state examination for licensure was abolished and a certificate from the medical school entitled the bearer to practise medicine.

It is little wonder that many students failed in spite of their enthusiasm and hard work, and that the physicians who came from the universities in those early years were poorly prepared. A change in the training program was necessary. The crucial problem was pre-medical education. A solution was found soon after the Revolution in the establishment and development of Workers' Faculties (*Rabfaks*).⁴⁰ Workers' Faculties were designed to prepare adult workers for the higher educational institutions. If a laborer who had been working for at least three years in industry wanted to study medicine, and had the ability to do so, he was admitted to a Medical Workers' Faculty. There, while still working in the factory, he would be instructed during a three- or four-year course in language, literature, mathematics, physics, chemistry, and political science so that he might meet the entrance requirements of the medical school.

In 1922, the medical curriculum had its first revision. The old course of study clearly did not properly prepare physicians to meet the requirements of the new Soviet medicine. Since emphasis was being laid on prevention, preventive medicine had to be given a prominent place in the curriculum. Social hygiene instruction began in all the schools, and required courses were introduced in subjects that had formerly been neglected, such as urology, oto-rhino-laryngology, odontology, and communicable diseases. Examinations were re-introduced.

The revised curriculum did not prove satisfactory, however. It preserved the traditional forms of teaching taken over from Germany, and it crowded the course of study with too many additional lectures. Therefore, experimentation continued and an entirely new curriculum was devised and generally adopted during the period of the First Five-Year Plan. It represented a decided break with the traditions of medical education.

Medical schools, like schools of engineering, became vocational insti-

⁴⁰ An abbreviation for *Rabochii Fakul'tet*.

tutions divorced from the universities. Until 1930, all institutions of higher studies were directed by the Commissariats of Education; that year they were turned over to their respective commissariats. Since then the Commissariats or Ministries of Health have been responsible for the training of medical personnel and have, therefore, controlled medical education.

It was apparent that Soviet medicine required three types of physicians: practitioners for general medical and prophylactic work, public health physicians, and specialists for the protection of mother and child. The medical schools, therefore, were divided into three corresponding faculties: a Faculty (Department) of General Medicine and Prophylaxis giving a four-year course, a Faculty of Hygiene with a three and a half-year course, and a Faculty for the Protection of Mother and Child giving a four-year course.

On the basis of this curriculum, the medical student began specialization at once by registering in one of the three faculties. Methods of teaching were changed radically; most lectures were abandoned and were replaced by seminary and laboratory discussions. All teaching was what was called complex teaching. The barrier between anatomy and physiology, for example, was dropped and both subjects were discussed together. A case of illness was discussed not only from the clinical or pathological point of view but in all its complexity, including the social and economic factors involved. Students worked in groups, in teams. Upon entering medical school, four or five students joined to form such a team to work together throughout the course. It was believed that if one student was lazy, the others would make him work lest the group be weakened. Each group was given a set of textbooks; there was still too serious a shortage of books for each student to have his own. And each group was expected to perform collective tasks like investigating health conditions in a given district. In such a study, one student would survey housing conditions, another working conditions, a third would make the laboratory tests, and so on. At the end of the assignment, the group would present a joint report. Since Soviet medicine is group medicine, it was thought that the students should be trained early in this cooperative spirit.

Final examinations were abolished again. The professors were required to judge whether the qualifications of a group were sufficient to allow its members to enter the medical service of the state. The social sciences were given a large place in the new curriculum. Although medical stu-

dents everywhere should have a thorough knowledge of history, economics, and sociology, such knowledge is particularly necessary in the Soviet Union, where medicine is so integral a part of the general life of the nation and where every medical worker is expected to contribute consciously to the building of the new socialist society.

If higher education is to be open to all, it is not sufficient to offer it free of charge. Society should also provide the means of subsistence for students. When a student is preparing himself to be a physician or an engineer, he is performing potentially socially useful work and the least society can do is to remunerate him by supporting him during his years of study. In the Soviet Union, until shortly before World War II,⁴¹ most students received stipends provided by the state, trade unions, individual enterprises, factories, farms, or other agencies. A large number of students, moreover, lived in dormitories which are operated by the state. Whether or not the old system of free tuition and stipends for all students will be re-established I do not know but the best students and those most in need of support are still being provided for. The schools arranged their program to take care of those actively engaged in work. They believed that a nurse, for instance, should be able to study medicine while still engaged in nursing. Instruction, therefore, was given in shifts and evening classes were held. Even medical correspondence courses were offered.

The new plan of medical education was very interesting and reflected some sound ideas. I remember my favorable impression when I first

⁴¹ On October 2, 1940, the Council of People's Commissars of the USSR issued a decree introducing tuition fees for the 8th to 10th grades of secondary schools and in higher educational institutions except for needy students with high marks, and also limiting the former stipends to those with excellent standing. The decree set forth its motivation in the following words: "Taking into account the rise in the living standards of the working people and the substantial expenditures borne by the Soviet State for the construction, equipment and maintenance of the ever-increasing number of secondary and higher educational schools, the Council of People's Commissars of the USSR considered it necessary that part of the expenses of tuition in secondary schools and higher educational establishments be borne by the working people themselves." The text of the decree is published in English translation in *The American Review on the Soviet Union*, 1941, Vol. 3, p. 67. In 1940, the USSR was spending much money not only for schools, but also for armaments in view of the war menace. It may well be that the charging of tuition fees is only a temporary measure. In any event, large numbers of students have been exempted from payment of tuition, among them war invalids, veterans and members of their families. Stipends were also extended to meet their needs.

heard of it. I was working in a German university at the time, and had become convinced of the absurdity of overcrowding the curriculum with innumerable lectures. Russia had emancipated itself from the German system and, emphasizing the seminary method of teaching, had instituted a system resembling in many respects that which prevailed in America.

The results achieved from the new curriculum, however, again proved unsatisfactory. In the autumn of 1932, the Central Executive Committee of the Party sharply criticized conditions in higher education, and recommended the introduction of yearly tests and final examinations, and the resumption of lectures on theoretical subjects.

This last recommendation may seem reactionary to American educators, but from my own teaching experience I can understand it very well. Although I am strongly in favor of seminary courses for advanced students, there is obviously no point in discussing a subject with students just beginning who know nothing about it. If lectures are not popular with American students, it is largely due to the fact that there are few good lecturers in America. Europe has developed a great tradition of academic oratory that is passed on from master to pupil without courses in public speaking. And the Russians are the best speakers I know. The great problem is to establish the right balance between lecture courses, seminary courses, and practical laboratory and clinical work.

After the Party had raised its voice, the Council of People's Commissars of the RSFSR investigated the matter and issued several decrees concerning medical education in 1933 and 1934.⁴² The chief criticisms of the Council were that the basic sciences were so neglected that students lacked fundamental knowledge, and that the non-therapeutic specialties were so overdeveloped that there was a lack of general practitioners for the cities and villages. Specialization early in the curriculum was criticized. The equipment of laboratories and teaching hospitals was inadequate, and there was not only a shortage of good textbooks but also a shortage of teachers.⁴³ It had become apparent, too, that the group system did not work satisfactorily. It was found that one brilliant student

⁴² *Zakonodatelstvo R.S.F.S.R. po zdravookhranenyu 1930-1934 (Health Legislation in the R.S.F.S.R., 1930-1934)*, Moscow-Leningrad, 1935, pp. 107-202.

⁴³ In a report to the XVth All-Russian Congress of Soviets, it was stated that on January 1, 1934 not fewer than 200 academic positions were unfilled. *Okhrana Zdorovya v Sovetskoy Soyuz (The Protection of Health in the Soviet Union)*, Moscow-Leningrad, 1935, p. 75.

might give a high standing to a group otherwise consisting of weak students. Finally, correspondence courses were forbidden.

The Health Commissariats of the various republics were requested to submit plans and programs to the All-Union Committee for Higher Technical Education. The Council of People's Commissars of the RSFSR issued specific instructions, among them the following: The number of subjects was to be reduced, but in the larger schools special courses in stomatology, physiotherapy, and roentgenology were to be introduced. The responsibility and authority of the directors of the medical institutes were to be increased as well as the salaries of the teaching personnel. Leaves of absence for scientific work were to be granted professors in the basic sciences, and the great specialists of the old medical schools were to make regular trips to the newer schools for consultation and lectures. Hospitals were to be examined for their fitness to serve as teaching institutions. In hospitals that were approved, 15 to 20 per cent of the beds were to be reserved for teaching and research purposes, with the director selecting the patients. Latin, military medicine, and physical culture were to be added to the curriculum. The course again was made a five-year course. Finally, regular state board examinations were to be given by special committees appointed by the Commissariats.

Things moved rapidly, and readjustments took place within a few years. The equipment of the schools was improved. The medical equipment industries progressed sufficiently to supply the schools and hospitals with microscopes, X-ray and other apparatus and instruments of Soviet manufacture. In 1935, the yearly expenditure per student for apparatus, chemicals, and glassware was increased from 2,015 to 2,442 rubles. Salary increases for the faculty were established late in 1934; these amounted to 270 rubles for the professor, 225 for the associate (docent), and 175 for the assistant.⁴⁴

Examining the system of medical education as it existed in 1936, we find that the greatest problem that still had to be solved was that of inadequate pre-medical preparation. This problem was fully recognized, and great efforts have been made to improve the situation.

The Soviet child enters school at the relatively late age of seven or eight, but millions of children have pre-school education in nurseries and kindergartens. Schools have either seven or ten grades. Most of those in the villages have seven grades although I found some with ten grades on collective farms in isolated regions of the Caucasus. Most of

⁴⁴ *Loc. cit.*, p. 78.

the ten-year schools are to be found, however, in the large cities, although the plan, had the war not intervened, was to make ten-year schooling compulsory by 1942. During years of great labor shortage, however, with workers urgently needed in all fields of production, it was impossible to require more than seven years of school from the average worker. Ample provisions were made, therefore, to give the laborer a chance to improve his education later while at work.

There was an increasing tendency to require graduation from a ten-year school for all students desiring to enter medical and other higher technical schools. In 1936, of 120,000 students (medical and others) in the RSFSR 50,000 had completed the ten grades. Their number increased to 90,000 in 1937 and reached 140,000 in 1938.⁴⁵ Since 1938, the great majority of all these students have had the ten-year preparation. Even that is not a very long period and it would be considered insufficient in Western Europe and in America. More cannot be done at the present time, however, when physicians and other specialists are urgently needed and teachers must be trained for tens of thousands of new schools. Besides, we must not forget that in the Soviet Union as in Continental Europe the science courses (physics, chemistry, biology) are taken, not in college, but in medical school.

Candidates who had been graduated from seven-year schools were required to complete their education. There are several ways of doing so.

After seven years of school a student may, for example, be admitted to a medical technicum or secondary medical school, from which he or she will be graduated as feldsher, nurse, or midwife after having attended a three-year course. After three years of practice, he may then apply for admission to a medical school. Or education may be completed in a medical *Rabfak*, a Workers' Faculty such as has already been described. In 1931, 10,000 students came from such *Rabfaks*; in 1932, 21,500.⁴⁶ The *Rabfaks* flourished particularly between 1925 and 1935, and then declined in importance as other schooling improved and as the number of students attending the ten-grade schools increased. Finally, a student may get his additional education wherever he can find it, such as in evening classes or through home work. The entrance requirements are known and whoever is able to meet them can apply for examination. It is maintained that nobody should be excluded from

⁴⁵ These figures were given to me by Professor I. D. Straschun in the Commissariat of Health.

⁴⁶ N. A. Semashko, *Health Protection in the Soviet Union*, London, 1934, p. 156.

higher education through external circumstances. The type of school attended does not count but the knowledge a student has does.

In order to be admitted to a medical school, every student must pass an entrance examination in language and literature, mathematics, physics, chemistry, and political science.⁴⁷ Requirements in literature are not restricted to books by national writers. The student is expected to have studied Shakespeare's *Hamlet*, Molière's *Le Bourgeois Gentilhomme*, Byron's *Childe Harold*, and Balzac's *Le Père Goriot*, though not in the original languages. Since 1937, one foreign language has been required for admission and "aspirants," students expecting to enter research, must know two. German used to be by far the most popular foreign language but in recent years an increasing number of students have elected English. French was the favorite language of the former aristocracy so that there was a certain resentment against it in the years after the Revolution. This has been overcome now, but there is no doubt that English makes a strong appeal to Russians because of their interest in the technical and scientific achievements of England and America.

There was a time when a candidate was required to give information about his social origin. Because it was not possible to admit all applicants on account of the lack of facilities, preference was given to the children of workers and peasants and it was difficult for a member of the former bourgeoisie to gain access to institutions of higher education. The best he could do was to repudiate his origin and work in a factory or on a farm for a number of years. After that he might be admitted to a university. Since that practice was abolished more than a decade ago, no applicant may be asked about his social antecedents.

In order to give an idea of the medical course, I will describe conditions as I found them in 1935 and 1936 in the *Second Moscow Medical Institute*, one of the best medical schools in the Union and a model for all others. Since the course of medical study was prescribed by the Commissariat for all institutes, the curriculum was very much the same in other schools though the equipment of some of them was probably

⁴⁷ According to a 1936 decree of the Council of People's Commissars of the USSR and of the Central Committee of the Party, applicants for admission to institutes of higher education must be between 17 and 35 years of age. Candidates who have graduated from the middle school with the highest marks are not required to pass an entrance examination. See *DZZ, Deutsche Zentral-Zeitung*, June 26, 1936.

inferior. I visited the school several times and have friends among the professors. Besides, I was fortunate in being invited to attend the opening of a superb new laboratory building for the basic sciences, and the commencement exercises at the end of the academic year 1935-1936.

The Institute ⁴⁸ had a teaching staff of 400 members and a student body of 3,500. It had two faculties, both giving a five-year course, one in General Medicine and one in Pediatrics. There was no Faculty of Hygiene. While the students formerly specialized from the beginning of their course, the two faculties were offering the work of the first five semesters together. For the second five semesters, the faculties had separate curricula, but a comparison of their courses shows that the first three of these semesters were practically identical. Students of pediatrics, therefore, received specialized instruction only in the last year.

The ratio of students to each faculty was regulated according to the needs of the country. Of every 100 students, about 75 were graduated from general medicine, 15 from pediatric, and 10 from hygiene faculties. Hygiene students in medical institutes having such a faculty began to specialize in the sixth semester.

The Second Moscow Medical Institute was headed by a Director who was assisted in his administrative work by a Vice-Director. There were also three Deans, one for each faculty and one for the Division of Basic Sciences.

Like every Soviet enterprise, the medical school had its Party and trade union committees, also a Young Communist League Committee. These committees were elected by students and faculty, and worked in close cooperation with the Director. Like other Soviet enterprises, the school had its wall-newspaper in which various events are commented upon critically and satirically. Students interested in research joined the school's Student Scientific Society, which was composed of 24 study groups devoted to the various specialties. In 1936, the society had about 400 members from whom the future "aspirants" or research fellows were to have been recruited. The school also had a flourishing athletic club, *Medik*; its 730 members were organized in a number of sections for different kinds of sports.

More than 90 per cent of the students of the Institute received stipends; these averaged 140 rubles a month in 1936. All out-of-town students,

⁴⁸ *Vtoroi Moskovskii Meditsinskii Institut, Spravochnik i Programmy dlya Postupayushchikh (Second Moscow Medical Institute, Information and Program for entering students)*, Moscow, 1936.

about 60 per cent of the total enrollment, lived in dormitories. There were dining-rooms in the various buildings where all the students had their meals at very little cost.

The library of the Institute had a collection of more than 130,000 volumes in 1936. During the 1934-1935 school term, 11,000 of these volumes had been acquired at an expenditure of 101,600 rubles.

Not all medical schools were as well equipped as the Second Moscow Medical Institute, but the curriculum and the general set-up were very much the same in other places. Great efforts were being made to improve conditions everywhere. New-school buildings were going up all over the Union. I saw plans for new medical school buildings, and for the rebuilding of old schools in far remote regions. There is no doubt that in a brief span of years preceding World War II, the country made rapid headway in this field.

Even in a period when medical education appeared to have entered a period of consolidation, experimentation was still continuing to improve the curricula of the medical schools. A criticism frequently expressed during a preliminary discussion of the subject that was carried on in medical journals was that the young Soviet physician was insufficiently grounded in anatomy and physiology. On the one hand, the curricula were condemned as being still too overburdened with general subjects, on the other hand as deficient in study in the basic clinical fields.

Consequently, in a decree of December 1st, 1944, the Council of People's Commissars instructed its Committee on Higher Education, jointly with the Commissariat of Health of the USSR, to extend the medical curriculum to six years. The conversion began gradually in 1945, and will take an estimated three or four years to complete. The new plan of instruction stresses the teaching of the theory of medicine and permits the utilization of the sixth year of instruction for practical work in the hospitals, polyclinics and other medical centers. Appendix II sets forth the new medical curriculum as it was introduced in 1945.

Young graduates are sent for several, usually three, years of practice to rural districts. They are distributed throughout the country according to its needs, although the wishes of the individual are respected whenever possible. They join rural medical stations where they work as assistants to experienced physicians. This system is excellent. It gives the young physician a chance to acquire practical experience and brings him in touch with the rural population whose problems he comes to know. It

also provides the rural districts with much needed medical personnel.

The best students, those who have graduated with the highest marks, are frequently sent to distant regions such as Siberia, Sakhalin, Kamchatka, where conditions are more primitive and where they have to rely on themselves. They are paid higher salaries because of the greater responsibility.

When the three years are over, the young physician may choose his future career. He may return to a city and apply for a position in a medical center. He may enter a hospital and specialize in whatever discipline he chooses. He may work for the degree of Doctor of Medical Science, for which he must write a dissertation and defend it publicly.

Many, however, stay in the country. They realize that they are fulfilling an exceedingly important task there. They bring not only health to the people but enlightenment and culture. They are builders of socialism. To young men of pioneer spirit, nothing can be more satisfactory than medical work in rural districts. Where the teacher or political worker may fail, they may succeed. It is a task worthy of the best minds.

Brilliant students who have shown a special aptitude for scientific work during their medical training may, upon recommendation of their professors, become "aspirants"—research fellows we would call them. They receive a monthly stipend of from 300 to 400 rubles and join a scientific institute for a period of three years. During the first three months, they are on probation and can be removed if they prove unfit. They are given specialized instruction in the subject they have chosen, are taught methods of research, and do some independent work resulting in a dissertation that will lead to the doctor's degree. Upon successful completion of three years of study, they apply for a position on the staff of a research institute and may later apply for an academic position. All such positions are awarded through competitive examinations.

The training of "cadres for cadres" is an exceedingly important undertaking. Every encouragement is given to talented young people to enter upon a scientific career. There is no country in the world where the scientist has a better opportunity than in the Soviet Union. The number of aspirants has increased steadily. There were 1,065 in 1931, 2,000 in 1932,⁴⁹ and the number is considerably larger today.

⁴⁹ A. Roubakine, *La protection de la santé publique dans l'U.R.S.S.*, Paris, 1933, p. 21.

Since the Soviet Union needs many more physicians, the tendency was and still is to increase the number of schools and the enrollment of students. This was an infinitely more difficult task than it sounds. The industrialization of the country required such huge forces that if women had not entered medicine at a time when most men were absorbed by technology, it would have been impossible to increase the medical personnel.

In 1913 there were 13 state and private medical schools in the territory that was to be the USSR. Their number was increased by plan and reached 30 in 1924, 44 in 1933, and more than 50 in 1936 of which 33 were located in the RSFSR. In tsarist days practically all the schools were situated in the European part of Russia. After the Revolution efforts were made to erect schools in distant sections of the Soviet Union so that the national minorities might train their own physicians. Following this policy schools were opened in Krasnodar (Northern Caucasus), Baku (Azerbaijan), Yerivan (Armenia), Irkutsk (Eastern Siberia), Khabarovsk (Far East), Alma-Ata (Kazakhstan), Tashkent and Ashkhabad (Central Asia). Others will follow.⁵⁰

The opening of new schools made it possible to admit an increasing number of students to medical courses. In January 1934, the total enrollment was 47,800 students. In October of the same year, it had increased to 65,000;⁵¹ it approximated 80,000 in 1936. This increase was not accidental but planned. It followed a decision of the Central Executive Committee of the USSR that 10,000 new students were to be admitted to medical schools in 1935, 16,000 in 1936, and 21,000 in 1937. In 1941, the number of students had increased to 120,000.⁵²

To the foreign visitor, one of the most striking features of Soviet medicine is the preponderance of women in the medical profession, just as the visitor to the United States is amazed to find that elementary education is almost entirely in the hands of women. The percentage of women among medical students increased steadily. It amounted to 52.0 per cent in 1928, 58.0 in 1931, 75.1 in 1934.⁵³ The reasons are obvious. The demands of industry have already been mentioned. Although many women went into engineering, women as a rule make better doctors than engineers. The protection of mother and child requires a large num-

⁵⁰ Appendix III gives a list of the medical schools operating in 1945.

⁵¹ *The U.S.S.R. in Figures, 1935*, Moscow, 1935, p. 257.

⁵² Miterov, *l.c.*, p. 61.

⁵³ *The U.S.S.R. in Figures, 1935*, Moscow, 1935, p. 260.

ber of physicians and no one is better qualified for this type of work than women. Until 1935, moreover, engineers were paid higher salaries than physicians, and during the heroic years of the First Five-Year Plan they were at the top of society. Because their achievements were far more conspicuous than the physician's work, engineering was more attractive to many intelligent young men than was medicine. Women were therefore encouraged to step into the gap. Since that time, however, physicians' salaries were raised considerably, and the demands of industry, although still great, became less tempestuous. Medical work received greater recognition and in the few years preceding the war an increasing number of men again entered the medical schools. During the war, however, the percentage of women medical students jumped to over 80. It will probably decrease somewhat but there is no doubt that women will always play a very important part in Soviet medicine.

In fascist countries women were kept out of schools of higher education as a matter of policy, the result of a reactionary program. In the United States, medical schools are reluctant to admit women and many hospitals refuse them flatly. This is partly due to the fact that women physicians who marry often give up their profession. Consequently, it seems a waste of money to train them. Such reasons do not exist in the Soviet Union. Women are the equals of men in fact as well as in theory. Marriage does not interrupt a career, since provisions are made to take care of the children and to simplify housekeeping. Soviet women have established themselves in the medical field and are holding a large and distinguished position in it. The reader should constantly keep in mind that the achievements described are largely the achievements of women. When I speak of physicians, I mean men as well as women, but more often women than men.

The increase in the number of medical students naturally led to an increase in the number of physicians: ⁵⁴

1913	19,785
1928	63,162
1932	76,027
1938	112,405
1941	130,348

This, undoubtedly, is a tremendous increase and yet it is by no means sufficient. The extensive preventive and therapeutic service that a so-

⁵⁴ Miterev, *l.c.*, p. 81.

cialist society has a right to expect requires at least one physician for every 1,000 inhabitants. The country therefore is still short of physicians. And since population increases at the rate of three millions annually, 3,000 additional physicians are needed each year. No doubt the number of physicians will grow steadily as planned in the coming years, but it will take some time to fill the cadres so long as there is a shortage of manpower and womanpower. The Fourth Five-Year Plan calls for doubling the number of physicians by 1950.

At the present time, all physicians are in the service of the state. They are attached to some medical institution, whether it be the medical center of a city district, the dispensary of a factory, a hospital, sanatorium, or rural station. I do not think that there is a single doctor in the Soviet Union who lives on private practice exclusively. In the large cities, there are still a few specialists who see private patients after regular office hours. In such cases they are required to keep books and are heavily taxed. Private practice, like any other private trade, is disappearing rapidly and will vanish completely the day the old generation is gone.

All doctors live on salaries. As already pointed out, the salaries used to be very small. Before 1931, they ranged from 180 to 250 rubles a month. They were raised by 35 per cent in the Moscow region in December 1931, and by 23 per cent in the rest of the country in January 1932. Considerably increased in 1935, with further increases in 1937 and 1942, these salaries now range from 500 to 1,400 and more rubles a month. Salaries vary greatly, the amount being determined by experience, responsibility, and hazard. Thus, salaries are increased after five years' and again after ten years' experience. Physicians in rural districts receive salaries from 10 to 20 per cent higher than those of city doctors in corresponding positions because the work of the country doctor is much harder. Physicians in far remote regions have even higher salaries and longer vacations.⁵⁵

Since physicians are workers, they have all the privileges of workers. Thus, in addition to money wages, they receive socialized wages. They are members of a union, have social insurance, receive a month's vacation every year on full salary, and can retire on an old-age pension at 60.

In connection with the question of salaries, the reader will want to

⁵⁵ Appendix IV gives a translation of the decree of the Council of People's Commissars of the USSR and the Central Committee of the Communist Party of Dec. 13, 1942 regulating the salaries for medical workers.

know the value of the ruble. I regret to be unable to answer the question. The official rate of exchange of slightly more than five rubles to the dollar is no measure of the ruble's purchasing power. Those items that weigh heavily in the budget of an American or British physician, such as rent, taxes, insurance, education of children, and vacations, are a light burden on the budget of a Soviet doctor. Moreover, the meals served him at his institution are inexpensive. On the other hand, suits, shoes, and the many other commodities of which there is still a shortage are expensive. Since the war-interrupted trend toward higher wages and lower prices has been renewed with the rising output of consumer goods, this situation should eventually adjust itself for the entire population. One of the greatest advantages that the Soviet physician has is security of income. He does not have to worry over the ability or willingness of patients to pay the doctor's bill. Expenses can be budgeted. Besides, he can earn additional money. For example, he receives an honorarium for every article he contributes to a scientific journal and for every lecture he delivers. Socially useful work is always remunerated. Furthermore, the husband or wife of a physician, as a rule, also has an income. Since it may be just as high as that of the doctor, the physician's salary often has to provide for only half of the family budget.

What counts most is that Soviet physicians today are on the same income level as engineers, that is, that they are among the highest salaried Soviet workers. The economic development of the country will of necessity lead to increased wealth, a wealth that will be shared by all. And the physician's income will rise proportionately with the rising living standards of all the people.

One very important problem which has been solved in the Soviet Union in the best possible way is the problem of post-graduate education. It may be particularly acute there where several classes of physicians were trained rather hurriedly,⁵⁶ but it is a burning question everywhere. It is quite obvious that a busy practitioner is apt to develop a certain routine after a number of years and that he has great difficulties in keeping abreast with a fast developing science.

Post-graduate courses are organized in every Western country either by medical schools or medical societies, but everybody will agree that they do not represent a satisfactory solution of the problem. As a rule, they are much too short; they have to be short because attendance often

⁵⁶ As early as 1921 six-months' courses were organized for the graduates of the classes of 1919 and 1920 when they returned from the front.

involves considerable expense. The doctor must either abandon his practice and hence his income for a number of weeks, or he must spend his much-needed vacation attending the course. As a result, the number of physicians who register for such courses regularly is extremely small.

Socialist medicine has created conditions for a totally different system of post-graduate education. In the Soviet Union, physicians are invited to attend a course of from three to four months' duration every three years. They continue to receive their salary and the course does not cost them a kopek: all expenses are defrayed by the state, including board, lodging, transportation, and new textbooks. It is to the interest of society to have well-trained up-to-date physicians and thus only logical that society should provide the means to give its doctors additional training periodically.

Post-graduate education is given in various places. The RSFSR has four special post-graduate medical schools attached to large hospitals in Moscow, Leningrad, Kazan, and Novosibirsk. Together they give advanced training to about 6,500 physicians every year. Most of the other medical schools also offer special post-graduate courses to about 200 physicians each, annually. In addition, the majority of medical institutes give ten-day courses, known as *decades*, in subjects which represent their specialty. Thus a physician can keep informed of new developments in tuberculosis, syphilis, malaria, occupational diseases, or any other subject in which he is especially interested.

Post-graduate education is not compulsory, at least as yet. But it is obvious that no physician ever refused an invitation, which is considered a privilege, to attend such a course. Every doctor is not only eager to raise his qualification, but it is a pleasure to go back to school and to be a student again for a period of time. Since there are still not enough facilities to give additional training to all physicians, invitations today are extended primarily to doctors working in rural districts. It is naturally much harder for them than for city physicians to keep in touch with medical science.

With all its present limitations⁵⁷ the system is sound and is giving excellent results. It is exceedingly important to have recognized the principle that the practitioner needs periodic re-training. Practical experience is unquestionably most valuable, but when it degenerates into routine it becomes stifling. Science is the source of medical practice to which the physician must return constantly.

⁵⁷ For criticism see *Pravda*, July 8, 1936.

In Russia, as in other countries, the *dentists*⁵⁸ formerly were educated as craftsmen. They served an apprenticeship of three years in a dentist's office. Thereafter they could present themselves for an examination which entitled them to practise independently.

In 1881 the first dental school opened, a private institution. In 1913 there were 12, all private, in Petersburg, Moscow, Kharkov, Kiev, Odessa, Warsaw, and Tomsk. Between 1913 and 1917, half a dozen more schools were established.

In 1891, following the German example, two categories of dentists were distinguished: the dental surgeon who was a graduate of a dental school and corresponded to the German *Zahnarzt*, and the dental technician who was trained through apprenticeship and corresponded to the German *Dentist*. After the Revolution, there was a tendency to make dentistry a medical specialty by requiring students to graduate from medical school and then attend odontological courses. In 1929 the system was changed. It was recognized as unnecessary for a dentist to complete the entire medical course and found advisable that his technical training start earlier.

Today dentists are trained in four- or five-year courses either in special dental schools, known as stomatological institutes, or in dental schools attached to the medical schools. The Stomatological Institute in Kharkov, for example, offers a five-year course. In 1936, it had a student body of 315 and a faculty of 70 members.⁵⁹ There is also a second category of dentists who are trained in three-year courses in technicums. They rank among the middle medical personnel.

Post-graduate medical schools have special chairs of stomatology, and post-graduate courses are offered regularly to dentists just as to physicians.

Dentistry plays an important part in Soviet medicine; there is no medical center that does not have its dental department. The younger generation seems to have very good teeth, but the years of war and famine played havoc with the teeth of the generation that is now between fifty and sixty. Every visitor is impressed by the many stainless steel and gold teeth that he sees.

⁵⁸ *Bolshaya Meditsinskaya Entsiklopediya (The Large Medical Encyclopedia)*, vol. 31, 1935, pp. 819-830. See also Alfred J. Asgis, "Dentistry in the USSR." *The American Quarterly on the Soviet Union*, July-October, 1939, pp. 104-115.

⁵⁹ *Minerva*, 1936, p. 361.

Another group of medical workers is represented by the *pharmacists*. Pharmacies are state institutions and pharmacists, like all other medical workers, are civil servants.

Before the Revolution, the training of pharmacists followed regulations that had been issued in 1838 and confirmed in 1845; these had remained practically unchanged until 1917.⁶⁰ A person who had completed four years at a *gymnasium* (corresponding to four years of high school) was permitted to enter a pharmacy as an apprentice. After three years of training and an examination in a state university, he was given the diploma of an assistant pharmacist (*pharmacopæus auxiliarius*). The assistant pharmacist, after three years of practical experience, could take a two-year course in the pharmaceutical institute of a university. Upon passing a state examination, he received the diploma of a *provizor*, or dispensing pharmacist (*pharmacopæus substitutus*). He could then obtain the degree of Master of Pharmacy, which made him a full-fledged *pharmacopæus*, upon the presentation of a dissertation and one more examination.

After the Revolution, the system of apprenticeship was discontinued. Now, men and women between 17 and 30 years of age, who have been graduated from a seven-year school, are eligible for admission to one of the 29 pharmaceutical technicums which offer a three-year course. Graduates of the technicums rank among the middle medical personnel, and serve as assistants in city or hospital pharmacies or are attached to rural medical stations.

For the training of higher personnel, there are pharmaceutic institutes attached to the medical institutes of Leningrad, Tiflis, and Perm. There are other pharmaceutic institutes in Kharkov, Kiev, and Dniepropetrovsk, in the Ukraine, and in various other centers of the Union. The requirement for admission is either graduation from a ten-grade school or from a pharmaceutic technicum. The curriculum includes general biology, microbiology, human anatomy and physiology, elements of higher mathematics, mineralogy and crystallography, physics, all branches of chemistry, pharmacology and pharmacy, history of pharmacy, experimental hygiene, social hygiene and vital statistics, military hygiene and chemical defense, organization of health protection, and

⁶⁰ *Bolshaya Meditsinskaya Entsiklopediya (The Large Medical Encyclopedia)*, vol. 34, 1936, pp. 543-547. See also I. I. Levinshtein, *Istoriya Farmatsii i Organizatsiya Farmatsevticheskovo Dela (History and Organization of Pharmacy)*, Moscow-Leningrad, 1939.

a number of other subjects depending on the specialty selected by the candidate.

These schools train not only pharmacists but also forensic ⁶¹ chemists, administrators for the pharmaceutic industry, research workers and teachers in pharmacy.

In Moscow, the Institute of Higher Chemical Technology (*Institut Tonkoi Khimicheskii Tekhnologii*) trains workers especially for the pharmaceutic industry. At the institute attached to the Moscow Medical Pharmaceutic Combine, one of the large factories of pharmaceutic products, qualified workers can study without interrupting their regular work.

Thus, in the field of pharmaceutics as in others, the system is not rigid but takes advantage of every available opportunity for training the personnel it needs.

I have repeatedly referred to what the Russians call the *middle medical personnel*, trained in so-called *technicums*. These terms must now be explained.

The physicians—general practitioners and specialists, pediatricians and hygienists—the dentists and pharmacists educated in institutes of university standard all constitute the higher medical personnel. They are the officers in an army which is fighting disease. But like every army the medical corps requires a large number of non-commissioned officers such as nurses and technicians, without whom medicine could not fulfill its task. They are particularly important and their responsibility is great in so vast a country where the number of physicians is still relatively small. The Russians call this group of medical workers the middle medical cadres, apparently because they receive their training in middle schools that stand between the elementary schools and the universities.

Middle medical workers consist of the following categories: feldsher, midwife, medical nurse, nursery nurse, laboratory technician, dentist, and pharmacist.

The position of the feldsher and of his female counterpart, the feldsheritsa, is a peculiarly Russian institution. The word *feldsher* is of German origin and literally means "field-barber." All European armies used to have surgeons who had not been trained in universities but had received their preparation through apprenticeship and, at a later time, through special courses. They were the successors of the medieval

⁶¹ Chemists who make analyses for court cases.

“barber-surgeons.” During the nineteenth century most European armies replaced the feldshers with army surgeons of academic standing. On account of its size and the general lack of trained physicians and surgeons, however, the Russian army preserved the feldsher. He practised not only in the army but also among the civilians.

Zemstvo medicine created a strong demand for feldshers. In 1864 five poorly equipped schools were established for their training. By the end of the nineteenth century there were 32 such schools in Russia. In 1872 the first school for women feldshers was opened. At the beginning of the twentieth century, special schools for the training of feldsher-midwives were created.⁶² In 1913 there were 29,986 feldshers of whom 5,928 were women.

The special functions of the feldshers were to assist physicians, carry out their instructions, practise minor surgery, vaccinate, and, in general, fight epidemics. Because of the shortage of physicians, however, many rural medical stations were headed by feldshers. They worked hard and were poorly paid (25 to 30 rubles a month).

After the Revolution, there was a tendency to discontinue the institution of feldsher, to let it die out. The older practising feldshers were allowed to go on with their work, but younger members of the group were sent to medical schools to be trained as physicians.⁶³ Although there was provision for middle medical education in technicums for the training of auxiliary medical personnel, there were no special schools for the training of feldshers. It was soon recognized, however, that the country needed feldshers and that the rural districts particularly could not do without them. With the inadequate number of physicians available, it was impossible to protect the people's health successfully unless additional personnel was sought. Accordingly, the number of technicums was increased so as to include feldshers—from 59 in the RSFSR in 1929, these schools increased to 154 in 1934.⁶⁴ The ranks of middle medical personnel grew in the same territory, from 52,000 in 1927 to 119,000 in 1933 and finally to 293,381 in 1941.⁶⁵ There were 460,000 for

⁶² These and the following data from *Bolshaya Meditsinskaya Entsiklopediya* (*Large Medical Encyclopedia*), vol. 33, 1936, pp. 607-611.

⁶³ Anna J. Haines, *Health Work in Soviet Russia*, New York, 1928, pp. 152-153.

⁶⁴ There were 252 medical technicums in the USSR in 1933. A. Roubakine, *La protection de la santé publique dans l'U.R.S.S.*, Paris, 1933, p. 20.

⁶⁵ A. F. Tretyakov, *Okhrana narodnoy zdorovya v R.S.F.S.R.* (*The Protection of the People's Health in the R.S.F.S.R.*), 1944, p. 75.

the entire USSR at the same time.⁶⁶ The technicians were reorganized in 1935, and special schools giving a three-year course were established to train feldshers and feldsher-midwives who had been graduated from seven-year schools. The need for more and better trained middle medical cadres was repeatedly stressed. In 1936, the Council of People's Commissars of the USSR issued a decree regulating the training of middle medical, dental, and pharmaceutic cadres.⁶⁷ The Council stated that enrollment in the autumn of 1937 should be as follows:

a) in feldsher schools	44,770
b) in schools of midwifery	13,300
c) in schools of nursing (medical and nursery)	95,000
d) in courses for laboratory technicians	5,200

In 1941, 985 middle medical schools were in operation in the USSR graduating 85,000 students annually.

There is undoubtedly some degree of danger in letting half-trained doctors practise medicine. If they forget their limitations and overstep their competencies, they may become dangerous. The ideal situation is to have all medical service given by licensed physicians of high standard. In practice, however, it is infinitely better to have half-trained doctors in certain rural districts than no doctors at all. The Russian feldsher can best be compared to the American public health nurse working in the country, with the difference that the feldsher is also trained in minor surgery and obstetrics. We all know that a good nurse, in a rural community, can take care of a great many minor ailments and can perform an exceedingly important function. So does the feldsher. Moreover, since he is trained for three years in the principles of scientific medicine, I personally would prefer to be treated by a Soviet feldsher than by an American chiropractor, naturopath, or Christian Scientist.⁶⁸

The *midwife* is not very popular in the United States. I do not know why. Midwives are cheaper than physicians. When properly trained, they are perfectly competent to take care of normal deliveries and to know when a physician should be called. For a woman in childbirth,

⁶⁶ Miterev, *loc. cit.*, p. 62.

⁶⁷ See *Pravda*, September 9, 1936.

⁶⁸ In the United States about 36,000 followers of sects give medical service to the population at a cost of about 125 million dollars annually.

it is unquestionably better to have a midwife than no one. In some sections of America, thousands of women are delivered with no assistance except that of a neighbor either because they are too poor to afford a physician or because there are no physicians around. In all other countries, midwifery is an institution with standing, and it has been so in Russia from time immemorial.

The Revolution created a new role for the midwife. It was soon recognized that she had an exceedingly important mission to fulfill inasmuch as she could teach health perhaps better than any other medical worker. She enters the humblest homes in the most remote regions and works with mothers at a time when they are highly responsive to health advice. It is obvious that she can be very instrumental in the reduction of infant mortality. As a consequence, great attention was given to the training of midwives. The Institute for the Protection of Motherhood and Infancy in Moscow set the standard by working out a curriculum that was adopted by schools of midwifery throughout the country. This three-year course gives thorough theoretical and practical training.

The midwife's field of activity is the countryside, since in the cities most deliveries take place in maternity homes. Although the number of maternity homes in rural districts is being rapidly expanded, it is obvious that for a long time to come a great majority of country women will still be delivered in their homes, often under very primitive hygienic conditions. Hence, the midwife is of inestimable service in advising the pregnant woman, delivering her and taking care of the new-born child. She also organizes the village soviet's Committee for the Protection of Motherhood and Infancy and is often its chairman.

Midwifery had old traditions in Russia but *nursing* had none. Before the Revolution there was no profession of the modern lay nurse. There were Sisters of Mercy who were members of semi-religious orders but they had little scientific training.⁶⁹ During World War I many women took courses in nursing and worked in military hospitals. However, regular schools of nursing connected with hospitals were established relatively late after the Revolution. Two types of nurses are now trained in two-year courses: medical nurses and nursery nurses. Much experimenting was necessary before a curriculum was established that balanced theoretical and practical instruction in a satisfactory manner.

The many new medical institutions and nurseries created a tremen-

⁶⁹ Anna J. Haines, *Health Work in Soviet Russia*, New York, 1928, pp. 154-161.

dous demand for trained nurses; there was and still is a great shortage of nurses. The reasons are easy to guess. Factories, offices, and social services have absorbed a large number of women workers. The more than 60,000 new schools for general education erected after the Revolution called for a large number of teachers, of whom about 50 per cent are women. A girl interested in health work finds all doors open to her, and she may prefer to become a feldsheritsa or a physician rather than a nurse. Much propaganda among youth organizations was necessary to mobilize the 95,000 students needed for enrollment in schools of nursing in 1937. Schools of nursing, like all other middle medical schools, require graduation from a seven-year school.

Laboratory technicians, for whom there is also an increasing demand, are trained in two-year courses.

And, finally, there is a lower medical personnel, orderlies, hospital employees, ambulance drivers, the many people who are needed to operate a medical institution.

The trade union for medical workers is the *Medical Sanitary Workers Union*, or *Medsantrud*, an institution that has no parallel in the capitalist world. Its members include physicians, hygienists, pharmacists, the middle and the lower personnel. It was founded in 1920 and had a membership of 955,600 on October 1, 1935.⁷⁰

Before the Revolution physicians had their medical association which, like similar organizations in other countries, defended the interests of the doctors, set standards of professional behavior and organized scientific congresses. The political attitude of the medical profession, as reflected in the resolutions of the Pirogov Society, was that of bourgeois liberalism. The Zemstvo physicians had their own association. Since they lived in close touch with the people, they represented by far the most progressive element in the profession.

In the early 1880's the feldshers began to form mutual-aid societies, first in Odessa, then in Moscow, and in other places. These societies provided relief for needy members, widows, and orphans, gave stipends for the education of children and similar benefits. In April 1905, the

⁷⁰ Sources on the *Medsantrud* include: *Bolshaya Meditsinskaya Entsiklopedia* (*The Large Medical Encyclopedia*), vol. 17, 1936, pp. 711-725.—A. Aluf, *Kratkaya istoriya profdvizheniya medrabotnikov* (*A Short History of the Union Movement of Medical Workers*), Moscow, 1927.—Anna J. Haines, *Health Work in Soviet Russia*, New York, 1928, pp. 29-33.—N. Semaschko, *Deutsche Medizinische Wochenschrift*, 1924, p. 723.

various mutual-aid societies sent delegates to Moscow, where it was decided to organize an All-Russian union and to call for All-Russian congresses of feldshers. A second meeting, held in Kiev in September 1905, approved the constitution; seventeen societies then formed the new union. Other members of the middle medical personnel were admitted. A periodical, the *Medical Worker's Journal*, was published. The ultimate aim of the union was to combine all groups of medical workers. However, the development was interrupted by the political reaction that followed the 1905 Revolution.

The pharmacists had similar organizations at an even earlier date. In 1895 they had founded the Russian Pharmaceutic Society for Mutual Assistance. The drug-store employees had organized a pension-relief fund as early as 1889. The events of 1905 stimulated all these organizations, but the subsequent reaction so greatly affected them that they were compelled to lead a semi-legal existence. A journal *Zhizn' Farmatseuta* (*The Life of the Pharmacist*) published during those years of reaction played an important part in keeping the movement alive.

Through strikes in 1905, the lower hospital personnel succeeded in improving its conditions. Wages were raised slightly and fines were abolished. However, attempts at unionization were suppressed before they could be formulated.

It is apparent that there was a labor movement among medical workers long before the Revolution. During the years of reaction and World War I, it could not express itself freely, but it came into the open as soon as the Revolution broke out. In the spring of 1917, the lower hospital personnel organized unions which from the beginning maintained close contact with the Bolsheviks. The nurses followed; in August they called the first All-Russian congress of nurses' unions. A year later, their union had 56 locals with a membership of 18,000 nurses. The feldshers reorganized their societies along trade-union lines. At first they supported the Provisional Government and were opposed to the dictatorship of the proletariat. The separate organizations of the army feldshers, however, were much more revolutionary. The employed pharmacists remodeled their societies into militant unions, which organized strikes in a number of cities. In Petrograd, pharmacies were closed for more than a month, in Moscow for over two weeks. In August, an All-Russian congress of pharmacy workers created an All-Russian organization, which was opposed to the soviets until the middle of the year 1918.

Even the physicians organized unions to defend their interests—and

to oppose the soviets. The movement started in Petrograd, where unions were formed by various medical groups, including hospital physicians, doctors in the city service and later army, navy, railroad, and factory physicians. In May 1917, all of these unions were consolidated into the Council of the Petrograd Union of Physicians. Physicians in private practice and hospital owners joined the movement. Other cities soon followed the example of the capital and a central organization was created known as the VSPOV (*Vserossuskii soyuz professionalnikh obedinenni vrachei*, All-Russian Council of Professional Associations of Physicians).

By 1918 all groups of medical workers had unions, but there was no concerted action. Consequently it was considered imperative to amalgamate the various groups into a single medical workers' union. The Feldshers Union was the driving force in this movement. In the autumn of 1918, a conference of delegates from the various medical unions was called. The physicians, pharmacists, and veterinarians refused to participate. A single union was created without them in March 1919. By the end of the year, however, the pharmacists and veterinarians decided to join this Medical Workers Union, and were admitted as special sections in February 1920.

Although many individual physicians joined the union, the majority still refused any cooperation. Then the Medical Workers Union became aggressive. A decree of the All-Russian Central Council of Trade Unions dissolved the physicians' union as illegal. There was open warfare between the two groups. Physicians, however, soon came to realize that they were losing their standing in a society in which all workers were organized. The Union, in turn, was anxious to include the physicians in order to be truly representative of all medical workers' groups. Therefore, a compromise was reached in the summer of 1920 which allowed the physicians to join the Union as a non-partisan section, not committed to the political views of the Union. Unity was thus achieved, at last. A few years later, in 1924, the physicians withdrew their reservations and acknowledged the Soviet principles of trade unionism. Thus, the Medical Sanitary Workers Union has become the voluntary organization of all men and women working to protect the people's health. Until September 1933, union dues amounted to 2 per cent of wages. After that date they were reduced to 1 per cent. The percentage of women members rose from 59 per cent in 1923 to 71.2 in 1935.

In capitalist countries, trade unions are militant organizations to improve the working and living conditions of laborers. In the USSR the

trade unions also try to improve the working and living conditions of their members. Since there are no capitalist employers to deal with, however, the methods employed are obviously different, and are characterized by close cooperation with the administrative state organs. Moreover, since 1933, when the trade unions took over social insurance and other functions of the former Commissariat of Labor, they have themselves been carrying on one of the major administrative tasks in Soviet life.

The guiding principles formulated by the fourth plenary session of the All-Union Central Council of Trade Unions in 1934, which apply to Medsantrud, are these: "The central committees of the trade unions and their agencies focus their attention upon questions of wages; regulation of labor; improvement of production and advancement of the productivity of labor; improvement of the material living conditions of the workers (protection of labor, social insurance, housing, supplies, nutrition, cultural services). Their entire work must be based upon a most earnest study of the peculiarities of the various crafts and other groups of workers and upon careful examination and investigation of complaints and depositions of workers."⁷¹

The medical union cooperates closely with the health authorities and is instrumental in the determination of wages and working hours. The working day of the medical personnel was established at from four to six hours for physicians, from four to seven hours for feldshers, midwives, and nurses, and from six to eight hours for the lower personnel. The number of hours varies with their specific occupation. For example, the medical personnel of psychiatric, tuberculosis, X-ray, and similar institutions, and those working at night have the shortest hours. Needless to say, working schedules increased greatly during the war.

The union administers its social insurance fund. The social insurance budget of the medical union of the RSFSR, exclusive of the budgets of the autonomous republics, amounted to 95.7 million rubles in 1934 and increased to 147.8 million in 1935. The social insurance fund is provided by the employing organization and state budget, not by the individual members. The membership dues, amounting to 8.3 million rubles in the union of the RSFSR in 1934, to 11.3 million in 1935, serve other purposes. They are spent to improve the working and living conditions of the medical workers and provide cultural facilities. All

⁷¹ See *Bolshaya Meditsinskaya Entsiklopediya (Large Medical Encyclopedia)*, vol. 17, 1936, p. 711.

medical institutions have their "red corners," clubs, and study circles, in which an enormous amount of educational work is done.

Like other unions, Medsantrud has been eager to increase the productivity of its members. It does so by taking an active part in the planning of the health programs and by sparing no effort to have the plans fulfilled and over-fulfilled. The Stakhanov movement for greater working efficiency has greatly influenced the medical personnel as well as other workers and has resulted in an improvement of the quality of service rendered.

The organization of the medical union follows the general pattern of other unions. Medical institutions employing 25 or more workers have a local committee (*mestkom*), representing the union. In smaller institutions, a representative of the union performs the functions of the local committee. Large institutions, besides having a local committee, have an organizer in every department. The hierarchy follows the administrative structure of the country; every district, region, territory, autonomous region, and autonomous republic has its trade union committee elected by the local organs. The highest administrative organ is the central committee.

Until 1934 there was only one Medical Sanitary Workers Union for the USSR; its central committee was in Moscow. It seemed advisable, however, to decentralize the active leadership of the union. As a consequence, since 1934 every Union Republic has had its own medical union with an independent central committee. Delegates from these central committees are sent to the All-Union Council of Trade Unions in Moscow.

The fact that all medical workers are organized into trade unions has not only great material but also moral significance. It implies that the medical workers are producers, producers of values, like the other workers. It gives the physician, moreover, an assured and definite standing in society: shoulder to shoulder with other workers, manual and intellectual, he is striving toward a common goal. In capitalist countries, unfortunately, the physician of today often does not know what his place in society is.

I have often been asked about *medical ethics* in the Soviet Union. The question is not difficult to answer.

In all capitalist countries medical associations have established codes of ethics and etiquette which outline standards of professional behavior.

As a rule, these documents begin with general statements about the nobility of the profession. They emphasize the fact that the practice of medicine is a service to mankind, and that reward or financial gain is a subordinate consideration. A large part of all these codes, however, consists of regulations for enforcing what might be called fair business practice. It is implicitly recognized that medicine under capitalism has become a trade. Efforts are made, therefore, to keep the profession from some of the worst abuses of competitive business by forbidding advertising, splitting of fees, taking patients away from a colleague, making money from patients, avoiding competition through contract practice, and the like.

In the Soviet Union, where medicine is no longer a trade but a public function of the state in which no financial considerations interfere with the relationship between physician and patient, the great majority of all regulations carefully written into capitalist codes of ethics become meaningless and superfluous. As soon as the question of fees is removed, relationships between physician and patient and among physicians themselves are extraordinarily simplified. They become purely human. The practice of medicine, then, becomes a real service given by the physician without reservation to all who need it.

Through laws and regulations, society endeavors to protect itself against misuse of the physician's power. The doctor who carries out the letter of the law and respects prohibitions may still be neither a good nor a morally sound physician. Medical ethics are infinitely more subtle and depend on the medical ideal a society has at a given time—an ideal that is determined by the structure of society. If a physician's actions conform with this ideal, society will approve of them and so will the doctor's individual conscience. Conflicts arise when the medical ideal of a society is not clearly determined, when there are hesitations about it, or when different classes or different generations within a society have different medical ideals.

In the socialist state, on the other hand, the medical ideal is unmistakably defined. Soviet society and Soviet medicine have created a new type of physician, one absolutely certain and ever conscious of his appointed tasks. The Soviet doctor is a citizen and a worker. All his actions, like those of all other citizens and workers, are for the benefit of society. The welfare of the individual is subordinate to the common welfare, or rather, the two are identical. The Soviet physician will not reveal the secrets of a patient because in the Soviet Union, as every-

where else, the physician needs the confidence of the patient, but he will not hesitate to divulge secrets if the interest of society requires it. He will cooperate with his fellow doctors but he will not shield their mistakes if they are a menace to society. He will do all this as a matter of course. Written regulations are unnecessary because the medical ideal is alive and clear. There are no ethics peculiar to the physician. The general ethics of socialist society apply to all citizens, including physicians, and determine their actions.

Another question frequently raised outside Russia is whether the *personal relationship* between physician and patient does not suffer under the Soviet system. I have seen physicians at work in Europe, America, Asia, and Africa, and I have always found that a personal relationship exists whenever a physician and a patient come together. I have also found that the factor most likely to disturb the personal relationship is the money question, the fact that the patient has to pay the bill. A system which removes financial considerations from the relationship between physician and patient has necessarily removed a basic difficulty. To the Soviet doctor, the patient is not a customer on whom he is dependent for a living. Because the Soviet physician has economic and social security, he can devote all his energy and skill to the service of his fellow-men.

Another group of medical workers who should be discussed in this chapter are the men and women, boys and girls who are affiliated, most of them in a voluntary capacity, with the *Red Cross* and *Red Crescent*.¹²

The Russian Red Cross, called in Mohammedan regions the Red Crescent, was organized in 1867. It was a philanthropic society that followed the pattern of the Red Cross Societies in other countries.

After the Revolution, the Red Cross and Red Crescent were recognized by the Soviet government and allowed to continue their work. A decree of the Council of People's Commissars of 1918 stated: "The Society is completely autonomous and independent in all matters concerning its organization and participation in government and public measures. It supports by all the means at its disposal government medical and sanitation organizations in aiding the sick, the wounded, prison-

¹² *Alliance des Sociétés de la Croix et du Croissant Rouges de l'U.R.S.S., Rapport Général, 1935, Moscow, 1936.*

ers of war, and also the population suffering from natural disasters.”⁷³

The Soviet Red Cross is a member of the International Red Cross and has representatives abroad. A delegate of the International Red Cross has an office in Moscow. In 1934 the Red Cross and Red Crescent of the USSR were admitted to the League of Red Cross Societies.

During the Civil War, the Red Cross naturally concentrated its activities on nursing sick and wounded soldiers and aiding prisoners of war. During the famine of 1921-1922, it organized a large-scale relief program in the Volga region and fed 130,000 people daily.

During the period of reconstruction, the Red Cross and Red Crescent gave much attention to the national minorities. The public health system of the government was in the process of organization and had not yet reached all remote regions. The Red Cross stepped into this gap, and in many places the Red Cross workers appeared as the first pioneers of health, preparing the people to accept scientific medicine.

Since the Revolution, the Red Cross has developed tremendously. It has worked in close cooperation with authorities and has supplemented and integrated the government's medical services. Its membership grew from 75,000 members in 1926 to over 5,000,000 members in 1934. Its budget amounted to 10 million rubles in 1928-1929, increased to 145 million rubles in 1934, and to 200 million in 1935. Its activities extended over 1,890 administrative districts.

Health education, teaching of first-aid measures, and training of nurses and health instructors are some of the primary tasks of the Red Cross. A badge with the letters GSO⁷⁴ is given to all who have qualified in first aid. By the end of 1935, more than 1,300,000 persons were entitled to wear this badge, while 33,000 people who had passed more difficult tests were given a second-degree badge.

From these badge-holders, mostly young men and women, the Red Cross recruits its cadres. In 1935, 14,000 nurses were graduated and 10,000 nurses were enrolled in post-graduate courses. Special courses lasting eighteen months were started for the training of health instructors. Other courses, organized by the Central Executive Committee and by the local societies, trained about 800 people for the leadership of local committees. In 1935 not fewer than 48,282 stations were established, most of them (33,906) in villages where they conducted sanitation work. In the same year, the Red Cross and Red Crescent controlled 168 hos-

⁷³ N. A. Semashko, *Health Protection in the U.S.S.R.*, London, 1934, p. 145.

⁷⁴ GSO means *Gotov k Sanitarnoi Oborone* (Ready for Sanitary Defense).

pitals, 179 dispensaries, 34 ambulances, 81 dental ambulances, 14 sanatoria for adults, 4 rest-homes for adults, 17 children's sanatoria, 4 base sanatoria for vacation days, and 9 camp sanatoria for Young Pioneers. More than five and a half million people were given medical care by the Red Cross in 1935.

Because of the vastness of Soviet territory, airplanes are used frequently in medical service. The Red Cross has a large fleet of ambulance planes, a special medical aviation personnel of 400 people, and 150 nurses trained in parachute-jumping. The Soviet Red Cross, like the Red Cross societies in other countries, cooperates with the army. It takes an active part in the maneuvers of the Red Army, and it has founded and supports 45 sanatoria for members of the air corps. It has also developed great activity in teaching the population to protect itself against gas attacks.

Some of the international activities of the Soviet Red Cross deserve mention. In all great ports of the Union, medical care is given free of charge to foreign sailors. In Leningrad alone, 3,000 sailors were assisted by the Red Cross in 1935. Considerable financial contributions were made in the nineteen-thirties to the Red Cross Societies of Japan, China, India, Ethiopia, and Spain to assist the victims of catastrophes and wars.

Although the Red Cross and Red Crescent are private organizations, they are nevertheless organs of Soviet medicine. They have their definite place in the medical structure of the country. They adapt themselves to the government agencies and make their contribution in fulfilling the health program of the nation. The fact that a state system of medicine can and does use such private organizations demonstrates once more its flexibility. It again reveals the tendency of Soviet medicine to mobilize all the members of society to take an active part in the fight against disease.

4. INSTITUTIONS AND EQUIPMENT

In any discussion of medical institutions in the USSR, Soviet health authorities are certain to make considerable use of the terms *bolnichnaya pomoshch* and *vnebolnichnaya pomoshch*, that is, *hospital care* and *non-hospital care*. Those are the major classifications used to list several score institutions ranging from the 1,000-bed or larger city hospital or

polyclinic staffed by two or three hundred physicians to their tiniest outposts—the nurse-attended first-aid station in a factory or the rural medical stations staffed by a feldsher, a nurse or a midwife.

Under the first classification, of course, fall the various types of hospitals, both general and specialized, such as those for children's diseases, tuberculous patients, mental cases and the like. A highly diversified system of medical centers, chief among which are the city polyclinics and ambulatoria for general care and the various networks of dispensaries for treatment of a particular condition or disease, constitute the non-hospital institutions. Both the general and the special medical centers have their affiliates or small and simplified prototypes in the so-called *punkt zdravookhraneniya*, commonly abbreviated to *zdrav-punkt* or *medical station*.

The use of the hospital and non-hospital classifications is convenient, but it must always be borne in mind that these categories are neither rigid nor mutually exclusive. In other words, some of the so-called non-hospital institutions, especially the polyclinics, may be directly attached to hospitals, or, on the other hand, may maintain their own. To take another illustration, all medical research institutes of all-Union importance and many which are not, maintain their own hospitals, dispensaries or other centers for treatment. An example is the Central Institute of Roentgenology, Radium and Oncology in Kharkov. Its cancer dispensary was treating 40,000 patients a year, I was told when I visited this institute in 1938, and there was also a 200-bed hospital for their care.

Sanatoria and health resorts are not included in either of our two categories. Their facilities for diagnosis and treatment do, in an obvious sense, constitute an extension of the hospital-type institution. In the Soviet health pattern, however, they stand in virtually the same relationship to the non-hospital institution from which they receive the majority of their patients. These restorative institutions will be discussed in a later chapter.

Also to be discussed subsequently (Chapter III, 3) is the actual operation of the system under which the individual Soviet citizen—city dweller or resident of a rural area, factory worker, housewife or farmer—obtains medical care from these various institutions. The purpose of this chapter is to provide general background on these different health-protection units, their organizational principles, characteristics and equipment.

The medical center, which provides the individual with his regular medical service, is part of a carefully coordinated system of institutions which is distinguished as much for its flexibility and adaptability to local needs and conditions as for the forethought which has been invested in its organization. Of particular significance is the fact that the general-care center with which a citizen is registered is an establishment responsible for his health not only in terms of diagnosis and treatment but also as regards his long-range health protection and the prevention of disease.

Most important of the medical centers are the urban polyclinics and ambulatoria, both of which provide general care and differ only in the size and scope of their facilities, as outlined in Chapter III. These two types of centers constituted 72.5 per cent of all non-hospital institutions operating in the RSFSR in 1940. Established on both territorial and occupational principles, a polyclinic or an ambulatorium is generally to be found in every city *raion* or district, and in every factory employing 5,000 or more workers. The average service radius of the district center is five kilometers (about three miles). If its total number of residents reaches 50,000 or more, the center is likely to be a polyclinic. A population of from 10,000 to 50,000 usually is serviced by an ambulatorium, while residents of more sparsely settled districts ordinarily go to a medical station for treatment.⁷⁵

The "closed" type of medical center which serves the workers of a particular factory and their families is generally an ambulatorium if the plant employs from 5,000 to 10,000 workers. Factories employing more than 10,000 workers ordinarily maintain a polyclinic. Every Soviet enterprise employing a minimum of 250 workers must provide some medical facilities, the minimum type being a first-aid station with a nurse in attendance. For plants employing from 5,000 to 10,000, there is usually a well-equipped medical station staffed by from one to three physicians. Such medical stations are also to be found, as a rule, in the largest plants, where they function as branches or outposts of the central ambulatorium or polyclinic.

An extension of the occupational principle behind the establishment of medical centers is to be found in the special provisions made for such mobile groups as railway workers, ship and plane crews. Soon after the Revolution, the Commissariat of Railways began developing its own

⁷⁵ K. V. Maistrakh, *Organizatsia Zdravookhraneniya (Organization of Health Protection)*, Medgiz, Moscow, 1945, p. 69.

network of medical institutions for its workers and their families, and also to provide medical service for passengers in transit. This network, which in January 1941 included 1,463 polyclinics and ambulatoria, 361 hospitals, 64 sanatoria and 205 station centers for mothers traveling with infants, has had its own special administration under the Commissariat, now Ministry of Railways. However, the parallel but smaller networks for water and air transport are directly represented by their own respective administrations in the Health Ministry.⁷⁶

Medical centers for railway workers are always situated in the vicinity of the stations to which they are attached. In 1935 I visited a large Moscow polyclinic which served workers of four railroads. Each had had its own small clinic up to 1929, when these were merged and housed in a large building erected for the purpose. The polyclinic had 23 departments and a staff of 611 persons, among them 290 doctors to treat the 4,500 patients who called at the clinic daily. If a boat has a crew of 50 or more men, it must have a doctor attached permanently; if 35, it must have a feldsher. Boats sailing on long voyages always have a doctor regardless of the size of the crew. On the Soviet ship on which I sailed from London to Leningrad in 1936, I found a dentist who was on duty there for two to three months. She spent her time in examining the entire crew and in doing all requisite dental work while the boat was in motion. It was explained to me that when a boat is in port sailors should be free and not have to spend their time visiting a dentist.

In 1939, two significant developments took place in connection with the operation of the ambulatorium-polyclinic network. One was the joint establishment, by the Scientific Medical Council and the Administration of City Polyclinics and Ambulatoria, of a permanent polyclinic commission. The commission, on which leading medical scientists and physicians serve with center administrators and other staff members representing all the Union Republics, launched its activities with the calling of annual conferences to improve and coordinate the work of the polyclinics and to direct their future development. In 1939, too, the principle of service by geographical rather than occupational sections of the population was established in all the capitals of the Union Republics. By January 1941, it had been extended to the majority of large polyclinics in the *krai* and *oblast* centers and to a large number of polyclinics in other cities which had more than 100,000 office patients

⁷⁶ XXV *Let Sovetskovo Zdravookhraneniya (25 Years of Soviet Health Protection)* edited by G. A. Miterev, Narkomzdrav, Moscow, 1944, pp. 262-271.

registered annually.⁷⁷ Side by side with these polyclinics, however, the similar centers established by large industrial enterprises for their own workers continue to carry on.

One of the finest of the many general medical centers which I have inspected is the Third Labor Polyclinic in Kharkov. In 1938 it operated on a budget of 4.5 million rubles, and its 300 physicians and 30 consultants served an industrial district inhabited by about 100,000 persons. This is the district in which the giant tractor plant is situated. The medical establishment consisted of a large new building and four old pavilions. In the latter were found the tuberculosis dispensary, with a day sanatorium and a kindergarten; the venereological dispensary; dietetic dispensary; dietetic dining-hall; milk kitchen; and pharmacy. Diagnostic wards with 90 beds and physiotherapeutic wards with 60 beds are also situated in the older pavilions.

The new main building has four floors, which I shall describe briefly to show the comprehensiveness of such a center. The first floor contains the administrative departments, office of the local committee, dining-hall of the employees, and X-ray department. On the second floor are the reception room, inquiry office, and office of the physician on duty; the surgical, urological, and orthopedic departments with a consultation service for invalids; a dispensary for children under four years of age; and chemical and bacteriological laboratories. On the third floor are the following: woman's consultation bureau, department of therapy, special cabinet for electro- and photo-therapy, neuro-psychiatric station, consultation bureau for physical culture, hall for corrective gymnastics, and department for the supervision of workers in dangerous industries. On the fourth floor are the children's consultation bureau; departments of ophthalmology, otorhinolaryngology, dentistry; an inhalatorium for throat diseases, and a hygiene consultation bureau. A special wing is devoted to hydrotherapy, mud and other medicinal baths. Finally there is a special department for health propaganda and education with a lecture hall, movie auditorium, library, reading room and similar cultural facilities. This polyclinic may have been one of the 40,000 medical institutions which were damaged, demolished or ransacked by the Germans,⁷⁸ but if so I trust that it has already been restored to service.

⁷⁷ *Loc. cit.*, pp. 126, 128.

⁷⁸ "Statement of Extraordinary State Committee for Ascertaining and Investigating Crimes Committed by the German-fascist Invaders," *Information Bulletin*, Embassy of the USSR, Washington, October 11, 1945.

In 1941, the polyclinic-ambulatorium system consisted of 13,461 institutions. This compares with a total of 1,230 clinics and outpatient departments which provided a limited amount of free medical service in tsarist Russia in 1913. The service was limited in geographical scope as well as in its quality, since such clinics were to be found at that time in only 127 of 234 Russian cities. Compared with the 136 office visits per 1,000 residents which were registered in these clinics in 1914, Soviet polyclinics and ambulatoria registered 653.3 calls per 1,000 residents in 1940. More than one-third of the total volume of service was provided by ambulatoria serving districts with less than 15,000 population; in second place were the polyclinics serving a minimum of 51,000 persons. According to 1941 figures, the percentage distribution of visits to the ambulatorium-polyclinic centers was as follows:⁷⁹

MEDICAL CENTER	PERCENTAGE OF SERVICE
Serving a maximum of 15,000 persons	35.6
Serving 16,000 to 25,000	15.3
Serving 26,000 to 50,000	19.8
Serving 51,000 and over	29.3

Persons too ill to come to a medical center for treatment obtain home medical service by telephoning the center to which they are attached for a doctor. More than half the total number of physicians practising in the USSR in 1941 were employed in the medical centers. The general practitioners who make the bulk of these calls have an annual case load of from 2,000 to 2,500 persons. In 1941, they made 48.7 home visits per 100 of population. This figure compares with 6.3 home visits per 100 which were made in 1913 by the insignificant total of 233 physicians employed by Russia's free clinics and dispensaries to provide home medical service.⁸⁰

The increase in the absolute amount of physicians' care available, obtained both through visits to the city polyclinics and ambulatoria and in the home, is illustrated by the following figures:⁸¹

⁷⁹ G. A. Miterev, *Narodnoye Zdravookhraneniye za 25 Let. (25 Years of Public Health Protection)*, Medgiz, 1942, p. 87.

⁸⁰ *XXV Let Sovetskovo Zdravookhraneniya (25 Years of Soviet Health Protection)*, edited by G. A. Miterev, Narkomzdrav, Moscow, 1944. Unless otherwise indicated, this is the source of all statistics which follow in this chapter.

⁸¹ G. A. Miterev, *loc. cit.*, p. 88.

Office and Home Calls in the Cities
(in thousands of calls)

	1913	1928	1938 †	1941 †
Office calls to polyclinics and ambulatoria	33,572	190,144	376,328	394,192
Home visits by their physicians	391.4	7,304.1 *	25,057.9	29,372.1

* Figures for 1930.

† Only to institutions directly operated, or by physicians employed by the Health Commissariats.

About 15 in every hundred polyclinics and ambulatoria had X-ray equipment on their premises in 1941. Nineteen in every hundred maintained their own apparatus for physiotherapy and sixteen in every hundred had laboratories within the institution. The centers in the largest cities generally possessed all three types of equipment, which was so distributed among the smaller communities that each would have at least one unit of each type for joint use of all the local medical institutions. For instance, an ambulatorium might send its patients to the local hospital for X-rays, and to a local institute or independent laboratory for other examinations. In rural areas these included chemico-biological laboratories mounted on wheels which were being turned out at the rate of thirty per year by a factory near Moscow.⁸²

The widespread expansion of output planned for the medical equipment industry in the Fourth Five-Year Plan should make it possible not too long hence for all polyclinics and ambulatoria to have installations on their own premises of all the basic types of diagnostic and curative equipment used today by institutions providing comprehensive medical care.

The *krai* (territorial) and *oblast* (regional) administrative centers, and some of the *raion* (district) centers usually are sites for the specialized treatment centers—dispensaries or their special stations—which local health conditions require. The networks of such institutions which exist to provide care for sufferers from skin and venereal diseases, tuberculosis, malaria, or trachoma, and also to conduct disease prevention programs, are common types of these specialized medical centers

⁸² *Pravda*, March 5, 1937.

whose work is described in subsequent chapters of this book. Other such specialized institutions are the mother and child consultation centers, cancer and mental hygiene clinics. Where these dispensaries do not exist as independent units, which occasionally share quarters with other types of medical institutions, the same specialized treatment may be given by regular departments of a polyclinic or ambulatorium, scientific institute or hospital.

General and specialized medical stations are to be found in both urban and rural areas. Their growth is illustrated by the following figures:⁸³

Number of Medical Stations

1928	1,942
1932	6,139
1937	7,298
1940	9,045
1941	9,824 *

* Of this total, 4,300 stations had at least one physician in attendance. Feldshers, nurses and midwives usually provided the treatment in the other stations.

To compensate for the shortage of physicians, which has made it impossible to place physicians in every rural station, special medical expeditions have frequently been sent to agricultural districts and to under-manned national minority regions to give medical care to their population. Sometimes these expeditions settle in a district for several weeks or months and examine the entire population. An example was the expedition, whose members were principally ophthalmologists, pediatricians and X-ray and tuberculosis specialists, which in 1936 spent five months in Semipalatinsk, Kazakhstan, working in cooperation with that republic's health authorities.⁸⁴ These expeditions are frequently referred to as "flying squads," a most appropriate description inasmuch as they do much of their travel by plane. I heard of one group of Byelorussian doctors and professors who covered 30,000 kilometers in seven weeks, flying from one collective farm to another in planes of the Minsk Public Health Department. During their trip they examined 1,815 patients, performed 37 major operations and delivered 19 lectures.⁸⁵

⁸³ Please refer to footnote 79.

⁸⁴ *Moscow Daily News*, June 10, 1936.

⁸⁵ *Ibid.*, June 24, 1936.

In a previous connection, I have referred to the inadequacy of hospital facilities in tsarist Russia. In some communities these facilities were very good, in others mediocre or poor, while there were no hospitals at all in about one-third of the cities. Hospital development was entirely haphazard, depending primarily upon the extent of Zemstvo activities, upon individual benefactions and upon proximity to the universities. In 1913, when Russia had 93,223 city hospital beds, or an average of 3.8 per thousand, the spottiness of the distribution is illustrated by the fact that pre-Revolutionary Uzbekistan had only 0.9 beds per thousand. The corresponding percentage for Azerbaidzhan, Georgia and Armenia was 1.6. And the inadequacy of the hospital facilities was even greater than the 1913 figures indicate since these statistics include beds in many isolation centers which were opened only in times of cholera epidemics. The barrack-like structures which confined the victims of these outbreaks were used primarily to prevent further spread of the disease rather than to provide proper treatment for the patients themselves.

One of the principal tasks undertaken by Soviet health authorities has been that of increasing hospital accommodations. The success of this effort is reflected in the fact that compared with 1913, there were in 1941 five times as many beds in city hospitals, more than triple the number in rural hospitals and twice as many in those for mental patients. The increase is shown in the following figures: ⁸⁶

Number of Hospital Beds in the USSR
(in thousands)

	1913	1928	1932	1938	1941
Beds in somatic hospitals					
Urban	93.2	158.5	256.1	450.7	491.5
Rural	49.1	59.2	116.1	153.1	169.9
TOTAL	142.3	217.7	372.2	603.8	661.4
Beds in mental hospitals	36.2	30.0	39.9	66.2	74.0
TOTAL NUMBER OF BEDS	178.5	247.7	412.1	670.0	735.4

⁸⁶ G. A. Miterev, *loc. cit.*, pp. 81, 84, 89.

Number of Beds in Somatic Hospitals
(*per 1,000 inhabitants*)

	1913	1928	1932	1938	1941
In the cities	3.8	6.0	6.3	8.0	8.2
In rural districts	0.44	0.49	0.92	1.34	1.47

In the expansion process, which is continuing and has had to be stepped up due to the vast destruction or ransacking of hospitals by the German invaders in World War II, what is undertaken is not only an over-all increase in facilities but also their enrichment in traditionally hospital-poor areas. Consequently, hospital growth in the national republics of Central Asia, and other sections which were particularly underprivileged in 1913 has been noteworthy. In the Tadzhik SSR, which had only 40 hospital beds in 1913, there were 3,018 in 1941—a jump from 1.6 to 9.2 per thousand. Corresponding expansion for some other Union Republics is indicated by the following figures:

Number of Hospital Beds
(*per 1,000 population*)

UNION REPUBLIC	1913	1941
RSFSR	4.0	8.2
Ukrainian SSR	3.4	7.5
Byelorussian SSR	2.8	10.9
Uzbek SSR	0.9	8.6
Turkmen SSR	2.6	10.3

Along with the general increase in facilities, there has been a marked increase in the size of the individual hospital unit. As everyone knows, small hospitals have so relatively large an overhead that they are uneconomical. In rural districts where population is sparse and transportation is a serious problem, Soviet authorities have found it advisable to have a large number of small hospitals serving one or several collective farms. In the cities, however, the best arrangement, they have found, is to have large hospitals in every district which admit patients from the various medical centers in that district. In Moscow, for example, distribution of patients is effected through a central office which is kept permanently informed of all vacancies in the city hospitals. Thus, any

polyclinic or other medical center may learn where it may hospitalize a patient by telephoning this central office.

In 1913, an estimated 64 per cent of all Russian hospitals had no more than 15 beds each and a single physician on their staff. By 1941, the number of hospitals with only 11 to 20 beds had been reduced to 8.6 per cent of the total, and there were only 2.7 per cent of these hospitals which could not provide specialized medical service. The trend toward larger hospitals has been marked even in rural areas, as the following percentages indicate:⁸⁷

Size of Rural Hospitals in the USSR
(in percentage of total number of beds available)

	1930	1940
In hospitals with less than 25 beds	87.0	66.6
In hospitals with 25 to 49 beds	9.0	26.0
In hospitals with 50 or more beds	4.0	7.4

The development of larger hospitals has been especially pronounced in the Central Asian republics, where the percentage of hospitals in the smallest category dropped from 94.9 in 1930 to 62.0 in 1940, with a corresponding increase of from 5.1 to 34.2 per cent in the hospitals with from 25 to 50 beds. Compared with 1930, when the Uzbek SSR had no hospital with more than 50 beds, hospitals of that size represented 3.8 per cent of all Uzbek hospital facilities a decade later.

At the beginning of 1941, 36.2 per cent of all Soviet hospitals had their own X-ray equipment on the premises. Among them were all hospitals with 75 or more beds. As I have already explained in connection with the equipment of the medical centers, even the smallest communities have at least one X-ray installation, one set of equipment for physiotherapy and one laboratory, and the institutions which possess this apparatus share them with the others. In 1941, 25.6 per cent of the hospitals of all sizes had their own equipment for physiotherapy and 41.9 per cent had their own laboratories.

The allocation of hospital beds among the various types of cases indicates a marked expansion of facilities for maternity cases and children's diseases from 1928 to 1941 with a drop in the percentage of the hospital network reserved for other types of patients. Since hospital beds

⁸⁷ G. A. Miterev, *loc. cit.*, p. 90.

multiplied in number from 1928 to 1941, these are reductions in percentages but not in number of beds. They are illustrated by the following representative figures:⁸⁸

Allocation of Beds in City Hospitals in the RSFSR
(in percentages of total beds available)

TYPE OF CASE	1928	1932	1941
Internal diseases	20.2	17.4	16.2
Surgical	19.4	17.8	16.4
Maternity	5.4	5.3	15.1
Gynecological	6.5	5.8	5.6
Skin and venereal	6.6	4.0	2.2
Children	3.3	4.3	17.4
Nervous diseases	4.1	3.2	1.8
Eyes	2.9	2.8	2.5
Ear, nose, throat	1.7	1.9	1.2
All others	29.9	37.4	21.6

Establishment of specialized hospitals has been largely a post-Revolutionary development. In tsarist Russia, the overwhelming majority of the hospitals were general, without the separate departments, staff or equipment required for the specialized treatment of different types of cases. Only in the clinics of university cities, which served as teaching bases, for example, were there beds for eye cases and the treatment of nervous diseases. The Soviet network of specialized hospitals, hospital sections or branches has been especially well developed in the new industrial centers such as Magnitogorsk, Zlatoust and Balkash.

As the statistics indicate, new hospitals were being opened at a rapid rate up to World War II. One which opened in Tiflis in 1937 is connected with a polyclinic; its facilities for 120 patients were provided in rooms of one and two beds. Each room has a telephone and radio.⁸⁹ A hospital opened a few months earlier in Sverdlovsk has 700 beds, including those in its tuberculosis department; this institution also has an obstetrical-gynecological clinic. A large number of children's hospitals has been constructed. In 1937, in the RSFSR alone, 51 new children's hospitals with 3,723 beds were being completed. Thirty-seven of these

⁸⁸ G. A. Miterev, *loc. cit.*, p. 86.

⁸⁹ *Pravda*, March 21, 1937.

hospitals were established primarily for the treatment of communicable diseases.⁹⁰

Moscow had 11 district psychiatric clinics in 1937, also about 8,000 beds available for mental cases in the city and the surrounding rural area. After the Revolution, the bars were removed from the windows of Russia's mental hospitals, and systematic courses of treatment were instituted. Nevertheless, the policy is to hospitalize mental cases only if it is absolutely unavoidable. It is believed that whenever possible the patient should remain in his familiar surroundings and should remain at work. The psychiatrists who treat him see to it that he is properly housed and has his own room. They also instruct his relatives or neighbors about his condition. The patient remains under the permanent supervision of the district psychiatrist.

If he requires hospitalization, he is admitted to a mental hospital, but only after having been examined by two additional physicians. I visited two such hospitals in Moscow and found the atmosphere exceedingly pleasant and cheerful. The principle of the open door is applied, and patients have their meals at little tables. Occupational therapy plays a very important part. Electro- and hydro-therapy are frequently applied and continuous narcosis is also practised. Chronic cases are usually transferred to special hospitals or labor colonies in the country. Conditions are similar in other cities.

Although the number of hospital beds available for mental cases increased more than 80 per cent between 1932 and 1941, it has remained comparatively low. The incidence of mental disease is much less in the Soviet Union, however, than in the capitalist countries of the West. According to Karanovich, head of the Section of Psychiatric Service of the Commissariat of Public Health of the RSFSR, there were in 1937 three mental patients for every thousand persons in the USSR. According to his estimates, there were at that time seven cases per 1,000 in the United States, eight in Germany and ten in Italy.⁹¹ Regardless of the fact that fewer persons in the Soviet Union need hospitalization for mental diseases, the number of such beds is probably still inadequate.

Otherwise, the hospital situation was not unsatisfactory on the eve of World War II. In 1936 and 1938, I visited a large number of hospitals in different regions and found that many of them compared very favorably with the best American hospitals. Others were rather primitive and were located in old pre-Revolutionary buildings. It is

⁹⁰ *Pravda*, February 17, 1937.

⁹¹ *Moscow Daily News*, April 22, 1937.

the policy to rebuild and re-equip these old structures. One of the best hospitals I saw was the Botkin Hospital in Moscow. It was built before the Revolution with a capacity of 500 beds. It has been rebuilt since then and in 1936 accommodated 2,200 patients. The staff consisted of 1,800 people, including 180 physicians and 570 nurses. Most of the wards had ten beds, and each section had small rooms for one or two patients. All specialties except obstetrics, pediatrics, and venereal diseases were represented. At the time of my visit the hospital had 13 X-ray cabinets and a cancer institute that possessed one gram of radium. In 1934, 36,000 patients were treated in the hospital.

A system of "quick" or emergency aid (*skoraya pomoshch*) combining ambulance service in cases of accidents and sudden acute illness, first-aid medical stations and, in many cities, special hospital facilities has been developed in the USSR. In tsarist Russia in 1913, only nine cities had any type of emergency service, and in these communities little more was provided than ambulances to convey the patients from their homes or from the spot where an accident had occurred. The first emergency stations were established in Moscow and Leningrad in 1919. Growth of the system since 1931 is illustrated by the following figures:

	1931	1936	1938	1940
Number of emergency aid stations	154 *	426	653	884
Number of ambulances	358	616	1,257	1,836

* Exclusive of the Tadzhik SSR and Kazakh SSR.

In 1940, nearly four and one-half million persons were rushed to treatment in the ambulances operated under this service. Some of the stations servicing rural areas and areas remote from permanent medical facilities also operated ambulance-planes. That same year their pilots made 23,588 flights to rush physicians and nurses to 87,058 patients or the latter to hospitals. In 1942, when the organization and procedures of these stations were standardized by the Commissariat of Health of the USSR, they were given additional functions of transporting regular patients and women about to give birth to medical centers, hospitals and maternity homes.

Special institutes providing urgent medical aid have been established in Moscow, Leningrad and Tashkent. These serve as hospital bases for the emergency aid stations, and also as consultative bodies. In other centers, the regular hospitals provide similar services.

A unique institution is the Sklifasovski Hospital for Traumatic Diseases in Moscow. The heart of the institution is its telephone exchange where doctors are on duty day and night. If an accident happens, an ulcer perforates, or if a man has a sudden heart attack or diabetic coma, the hospital is called. A doctor receives the message and immediately sends an ambulance with a physician and two feldshers. A light signal notifies him that the ambulance has left the building. Not more than from one and a half to two minutes elapse from the time the call is received until the ambulance crosses the gateway. Should the procedure take more than three minutes, the ambulance people would have to account for the delay. Thirteen ambulances with corresponding personnel are permanently in attendance. The hospital has four substations in various sections of town with which it is connected by direct wire. If an accident occurs in the district of a substation, the call will be immediately transmitted to the nearest station. In 1936 the Moscow emergency service ambulances made 59,156 trips, an average of 162 a day.⁹²

When a patient reaches the Sklifasovski Hospital, he is treated or operated upon without delay. Like a fire department, this 700-bed hospital is ready at any hour of the day or night for emergency duty in the fields of surgery, medicine and gynecology. One hundred doctors were on the regular staff in 1936, and seventy others were taking turns at first-aid duty in twenty-four hour shifts. Doctors at the telephone work in four-hour shifts. Only physicians who have had at least ten years' experience are appointed to this hospital. The results are obviously good. Tetanus never develops. In 1936, two hundred and thirty cases of perforated ulcers were brought into the hospital and only 8 per cent were fatal. Thirty-two heart wounds were sutured successfully. It is an admirable institution which performs an exceedingly important function in a city and demonstrates the advantage of central organization. Leningrad and Kharkov have similar institutions.

During a visit I made to this hospital, the cadaver of a man who had just committed suicide by hanging was brought in, and I had the opportunity to see how blood is taken from cadavers to serve for transfusions. The procedure which has been developed in the Soviet Union is very simple. The skin is disinfected with iodine, two canules are introduced into the internal jugular veins, and the corpse is brought into the Trendelenburg position so that the blood flows freely. About two or

⁹² *Pravda*, April 4, 1937.

three litres of blood are extracted this way. It can be preserved in an ice box without the addition of chemicals for twenty-eight days. The blood group is determined, Wassermann and bacteriological tests are made, and an autopsy is performed on the cadaver. Great quantities of blood are thus made available for transfusion.

A special institute for blood transfusion—the Bogdanov Central Institute of Hematology and Blood Transfusions—was founded in Moscow in 1924, and within a dozen years it had established 600 branches throughout the USSR. It sends blood into the far-remote regions of the country. Some blood comes from cadavers but more, of course, from living individuals. The Institute is never short of donors. For purposes of transportation, the blood is mixed with a solution of sodium citrate and is shipped in special thermos bottles. In 1936, 36,000 blood transfusions were performed in the country; in 1940, there were about 300,000 in the city hospitals. The Ukraine has its own central institute,⁹³ and another major institution in this field is the Leningrad Institute for Blood Transfusions.

Every state has the obligation of caring for that group of its citizenry which has been incapacitated through injury or illness—the crippled, blind, deaf and dumb, victims of industrial accidents and, especially, the war invalids. From tsarism, the Soviet Union inherited millions of invalids, veterans of World War I and of previous wars. For their welfare, and for the welfare of those who were disabled during the revolutionary struggle, the state assumed responsibility. There were more than 300,000 blind, deaf and dumb.⁹⁴ There were also the casualties of the Civil War, the intervention struggle and the great famine. While disabled industrial workers are directly provided for by the Soviet social insurance system, the great majority of these invalids were from a segment of the population which is not covered by social insurance.

To take care of them, therefore, Commissariats of Social Welfare were established in all the constituent republics. Another function of these departments (now the Ministries of Social Welfare) is to provide aid for those men of more than sixty and women who have reached the age of fifty-five who do not receive pensions from social insurance funds.

⁹³ *Moscow Daily News*, April 12, 1937.

⁹⁴ These and all figures which follow in this section, unless otherwise indicated, are from a manuscript memorandum issued by VOKS, *La Prévoyance Sociale en U.R.S.S.*

Invalids who are totally incapacitated for work are also entitled to pensions and to all necessary medical service, and may enter special institutions controlled by the Social Welfare and Public Health Ministries.

The number of state-supported invalids dropped 7 per cent between 1928 and 1934, and another 6.5 per cent in 1935, but pension payments to them increased from 32 million rubles in 1928 to 49 million in 1935. These sums are fractional, however, compared with the gigantic increase in the invalid care budget which has been made necessary by World War II. In 1942, for example, state expenditures for disability allowances in 44 of the 45 *oblasts* of the RSFSR totaled 700 million rubles, exclusive of the supplementary monetary allowances which were paid to disabled war veterans by the local soviets.⁹⁵

In 1936, the RSFSR Commissariat of Social Welfare operated 305 homes for invalids. In addition, there were 43 homes controlled by the All-Union Central Council of Trade Unions and 125 homes maintained by the mutual aid funds of the collective farms. These homes were of four types: those for old people, for Civil War invalids, for persons with permanent disability, and for tuberculosis invalids.

Expenditures of the Commissariat of Public Welfare
for the Support of Homes for Invalids
(in rubles)

1928	5,105,000
1933	9,834,900
1934	14,059,600
1935	24,000,000
1936	43,241,000

A vast expansion of this system has, of course, been necessitated by World War II. However, the most significant aid given to invalids is that provided to readjust to their social environment, through work, all who are not totally disabled permanently. Under a recent decree, the Social Welfare Ministries of the Union Republics are directly responsible not only for the rehabilitation of war veterans but also for retraining them when necessary for new trades and professions. The law also requires managers of Soviet factories, offices and public institutions to find suitable employment for World War II veterans sent them by

⁹⁵ A. N. Sukhov, "Rehabilitation of the War Wounded in the Soviet Union," *American Review of Soviet Medicine*, April, 1944, pp. 293-299.

Social Welfare agencies. The trade unions, especially their local social insurance councils, also participate in the process of re-integration.

This is not to say that invalids are required to work. Each receives his pension and the various other tax exemptions, allowances and privileges established for the invalid and his family whether he does or does not work, so there is no compulsion to do so. Work is usually prescribed, however, as the best means of improving the material conditions and mental outlook of these invalids. Its therapeutic value is stressed.

The procedure of re-adjustment is usually the following: the invalid is first examined by specialists, receives medical treatment and is supplied with artificial limbs or whatever his case may require. In 1936, there were 34 factories and workshops engaged in making prostheses. The pre-war manufacturing facilities have proved vastly inadequate to supply the needs of hundreds of thousands of Red Army amputees and maimed civilians, and one of the priority programs of the American society, Russian War Relief, was the sending of equipment needed by the USSR to increase the manufacture of artificial limbs. Once the invalid is properly equipped with such devices, the next task is to determine his capacity to work and the type of work for which he is best fitted. This is a task for experts. Unless the invalid is able to return directly to his pre-war occupation with some minor adjustments, he may then be assigned to a workshop for a training period which may last from six to nine months. During this period he is under constant medical supervision. Upon completion of his apprenticeship, he may enter a vocational school for one or two years, if he chooses. Subsequently, he will be absorbed by the industry or other vocation for which he has been trained.

Some invalids study for three or four years in special technicums which train them to become teachers of other invalids or even of normal students. In 1934, the Commissariats of Social Welfare controlled three central technicums, 30 vocational schools and 420 workshops, all of which employed invalids almost exclusively. Moscow alone has three large vocational schools of this type today.

Large numbers of invalids have taken advantage of these educational facilities. Between 1929 and 1932, more than a million were thus educated or re-trained. Forty-three per cent were war veterans, and 32 per cent invalids of labor; most of the others were invalids since birth or through accident. Much larger, without doubt, is the number of

World War II veterans now benefiting from this special educational program, which also includes short courses in the regular industrial and agricultural schools. An estimated 40,000 war veterans completed training for new trades in 1944, which indicates that these rehabilitation procedures were well under way before the war ended.

In the medical field, a recent development has been the working out of methods of shortening the course of treatment for invalids requiring artificial limbs. Several scientific institutes are active in this work, among them the Moscow Scientific Research Institute of Prosthesis under the RSFSR Ministry of Social Welfare. Patients undergoing treatment in the hospital attached to this institute are usually fit for work from two to four months after amputation.

In addition to the invalids who are re-absorbed into regular industrial enterprises, others join invalids' artels which make and repair commodities on a cooperative basis. The Invalids' Cooperative Society, which has 59 bureaus scattered throughout the country and is part of the Social Welfare system, provides, through its 1,772 branch cooperatives, opportunities for membership in more than 14,000 workshops and plants. These engage in metal-working, carpentry and printing, or turn out textiles, leather goods, chemicals, clothing and shoes. Membership in these cooperatives had grown from 34,882 disabled persons in 1928 to more than 200,000 by 1944.⁹⁶ These artels, which pay wages to their members, enjoy many privileges: they are tax-exempt; they pay only half the normal rent for their workshops; and since 1933, regular social insurance benefits have been extended to their members. Premiums paid by the cooperatives constituted 14.5 per cent of the total wage bill in 1935. In addition, one per cent is deducted from individual wages, but when an invalid leaves a cooperative he is reimbursed to the extent of 90 per cent of the money he has paid in to the organization. The value of the commodities produced by such cooperatives has increased as follows (*in millions of rubles*):

1928	144.3
1932	674.6
1942	2,000 ⁹⁷

Mutual aid societies established by the cooperatives make available to members and their families accommodations in sanatoria, rest homes,

⁹⁶ A. N. Sukhov, *loc. cit.*

⁹⁷ *Ibid.*

polyclinics, nurseries and other establishments, which in 1943 operated on an aggregate budget of 43 million rubles.

The voluntary mutual aid funds which the collective farms began to establish in 1931 have been built up on contributions of one per cent of farm income. One of the purposes for which these funds are used is the re-education of invalids of rural districts. Those too disabled for farm work may be trained to serve their collectives as tailors, bakers, accountants or in other capacities.

There were 20 blind persons for every 10,000 inhabitants in Russia between 1897 and 1910. Among the national minorities the figure was higher; in Yakutia there were 124 sightless persons for every 10,000 inhabitants. In all Russia in 1911, there were only three workshops for them, and 23 schools which gave instruction to less than 1,000 persons. The great majority of the blind lived by begging; along with crippled beggars they crowded the entrances to the Russian churches.

Improved conditions since the Revolution and measures for the prevention of blindness have reduced the number of blind. The 1926 figure was 15 for every 10,000 persons. They are organized in a Society for the Blind, founded in 1922, which operates and controls a large number of schools, workshops and cooperatives. In 1935, 15,000 sightless persons worked in state industrial enterprises. One engine factory in Moscow then employed 270 such workers, who were able to perform 95 per cent of all operations required by the plant. Others who prefer working at home are provided with working equipment and materials.

More than 750 blind persons, most of whom lost their sight in military action in World War II, are studying in universities and other higher institutions, from which hundreds of similarly handicapped individuals have already received degrees. Besides receiving higher stipends than sighted students, each blind student is provided with a sighted secretary. The Institute for Blind Children gives a complete secondary education and vocational training. There are also special music schools for the blind, where 500 persons who were blinded in the war study music. The Society for the Blind does much to develop the rich musical talent among this group. It allocates about one-third of its annual income, recently estimated at about 20 million rubles, for cultural activity; other types of expenditures are for maintenance allowances and rehabilitation purposes.⁹⁸

The deaf and dumb have a similar organization, the All-Russian

⁹⁸ *Information Bulletin*, Embassy of the USSR, Washington, November 13, 1945.

Association of the Deaf and Dumb. Like the Society for the Blind, this association also maintains its own network of educational and industrial institutions. Most deaf and dumb persons can read and write, and many are active in industry and agriculture. About 14,000 were employed in state enterprises in January 1936.

The occupational horizons of the blind, deaf and dumb, as well as those of other groups of disabled citizens, have been enlarged under new types of re-training programs which have recently been developed by Soviet specialists in this field. From the base hospitals, where this re-training often begins, back to the craft cooperative or the regular industrial enterprise or cooperative farm, the process and purpose are always those of assuring to the disabled citizen as normal an existence as possible.

Mistreatment or deliberate torture of children by the Germans during their recent occupation has greatly increased the number of Soviet youngsters suffering from various types of neuroses or from the loss of their sight, hearing or speech. A number of schools, clinics and other institutions now care for these children. In the RSFSR there are 280 schools attended by children with defective speech, hearing or vision. The Institute of Defectology, a research organization under the Academy of Pedagogical Sciences, has 48 scientists engaged in full-time study to develop improved methods of training these children, overcoming their impediments and bringing out their special talents and abilities.⁹⁹

All pharmacies are operated by the state. Every medical center and every hospital has its own *apteka*, and besides, there are drug stores providing general service to the population. At the beginning of 1941, there were 4,373 city pharmacies, and 5,459 in rural areas. The rural population, especially in remote areas of the country, was also serviced by 13,864 pharmaceutical stations, where an assortment of important drugs and other medicinal preparations is available.

All drugs distributed by pharmacies, with the exception of the small volume imported for, and controlled by, organs of the Ministry of Health, are produced in state enterprises. Consequently, health authorities have full control over the pharmaceutical preparations used in the country. Where such conditions prevail, the population is protected from the mass of fraudulent products that flood the markets of capital-

⁹⁹ *Information Bulletin*, Embassy of the USSR, Washington, February 12 and May 18, 1946.

ist countries and extract millions of dollars from the pockets of simple-minded people.

Before the Revolution, Russia imported most of its drugs, and the bulk of what was not imported was produced or processed in the Russian plants of a few foreign firms, chiefly German. In 1912, 90.3 million rubles were spent for the importation of drugs, while the value of those produced at home amounted to only 15 million rubles. The development of an adequate pharmaceutical industry began in the 1920's with the reorganization and expansion of the former capitalist enterprises, and in 1927-1928, the home industry produced 88 per cent of all drugs. This production was valued at 31.5 million rubles, and imports, which had dropped 12 per cent, at 4.2 million rubles.¹⁰⁰ But the development of this still very inadequate industry had scarcely begun at that time. Taking as a base figure, capital investments in the Soviet pharmaceutical industry at the beginning of 1929, the growth in these investments is indicated in the following figures:

1929	1.0
1933	1.9
1937	3.3
1941	13.7

By 1933-1934, imports amounted to only 3 per cent, and from that time up to the beginning of World War II, virtually all the pharmaceutical products used were manufactured in the country. During this period, too, it is interesting to note that the USSR began to regain the commanding position that tsarist Russia had occupied in the world market as an exporter of the crude botanical drugs such as licorice root, santonin and valerian root. Their cultivation was widely developed on collective farm plantations.

It cannot be said, however, that the output of the Soviet pharmaceutical industry was producing in 1941 at what we would consider an adequate level for civilian needs. This helps to explain why such large quantities of foreign drugs along with medical instruments were supplied to Red Army hospitals under lend-lease and by private agencies. The other explanation is the wide destruction and the temporary loss of the drug production in the occupied areas. From 380 pharmaceutical products turned out in 1940, the total dropped to 104 in 1942; it had re-

¹⁰⁰ N. A. Semashko, *Health Protection in the U.S.S.R.* (Gollancz, London), p. 34.

covered to 205 before the end of 1944.¹⁰¹ The new five-year plan envisages doubling the pre-war output of the Soviet medical and pharmaceutical industry by 1950.

The importance of this program is suggested by the creation in June 1946 of a Ministry of Medical Industry, which has taken over the manufacturing enterprises, laboratories and institutes which were formerly operated as branches of the Ministry of Health. Andrei F. Tretyakov, formerly People's Commissar of Health for the RSFSR, heads the new ministry. Its program includes rapid expansion in the output of penicillin and sulfa drugs and launching into production of many new preparations and instruments not previously manufactured in the USSR. In April 1946 a special committee was formed under G. A. Miterev, then Health Minister, to increase research and facilitate mass production in the field of antibiotics.¹⁰²

Prices of drugs have been relatively expensive. Patients in hospitals and those suffering from such communicable diseases as malaria and syphilis receive drugs free of charge. Many others get their prescriptions filled at very nominal cost or at none at all under social insurance programs and other trade union services. However, in cases where patients have paid for their own medicines, they have often found the price high, and consequently they have sometimes failed to purchase the drugs prescribed. It is to be hoped that the pharmaceutical industry, under the impetus of this ambitious new program and independent administration, will materially increase its output so that in the not too distant future all drugs may be distributed free of charge, according to need.

In assuming direction of the production of medical instruments, the new Ministry of Medical Industry has before it another major task. Practically all of tsarist Russia's needs for surgical instruments and other apparatus needed both by medical institutions and individual practitioners were covered by imports. Even as late as 1930-1931, when Soviet imports had to be kept to a minimum for general economic reasons, 31 per cent of its total requirements for medical instruments was covered by foreign purchases. These were largely limited to highly specialized items which had never been produced in the country.

In 1936, the "Medinstrument" Trust, which had formerly been under industrial commissariats, was transferred to the Commissariat of Health. At the end of 1938, the trust became the Administration of the Medical

¹⁰¹ *Farmatsiya*, No. 1, 1945.

¹⁰² *Izvestia*, April 26, 1946.

Instruments Industry and continued the rapid development which had begun two years earlier. By the beginning of 1941, production of medical products was more than double what it had been in 1936. During the war emergency, of course, when the wounded were numbered in the millions, a large volume of surgical instruments, and other hospital equipment was required from abroad. Even today, foreign equipment is still in demand for various types of treatment. It seems likely, however, that the skills which went into the making of complicated equipment and precision instruments will soon be helping to overcome the past lag in the manufacture of medical instruments.

5. BUDGET

Medical service is free in the Soviet Union. How is it financed? Obviously by the state, but in what way?

The great majority of the population (94.3 per cent, according to the 1939 census) consists of wage earners and collective farmers.¹⁰³ The wage-earners receive their wages from the state since all enterprises are state owned and operated. The collective farmers sell most of their crops directly to the state. Both groups purchase whatever they buy from the state. All money, therefore, goes from the state to the population and back to the state, which redistributes it every year. In the course of production, surplus values are created which are controlled and distributed by society through its various agencies. Part of this surplus serves to finance the health work of the nation.

Until 1937, the section of the population consisting of wage-earners—industrial workers, agricultural workers on state farms, office and house employees—which in 1934 comprised 28.1 per cent¹⁰⁴ received their medical service primarily through *social insurance*, which is administered by the *trade unions*.¹⁰⁵ Since 1937, this medical service has been financed almost entirely through the state budget.

The social insurance movement in Russia can be traced back to pre-

¹⁰³ Collective farmers comprised 44.6 per cent, industrial workers 32.2 per cent and office employees, etc. 17.5 per cent. ("The Sixteen Soviet Republics," *Information Bulletin*, Embassy of the USSR, Washington, December, 1945.)

¹⁰⁴ *The U.S.S.R. in Figures*, 1935, Moscow, 1935, p. 41.

¹⁰⁵ *Spravochnik Sotsialnomu-Strakhovaniyu dlya Fabzavmestkomov (Information on Social Insurance for Factory-Plant and Local Committees)*, 4th edition, Moscow, 1940.

revolutionary days. As a matter of fact it was part of the early revolutionary program. The petition asking for political and economic liberties which the Petersburg workers addressed to Nicholas II on January 9, 1905, included a demand for social insurance. In 1912, the Duma passed an insurance bill providing for insurance benefits to workers in case of illness or accident during work. The bill covered only one-fifth of the total number of wage earners, and made no provisions for invalidity, old age, and orphans. The allowance in case of accident was small and was paid only if the accident was due to the fault of the employer—a thing which was very difficult for a worker to prove. In most cases, the employer got off by paying a small lump sum. One part of the premium was deducted from the wages, one part was contributed by the employers. Sickness benefit did not exceed 50 per cent of the wages and was paid from the fourth day of illness for a period of not more than twenty-six weeks.

On November 13, 1917, less than a week after the Revolution, the Soviet government issued the following decree:¹⁰⁶

The Russian proletariat has placed on its banners "Full Social Insurance for Wage Workers" as well as for the city and village poor. The tsarist government of landowners and capitalists and the coalition-reconciliation governments (Provisional Government) failed to satisfy the demands of the workers in this respect.

The Workers' and Peasants' Government, being supported by the Soviet of Workers', Soldiers', and Peasants' Deputies, announces to the working class of Russia and to the city and village poor that it will immediately prepare decrees on social insurance in accordance with the ideas of the workers.

1. Insurance for all wage workers without exception, as well as for the city and village poor.

2. Insurance to cover all forms of disability, such as illness, injury, invalidism, old age, maternity, widowhood, orphanage, as well as unemployment.

3. The total cost of the insurance to be borne by the employer.

4. Full compensation in case of disability or unemployment.

5. The insured to have full control of the insurance institutions.

¹⁰⁶ James Bunyan and H. H. Fisher, *The Bolshevik Revolution 1917-1918, Documents and Materials*, Hoover War Library Publications, No. 3, Stanford University Press, 1934, p. 308.

The Civil War and the disorganization of production resulting from it delayed establishment of this program. Not until five years later, in 1922, was it possible to establish social insurance on a large scale in a uniform way.

According to the bill of 1922, which is still in force with slight modifications, all persons working in state, cooperative, or private enterprises,¹⁰⁷ and all those who work for individual families or persons¹⁰⁸ come under the social insurance law.

With the industrialization of the country the number of wage-earners increased considerably and the number of insured workers grew in proportion:

1929	10,900,000
1932	22,600,000
1934	23,400,000
1937	26,800,000
1940	30,700,000

The social insurance funds are raised exclusively from the employing enterprises and institutions and through state appropriations, or from individuals employing labor, mostly domestic. The contributions are in a fixed proportion to the amount of the wage bill, and under no conditions can they be deducted from wages. They are practically an addition to wages, are part of the socialized wages of the workers. The rate varies according to the hazards involved in the various industries and ranges from 4 to 10.7 per cent of the wage bill.¹⁰⁹

As the number of insured workers grew, naturally social insurance funds have also grown. The size of the funds depended, however, not only upon the number of insured but also upon the amount of wages they received. From 1929 to 1934, the number of wage-earners more than doubled, but the insurance funds quadrupled as a result of wage increases during that period:¹¹⁰

¹⁰⁷ 1922 was the beginning of the NEP (New Economic Policy) period during which private enterprises were permitted. They have practically disappeared since.

¹⁰⁸ This includes house servants and similar employees.

¹⁰⁹ The rate averaged 6.3 per cent in 1937; it had previously been 12.2 per cent. This reduction was possible because many previous obligations of the social insurance funds were taken over by the state in 1937.—*Moscow Daily News*, March 24 and May 11, 1937.

¹¹⁰ *Handbook of the Soviet Union*, New York, 1936, p. 443, is the source of figures up to 1938; those from 1938 to 1940 are from A. Gorbunov, *The Work of the Soviet Trade Unions in the Field of Social Insurance of the Workers*, Moscow.

*Medicine and Health in the Soviet Union*Increase in Social Insurance Funds
(in rubles)

1929	1,327,000,000
1930	1,808,000,000
1932	4,400,000,000
1933	4,607,000,000
1934	5,392,000,000
1938	6,456,100,000
1939	7,584,200,000
1940	8,623,200,000
1945	10,100,000,000
1946-1950 (plan)	61,600,000,000

Social insurance in the Soviet Union was established to provide the following: a) medical care, b) benefits in case of temporary disabilities (sickness, accident, quarantine, pregnancy, childbirth, nursing a sick member of the family), c) additional benefits for infants, funerals, etc., d) unemployment benefits, e) invalidity pensions, f) old-age pensions, g) pensions to families in case of death of the bread-winner. Social insurance extends its benefits not only to the insured workers but to their dependents as well. Since unemployment has been virtually non-existent since 1930, the funds previously spent for unemployment benefits have since been used for other purposes, notably for improved medical care and the establishment of health institutions.

The development of social insurance expenditures is best illustrated by the following figures (*in millions of rubles*):¹¹¹

Direct Payments to Individuals

	1929	1930	1931	1932	1933	1934
Temporary disability benefits	311.0	389.2	567.9	790.0	798.5	809.8
Pensions	271.8	317.6	378.4	490.1	682.9	704.9
Additional benefits	64.6	57.8	62.6	85.3	91.5	89.6
Unemployment benefits	132.3	49.3	—	—	—	—

1945; 1945 figures from G. A. Miterev, *Information Bulletin*, Embassy of the USSR, Washington, February 14, 1946; for 1946-1950 from the Special Supplement of the *Information Bulletin* on the Fourth Five-Year Plan, published June, 1946, p. 17.

¹¹¹ Figures provided by VOKS (The USSR Society for Cultural Relations with Foreign Countries).

Expenditures for Various Social Services

	1929	1930	1931	1932	1933	1934
Medical care	264.4	359.1	502.4	847.1	939.2	1,184.0
Sanatoria and rest homes	41.6	56.9	114.5	229.7	226.7	258.5
Special dietetic treatment	—	0.5	8.3	31.6	48.2	57.0
Creches, kindergartens, meals for school children	3.2	5.8	45.1	140.9	196.0	225.7
Housing for workers	118.4	190.7	344.2	710.0	600.0	672.5
Stipends to students	—	39.4	137.6	581.8	593.5	705.0

It is interesting to notice that in 1929 money payments far exceeded the expenditures for social services, the proportion being 779.7 to 427.6 million rubles, while in 1934 the proportion was reversed, being 1,604.3 to 3,102.3. Still more interesting was the budget of 1938, because it revealed the fundamental changes that had occurred in the financing of medical services. According to *Pravda* of May 14, 1938 the budget included the following items (*with figures in millions of rubles*):

Compensations and pensions	3,465.6
Child services	654.4
Rest homes, sanatoria, health resorts	1,034.2
Tourism and alpinism	50.0
Physical culture	147.0
Special dietetic treatments	99.6
Mutual aid funds for workers and employees	104.2
Parks of culture and rest	27.0
Education	84.1
Medical care	19.5
Labor inspection	78.5
Awards	5.0
Administration	80.0

In other words, whereas in 1934 medical care had been by far the largest item in the social insurance budget, amounting to more than one billion rubles, in 1938 it had dropped to an insignificant 19 million. This was due to the fact that in 1937 medical services, the operation of medical institutions, had been transferred almost entirely to the state budget.

Consequently, large amounts became available for extra services which greatly contribute to promoting and maintaining the workers' health.

In case of temporary disability, the insured person used to be paid full wages from the first day on, but regulations were changed in December 1938. In order to combat absenteeism and a high turnover of labor, sickness benefits were made dependent upon the uninterrupted period of past employment based on the following scale:

UNINTERRUPTED EMPLOYMENT PERIOD	SICKNESS BENEFITS (per cent of normal wages)
6 years or more	100
3 to 6 years	80
2 to 3 years	60
less than 2 years	50
For individuals under 18 years of age	
2 years or more	80
less than 2 years	60
For miners and workers in unhealthy occupations	
2 years or more	100
less than 2 years	60

In case of permanent disability, whatever its cause may be, the insured worker is entitled to a pension. Pensions range from 40 to 100 per cent of former wages according to the degree of disability and its cause. Higher pensions are provided if the disability results from an occupational disease or from an accident of labor. Definition of these terms is interpreted broadly. For instance, accidents occurring on the way to or from the factory or in its surroundings or while the worker is engaged in some task not expected of him but done in the interest of the plant, will be compensated as having resulted from labor.¹¹² Pensions are further provided to family members who have lost their main source of support, and such pensions may amount to as much as 100 per cent of the wages of the deceased.

All insured persons are entitled to old-age pensions of one-half to two-thirds of the last year's wages upon reaching the age of 60 (women 55), or 50 if they were employed in unhealthy or underground work. They

¹¹² A. Roubakine, *La protection de la santé publique dans l'U.R.S.S.*, Paris, 1933, p. 42.

must, however, have worked for not less than 25 years (20 years for women).¹¹³

Until 1933, social insurance was directed and supervised by Commissariats of Labor. On June 23, 1933, these Commissariats were abolished, as I have already pointed out, and all of their functions, including social insurance, were taken over by the trade unions. The actual administration of social insurance is the concern of the insured workers themselves. They have full control over the funds. There are 186,000 social insurance bureaus (an average of one for 1,700 insured) in plants throughout the country; workers who are elected social insurance delegates by their fellow workers are in charge of these bureaus. In each establishment employing more than 100 workers, the local trade union also sets up an assisting social insurance council. With its aid, the delegates collect the contributions and distribute the funds in complete independence, following, of course, certain general rules established by the central organs. The central organs—divisions of the trade unions—also consist of elected delegates.

There can be no doubt that the Soviet system of social insurance is infinitely superior to any insurance system in capitalist countries. The costs are what they should be, part of the costs of production. The benefits are much greater than under any other insurance scheme. The worker is guaranteed social security. He is entitled to it because, after all, he is creating the values that make such a scheme possible.

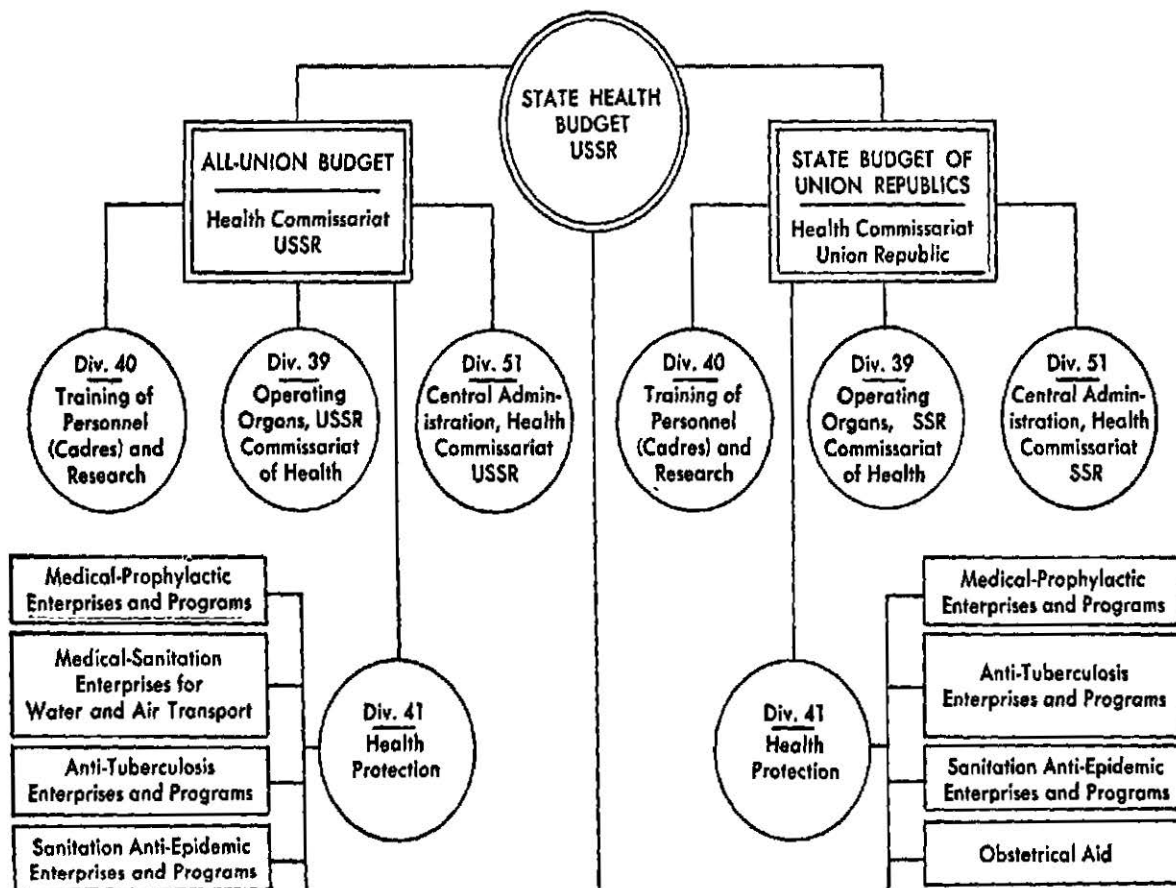
Short as its history has been, social insurance has proved a powerful weapon in improving the living conditions of the workers, in raising their cultural standard, in protecting their lives and health.

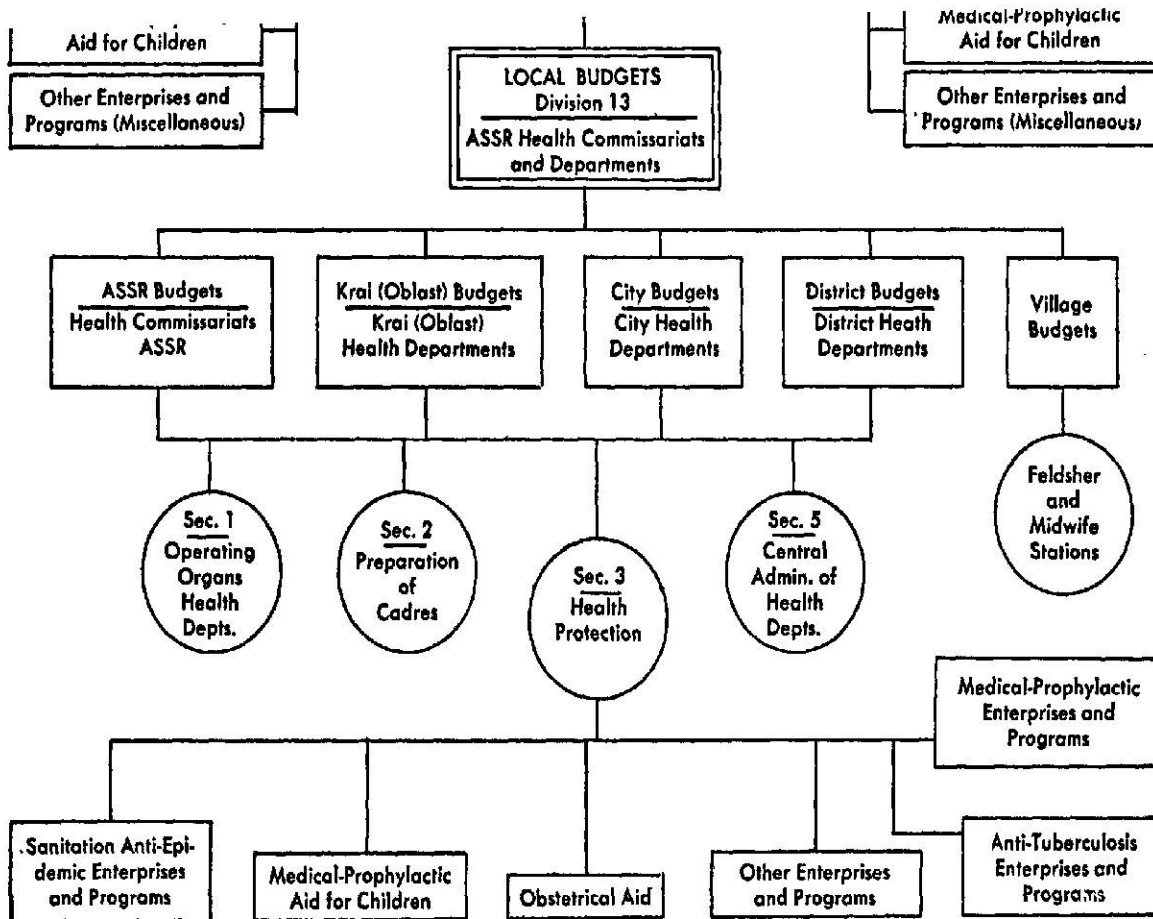
How is health work for the agricultural population financed?

In 1933 there were 10,510 *state farms* employing 2,176,200 agricultural workers. The state farms are operated by the state in much the same way as industrial enterprises. The workers are paid wages. Since they have the same status as industrial workers, they have all the benefits of social insurance and their health services follow the pattern of those of industrial workers.

¹¹³ In *Izvestia*, a locomotive engineer draws attention to the fact that wages have increased considerably in recent years. As a result, a worker with a record of 30-40 years of work, pensioned some years ago, receives a smaller pension than a worker with a much shorter record pensioned today. The rapid development of the country constantly brings up such problems, which call for special adjustments.

CHART V. STRUCTURE OF STATE HEALTH BUDGET USSR





The great majority of the peasants, however, work on *collective farms* (*kolkhozi*) of which there are various types, the most common being the so-called *artel*.¹¹⁴ Under this form of organization all basic means of production, land, livestock, implements, farm buildings are socialized, are the common socialist property of the group of peasant households that constitute the collective farm. In 1939, 93 per cent of the peasant farms (more than 18,000,000) were united in 250,000 collective farms cultivating 99 per cent of the farm area.¹¹⁵

The collective farmers operate their farm in common and the products raised through collective labor are sold to state organizations.¹¹⁶ The money earned in this way is distributed among the members after collective charges have been deducted, each member receiving an amount corresponding to his contribution to the common work. Part of the money earned, however—not less than 10 and not more than 20 per cent—constitutes each farm's so-called "indivisible funds" intended for such purposes as increasing and improving capital equipment, for purchasing machines, repaying credits. A portion of these funds may be used for the building of nurseries and dispensaries, and for health work at large. A good many prosperous farms have so used these funds.

In a period of construction, however, when so much new equipment has to be purchased and so much rebuilding has to be done, the earnings of the collective farms cannot possibly be large enough to finance all the health work required for the protection of their members. Since 1931, voluntary mutual aid funds have been created by many collective farms; in 1935 there were at least 48,000 such funds with 14 million members. These funds contribute to the costs of medical service, but again it is obvious that they could not possibly carry the whole burden. The state, therefore, has had to step in and assist. As a matter of fact, medical service is provided in the rural districts through a network of health stations financed primarily by the state from public funds.

In the Soviet Union, all health work is carried on and controlled by the Ministries (formerly Commissariats) of Health and their subor-

¹¹⁴ The other types are the *communes* in which all means of production and distribution are socialized; and the *peasant associations* for the joint tillage of land. The latter type is disappearing rapidly and is being replaced by *artels*.

¹¹⁵ *Kolkhoz (The Collective Farm)*, Moscow-Leningrad, 1939.

¹¹⁶ Part of the crop is distributed to the farmers, and sold by them on the market. For details see L. E. Hubbard, *The Economics of Soviet Agriculture*, London, 1939.

dinate organs. The funds of which they can dispose were derived until 1937 from four main sources: (1) social insurance funds; (2) funds provided by local budgets; (3) funds provided by state budgets; (4) funds provided by the Consolidated State Budget. Since 1937, social insurance funds have ceased to figure in the health budget, as already pointed out.

The national economy of the Soviet Union is planned, and so are the social and cultural measures to be carried out during the year. In order to secure a better control, the federal budget and the government budgets of the constituent or Union Republics are consolidated.¹¹⁷ In other words, all income and accumulations from state enterprises, as well as taxes and other sources of income, are entered in the state financial plan and are redistributed among the various branches of national economy and among the agencies controlling social and cultural measures (education, public health, physical culture, social welfare and labor protection).

Obviously, therefore, the budget of the Soviet Union has a much greater significance than the budget of a capitalist government. As a matter of fact, it cannot be separated from the USSR's entire economic and social program. The income side of the ledger is not merely an estimate of probable income but a program that has to be fulfilled. The expenditure column represents vast sums in new capital investments and broad programs for material and cultural betterment.

The structure of the state health budget of the USSR is graphically illustrated by the chart on pages 114 and 115. The amount of money available for the protection of health has increased steadily and the budget was (*in millions of rubles*):¹¹⁸

1928	660.8
1933	2,540.0
1935	4,700.0
1936	6,214.5
1937	7,528.1
1938	9,433.0
1940	9,663.0

¹¹⁷ See A. Birman, "The Soviet Finance System," *Information Bulletin*, Embassy of the USSR, Washington, February 14, 1946.

¹¹⁸ The figures are from Grinko, *The Financial Program of the USSR for 1936*, from Miterev, *loc. cit.*, p. 67; and the *Information Bulletin*, Embassy of the USSR, Washington, November 7, 1945.

Medicine and Health in the Soviet Union

1941	11,960.0
1945	14,500.0

In the RSFSR, by far the largest of the constituent republics, the growth of the health budget was the following (*in millions of rubles*):

1929-1930	312
1935	2,599
1939	5,470
1940	5,640
1941	6,100

In 1940 the expenditures for the protection of health amounted to 22.3 per cent of the total budget of the RSFSR. The major items in the health budget were: ¹¹⁹

Medico-prophylactic services	2,827 million rubles or 50.1 per cent
Public health services	1,893 " " " 33.6 " "
Other services, including training of personnel	920 " " " 16.3 " "

¹¹⁹ A. F. Tretyakov, *Okhrana narodnovo zdorovya v RSFSR (The Protection of the People's Health in the RSFSR)*, Ogiz, 1944.

CHAPTER THREE

Soviet Medicine in Action

Medicine is one organic whole and its interacting phases cannot possibly be separated from one another. By promoting health we also prevent illness; by curing patients suffering from contagious diseases we not only restore their individual health but also eliminate sources of infection and thus contribute to the prevention of disease.

This chapter has been divided into various sections for purely practical reasons, but the reader should keep in mind that the division is artificial.

I. PROMOTION OF HEALTH

Health Education, Physical Culture, Rest

Health cannot be taken for granted. To be maintained it must be cultivated. Heredity determines the material with which an individual is born, but the environment is responsible for the use made of it. A person born with handicaps may overcome them entirely and live to a ripe old age, while another person, born without any handicaps, may have his health ruined through unfavorable environmental conditions or an improper mode of life.

Education is all-important for the promotion of health—general education and health education. People must be instructed how to live, how to use their environment and to react to it in order to maintain their health.

The Ministry of Health of the USSR has a special Department of Health Education that leads a permanent campaign of health education throughout the nation and coordinates the efforts of other health

agencies. It is obvious that many other agencies are vitally interested in educational work. Without continuous education how would it be possible to fight tuberculosis, venereal diseases, cancer, to improve nutritional standards, to protect labor? Every institution that deals with such problems will, of course, study and develop methods of its own, but it is very good at the same time to have recourse to a central department in the federal Ministry that keeps informed of all local and specialized activities, that serves as a clearing house and is, at the same time, the guiding spirit in all health education activity.

The Central Institute of Health Education carries on the necessary research and works out the methods used. It prepares posters, lantern slides, films, radio talks, dramatic sketches and literature.¹

The organization of health education is best illustrated by Chart VI. The field is represented all along the administrative pyramid by departments, administrations and bureaus at the higher levels, by inspectors and stations at lower levels. The health authorities lead and control the educational work of medical centers, hospitals, sanatoria, and other medical institutions, as well as the health education programs of schools, trade unions and other organizations, particularly the Red Cross and Red Crescent, whose badge-holders are very important workers because they carry health instruction into the individual household in city and village.

Health education figures in virtually every phase of Soviet medicine; it is referred to again and again in this book. It is a program that has been unusually successful in the USSR. Whoever has done any work in the field knows how difficult it is to obtain results. It is relatively easy to get people to listen to your message but listening is generally far removed from applying what they have heard. Good results are obtained in the USSR not only because of the intensity and permanence of the campaign but also, and primarily, because health education there goes hand in hand with education in citizenship. Once the individual is aware of his responsibilities toward the community and is convinced that as a citizen of a socialist state he has not only a right but a duty to health, he is extremely receptive to health education and ready to carry out what he has learned.

¹ *Sanitarnoye prosveshcheniye. Sbornik po voprosam organizatsii soderzhaniya i metodiki sanitarnoprosveitelnoi raboty (Health education. Guidebook on the problems of organization, content and methods of health educational work)*. Central Institute of Health Education, Narkomzdrav, USSR, Moscow, 1939.

Physical culture plays an important part in the promotion of health.² It was practically unknown in tsarist Russia. A few sports were cultivated, but only by the upper class; the mass of people, the workers and peasants, had no physical culture whatsoever. This situation changed radically with the Revolution. As soon as conditions permitted, physical education was introduced in schools and working establishments as a matter of routine, and a tremendous propaganda campaign was conducted to arouse enthusiasm for athletic sports and games. Without regular physical training, it was recognized as impossible to develop a healthy generation prepared for efficient work and for the country's defense. Physical culture began to be considered a matter of national importance, an essential part of the program of social construction which was everywhere in progress. Needless to say, physical culture in the Soviet Union is free from commercialism. There is not one professional athlete in the whole country.

In 1923, the All-Union Council of Physical Culture was established as an organ of the Executive Committee of the USSR. It consisted of representatives of the Communist Party, the Young Communist League, the trade unions, and members of the Commissariats of Education, Health, and Defense. The function of the Council was and still is to coordinate all efforts designed to develop physical culture, to supervise and guide the actual work, to train teachers, and to promote research in the field. The budget controlled by the Council has been increased steadily. Tsarist Russia in 1916 spent only 80,000 rubles for the physical training of the people; the Consolidated State Budget of the USSR provided 76,800,000 rubles in 1936³ and 96,752,000 rubles in 1937.⁴ To these figures, representing only the contributions from the state budget, must be added local and individual contributions. As a matter of fact, more than half a billion rubles are spent annually to promote the physical training of the population.

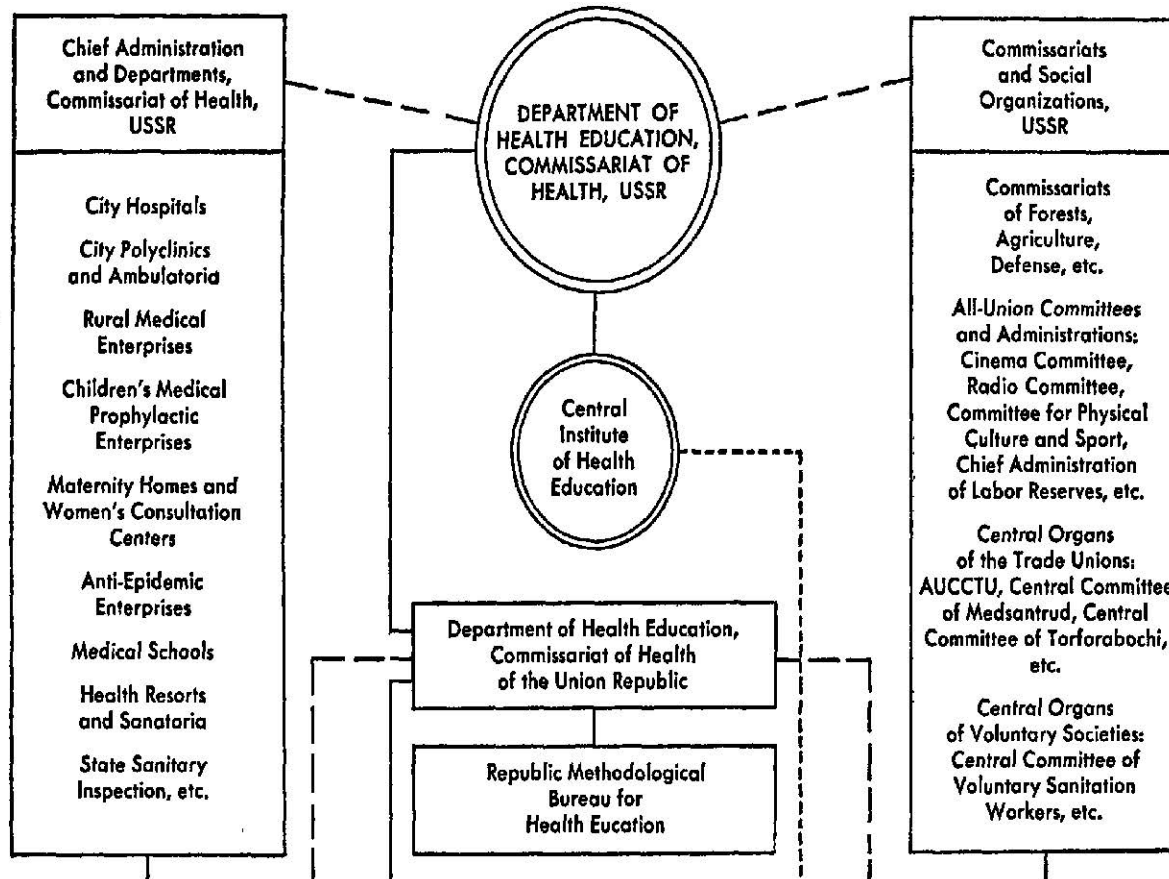
Anyone who wishes may take exercise in the parks, but when a person wishes to exercise more systematically, he joins one of the many voluntary sport societies. He usually finds one at his place of work. We have already mentioned the society *Medik*, the sport club of the Second Moscow Medical Institute. All the larger factories have similar

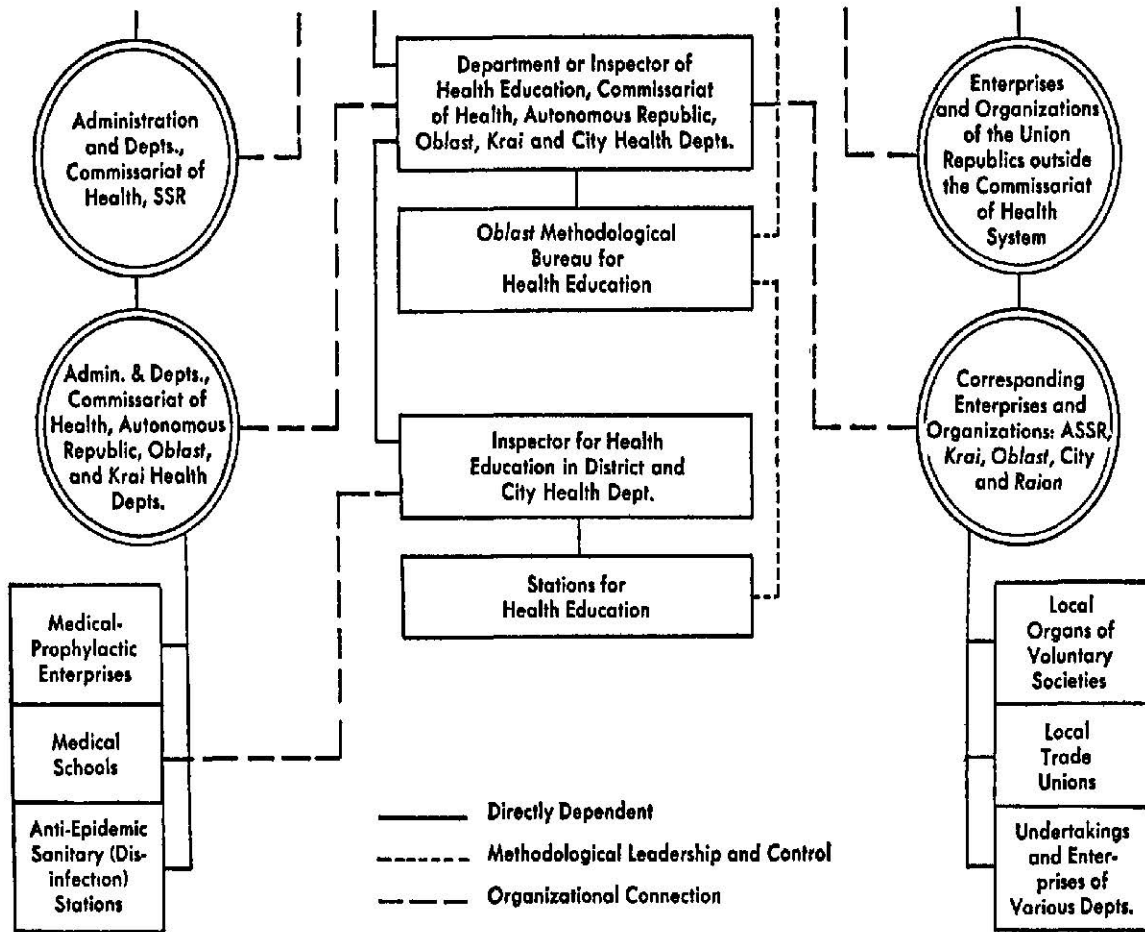
² See Percy M. Dawson, "Physical Culture in the Soviet Union." *American Review of Soviet Medicine*, 1943, 1: 49-61.

³ *Financial program of the U.S.S.R. for 1936*, Moscow, 1936, p. 67.

⁴ *Moscow News*, January 20, 1937.

CHART VI. ORGANIZATIONS AND ENTERPRISES CONDUCTING HEALTH EDUCATION IN THE USSR





societies. The trade unions have also organized a large number of such clubs, and they maintain tens of thousands of playgrounds, nautical stations, stadiums, and ski stations all over the country. A sport club for railroad workers, *Locomotive*, was established by L. M. Kaganovich when he was Commissar of Railways some years ago. The most famous of all these societies, the one that was the pioneer and is still the leader in the physical culture movement, is *Dynamo*. Its membership consists mostly of office workers. Dynamo has produced some of the best athletes and trainers in the country, and as early as 1924 it undertook the production assignment of supplying physical culturists with necessary equipment. Russia then had no industry to manufacture sporting goods; on Dynamo's initiative one was created which in 1936 was producing from 50 to 60 per cent of all the sporting equipment which the country required.

Before the war there were 86 sports clubs embracing 62,054 smaller groups. During the war two new ones were founded: *Smena* (The Shift) and *Trudovye Rezervi* (Labor Reserves). The first is for junior athletes of children's physical culture schools, of which there are about 150; the second includes hundreds of thousands of trade school pupils.

Anyone who wishes to join a sport club is given a complete medical examination and is regularly re-examined twice a year by specially trained physicians. The principle that all physical training should be done under strict medical control was generally accepted from the beginning.⁵ After having joined a club, the physical culturist can train in whatever sport he chooses or he can train in a more general way with a definite goal in mind, the G.T.O. diploma.⁶

G.T.O. is an abbreviation for *Gotov k Trudu i Oborone* which means *Ready for Labor and Defense*. The institution of the G.T.O. was created with the intention of developing an all-round individual with the following characteristics: agility, dexterity, strength, sturdiness, endurance, political consciousness, courage, tenacity, and initiative. In order to obtain the diploma and to be entitled to wear the G.T.O. badge, the physical culturist must pass twenty-one tests. These include such

⁵ B. Ivanovskii, *Vrachebnyi Kontrol nad fizkulturos* (*Medical control of physical culture*), Moscow, 1935.—I. A. Kryachko, *Fizkultura i zdravookhranenie* (*Physical Culture and the Protection of Health*), Moscow, 1935.

⁶ *Kak sdat normy na znachok "Gotov k Trudu i Oborone"* (*How to Meet the Requirements for the Badge "Ready for Labor and Defense"*), Moscow, 1935. *Information Bulletin*, Embassy of the USSR, Washington, August 14, 1945.

physical skills as running, jumping, swimming, skiing, bicycling, rowing, shooting, throwing of hand grenades, carrying of cartridge cases, marching in gas masks. The tests also require knowledge in first aid, political economy, and history of physical culture. The candidate, moreover, must be a particularly good worker whatever his occupation may be. The tests are differentiated according to age and sex. They were introduced in 1931, and by January 1, 1935, more than two and a half million people, men and women, had passed them. From 1934 to 1941, more than seven million men and women had obtained the badge.

In 1932 a G.T.O. diploma of the second degree was introduced. In order to obtain it, candidates must pass twenty-four very difficult tests including parachute jumping; by 1941, 94,000 physical culturists had done so. Most teachers of physical education are recruited from this group. The B.G.T.O.⁷ badge, of which there are two grades also, is granted to boys and girls above fifteen years of age who have passed the required number of tests.⁸ By 1941 more than two million youngsters had qualified.

In such ways, the Soviet Union has endeavored to develop a healthy and strong young generation. We must keep in mind that more than 43 per cent of the entire population was born after the Revolution, so that the socialist state is directly responsible for the physical condition of about half the population. In 1927, before the beginning of the First Five-Year Plan, two million persons were members of sport societies and therefore getting some systematic physical training. By January 1, 1936, the number had increased to at least 8,710,000, including 2,000,000 women; it had passed ten millions in 1937. This figure includes only persons who were active members of sports societies. However, it has been estimated that there were at that time at least 25,000,000 people who were taking part in some physical culture activities.

Significant as these figures are, the fact that the physical culture movement is spreading very rapidly all over the country is even more important. Sports have conquered the Russian village; stadiums are being built in increasing numbers. Thousands of collective farmers are holders of G.T.O. badges. In the Chernigov region, 1,409 collective farms have

⁷ B.G.T.O. means *Bud' Gotov k Trudu i Oborone* (Be Ready for Labor and Defense).

⁸ The tests are described in *Bud' Gotov k Trudu i Oborone* (Be Ready for Labor and Defense), Moscow, 1935.

their own sport fields. The most popular sports in this particular region are volley ball, with 833 teams, and Russian football (actually soccer), with 95 teams.⁹ Winter sports, skiing, skating, and tobogganing are also very popular in the villages. Games, so-called Spartakiads, between the teams of the various farms are held at frequent intervals. Cross-country races in the summer and ski runs in winter usually engage four to five million people.

The physical culture movement has spread among the national minorities. The Uzbek Spartakiad was opened in Tashkent on September 12, 1936, by a parade of 30,000 Uzbek physical culturists.¹⁰ Women who only yesterday were veiled and spending their lives in harems are playing tennis today. One of my friends who visited Buryat-Mongolia told me that the greatest miracle he had ever experienced was to see lamas indulging in sports. Under the old regime, they would have lived cloistered in monasteries, turning prayer mills.

Physical culture has an important place in the curriculum of every school¹¹ and it is included in the program of the youth organizations, all of which recognize health to be a civic duty. The university students of various schools meet in regular contests but their games are very different from what we are accustomed to see in America and England. Thousands of students come together for several days and compete in the various forms of athletics and sports. That school wins which has the best all-round results. It is obvious that the army is the high school of physical training. I happened to see an army Spartakiad in Tiflis, and was very much impressed by the excellent standards displayed.

Corrective physical culture is applied more and more frequently in the factories in order to counteract the evil effect of certain occupations, and to increase the productivity of labor. In many factories the day's work begins with physical exercises, and gymnastic periods of from three to five minutes are held during working hours. Physical exercise has become part of the process of production.¹²

The demand for teachers of physical culture is tremendous. Training schools of university standard were established in Moscow, Leningrad, Kharkov, Kiev, Tiflis and Baku. In 1936, they were preparing about

⁹ *Pravda*, Nov. 13, 1936.

¹⁰ *Pravda*, Sept. 13, 1936.

¹¹ N. I. Petrov, *Fizicheskaya kultura v shkole (Physical culture in the school)*, Moscow, 1936.

¹² *Gimnastika na predpriyatnyakh i proizvoditelnost' truda (Gymnastics in the enterprises and the productivity of labor)*, Moscow, 1936.

6,000 students annually in four-year courses. There are also twenty technicums which train about 4,000 teachers of medium qualification every year, and twenty-three physical culture departments in normal schools with some 3,000 students. New schools were also to have been erected in Tashkent, Novosibirsk, Sverdlovsk, and Rostov. Special courses of several months' duration are held in the villages to train 10,000 physical culture instructors for the rural districts. All physical culture schools have medical departments where physicians receive special training for service as sports physicians.

Of all the great experiences I have had while traveling in the Soviet Union, by far the greatest was that of seeing the physical culture parades in Moscow in 1935 and 1936. One hundred and twenty thousand men and women, workers of Moscow and its suburbs, marched for six hours on Red Square, parading before Stalin and the members of the government. All of them were young people in fine physical condition, dressed in bright colors, and carrying flags and flowers. When you see such a sight and remember that under the old regime these same men and women would have been brought up in slums, in an atmosphere of filth, alcohol, and disease, then you begin to realize what the Revolution has done for them.

The physical culture movement, obviously, contributed greatly to the stamina and fitness of the young people of the USSR when these qualities had to be put to the test of World War II. There is every indication that, as Soviet citizens are restored to schedules which allow the leisure of physical activity at play to replace the strain of the war effort, sports will once again flourish as they did in the middle-thirties. The leading athletes, no doubt, will become better known abroad through participation in international competition. A recent development of interest is the creation of a Scientific Medical Council of Physical Culture, formed jointly by the Health Commissariats of the USSR and the RSFSR.¹³

Work is balanced by rest. Labor power spent in the process of production has to be recreated. This sounds too obvious to mention; yet, during the nineteenth and early twentieth centuries very little was done, either in Europe or America, to allow the working population to rest and to recreate its energy rationally. The trade unions and labor parties, of course, provided some facilities for the leisure time of their members.

¹³ *Information Bulletin*, Embassy of the USSR, Washington, January 8, 1945.

Athletic clubs, choral and dramatic societies, workers' libraries, evening classes were organized. Because of their long working hours, however, most workers were too exhausted to take full advantage of these facilities, inadequate as they were. Many workers sought oblivion in cheap entertainment and, not infrequently, in drink.

Russia was the first country to organize rest and recreation in a rational way and on a large scale.¹⁴ In doing so, it set an example to the world that other countries were compelled to follow. Italy created the *Dopolavoro* and Germany, *Kraft durch Freude*. Both organizations, which rank among the few praiseworthy aspects of fascist activity, were patterned after Russian sport societies.

Until war threatened, the Soviet worker had the shortest working day and therefore the greatest amount of leisure. Limiting hours of labor is important but it obviously is not all that should be done. Provision must be made to enable the worker to use his free time in such a way that it will benefit his physical and mental health, allow him to develop in culture and lead an enjoyable life.

Every factory, every place of work has its *Red Corner*. It is so-called because the red flag of the Soviet Union always hangs there. Busts of Lenin and Stalin adorn the place. Portraits of philosophers and political leaders hang on the walls. A library, radio, phonograph, chess boards, and other games are invariably found. The Red Corner is the social center to which workers retire in recess periods and where they meet to discuss their problems. It is the seat of the factory club.

In the capitalist world, the factory is the property of the employer, personal or corporate. A worker enters it to earn his daily bread, but he is eager to leave it as soon as he possibly can. In the Soviet Union, where the means of production have become the property of the people, the attitude toward the factory has changed. Life centers around it, and it has become infinitely more than a place where one works. It is a little world in itself where an individual in his free time can study, relax, and enjoy himself.

This attachment to and pride in the factory is revealed whenever you interview workers, as I have done numerous times. I remember the foreman of a metallurgical plant in Moscow whom I visited in his home in 1935. He and his wife were earning together about 800 rubles

¹⁴ See G. M. Danishevski, *Problemy massovo otdykh v S.S.S.R. (Problems of Mass Recreation in the U.S.S.R.)*, Moscow, 1934.—N. A. Semashko, *The Right to Rest and Leisure*, Moscow, 1937.

a month. He worked seven hours in the factory and studied two hours every second day in its school to raise his qualifications. His ambition was to become an engineer some day. Noticing that he lived in rather crowded conditions in two small rooms with his wife, child, and mother, I asked him if he would not like to have a third room in which he could study in the evening without being disturbed. His immediate reply was that the factory club provided ample room for study, and that it was infinitely more convenient to work in the club, where a large library was available and where his comrades could be consulted, than to study at home. He was very active in the dramatic section of the club and had acted in a play shortly before I visited him. He had his own motorboat on the Moscow River, and he showed me the shotgun with which he went hunting on rest days. At the time I visited him, he was just getting ready to leave for the Crimea with his wife and child for a month's vacation at the expense of the factory. This case is by no means unusual. From my own experience I could give many such examples illustrating how Soviet workers spend their leisure time.

While every working establishment, small as it may be, has its Red Corner, larger enterprises have their own clubs built with money earned by the factory. The club of the Kirov Factory, the former Putilov Works, in Leningrad, is a large modern building with beautiful bas-reliefs illustrating the history of the Revolution. It has rooms for dining, rest, study, and games, a dance hall, library, cinema, and a theater with 2,000 seats in which the best companies of the Union perform. The Oil Workers Club in Baku has, in addition to such facilities, an exceedingly interesting museum which depicts the geology, technology and production of oil throughout the world. The clubs are recreational as well as educational centers.

Workers' clubs are organized by trade unions and are exceedingly active. They arrange excursions to the country, visits to museums and dramatic performances. They form literary circles in which workers can develop their literary abilities, and scientific groups where problems of science are discussed and experiments are carried out. There is hardly any activity that is not cultivated extensively in these clubs, right on the factory premises. The trade unions, in addition, have clubs outside their plants, among them yacht, rowing, and football clubs, where the workers of various plants meet.

Special mention should be made of the House of the Scholars (*Dom Uchenykh*) in Moscow, the scientific workers' club. It compares very

favorably with the best university clubs in any Western city as far as equipment and building are concerned, but it is infinitely more active. Art exhibits are constantly being held; lectures and concerts are given nearly every evening. The library is excellent and the visitor to the club can find whatever he seeks, whether stimulation or relaxation. The Moscow scientists, moreover, have a beautiful clubhouse located in the midst of an old park in the countryside at Bolshevo. There they can retire for a rest in congenial surroundings for a day, or a week-end, or a few weeks, alone or with their families.

Clubs are found in the rural districts as well as in the cities. Every state or collective farm has one. Music and local dances, of which the Soviet Union has such a vast store, are very popular. The conquest of illiteracy created a tremendous demand for books; libraries sprang up all over the country like mushrooms. Agricultural work is largely seasonal, of course, and the peasant has much leisure during the long winter. It is, therefore, extremely important to plan for this period in such a way that he may not only recover physically from the strain of summer work but may also have a chance to develop culturally. The changes that have been effected in a few years are stupendous. The old-time *muzhik* is disappearing rapidly, replaced by the *kolkhoznik* (collective-farmer), an active citizen and patriot who is taking an increasing part in the intellectual life of the nation. Clubs have played a large part in this development. They are doing for adults what the school is doing for children.

The Soviet worker also has opportunities for rest and recreation outside his place of work. There are one-day rest homes and there are parks. All cities take pride in having good *Parks of Culture and Rest*, the prototype of which is the park named for Maxim Gorky in Moscow. Soviet parks are not merely the lungs of the cities but, as their name implies, they are centers of recreation and civilized entertainment.

The Maxim Gorky Park in Moscow,¹⁵ beautifully situated along the Moscow River and covering an area of about 750 acres, has playgrounds for all sports where every evening one sees thousands of young people in training. Most popular is the parachute-tower. Parachute jumping was a mass diversion in the Soviet Union in the middle thirties, and it was embarrassing to me to have to confess repeatedly that I had neither jumped from an airplane nor had I ever felt the desire to do so. Dancing and singing are very popular in the park. Young physical culture

¹⁵ Betty Glau, *Le parc de culture et de repos*, Moscow-Leningrad, 1934.

and music students lead the groups in such dancing and singing. All kinds of amusements are provided, but the atmosphere is totally unlike that of Coney Island or other Western amusement parks. You will not find the blinding floods of light, nor hear the deafening noises and the shrieking laughter customary in such places. The senses are not lashed by violent means. The light is soft neon light, the crowds move gently. American visitors often report that the Russians cannot possibly be happy because they do not laugh. They do laugh and very heartily, but it is not that raucous laughter that so often scarcely conceals tears. The Slavs and Anglo-Saxons have very different temperaments. The Russian folk-songs, as a rule, are in minor key. Besides, there is no alcoholic hilarity in these parks.

A large section of the Maxim Gorky Park provides cultural and educational facilities. Reading rooms are scattered throughout the grounds, and in 1936 they were distributing 2,000 volumes daily. On the shore of the lake is a pavilion with newspapers and magazines, which may be read in comfortable lounge chairs. Lectures and exhibits are scheduled daily. Chess players meet their partners in a special pavilion. Several theaters and cinemas give performances every night. The Green Theater, an open-air theater, attracts large numbers of people. I saw Dzerzhinski's opera *Tikhii Don (And Quiet Flows the Don)* performed there by a cast of 1,000 for an audience of 20,000. In ten days, 200,000 Muscovites had enjoyed the opera.

Concerts are given regularly in all the parks. I cannot hear the stirring bars of Tschaikovsky's *Fourth Symphony* without recalling the deep shadows of the park in Kharkov, and the crowd of men and women, all dressed in white, listening enraptured to the wild outpouring of the music. And the *Unfinished Symphony* will always remind me of a hot summer night in Sochi, on the Black Sea, when Schubert's melodies intermingled with the music of the waves. Those were great evenings, and I shared them with thousands of Soviet workers.

A special feature of the Maxim Gorky Park is its Children's Village; there children find not only playgrounds but also technical, chemical, and photographic laboratories and art studios, which combine study and play harmoniously. A great deal is done in the Soviet Union for the rest and recreation of children. This will be discussed in detail in subsequent pages.

An average of 120,000 people visited the Gorky Park daily in 1936; on free days, corresponding to our Sundays, there were as many as 250,000.

And yet the park is so large, so widely extended that whoever seeks complete rest and solitude will find it. Festivals are held in the park. Students of the Moscow schools meet there at the end of the academic year. Workers of a factory may celebrate the fulfillment of their plan of production in the park. Carnival festivals are held, with fireworks, music, and masks.

Moscow, however, has more than one park. Each of them has a character of its own, as have the parks in the other cities. In the south, they are conspicuous for their luxuriant vegetation. In small towns, the park may be very modest, but I have spent many pleasant evenings in such small parks. The music consisted only of a brass band, a few accordion or balalaika players but the spirit was the same everywhere. And what impressed the foreign visitor most was the feeling of security expressed on all the faces. These people were adjusted to their environments. After a day's work they rested and relaxed. They were not worried about their jobs. There is no doubt that these Parks of Culture and Rest are institutions of great hygienic significance.

So far we have discussed only those facilities for rest and recreation that Soviet society provides for the population while it is at work. We have mentioned before that every Soviet worker is entitled to vacations of at least two weeks with full wages. It is not only very important to have vacations guaranteed to everybody, but it is equally important to have provisions made so that these can be spent in such a way that they will give the maximum benefit. Where do the Soviet workers go for their vacations? Many go to *rest homes*.

The institution of the worker's rest home was founded in 1920 upon Lenin's initiative. To begin with, palaces and homes of members of the bourgeoisie in town and country were taken over by the government and turned into rest homes. New buildings have since been erected all over the country. As a rule, these rest homes are operated by the trade unions and are financed from social insurance funds. The total number of beds available in rest homes operated by the All-Union Central Council of Trade Unions has increased steadily:¹⁶

¹⁶ The figures from: A. Roubakine, *La protection de la santé publique dans l'U.R.S.S.*, Paris, 1933, p. 57, and State Planning Commission of the U.S.S.R., *The Second Five-Year Plan*, Moscow, 1936, p. 651.

1926	36,000
1929	46,200
1932	72,000
1937	113,000

In 1941 the country had 1,200 rest homes and more than 250 one-day rest homes. More than half of the former type were operated by the trade unions, the others by the Health Commissariats, industrial enterprises and other organizations. They were wrecked by the hundreds during World War II, and are now in process of restoration. If the Fourth Five-Year Plan is completely fulfilled, there will be a total of 200,000 accommodations in rest homes in 1950.

Rest home facilities are as yet far too limited to take care of all those who would like to make use of them. In 1932, 4 per cent of all insured workers, in 1937, 7.5 per cent, were guests at rest homes. The physicians and local trade union committees select those persons who, although not ill, are considered to be most in need of rest under medical supervision.

I once asked a physician who was in charge of this special work whether Party members received preferential treatment. His answer was that the percentage of Party members sent to rest homes was perhaps somewhat larger than that of non-Party members for the reason that Party members do a great deal of extra work and therefore need rest more urgently. The total number of workers spending their vacations in rest homes of the All-Union Central Council of Trade Unions is illustrated by the following figures: ¹⁷

1928	437,200
1932	914,000
1933	973,900
1937	2,034,000
1940	2,737,874

As an example of the utilization of rest homes by a particular industry, an article appearing in *Pravda* ¹⁸ may be cited. It reported that 100,000 Donbas coal miners had special provisions made in 1936 for their vacations. Seventy-three thousand went to rest homes: 11,400 were sent to

¹⁷ From: *The U.S.S.R. in Figures*, Moscow, 1935, p. 274, and *The Second Five-Year Plan*, Moscow, 1936, p. 651.

¹⁸ Sept. 19, 1936.

sanatoria in Sochi, Alupka, Yalta and elsewhere. A large number of the remaining miners spent their vacations on long-distance excursions.

Rest homes should not be confused with sanatoria (which will be discussed subsequently). The former do not admit sick individuals although their guests are under medical supervision.

Of the many rest homes I have visited in various regions, I shall describe only one, the Kalinin Rest Home in Tarasovka, near Moscow, where I spent a very pleasant day in 1936. The place is large, accommodating about 1,800 adults and 200 children. They live two to four to the room in cottages and bungalows that are situated in a strip of woodland about six miles in diameter. Meals are served adult guests in three dining pavilions, which have entirely mechanized kitchens. The children of these workers have their own cottages, their own kitchen and their own attendants. Thus, the mothers are able to see their children at any time but are free from the responsibility and worry of caring for them.

The principle applied in this rest home, as elsewhere, is that of active rest or a combination of relaxation and stimulation. The guests sleep under good hygienic conditions; food is ample and supervised by physicians. There are playgrounds for various sports, and trainers are available to advise the workers. The rest home has a club house, a library, and a concert hall. When I arrived, a famous singer from the Bolshoi Opera Theater in Moscow was giving a recital. Most of her audience of more than 1,000 were women, textile workers from Moscow factories. The event of the day, however, was the visit of six girl parachutists who had just set a world record by jumping from 7,035 meters without oxygen apparatus. We had dinner together and in the afternoon a meeting was held in the open air at which the girls gave most eloquent reports of their experiences in aviation. One of them, the charming Nata Babushkina, was killed a year later during a jump.

The director of this home, a physician, was assisted in his work by eleven other physicians and a staff of about 200. If the number of physicians seems large, it should be remembered that the children's section has close medical supervision, as do nurseries everywhere. The guests of the rest home, although not sick, also needed medical examination occasionally and some general treatment. There were facilities for massage, hydro-therapy, and photo-therapy. It is very wise to utilize the vacation period for remedying minor ailments and for increasing resistance to disease.

Another very popular method of spending vacations is by touring the country. An increasing number of workers, mostly younger people, go on extensive excursions every year. Few Soviet citizens travel abroad except on official assignments, but their own vast land offers them innumerable opportunities for fascinating excursions. During the summer months, millions of people are on the road. Tourism is strongly encouraged and great organizations have been developed to facilitate traveling. The most important is the Society for Proletarian Tours and Excursions, or the OPTE as it is usually called in its abbreviated form. The Society has local branches in the larger factories and offices, and many a worker joins the branch and plans his trip during the winter months, thus anticipating the pleasures in store for him. OPTE not only gives information about tours and sells tourist equipment but it has erected a whole network of tourist stations all over the country. Mount Elbrus, Russia's highest mountain (18,470 feet), has become so easily accessible, thanks to the Alpine cabins that have been built along the way, that many hundreds of persons climb the mountain every summer. On September 6 and 12, 1936, no fewer than 404 people were reported to have reached its top.¹⁹

All tourists intending to go on mountain tours must pass a medical examination. The health authorities cooperate very closely with the tourist organizations. They examine excursionists, inspect tourist stations, and help in the standardization of sports outfits.

Touring the country is not only a recreational but an educational activity as well; many vacation tours are arranged with such a purpose in mind. Farmers organize a travel group and go to a far distant region where they study agricultural conditions and methods. Factory workers travel to see other factories. Engineers and geologists often spend their vacations touring regions rich in mineral deposits in which they are interested. Many important discoveries have been made in the course of such excursions.

Food

In the socialist state, the supplying of food is a public service. The state feels responsible for producing and distributing food to individuals according to their need. Many government agencies cooperate to provide the entire population with a rational diet based upon the findings of physiology and hygiene. Since correct nutrition is an essen-

¹⁹ *Izvestia*, Sept. 14, 1936.

tial factor of health, it is obvious that the health authorities have an important part to play in the solution of the food problem.

This has always been a very serious problem in Russia. In the Western world, thanks to international trade and improved methods of transportation, famines have practically disappeared. (We are not ignoring, of course, the present catastrophic conditions which prevail in large areas of the world, but these are almost entirely due to the extraordinary dislocations and destruction of World War II.) Under normal conditions in the Western world, if people starve it is not because food is unavailable but because they do not have the means to purchase it. In Russia, on the other hand, food supply was for centuries a chronic worry. Major famines occurred about every ten years and serious crop failure about once in five years. In the nineteenth century alone, famines occurred in the years 1822, 1833, 1840, 1873, 1880, 1883, 1891-1892 and 1898-1899.²⁰

The food problem was, in fact, one of the most serious that the Russian Revolution had to face. Addressing the All-Russian Conference of the Communist Party in December 1919, Lenin said:

"The food problem forms the basis of all problems . . . and as soon as the military situation improves ever so slightly, we must devote as much energy as possible to food work, because this is the basis of everything. . . . And only when we have accomplished this task, and have a socialist foundation, shall we be able to build on this socialist foundation that luxurious edifice of socialism which we several times began to build from the top and which several times collapsed."²¹

Although the fundamental importance of the problem was clearly recognized, many years elapsed and the country experienced severe trials before the food situation could be markedly improved. The disturbances created by civil war, foreign intervention and boycott resulted in the terrible famine of 1920-1922, which cost the country many millions of human lives and inflicted a vast amount of suffering. As they still do in China, the people deserted the famine-ridden districts and migrated elsewhere to seek food, spreading epidemics as they went.

After this famine had been overcome, the period of reconstruction began, the New Economic Policy was introduced, and the food situation improved. However, it became clear that the problem of supplying the

²⁰ W. Horsley Gantt, *History of Russian Medicine*, New York, 1937.

²¹ "The All-Russian Conference of the Russian Communist Party," *Collected Works*, Vol. XXIV (Russian edition).

Russian population with a sufficient amount of food could not be entirely solved as long as the country remained an agriculturally backward land that was always at the mercy of the weather. In order to increase production, the government realized that it was necessary to modernize and mechanize agricultural processes, and to replace small-scale by large-scale farming. The collectivization and mechanization of agriculture became, therefore, one of the most important goals under the First Five-Year Plan.

Yet, when that plan was completed in 1932, the food situation of the Soviet Union had not improved but was infinitely worse than in 1928; the country was again menaced by famine. What had happened? The collectivization of the land had been accomplished, but too hurriedly and against the tremendous opposition of the peasants, notably the kulaks or well-to-do peasants, who openly sabotaged the program, preferring to feed their grain to the animals and to slaughter the cattle rather than to deliver them to the collectives. A regular war had to be fought with these peasants, which upset the economic balance and led to a severe food shortage in the winter of 1932-1933. Party and government were well aware of the seriousness of the situation and also of the mistakes that had been made.

After the terrific effort of the First Five-Year Plan, the country again faced a great emergency. All its resources had to be mobilized to remedy the situation. Party members were sent out over the entire countryside. They employed every known medium of propaganda to educate the peasant and convince him of the superiority of the new agricultural system. Industrial workers left their factories to work on farms, thus setting an example and teaching farm people the benefits of working together.²²

The result? The record grain crop of 1933, the largest Russia had ever had. The agricultural revolution had succeeded; the battle for food was being won. Stalin and the Party were proved correct, not Trotsky, who had opposed the collectivization of agriculture. A major operation had been performed, and like all other operations it had cost blood. After the operation, however, the organism was stronger than it had ever been. With the food situation improving steadily after 1933, it was possible to abandon the rationing system at the end of 1934. The improvement in food standards was very rapid in the next few years.

²² The events are very well described by M. Sholokhov in *The Soil Is Turned*, Moscow-Leningrad, 1934. This novel is available in an English translation.

An illustration is provided by the comparison of the food budgets of urban factory and office workers in 1932 and 1936:²³

Per Capita Consumption of Important Foodstuffs

COMMODITIES	1932	1936
Bread	100	128
Potatoes	100	107
Fruits and berries	100	195
Meats and fats	100	188
Dairy products	100	192
Sugar	100	143

The Nazi invasion and years of grimly destructive occupation and war²⁴ have, as we all know, brought disastrous food shortages and serious problems of restoring agriculture and the foodstuffs industry before their planned expansion can be resumed. Had it not been for these destructive events, however, it can be said without exaggeration that Russia's age-old problem of assuring to its citizens an ever adequate food supply would have been completely solved several years ago, for the first time in Russian history. The pre-war growth in gross agricultural output, and its planned expansion during the new (Fourth) Five-Year Plan, have been expressed in these terms:

²³ *Monthly Review*, USSR Trade Delegation, United Kingdom, London, November, 1937.

²⁴ *The Soviet Union Today*, American Russian Institute, New York, 1945 (second edition) estimates that half of the USSR's normal acreage was overrun in the Nazi advance to Stalingrad and Mozdok in the Caucasus during the summer of 1942. According to the *Information Bulletin*, Embassy of the USSR, Washington (October 11, 1945), agricultural losses in the invasion were officially placed at 98,000 collective farms, 1,876 state farms and 2,890 machine and tractor stations ruined and ransacked; 7 million horses, 17 million head of cattle, 20 million hogs, 27 million sheep and goats, 110 million poultry slaughtered, confiscated or driven off to Germany. Half a million Leningrad residents are unofficially estimated to have died of starvation during the siege; throughout the country during the war, domestic and foreign food resources could not provide a civilian diet greater than from 800 to 1,000 calories daily for dependents over twelve years of age to about 2,000 calories for those performing heavy work. According to the UNRRA Mission stations in the Ukraine in 1946, per capita consumption of meats and fish dropped from 88 pounds in 1940 to 30 pounds in 1945, and there was a corresponding drop of fats and oils from 28 to 12 pounds. Ashes and clay were used as soap when the theoretical soap ration of 300 grams monthly could not be met.

1932	100
1937	153
1940	177
1950 (plan)	225 ²⁵

Once the wartime shortages are checked with the restoration of farmlands and food-processing enterprises which were destroyed during the occupation, especially in the Ukraine, the food-supply program will again change in character, as it did in the mid-thirties, from the prevention of underfeeding to assuring the availability of foods meeting the best dietary standards.

Since bread is one of the Russians' most important foodstuffs, the grain crop is particularly significant. The following table indicates what it was in 1913, and also gives a picture of its growth and that of all crops between 1929 and 1940:²⁶

	GRAIN PRODUCED (in millions of metric tons)	SOWN AREA (in million hectares: grain)	ALL CROPS
1913	80.1	94.4	105.0
1929	71.7	96.0	118.0
1930	83.5	101.8	127.2
1931	69.4	104.4	136.3
1932	69.8	99.7	134.4
1933	89.8	101.6	129.7
1934	89.4	104.7	131.4
1935	90.1	103.4	132.8
1936	89.7	102.3	135.3
1938	—	102.5	—
1940	118.1 (app.)	110.9	—

It will be noted that the grain crop in 1936, a bad year, was nearly as large as that of 1935, which was exceptionally good. Obviously, this was the result of improved methods of production. Before World War I,

²⁵ Nikolai A. Voznessensky, *Report on the Fourth Five-Year Plan*, Soviet Embassy, Washington, April 1946.

²⁶ Joseph Barnes, "Soviet Agriculture—1936," *Research Bulletin on the Soviet Union*, Vol. 1, No. 10, October, 1936. Figures later than 1936 are from Nikolai Voznessensky, *loc. cit.*, and from the International Reference Service, U.S. Department of Commerce, Washington, Vol. 3, No. 3, January, 1946.

Russia exported ten million tons of grain annually. Only a million and a half tons were exported in 1935, so that much more grain was available for the population. Moreover, a grain reserve estimated at a full year's supply was set aside that year to serve in case of emergency through war or crop failure.

Another illustration of the increase in the grain crop effected by the constant improvement in farming methods is provided by the fact that the grain crop was by 1941 nearly 50 per cent greater than in 1913 although the corresponding increase in acreage was under 18 per cent. The pre-war annual Soviet grain supply, according to experts of the U.S. Department of Agriculture, was more than 500 pounds per person. The gross grain harvest of 127 million tons which is called for in 1950,²⁷ the last year of the Fourth Five-Year Plan, represents an increase of about 7 per cent above the 1940 level.

As agriculture was being improved, a large-scale food industry was developing. Tsarist Russia had no food industry of any consequence. Only sugar, vodka and tobacco production were encouraged by the tsars because these were subject to excise taxes which provided large revenues for the treasury. Most baking and other food processing was done at home; housewives were considered cheap labor. The Revolution changed this situation. An ever increasing number of women joined the country's production forces, and they had to be relieved of such primitive and uneconomical tasks as baking bread at home.

Huge amounts of capital were invested in new plants as the food industry developed during the decade of the thirties from a small number of minor establishments to a variety of large and modernly equipped plants. From a total of 2 billion rubles invested in new plants during the First Five-Year Plan, the amounts progressively increased: for example, 2.8 billion rubles for 1933, 1934, and 1935, 1.1 billion rubles for 1936 alone.²⁸ And now additional vast sums are being expended for the rebuilding of an estimated 5,500 of these plants which were completely or partially destroyed during the war.

The development of the food industry began with the mechanization of bakeries. Each worker in one of these plants can produce 5,000 pounds

²⁷ Nikolai A. Voznessensky, *loc. cit.*

²⁸ These and the following figures unless special reference is given are from: A. I. Mikoyan, *The Soviet Food Industry*, Moscow, 1936. It is the official report of the Commissar of the Food Industry to the Central Executive Committee of the USSR.

of bread per day, compared with the 500 to 550 pounds produced daily by the hand baker. In January, 1936, the Commissariat of the Food Industry controlled 178 mechanized bakeries, and there were others operated as local enterprises. Of all bread then being consumed in the Union, 78 per cent was being produced mechanically, and in great variety. In Leningrad and Moscow, by 1936, one hundred and fifty different kinds of bakery products were available, among them five kinds of rye bread, ten kinds of white, more than thirty kinds of buns and sweet rolls, dozens of varieties of pretzels and other fancy products. This sounds obvious to American ears, but to the Russians it was a revolution in itself.

The mechanization of baking cut the price of bread in half and improved its quality. The entire process is under strict medical supervision. Laboratories are attached to all bakeries, or bread factories as they are called, for the continuous testing of both the ingredients and the finished products. Pure food and drug acts are not necessary in a country where food and drugs are produced and distributed by the state under the control of the health authorities.

I visited a number of bakeries in various parts of the Union, and found the hygienic conditions excellent. No worker can enter the bakery until he takes a shower. The procedure is the same everywhere: Upon entering a worker first undresses and leaves his clothes in a locker. In a second room he finds hot water pouring down in showers. In the third room, he dons a uniform provided by the plant, and in the fourth room he is attended to by a barber and a manicurist. Then he begins his work. On leaving the bakery in the evening, he goes through the same set of rooms in reverse order.

From about 1936 on, with the exception of the most difficult period of the war, the population has had an abundance of bread. And after rationing was re-instituted during the war emergency, the generous bread allowance was maintained in those trying days when the theoretical rations of meat, fats and sugar were not regularly obtainable. Late 1947 or 1948 was expected to see the end of the rationing of bread, flour and cereal products.

Less satisfactory is the meat situation. A considerable loss of livestock was part of the heavy price paid for the collectivization of agriculture. Obviously, considerable time was required to rebuild the herds. The tempo at which this was done may be judged from the fact that the number of cattle had almost reached the 1916 level by the end of

1936, and the number of pigs more than doubled between 1932 and 1937. But the number (*in millions*) of sheep and goats continued low:²⁹

	CATTLE	SHEEP AND GOATS	PIGS
1916	58.9	121.2	20.9
1929	67.1	147.0	20.4
1930	52.5	108.8	13.6
1931	47.9	77.7	14.4
1932	40.7	52.1	11.6
1933	38.4	50.2	12.1
1934	42.4	51.9	17.4
1935	49.3	61.1	22.6
1936	53.9	62.1	30.5
1938	63.2	102.5	30.6

Nevertheless, meat consumption increased considerably until the war. Forty new meat-packing plants were built during the first two five-year plans. In addition to fresh products, the industry was turning out 111 kinds of sausages in 1936 compared with 17 kinds in 1933. The steady growth in consumption of meat and fish represented a marked improvement in the Russian diet. However, the tremendous slaughter of livestock and poultry during the war³⁰ has resulted in a critical shortage of meats and animal fats which will require years of breeding to counteract. The goal is a 1950 output of meat products 10 per cent above that of 1940.

In 1936, I spent a whole day in the Moscow "Meat Combinat," a state meat-packing plant. Erection of its group of buildings began in 1932, and it was equipped with the most modern types of machinery. The plant employs ten thousand workers, half of them women. A total of 1,250 head of big cattle, 3,500 pigs and 1,500 sheep are slaughtered daily; half of the daily production of 500 tons of meat is made into sausages. After the cattle are stunned electrically and bled, all work is done on conveyors under the best hygienic conditions. As it moves on the conveyor, the carcass is washed constantly; 2,000 litres of water are used for each animal killed. Forty-three veterinarians, stationed throughout the factory, supervise the entire production process and inspect the

²⁹ Joseph Barnes and International Reference Service, *loc. cit.*

³⁰ See footnote 24. Also, *Information Bulletin*, Embassy of the USSR, Washington, May 25, 1946.

meat. Workers are under medical control, and hygienic conditions are similar to those in the bakeries. The chief veterinarian, a Russian-born American who had spent most of his life in American packing-houses, considered the hygienic standards observed in the Moscow plant superior to those in similar American institutions.³¹

Fisheries are another extremely important branch of the Soviet food industry. The Union's seas, rivers and lakes are all very rich in fish; 310 different kinds were handled by the industry in 1936. From 1929, when the USSR held fifth place in the world in the number of fish caught, it had jumped by 1936 to second place, when it was surpassed only by Japan. The increase in production was due to improved fishing methods and an increase in equipment. In 1936, the industry operated with 3,150 vessels aggregating 230,000 h.p. compared with the 560 motor vessels totaling 37,000 h.p. which were in use in 1929.

The chief center of the fish industry is the Far East, which is rich in fish, crabs and whales. For some years, the Far Eastern fisheries suffered from a shortage of labor and Japanese labor had to be employed until 1933. Since then, however, many thousands of Soviet citizens have settled permanently in that section of the country and many of them are engaged in fishing. The fisheries have been collectivized, and, under the impetus of the Stakhanov movement, their output was greatly increased during the late 1930's. A major expansion of the Far Eastern fisheries began late in 1945 with acquisition of former Japanese fisheries on southern Sakhalin and the Kurile islands and of those which the Japanese had operated under lease for many years in Soviet Kamchatka.

A catch totaling 2,050,000 tons of fish, 54 per cent greater than the 1940 catch, is called for by 1950 under the Fourth Five-Year Plan.

Fish is sold in the Soviet Union fresh, frozen, dried, salted and canned. Before the Revolution, canning was little developed, and of the not more than 80 million cans of food produced annually, only one per cent was fish. In January 1936, the Soviet Union had 55 fish canneries with an annual capacity of 252 million cans. With the construction of 13 new canneries scheduled between 1946 and 1950, the output of canned fish products in 1950 is planned at double that of 1940.

Meat, vegetables, fruits and milk are other products which are canned in the USSR. The total output of Soviet canneries in 1940 was 750 million cans. Growth of the canning industry since 1928 is shown here:

³¹ For an illustrated description of the Moscow Meat Plant, see *The USSR in Construction*, No. 5, 1934.

Production of Canned Goods (in million cans)				
	1928	1932	1935	1936
Meat	21	—	146	216
Vegetables	20	—	72	100
Fruit	3	—	272	298
Tomatoes	13	—	161	—
Milk	—	2	16	25

In 1936, A. I. Mikoyan, then Commissar of the Food Industry, visited the United States and inspected many American food plants. Two years later, American canning methods were introduced by decree in Soviet plants. Equipment necessary to "Americanize" the food industry became a significant item in Soviet imports from the United States about that time. American influence also led to an increase in such products as canned fruit juices.

The dairy industry as well as dairy farming suffered major setbacks during the war. Before then, however, fresh milk was being delivered on an increasing scale to dairies, which had been established in more than fifty cities by 1936. At that time, after being chemically tested and analyzed, about 75 per cent of the output was being delivered in pasteurized form. Development of the ice cream industry began in 1935, with a token production of eight tons in establishments under the state food trust. The growth in the rate of production is indicated by the fact that an output of 15,000 tons was called for in 1937.³² This was little enough compared to the 600,000 tons which were then being consumed in the United States, but ice cream was then new to Russia. As early as the hot summer of 1936, excellent ice cream could be obtained at Moscow street corners, subway stations and in very attractive ice cream parlors. It was a comfort to know that any ice cream you bought had been produced under strict medical supervision.

In 1936, the country's 403 mechanized butter plants made 193,000 tons of butter, compared with the 1928 total of 82,000 tons. Although statistics are not available, it is likely that the amount of homemade butter produced in 1936 equaled the amount produced in these plants. Sixty kinds of cheese came to the market that same year. Casein, which used to be imported, was being produced in abundance before the war.

³² *Moscow Daily News*, April 10, 1937.

The output of sugar from sugar beets, in which the Soviet Union led the world before the war, is now seriously reduced by the destruction of more than four-fifths of the pre-invasion source of supply—the great collective sugar plantations and refineries of the Ukraine. Output in 1941 was nearly double that of 1913, and is expected to be restored and expanded within the next several years not only in the Ukraine but also in Central Asia, where sugar-beet cultivation and processing began to develop on a large scale during the war. The Fourth Five-Year Plan calls for a 15 to 20 per cent greater sugar production in 1950 than in 1940.

Despite the steady increase in production up to the war, fresh fruits and vegetables have continued rather scarce. Supplying the cities with this produce is a transportation as well as a production problem, and throughout years of industrial expansion Soviet railroads have been too loaded down with other freight to haul all the fruits and vegetables which the cities should have had. After much experimentation, the cultivation of citrus fruit made a good start before the war in sub-tropical Adzharistan on the Black Sea. Apples, strawberries and melons of superior quality grow in large quantities; apricots from Central Asia are shipped around the country.

Output of potatoes nearly tripled between 1913 and 1941. Next to cabbage and potatoes, cucumbers are one of the chief sources of vitamins in the Russian diet. Since they can be preserved salted, they are available throughout the year. At the initiative of the trade unions, a program of victory gardens was introduced during the war to compensate in part for crop and transportation shortages. By 1944, more than sixteen million city workers had their own kitchen gardens, which will no doubt remain a feature of Soviet life, at least until vegetables get to urban markets in completely adequate amounts.

The tea industry has developed rapidly. With only five factories processing a total of 130 tons of tea annually before the Revolution, Russia was spending 62 million gold rubles a year for tea imports. In 1936, the Soviet Union was still importing more than half of the tea it consumed, but the amount was decreasing from year to year as tea production developed in Soviet Georgia. Thirty-four tea plants were operating in the Union in 1936.

Some of the figures that I have quoted for pre-war food production do not seem very high when compared with those of other countries. What is tremendously significant, however, is the fact that the figures have mounted steadily from year to year and should be far above the

1940 level by 1950. If a Soviet citizen has to forego certain products today, he knows that he will have them tomorrow, because he knows that he is living under an economic system that allows steady growth without periodic crises.

One result of the steadily mounting food production prior to the war was a considerable drop in prices. For example, between October 1, 1934 and September 30, 1935,³³ prices decreased in the following percentages:

Bread	66	Lump sugar	73
Beef	30	Biscuit	41
Sausage	46	Canned foods	16-26
Cod	66	Butter	56
Murmansk herring	43	Frying oil	58
Caspian herring	16	Macaroni	23

According to the Central Statistical Administration of the State Planning Commission, price reductions were effected by state and cooperative trading organizations between September 15, 1935 and September 15, 1936 in the following percentages:³⁴

Rye flour	25	Milk	23
Wheat flour	18	Vegetable oils	38
Rye bread	14	Margarine	17
White bread	17	Fish and herring	30-40
Beef	25	Eggs	17
Pork	17	Lump sugar	43
Sausage	20	Confectionery	22
Butter	24		

As a result of such marked reductions, consumption increased during 1936 over that for 1935 in these percentages:

Eggs	249.1	Vegetable oils	134.4
Meat products	223.1	Confectionery	131.7
Sugar	169.0	Beer	126.5
Canned goods	160.0	Butter	121.1
Poultry	138.5	Tea	117.7
Cheese	139.9		

³³ See footnote 28.

³⁴ *Moscow Daily News*, March 18, 1937.

As food prices went down, wages went up, considerably. This development justified Stalin's often-repeated words, "Life has become better, Comrades, life has become more joyous." That was to stand as the theme of Soviet development until that period of tension which heralded the massing of Hitler's legions on the Union's western borders.

The government's task does not end with the production of food. Its distribution, like that of other products, and its sanitary inspection are also public functions. To improve distribution, the food industry, which had previously expected the Soviet citizen to find out for himself where he could obtain the foods he wanted, began to advertise its products in the mid-thirties—another indication of abundance. Moreover, since the state feels responsible for the diet of its citizens, propaganda in the form of lectures, pamphlets and exhibits was carried on in schools, places of work, and clubs to teach them the principles and practice of rational nutrition.

The socialist state also prepares daily meals for many millions of persons through a system of collective feeding unheard of in other countries.³⁵ In 1931, more than five million industrial workers, 3.5 million office employees and farmers, and three million school children had their meals in public dining-rooms. Collective feeding embraced 42.8 per cent of all industrial workers, 25 per cent of office employees, and 80 per cent of university students.³⁶ In 1935, more than 20 million persons had one or more meals in such dining places; during the summer months, when farm work was at its height, collective feeding reached more than 40 million.

Collective feeding is considered the best method of providing a balanced diet, superior to the haphazard nutrition of the home. It contributes to the welfare of the workers and increases labor productivity. Last but not least, collective feeding has been a powerful factor in the emancipation of women, especially during a period when the marketing and preparation of meals have been difficult and time-consuming. Every large Soviet factory, office and other working establishment has its own dining-hall. Similar feeding arrangements are followed on

³⁵ See Et. Burnet and W. R. Aykroyd, "Nutrition and Public Health," *League of Nations Quarterly Bulletin of the Health Organization*, vol. IV, No. 2, June 1935, pp. 439-441, 459-462.—F. Le Gros Clark and L. Noel Brinton, *Men, Medicine and Food in the U.S.S.R.*, London, 1936.

³⁶ N. A. Semashko, *Health Protection in the U.S.S.R.*, London, 1934, p. 56.

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³⁶ N. A. Semashko, *Health Protection in the U.S.S.R.*, London, 1934, p. 56.

state farms and have been gaining in popularity on the collective farms. Both urban and rural schools serve meals to children. During the war, this system of collective feeding was expanded to meet various emergency needs.

The system was organized soon after the civil war, and developed very rapidly until it reached its present gigantic dimensions. The central agency, Narpit,³⁷ consisting of representatives of the various government departments involved (Agriculture, Food, Internal Trade, Public Health, etc.) directs and supervises the work. In 1935, Narpit purchased foodstuffs valued at ten billion rubles for collective feeding in the cities, and at three billion rubles for the rural districts. Dining places in the factories, schools, and farms are managed by special committees under the guidance of the Narpit.

A new departure was the creation of so-called factory kitchens, gigantic, entirely mechanized kitchens serving not only the restaurants immediately attached to them, but also the refectories of working places and schools in the neighborhood. These factory kitchens produce half-prepared dishes which are easy to transport and the cooking of which is finished in the places where they are finally consumed. In Moscow, every district has a factory kitchen serving its working establishments; many provide hundreds of thousands of meals daily.

I have had many meals in Soviet factory dining-rooms, and always found the food ample and well-prepared. A two-course meal with one meat course costs about one ruble, which is very little. Meals are served at small tables seating from two to four persons. As a rule, the whole atmosphere of these dining-rooms is extremely pleasant and cheerful, with flowers on the table, paintings on the walls and bright curtains at the windows. Much thought goes into making these places attractive. There is a choice of dishes and tea and other non-alcoholic drinks are available. Although thousands of persons have their meals in such dining-rooms, you never have the feeling of regimentation. You feel simply that you are eating in a pleasant restaurant serving good food for very little money.

Obviously, collective feeding requires a large and well-trained personnel. In 1936, for example, these dining places employed more than 500,000 persons. Specialists for these institutions are trained in a Higher School for Foodstuff Engineers, which gives a five-year course in chem-

³⁷ An abbreviation for *Narodnoye Pitaniye*, which means People's Nutrition.

istry, physics, food conservation and alimentary technology. There are also many cooking schools.

Collective feeding operates under strict medical supervision. Every factory kitchen has its bacteriological and chemical laboratory. The food that goes in and comes out is tested continuously for purity and nutritional value. All employees wear sterilized coats and caps and are required to take showers before and after work.

Meals are provided not only for normal adults and children, but also for people who have to follow a prescribed diet. Every large communal dining-room has its special diet section providing meals for people suffering from gastric and rheumatic troubles, diabetes, kidney and heart diseases.

Medical supervision of the factory kitchens and dining-rooms is one, and not the least important function of the medical units attached to the particular working establishment. Nutrition is one more link in the vast health program of the nation.

The scientific foundation for collective feeding is laid by the Central Institute of Nutrition which I visited in 1935 in Moscow. Its program is the study of the nutrition of man in health and illness. It has departments of physiology and biology, food hygiene, cooking, dietetic-therapeutic nutrition, nutrition of mothers and infants, education and training of technical staffs, and economics. It has not only laboratories, but also 120 beds.

The nutritional standards worked out by the Institute are about 15 per cent higher than those in other countries and are as follows:³⁸

	PROTEIN	FAT	CARBO- HYDRATES	TOTAL CALORIES		
Workmen and residents of cities	(in grams)					
Maximum for very heavy work	—	—	—	4,300		
Adults	120	108	525	3,644		
Children (Average)	}	1 to 3 years	52	54	200	1,530
		4 to 7 years	72	57	300	2,060
		8 to 13 years	83	52	380	2,380
		14 to 18 years	118	60	536	3,250
Rural districts						
Average, adults	115	96	592	3,800		
Workmen in overheated premises	130-150	—	—	—		

³⁸ See footnote 35.

These norms are the result of long and painstaking investigations made on workers of various categories. In rural districts more carbohydrates and less proteins are given than in the cities. Twenty per cent of the proteins, according to the Institute, should be animal protein. Vitamins should not have to be added to the food. However, in the northern districts where the food is lacking in vitamins it may become necessary to add them.

Two factories producing Vitamins A and C were opened in Leningrad in 1936.³⁹ Soviet authorities have manifested a growing interest in vitaminology, which was marked during the war by the exploitation of such relatively untapped sources of vitamins as pine needles, wild plants and vegetable leaves to compensate for shortages in the chemical varieties. In 1941, the health and food industry commissariats jointly established a Vitamin Committee, on which all interested bodies have representatives. The USSR Vitamin Committee coordinates the findings of the various research institutes dealing with vitamins, including, of course, the Central Institute of Nutrition.

The Institute recommends that food be taken on the following schedule:

Around 7 A. M before work, about	25%
“ 10:30-11 A. M.	20%
“ 5 P. M. (dinner)	40%
“ 9 P. M.	15%

The Institute's program is not limited to scientific aspects of nutrition. Its program embraces all aspects of public dining, including even the serving of food and the uniforms of waiters and waitresses. Another program is the development of diets for sick people, an activity which has received increasing attention.

In 1936, more than 600,000 workers were on special diets, for which the trade unions provided a total of 90 million rubles that year. Besides the regular facilities for public dining, all large cities have dietetic restaurants which have conveniently standardized menus. For example, a worker for whom Diet No. 3 is prescribed will ask for the menu of that number and usually find a variety of suitable dishes. Special dietetic stores also serve this group, and in Moscow in 1936 were selling 20 kinds of bread, 26 kinds of meat and 36 kinds of dairy products as well as other special foods.⁴⁰ A network of medically supervised children's din-

³⁹ *Izvestia*, Nov. 2, 1936.

⁴⁰ *Pravda*, Oct. 4, 1936.

ing rooms was established in 1943 to assure proper feeding under wartime difficulties for 160,000 youngsters, aged three to thirteen, who needed special food.⁴¹

Indeed, much attention has been given to the diet of children, in peace as well as in war. Research in this field is carried on not only in the Central Institute of Nutrition but also in the various institutes devoted to the study of mother and child.

The link between the various research institutes and the Narpit is the Council of Scientific Nutrition, which consists of representatives of the various institutions involved. It appoints a number of committees (sanitary-hygienic, social-economic, construction, technical, culinary, cultural-educational). These committees study the various problems brought before them and the Council decides upon the policies to be followed.⁴²

Collective feeding does not reach the whole population and of course never will; many people will always prefer to have their meals at home. But there can be no doubt that this institution is a measure of great hygienic, economic, and educational significance.

Housing

It is common knowledge that housing is a serious problem in the Soviet Union. Even before the German invasion and occupation, which added grave new tasks of reconstruction to the long-range and ambitious housing program by depriving some 25 million persons of shelter, there were many families living in crowded quarters. There were old houses in need of repair and some new ones, hurriedly built in the first few years following the Revolution, that were beginning to fall to pieces in the mid-thirties.

This does not mean that the Soviet government has neglected the very important question of housing. On the contrary, tremendous efforts have been made to improve the situation, efforts which have to be intensified now as a part of the war-recovery program. Compared with 15.5 billion rubles of capital investments in housing during the Third Five-Year Plan, scheduled investments for 1946-1950 are more than 42 billion rubles. Moreover, state credits are being made available to several million workers for the building of their own homes.

The difficulties encountered in this special field are particularly great,

⁴¹ *Pediatrnia*, Moscow, No. 3, 1943; No. 1, 1944.

⁴² *Izvestia*, Nov. 2, 1936.

for a number of reasons. One was the urban population's extraordinarily rapid growth, which was stimulated by industrialization. Moreover, there is and always has been a very serious shortage of labor and building materials. These are needed not only for dwellings but also for factories, office buildings, schools, libraries and many other structures. The pressure has been tremendous: in rebuilding an entire country, especially one which was backward for centuries, it is obviously impossible to do everything at once. Consequently, some of the housing has been of an emergency or temporary type and will probably continue to be so until the dugouts and huts to which the German invasion reduced millions of families can be obliterated.

To the greatest extent possible, however, the present tasks of post-war restoration have been merged with the regular long-range program of rebuilding the country. A federal Committee of Architecture guides the reconstruction. The completely destroyed communities were re-planned from the ground up before their rebuilding began. Commissariats, now Ministries for Housing Construction, were created during the war in the Russian and Ukrainian Republics.⁴⁸ About 5 million square yards of dwelling space of the estimated 18 million destroyed in the Russian Federative Republic were restored by spring of 1946, but this is scarcely a beginning considering the vastness of the job to be done.

To compare housing conditions in the Soviet Union with those of countries like England or the United States is not fair. If we must make comparisons, Soviet housing should be compared with that of the British Empire. Housing has improved in London, but very little in Calcutta. In order to appreciate the magnitude of the housing problem in the Soviet Union, it must always be kept in mind that the population of tsarist Russia lived under Asiatic conditions, and that the task now is to raise the level of the entire population within one or two generations so that standards will not only compare favorably with those of the West but even surpass them. This cannot be done overnight.

Yet, despite all shortcomings, much progress has already been made. Every visitor will remember not only the many beautiful new public buildings but also the thousands of new, comfortable, cheerful-looking

⁴⁸ Hans Blumenfeld, "The Soviet Housing Problem," *American Review on the Soviet Union*, November, 1945. This is an excellent overall survey of the housing situation. Also see *Information Bulletin*, Embassy of USSR, Washington, April 2 and July 17, 1946.

apartment houses found all over the country. There can be no doubt that the housing situation is infinitely better today than it ever was in tsarist times.

While cities like St. Petersburg and Moscow could boast of some palaces and luxurious apartment houses before the Revolution, the majority of the population lived miserably. Workers' families in Leningrad in 1912 occupied an average floor space of 33 square feet per person. A survey in Moscow that same year disclosed that only 28 per cent of the buildings were connected with sewers. Conditions in Moscow just before the Revolution are best illustrated by the following figures:⁴⁴

Density of Population
(per 100 rooms)

In one-room basement lodgings	1,000
In one-room lodgings above street level	621
In two-room lodgings	376
In five-room lodgings	181
In ten-room lodgings	108

Soon after the October Revolution the government began to redistribute living quarters in a more equitable way. On August 20, 1918, all houses with five or more apartments were nationalized, and in Moscow alone, 300,000 persons were able to leave the slums for healthier houses. In 1923, the density of population in two-room and five-room apartments was the same. In Moscow that year the percentage of persons living more than two to a room, which had been 61.7 in 1912, was down to 36.7.

Nevertheless, only emergency measures could be taken during the heroic years of the Civil War, when all efforts were directed toward saving the Revolution. Most houses were out of repair, and many cities were literally in ruins when the work of reconstruction could be tackled after the Civil War. Slums were torn down and new quarters were built. During the First Five-Year Plan, 3.5 billion rubles were spent on the erection of houses, creating 29 million square meters of floor space.⁴⁵ As a result, five million persons moved into new apart-

⁴⁴ *Moscow Past, Present, Future*, Moscow and Leningrad, 1934, pp. 56-57.

⁴⁵ In the Soviet Union housing is always figured in square meters per person whereby only the area of living- and sleeping-rooms is counted. The floor space occupied by kitchen, bathroom, staircase, etc., is not included. A child counts as a whole person and not as half a person as is usual in other countries. A square

ments.⁴⁶ At the outbreak of war, nearly half the non-farm housing in use had been built since the Revolution. Yet the housebuilding industry could not keep up with the growth in the urban population—from 20 millions in 1922 to about 60 millions in 1941.

In Moscow alone, 5.1 million square meters were constructed before 1935. The entire area for living quarters was thus increased one and one-half times. This increase was relatively small, considering the Soviet capital's growth in population—from 1.6 million before the Revolution to 3.6 millions in 1936. Since Moscow grew more rapidly than any other city in the country, particular effort was put into its reconstruction, with increasing sums of money spent for the purpose from year to year. Yet the city remained as crowded as ever.

In 1935, after long and painstaking investigation by various planning groups, the plan for Moscow's reconstruction was adopted. Had the war not intervened, it was scheduled for completion by 1945 with the city doubled in area and housing accommodations increased by 15 million square meters, including about 2,500 new apartment houses. The population, according to this plan, was not to go above five million; it was 4,137,000 at the time of the 1939 census. This does not mean that the city's population might never exceed five million through natural increase resulting from the rising birth rate, but that sudden growth through the establishment of new industries was to be stopped. New industries were to go elsewhere.

When reconstruction of the Soviet capital is completed, the new Moscow will be a magnificent city comparable to ancient Rome, but a Rome without slaves. It will be the monumental capital of a great country. We already get an idea of what the new city will be like from streets like Okhotny Ryad with the beautiful buildings of the Sovnarkom on one side and the Hotel Moscow on the other side.

I was fortunate in seeing in 1936 an exhibit on reconstruction of Moscow where all the plans and models were displayed. The Soviet government is realizing a new idea in city construction. While our cities have definite commercial, shopping, amusement, residential, and slum districts, Moscow will consist of a group of city units, each of which pos-

meter is about ten square feet. The goal is to provide fifteen square meters of housing accommodation for each person. It was less than nine in Moscow in 1936.

⁴⁶ L. Perchik, *The Reconstruction of Moscow*, Moscow, 1936.—See also: Sir E. D. Simon, Lady Simon, W. A. Robson, J. Jewkes, *Moscow in the Making*, London, New York, Toronto, 1937.

sesses all the living, educational, recreational, medical, and other facilities that a group of people requires. Each unit will have its parks, and the whole city will be surrounded by a forest belt. From 1,000 to 1,200 inhabitants per hectare (2.5 acres) the city's population density will be reduced to 500 inhabitants to the hectare along the river, and elsewhere only 400. Apartment houses built along the river will be from twelve to fourteen floors high, while those in other parts of the city will have only about six floors. The center of the city, the Kremlin and the Palace of the Soviets, will be the administrative center of one-sixth of the inhabited earth.

Municipal utilities were extremely backward in tsarist Russia. The pre-Revolutionary status and the growth in these services through 1933 is illustrated by the following figures:⁴⁷

	PRIOR TO REVO- LUTION	1928	1930	1932	1933
Electric generating stations and distributing networks					
Number of cities having above	178	No data	470	600	620
Capacity of stations (<i>in thousands of kw</i>)	40	No data	194	206	241
Tramways					
Number of cities using tramways	34	39	44	50	57
Number of passenger cars	3,193	4,800	5,632	8,000	8,782
Length of single track passenger lines (<i>in kilometers</i>)	1,569	2,120	2,396	2,870	3,196
Number of passengers carried (<i>in millions</i>)	1,029	1,640	2,745	5,000	5,005
Motor omnibuses					
Number of cities using omnibuses	—	40	56	86	99
Number of omnibuses	—	466	690	1,122	1,250

⁴⁷ *The USSR in Figures* (Moscow, 1935), pp. 284-291.

	PRIOR TO REVO- LUTION	1928	1930	1932	1933
Number of passengers carried (<i>in millions</i>)	—	119	191	305	No data
Waterworks					
Number of cities having waterworks	234	312	340	364	375
Total length of water pipe systems (<i>in kilometers</i>)	5,500	8,288	9,400	9,871	10,715
Average daily water supply (<i>in thousands of cubic meters</i>)	700	811	1,300	1,654	1,830
Sewerage system *					
Number of cities having sewerage system	21	32	47	55	58
Total length of sewerage pipes (<i>in kilometers</i>)	960	1,831	2,168	2,596	3,500
Average capacity of sewer water per day (<i>in thousands of cubic meters</i>)	150	260	400	522	640
Public baths					
Number of public baths in cities	606	No data	793	1,005	1,288
Laundries					
Number of mechanized and semi-mechanized laundries	13	No data	35	47	65

* Exclusive of the combined rain and sewer mains in Leningrad

Moscow's per capita daily water consumption, which had increased from 60 to 160 litres by 1936, was planned to reach from 500 to 600 litres in the reconstructed capital. The water used to be taken from the shallow Moscow River, but the new Moscow-Volga Canal, completed several years before the war, now makes unlimited quantities available.

A pipeline now nearing completion will provide 200,000 Moscow apartments with gas from new supplies of natural gas recently dis-

covered near the Volga city of Saratov; thanks to this important source, the Soviet capital's consumption of gas is scheduled to increase 10 times by 1950. Its central heating and power system is being expanded with the opening of new stations with a total capacity of 215 thousand kilowatts.

Not only Moscow, but all large Soviet cities have reconstruction plans, which were being carried out before the war in all sections of the country. Rural settlements are also being rebuilt. Nearly all state farms are of recent construction, and building has gone rapidly forward on collective farms as well. The difference between town and country is actually beginning to disappear.

It is obvious that the health authorities play an important part in this work of reconstruction. Every plan and every building are examined by specially trained housing inspectors.

The task of constructing healthful and cheerful living quarters for all Soviet citizens is a gigantic one, which will require many years for its completion. The scope of the program is suggested in the figure of 25 million houses—twice the total in Great Britain—whose construction is called for in the first postwar decade. A modern building materials industry is being developed to carry out this program. If it moves as fast as things generally do in the Soviet Union, ten years from now Soviet cities will be unrecognizable.

2. PREVENTION OF DISEASE

Control of Epidemics and Social Diseases

The tsarist empire was a perpetual playground for epidemics. Smallpox, typhus, relapsing fever, typhoid fever and dysentery were endemic diseases in Russia. Cholera and plague visited the population at regular intervals. These health conditions were such a constant menace to the West that the rest of Europe looked upon Russia with dread as a permanent source of infection. The government did little to improve conditions. Efforts were made by several associations of physicians, such as the Pirogov Society and the Association of Zemstvo Physicians, but none of them had the power nor the means to apply efficient measures on any large scale. The country was so vast and the population so uneducated that little cooperation could be expected.

Although health conditions were bad enough before 1914, they be-

came infinitely worse during World War I.⁴⁸ The 14 million soldiers who were mobilized and the millions of refugees who fled from the war zones to interior regions of the country created ideal conditions for the spread of epidemic diseases. Health authorities were not idle, but the administrative machinery was so hopelessly slow that it took more than a year before the soldiers could be vaccinated against typhoid and cholera, and more than two years before anti-tetanic vaccination was generally applied.

In 1915 an epidemic of typhus broke out at the Turkish front and one of relapsing fever at the Galician front. During the same year, typhus was brought to Samara by Turkish prisoners. Conditions became worse during the winter of 1916-1917. Armies were exhausted, transportation had broken down in many regions, and supplies were giving out. In the summer of 1917, scurvy was observed on all fronts. During the winter of 1917-1918, there was an outbreak of typhus in Petrograd, but it was overcome after a relatively short time. Then, in the autumn of 1918, prisoners returning from Germany brought influenza with them. It was an unusual instance of an epidemic reaching Russia from the West. Previously, nearly all had come from the East. During the same autumn, there was a new attack of typhus; this time it took a firm hold of the country and spread over a great deal of the territory with devastating effects. The Civil War followed. The population, which was in constant motion, carried diseases everywhere. The Allied blockade deprived the country of most necessary medical supplies. When the Civil War subsided in 1921, it was followed by the great famine and various epidemics, which made a combined attack upon the hard-hit population. Conditions developed such as the Western world had not seen since the Middle Ages. The Commissariat of Public Health, supported by the Communist Party, medical workers, and large sections of the population, fought a heroic battle. A Central Epidemics Commission under the presidency of Health Commissar Semashko was organized to lead the campaign.

The chief enemy was *typhus*, a foe well known to the Russians. In the twenty years before the Revolution, there had been an average of

⁴⁸ L. Tarassevitch, *Epidemics in Russia Since 1914*. Report to the Health Committee of the League of Nations. Epidemiological Intelligence, No. 2, March 1922, and No. 5, October 1922.

82,447 registered cases annually. Whenever there was a famine or a crop failure, the morbidity more than doubled. During the war, the disease spread slowly but steadily. In 1915, 154,800 cases were registered. The great pandemic started, as we have already noted, toward the end of 1918. It invaded the country from three centers: Petrograd, the Romanian front, and the Volga region. It reached its climax in 1920, declined in 1921, and flared up again in 1922 chiefly in the Volga region, the center of the famine district. After 1923 the incidence of typhus declined steadily. It is very difficult to give accurate figures because the registration of diseases obviously breaks down when a country is completely disorganized. During the Civil War, many cities changed hands six or seven times. Hence the collection of statistical data was almost impossible. The number of registered cases follows:⁴⁹

Typhus		
YEAR	NUMBER OF CASES	PER 10,000 POPULATION
1918	130,164	21.9
1919	2,119,549	265.3
1920	3,354,656	393.9
1921	633,250	54.0
1922	1,401,145	109.2

Everyone agrees that these figures are much too low. Tarassevitch, a Russian epidemiologist, assumes that during the four years from 1918 to 1922 thirty million cases of typhus occurred.⁵⁰ For various epidemiological reasons discussed by Semashko⁵¹ it is likely that Tarassevitch's estimate is somewhat too high. There can be no doubt, however, that this typhus pandemic was one of the most terrible that the world had ever seen. The mortality amounted to about 10 per cent. It was difficult to fight the disease because of the serious shortage of the two most necessary commodities, soap for cleanliness and fuel for disinfection. People lived in crowded habitations, undernourished, and exhausted by civil war. The authorities did all that was humanly possible in such a great

⁴⁹ N. Semashko, "Das Gesundheitswesen in Sowjet-Russland," *Deutsche Medizinische Wochenschrift*, 1924, vol. 50, pp. 213-214, 243-244. Appendix VI, based on later, corrected data, gives slightly higher figures for typhus and relapsing fever in 1922.

⁵⁰ L. Tarassevitch, *op. cit.*

⁵¹ N. Semashko, *op. cit.*

emergency. Two hundred and fifty thousand beds were made available for the treatment of infectious diseases. The railroad lines were watched and numerous quarantine stations were established at important railroad junctions. Passengers were taken from trains, were bathed and disinfected, and sick persons were isolated. Propaganda was carried on by means of pamphlets, posters, lectures and exhibitions; special exhibits mounted in railroad cars were sent throughout the infected areas to enlighten the population. Entire sections of a town were cleaned and disinfected during special "bath weeks." But it was an uneven fight, and the pandemic declined only after sufficient immunization had been built up. Throughout the 1920's, typhus continued to be a serious problem. Although there was a steady decrease in morbidity, 29,417 cases, or two for every 10,000 population, were registered as late as 1929.⁵²

Even as late as 1937, there were regions where general conditions were such that an epidemic of typhus could have easily developed. Eradication of the disease was made a major objective of the Third Five-Year Plan, and by 1940 it had been reduced to a few scattered cases in these regions. Testifying to the success of the anti-typhus effort is the fact that although conditions favorable to the disease existed in some of the evacuation areas from late 1941 through 1943, it was never permitted to spread. The Herculean efforts of the various health authorities and community groups rapidly controlled local outbreaks. A new vaccine was available for large-scale use in the affected areas in 1942. These inoculations are reported to have met their purpose of providing specific immunity against typhus, and the award of the coveted Stalin Prize to the two scientists who developed the vaccine testifies to its significance.

Relapsing fever is a close companion of typhus. It is transmitted by lice, like typhus, but is less deadly. The mortality is from two to three per cent. Like typhus, it was endemic in Russia; from 1887 to 1911 the average number of cases annually amounted to 31,720.⁵³ The morbidity increased during the first world war, and from 1918 to 1922 relapsing fever followed the course of typhus very closely. The official figures are the following:⁵⁴

⁵² See Appendix VI.

⁵³ L. Tarassevitch, *op. cit.*

⁵⁴ N. Semaschko, *op. cit.*

Relapsing Fever

YEAR	NUMBER OF CASES	PER 10,000 POPULATION
1918	16,661	2.8
1919	251,369	42.3
1920	1,453,424	127.3
1921	763,131	65.1
1922	1,446,722	112.7

The treatment of relapsing fever is relatively easy, since the disease is caused by a spirochaeta which can be destroyed through injections of salvarsan or similar preparations. As a result of the blockade, however, salvarsan was not available in sufficient quantities during the time of the pandemic. Like typhus, relapsing fever decreased after 1923. Incidence dropped from 19.3 per 10,000 in 1923 to 3.8 in 1924 and continued to drop rapidly thereafter. Cases continued to develop for several more years, but once salvarsan became available in sufficient quantities relapsing fever ceased to be a serious menace. It now ranks among diseases which are practically non-existent in the Soviet Union.

Plague was once one of Russia's most dreaded diseases; history reports many epidemics of it that ravaged the country and destroyed millions of human lives.⁵⁵ In western Europe it has practically disappeared since the seventeenth century, but in tsarist Russia cases developed nearly every year. From 1905 to 1914, 3,500 deaths from plague were reported. It was very fortunate that no general epidemic broke out between 1918 and 1922; otherwise the Russian population might have been largely destroyed. There was a serious epidemic in Manchuria from 1920 to 1921, and a number of cases occurred in the Far Eastern section of the Soviet Union. Fortunately, these latter could be isolated and the epidemic did not spread.

Russia had several foci of plague: one in the North Caucasus, another in the Kirgiz steppes north of the Caspian Sea, and a third in Mongolia. Until recently, a few cases of plague were reported every year and the focal spots were carefully watched by a number of epidemiological institutions, including special plague institutes in Irkutsk, Chita, Rostov and Saratov. Whenever a case was reported, flying squads

⁵⁵ F. Dörbeck, *Geschichte der Pestepidemien in Russland*, Breslau, 1906.

were sent to the threatened area with vaccine. They always succeeded in preventing the development of an epidemic. Soviet authorities now claim that the danger of plague has been completely eliminated.

Much more serious than plague, however, was *cholera*. Cholera has had a particularly bad record in Russia. It made its appearance in fifty-five of the one hundred years between 1823 and 1922, and it has been estimated that during that time five and a half million people suffered from it and 2.2 million succumbed to the disease. In 1915, there was an outbreak of more than 30,000 cases of cholera at the front and in the interior of the country. A new epidemic broke out in April 1918 in Astrakhan and Saratov. It did not follow water routes, as had been customary, but followed railroad lines. It reached its climax in July and August of that year after invading 30 provinces. The epidemic was mild in character and decreased during the winter. There was another attack in 1920 from a focus in Rostov. This epidemic reached its peak in July 1921 in the lower Volga region. The figures for the years from 1918 to 1922 are the following:⁵⁶

Cases of Cholera

1918	41,289
1919	4,259
1920	25,923
1921	204,228
1922	86,178

The epidemiological measures applied consisted mostly of vaccination. In 1922 ten million people, including the entire Red Army, were vaccinated. The sources of water supply and the sewage systems were controlled and cleaned as much as was possible at the time. Between 1923 and 1926 a few isolated cases were observed, but after 1927 cholera completely disappeared.

This is not the case with *typhoid fever* and *dysentery*. Both diseases were endemic in tsarist Russia as a result of inadequate water supplies and inefficient control of foodstuffs. The average typhoid morbidity before 1914 was about 25 for every 10,000 inhabitants, and the rate for dysentery was somewhat higher. During the Civil War, sanitary conditions so deteriorated that morbidity from both diseases doubled. Pre-

⁵⁶ L. Tarassevitch, *op. cit.*

war conditions were reached in 1922, and since that time there has been a slow decrease in the incidence of both diseases. From 1923 to 1932 the morbidity amounted to from 7 to 12 cases per 10,000 persons for typhoid, and from 10 to 25 for dysentery. Anti-typhoid vaccination is now used extensively, and it is compulsory for Red Army recruits and for all groups of workers, such as those living in camps, who are in particular danger. In 1940, about one in every ten civilians in the RSFSR, the Ukraine and Byelorussia was vaccinated. By 1941, the morbidity was less than one-fifth of what it had been prior to World War I, but the disease is still a cause for concern.

The same is true for dysentery, particularly in the southern and eastern sections of the country. Vaccines have been used with varying success, and much effort is now being concentrated on developing one which will be wholly satisfactory. As I have already pointed out, the Soviet government has built many new water and sewage systems, and through sanitary inspection strictly controls food products. Thus it is fighting these diseases in the most desirable way, but it will still be some time before the sanitary conditions are satisfactory everywhere.

Smallpox is a preventable disease which can be controlled through vaccination. Tsarist Russia had no law making vaccination compulsory, but the Zemstvo authorities endeavored to immunize the population and carried on regular vaccination campaigns. It was impossible, however, to reach all the people and the morbidity was very high. From 1890 to 1913 it ranged from 45 to 118 for every 10,000 population.⁵⁷ During World War I, Zemstvo physicians were mobilized. As a result vaccination was neglected and in 1915 a regular smallpox epidemic broke out. It decreased the following year, flared up again in 1919, and reached its climax in 1920 with more than 150,000 reported cases. In 1919 immunization was made compulsory, and by 1936 more than 10 million people were being vaccinated and re-vaccinated every year. There are still regions in the Soviet Union, however, into which the vaccinator hardly penetrates. In 1929 there were slightly over 6,000 cases or 0.37 for every 10,000 population. By 1935 the rate had dropped to 0.2. A marked improvement was observed in 1936 during which the whole country had only 400 cases of smallpox. By 1939, the disease had been completely overcome. A 1939 law of the RSFSR holds parents responsible not only for having their children vaccinated during the first year of their life

⁵⁷ L. Tarassevitch, *op. cit.*

but also for their re-vaccination at the ages of four to five and ten to eleven years. Re-vaccination is again required between the ages of eighteen to twenty years.

The contagious diseases of childhood, *diphtheria*, *scarlet fever*, and *measles*, do not present any particular problems. Diphtheria increased somewhat during the Civil War but not markedly. The extension of nurseries and other institutions for the protection of infancy and childhood has been the best possible method of preventing the spread of these diseases. Diphtheria immunization has been made compulsory for children between the ages of one and eight years, and re-immunization is common. In 1931, 400,000 children were immunized, 1,200,000 in 1932, and 10,000,000 in 1940. As a result the morbidity has dropped very considerably; it was 31.4 from 1910-1913, and in recent years has not been above 7.6 (per 10,000 population).⁵⁸ Following years of a further downward trend, the incidence of diphtheria again became high in 1942 under the abnormal wartime conditions. Mortality increased from both diphtheria and pneumonia during this period. Although the situation was brought under control in 1943 it will probably cause concern for several more years.

That is not the case with respect to scarlet fever and measles. Notwithstanding some setbacks during the evacuation period, their incidence continued to decline during the war. Mass vaccinations against scarlet fever are carried out in many cities. Use of an anti-measles serum, which began in 1924 in a limited number of cities, was made obligatory in 1937 for all children coming in contact with measles. The serum has not been fully satisfactory, and much research is being carried on to develop direct methods of immunization.

Unlike other European countries, Russia always had a high incidence of such diseases as *rabies*, *anthrax* and *trachoma*. There are still many rabid dogs, cats and wolves in the country; in the mid-1930's it was estimated that about 70,000 persons were being bitten every year. Such cases are treated with vaccine, obtained from the Pasteur Institutes, which are to be found in all sections of the country. Anthrax still occurs in cattle-breeding regions; the morbidity in 1936 was somewhat below one for every 10,000.

⁵⁸ O. A. Rickman, V. L. Olshevskaya and O. N. Dodonova, "Control of Infectious Diseases," *American Review of Soviet Medicine*, February, 1945, pp. 251-255.

The incidence of trachoma in 1913 was 63.3 per 10,000, and the disease was a curse among many of the national minorities. The Chuvash Autonomous Republic is an example of an area that was widely infected with it. Immediately after the Revolution, four out of every five persons in some Chuvash areas were found to be afflicted with trachoma. In a section where the disease had incapacitated one tenth of the population, 10,000 persons were found who had been blinded by it. By 1926, the incidence of trachoma had been lowered to forty-seven per cent of the Chuvash population.⁵⁹ During the following decade, a network of dispensaries was built for the treatment of trachoma cases and to keep the entire population of the affected areas under observation. By 1936, there were 2,000 medical stations⁶⁰ giving treatment for the disease; the number of oculists and hospital beds reserved for eye cases had also grown rapidly. As a result of the vigorous attack upon the disease, among the Chuvash the morbidity rate for trachoma in 1941 was 39 per cent of what it had been in 1913, while the corresponding percentages for the former Kalmyk Autonomous Republic and the Tatar Autonomous Republic on the Volga were respectively 25 and 11 per cent.⁶¹ All evidence points to a complete conquest of the disease in the not distant future.

Malaria is a great epidemiological problem in the Soviet Union. Russia always had three great malaria centers: Turkestan, the Caucasus, and the lower Volga region. About three million cases occurred every year before the Revolution, when there was only one station, in Batum, to fight the disease. It was established by private initiative and supported by private means. As a result of World War I, malaria began to spread throughout Russia. Troops from infected regions carried the disease

⁵⁹ G. A. Miterov, *Zabota o Materi i Rebenke-Vazhneishaya Gosudarstvennaya Zadacha (Mother and Child Care Is the Most Important Task)*. Medgiz, Moscow, 1944, p. 16.

⁶⁰ *Moscow Daily News*, July 4, 1936.

⁶¹ *XXV Let Sovetskovo Zdravookhraneniya (1918-1943)*. (*Twenty-five Years of Soviet Health Protection*). Edited by G. A. Miterov. Narkomzdrav, Moscow, 1944. This collection of survey articles prepared by leading Soviet medical authorities under the editorial direction of Dr. Miterov, then USSR Minister of Health, is the source of subsequent charts and other statistics in this chapter which are not otherwise credited. An English translation of the chapter on tuberculosis by F. I. Leviūn will be found in the *American Review of Soviet Medicine*, February, 1946, pp. 204-210; the issue of August, 1945, pp. 548-577, contains an adaptation of the introductory chapter by Miterov.

with them wherever they went and created new foci of contagion. More than two million cases were registered in 1922, and more than four million in 1923. It has been estimated, however, that the actual number was at least four times as high. The disease, which had previously been localized in the sub-tropical regions, spread to the north and even into the Arctic. At the time when the epidemic was at its height, the country had not more than from eight to ten thousand kilograms of quinine available because of the blockade. Thus it was practically impossible to treat the patients.

A systematic campaign was organized to fight the disease. In 1920, a Central Institute for Tropical Diseases was created in Moscow to serve as research, training and organizational headquarters. Since then, five smaller similar institutes have been erected in the Caucasus and three in Asia. In 1923, the first All-Union Malaria Conference was called; similar meetings have been held at regular intervals. Malaria stations were built in all threatened districts; each is equipped with laboratory, dispensary, and hospital. Physicians were trained for malarial work in special post-graduate courses. The Commissariats of Agriculture and Transportation were invited to cooperate, and the population was mobilized to take an active part in the campaign. Drainage of swamps, petrolization of water sheds, examination of the population in infected areas, and distribution of quinine were carried on systematically. Nevertheless, as late as 1929, three million cases were still registered, and it was not possible to observe marked progress in the anti-malarial program for several more years. In 1936, 32 million persons were examined, and over 4 million were treated for the disease. Over 2,866,000 hectares of water sheds infested with malaria mosquitoes were sprayed by airplanes, while land spraying and petrolization were applied on 239,000 hectares. Two hundred thousand screens and 20 million meters of mosquito netting were distributed to collective farmers. During the summer of 1936, 500 groups of doctors and senior medical students joined the fight which was being carried on by 1,800 permanent malaria stations. Fifty thousand collective farmers took part in the oil sprinkling and in the delivery of medicines. Next to quinine, two Soviet preparations, plazmotsid and akrykhin, were widely used with good results. During the campaign 1,500 doctors and 2,500 feldshers working in the villages received special anti-malaria training. A hundred and twenty million rubles were spent in 1936 alone. As a result, the number of cases of malaria was reduced by 30 per cent under that for 1935 and the number

of deaths by 40 per cent. Government appropriations amounting to 130 million rubles were made available for the campaign of 1937. In addition, 48 million rubles were allocated out of local budgets to maintain more than 2,000 malaria stations; 35 million rubles were appropriated for the draining of swamps and similar preventive measures.⁶²

With the continuance of this program, incidence of the disease continued to drop from year to year. In 1940, when twenty-seven million persons were examined for the disease, there were less than one-third the number of cases registered in 1934. (Registration of all cases is compulsory.) However, malaria was a problem for the Red Army as well as in the southern evacuation areas during World War II, and will no doubt continue to require attention for some time to come. Virtually all anti-malaria institutions and swamp-draining works in the occupied areas were destroyed by the Germans and have had to be restored.

The Soviet health authorities launched their activities in a period of great emergency when serious epidemics ravaged the country. In the short period of a quarter of a century, they created a powerful network of institutions which have already helped the general medical institutions to eliminate completely, in some cases, and to reduce considerably in most other cases, the incidence of epidemic diseases. In 1941, this special network consisted of the following institutions: ⁶³

Anti-epidemic stations	1,760
Disinfection stations and mobile squads	2,288
Bacteriological laboratories	1,406
Malaria stations and points	2,945
Pasteur Institutes	120
Measles stations	282

The Soviet authorities have succeeded in this anti-epidemic program where the tsarist government failed because of their determination to protect the people's health, the health of all the people. Consequently, when another period of great emergency arrived with the German invasion in 1941, which created conditions in which epidemics might otherwise have flourished again, the excellent work of the public health

⁶² *Pravda*, April 25, 1937. For a recent study in English see P. Sergeyev, "The Struggle Against Malaria," *The American Review of Soviet Medicine*, December, 1945, pp. 120-124.

⁶³ For source of this and subsequent charts in this chapter which are not otherwise credited, please refer to footnote 61.

authorities made it possible not only to prevent the spread of disease on both the war and home fronts, but even to continue the downward trend in some of these diseases throughout the war period. Infectious diseases are still far too prevalent in the Soviet Union, and will be so for some time to come because the country is vast and the population heterogeneous. Their conquest will not be long delayed, however, if present trends continue without major disturbance.

Social diseases are those which result primarily from bad social and economic conditions. These diseases consequently affect the working class with particular severity. The Soviet government has eliminated class distinction and has abolished exploitation. It is striving to remove the causes of social diseases by raising the economic and educational standards of the whole population. Once this goal is reached, social diseases will largely disappear. But their incidence in tsarist Russia was high, and they still continue a serious problem.

One of the most prevalent social diseases in the Soviet Union, and still one of the most frequent causes of death, is *tuberculosis*.⁶⁴ For the years 1913 to 1915, the mortality rate averaged 40 per 10,000 for the whole country;⁶⁵ the Moscow death rate in 1913 from all forms of the disease was 26.6 and the St. Petersburg rate 33.6 per 10,000.⁶⁶ The Russian government did nothing to fight the disease. All efforts centered in the All-Russian Tuberculosis Association, a philanthropic organization founded by socially minded physicians and liberal laymen. Its financial resources were scanty. In the whole Russian empire in 1914, there were only 43 tuberculosis dispensaries and 18 sanatoria with 308 free beds. Fewer than a thousand beds, even including the facilities of private hospitals, were available for tuberculous patients. At the beginning of World War I, the activities of the Association were considerably reduced; the organization had broken down completely by the time of the Revolution.

As soon as the Commissariat of Public Health was organized in 1918, it launched a systematic fight against tuberculosis. A special tuberculosis

⁶⁴ A good survey of the problem for the period preceding 1934 is given by Nesline, Holzmann and Einiss in: *La lutte contre la tuberculose dans la R.S.F.S.R.* Moscow-Leningrad, 1934.

⁶⁵ G. A. Miterev, *Narodnoye Zdravookhraneniya za 25 Let Sovetskii Vlasti (Public Health Protection during 25 Years of Soviet Power)* Medgiz, Moscow, 1942, p. 58.

⁶⁶ Nezlin, from a VOKS Report.

department was established within the Commissariat to take charge of the campaign, and a Central Tuberculosis Institute was created in Moscow to serve as general staff. The Institute has an experimental department devoted to research in the pathological anatomy and physiology, microbiology, and epidemiology of tuberculosis. It has a clinical department for the study of pulmonary tuberculosis, tuberculosis of the bones, and tuberculosis of children. In 1936, this institute controlled five sanatoria: three for children and two for adults.

The example set by the Russian republic has been followed by the other constituent republics, and central tuberculosis institutes have been organized in Kharkov, Minsk, Tiflis, Samarkand, Alma-Ata. Besides, regional institutes have been created in Moscow, Leningrad, Ivanovo, Kazan, Sverdlovsk, and other places for the purpose of supervising the attack upon tuberculosis in their respective regions (*oblasts*). There were thirteen of these institutes in 1941, each with its own laboratories and clinical facilities. Their task is to conduct research, devise methods for combating the disease, and aid and advise the dispensaries of their regions.

An important and urgent task has been the training of specialized personnel. Required comprehensive courses on tuberculosis are now given in all medical schools. Several universities and most post-graduate schools have special chairs devoted to the subject. All the tuberculosis institutes give post-graduate courses to physicians and graduate about 500 specialists a year. In 1936, dispensaries and sanatoria employed about 27,000 physicians, all of whom had some specialized training. In 1941 there were more than 3,100 ranking tuberculosis specialists.

The fighting unit in the campaign against tuberculosis is the dispensary, of which there are two types. About half of them are independent organizations. The other half consist of dispensaries connected with health centers. Unlike those of other countries, the Soviet dispensary undertakes diagnostic, preventive, and curative work. It attacks all forms of tuberculosis and treats patients of all ages. Some of the dispensaries are small, while others are very large, having staffs of not fewer than from 10 to 25 physicians. Such large dispensaries employ a variety of specialists, including pediatricians, surgeons, and laryngologists. All of them, however, are trained in tuberculosis. There is generally one dispensary for every district of from 150,000 to 350,000 inhabitants. Moscow has 20. Rural areas have or will have a dispensary for each *raion*, or district.

The function of a dispensary is the prevention and control of tuberculosis in its entire district. It begins its work by making a study of the social, economic, and general health conditions of the area. It establishes contacts with all the local health agencies: health departments, health centers, trade unions, factory committees, and consultation bureaus for mother and child. If housing conditions are poor or labor conditions unsatisfactory, it makes suggestions for their improvement. Its primary function, however, is the *dépistage*, the finding of tuberculous individuals. In this task visiting nurses play an important part; they made more than one million visits in 1940. Several dispensaries have made house to house surveys. If workers in a factory are often sick and are suspected of tuberculosis, dispensary doctors come to examine them. In a locomotive factory, for example, of 440 such workers examined, 22 were found to be tuberculous, three of them with open tuberculosis. Particular attention is given to those age and vocational groups such as adolescents, students of higher schools, people working in dusty industries, or in tuberculosis institutions, who are most likely to develop the disease. Such persons are examined periodically by dispensary physicians. All efforts are made to diagnose the disease early, to remove and treat open cases, and to supervise all other patients permanently. The growth of dispensaries (exclusive of tuberculosis departments in the general medical centers) is illustrated by the following figures:

Number of Tuberculosis Dispensaries and Stations
in the USSR

1914	43
1929	498
1938	803
1939	925
1940	977
1941	1,048

The dispensaries are equipped with X-ray apparatus and laboratories, and generally have their own clinical facilities.

Night sanatoria, the first of which was opened in a Moscow dispensary in 1921, and day sanatoria also have an important role to play. Patients who are able to work but require some regular treatment and care are admitted to these sanatoria. They arrive at about six o'clock in the evening after working hours, have a hot shower or bath, change their

clothes, and have dinner. Afterwards they rest for an hour or two, if possible on porches; their temperature is taken, and they are examined by a physician. They spend the time from eight until ten o'clock in the club of the institution or in undergoing medical treatment. From ten in the evening until six the next morning they are expected to be in bed. They then have physical exercises and breakfast, and return to work. Persons on night shifts are admitted to day sanatoria in the same way. A very important function of these part-time sanatoria is the education of patients. They are taught how to live properly in order to improve their condition. In 1941 there were 211 of these day and night sanatoria with a total of 7,526 beds.

Open cases of tuberculosis are treated in special hospital wards or, when possible, in sanatoria. In 1917, Russia possessed no special hospitals for tubercular cases, but an entire network of such institutions has since been developed and is still growing. The statistics on the number of hospital beds follow:

	1937	1938	1939	1940	1941
Number of beds for children	1,628	3,271	4,053	4,147	4,500 (app.)
Total number of beds	13,236	17,828	21,324	24,946	28,000

In 1941, on the eve of the war, there were 898 tuberculosis sanatoria in the USSR, with a total number of 72,800 beds.⁶⁷ Most of these facilities were concentrated in the many health-resorts, where about half the beds for tuberculosis cases were reserved for children. For example, more than 16,000 of these beds were given over to children with tuberculosis of the bones and joints. The tuberculosis sanatoria were a major war casualty. In 1944, the number functioning had been reduced to 285, with a total of 23,046 beds.⁶⁸ Restoration is now rapidly underway.

Great attention is paid to tuberculosis of childhood. It has been found that from 5 to 10 per cent of all children with a disease usually diagnosed as influenza are actually suffering from tuberculosis. All dispensaries treat tuberculosis in children and about 40 per cent have organized children's departments. Special "health kindergartens," forest schools and

⁶⁷ S. A. Kolesnikov, "O Meropriyatiyakh po Borbe s Tuberkulezom v SSSR" (Measures in the Fight against Tuberculosis in the USSR). *Problemy Tuberkuloza (Problems of Tuberculosis)*, No. 1, 1945, pp. 3-12.

⁶⁸ *Ibid.*

open-air classes in the regular schools have been created for such youngsters. In 1941, special nurseries had 2,642 beds available for them. As already indicated, the hospitals and health resorts that same year had accommodations for about 40,000 children. Sanatoria and health resorts still need to be increased in number, especially in view of the fact that the last war brought not only great destruction of treatment facilities but a sudden and fresh increase in the number of cases.

Special institutions, so-called luposoria, have been organized for the treatment of cutaneous tuberculosis. There were three of these in 1934: one in Moscow with 120 beds, one near Leningrad with 170 beds, and one in Sverdlovsk with 30 beds. A labor colony is attached to the Moscow institution where mutilated patients can work.

In the treatment of tuberculosis various methods are applied according to the case. Collapse therapy, pneumothorax or thoracoplastic, is used commonly. Climatotherapy is very popular and has great possibilities of development in the Soviet Union. A method that has given good results, which was worked out in the Regional Institute in Moscow, is the so-called polyphysiotherapy: a combination of electrical vibration massage, phototherapy, and diathermy. In 1936 vaccination with BCG was compulsory in ten cities for all children exposed to infection, for children of tuberculous parents, and for those living under bad conditions. Vaccination, which was first instituted in Kharkov, has been applied in Moscow since 1926, and it has been found that the death rate is four times lower among vaccinated groups. Since 1937, more than two million infants have been vaccinated. Much research continues to improve the vaccine, which is now used in more than 250 communities.

While the treatment of tuberculosis does not differ basically from that used in other countries, Soviet health authorities have decidedly different views concerning the social readjustment of tuberculous people. The principle is not to send the tuberculous worker "to the land" as is done elsewhere, but to keep him at work in the factories. It is believed that the patient can be supervised medically much more closely in factories than in agricultural enterprises. A decree passed in 1935 by the Commissariat of Public Health and the Trade Union Council requires directors of all enterprises to make special provision for tuberculous workers. Their working hours may be reduced and social insurance funds will make up the balance of wages. All larger factories have special dietetic dining-rooms for such persons. In 1938, factories in Moscow, Leningrad, Kharkov, Gorky and other industrial centers had special

workshops, called prophylactic workshops, for these workers. In a rubber shoe factory they have their own conveyor which moves more slowly. Since all enterprises have a definite plan for amount of production, it is obvious that a large number of tuberculous workers handicaps a plant so that many managers are not enthusiastic about employing them. In a radio factory in Voronezh, the difficulty has been overcome by letting tuberculous men work as a special group outside the plant. Thus they do not handicap the enterprise, but add to its production figures. In more serious cases, invalids from tuberculosis have organized cooperatives where they perform light work under medical supervision. Tuberculous patients are kept in their customary surroundings whenever possible. If they are skilled workers, every effort is made to prevent them from dropping to the ranks of the unskilled on account of their illness.

On the eve of World War II, the Soviet tuberculosis problem seemed well on the way to a permanent solution. Considerably earlier, in fact, statistics disclose great improvement since Revolutionary days. As early as 1931, the death rate from pulmonary tuberculosis had been cut in half in the large cities, for example to 16.3 in Leningrad and to 11.6 per 10,000 in Moscow. From 1926 to 1937, the number of tuberculosis cases of all types was also halved. By 1941, the mortality rate for the entire Union was down to two-fifths of the 1913 figure, or about 8 per 10,000 cases. Absenteeism from work because of the disease was a third of what it had been in 1913. The greatest drop in the disease was observed among industrial workers. Decreases in both the number of cases and mortality were significant in the national republics.

Because of the war, however, tuberculosis remains one of the most serious health problems of the Soviet Union. The mass evacuation which had to be carried on while the tide of German invasion continued to flow eastward resulted in serious overcrowding and privation in areas which were ill-prepared to receive a large and sudden influx of people. This created a serious menace to health. Another grave health problem developed in the areas temporarily occupied by the Germans because of the deliberate maltreatment of the native population, millions of whom had to subsist on a near-starvation diet in overcrowded and unsanitary quarters, if not in dugouts amid the ruins of their homes. The tuberculosis rate began to soar, and it was found necessary early in 1943 for the Council of People's Commissars of the USSR to take emergency measures.

In accordance with one decree issued by the Council in January 1943, there had been made available for tubercular cases by October 1944, the following additional facilities: 13,000 hospital beds, 4,500 beds in day sanatoria and night sanatoria, more than 35,000 places for children in kindergartens, nurseries and outdoor or forest schools, and accommodation for 1,600 in invalid homes.⁶⁹ It also became necessary to open tuberculosis departments in the general hospitals and other institutions, and to supplement the services of the overworked tuberculosis specialists with those of other physicians, especially the general practitioners and the country's 18,000 pediatricians. Supplementary food rations were made available. As a result of these and many other vigorous measures, the death rate from the disease began to drop in 1943. The improvement was marked by 1944, when the morbidity rate dropped to about what it had been at the beginning of World War II. Soviet health authorities still express concern over the situation, however, and continue to take many prophylactic measures, such as semi-annual examinations of young industrial workers. There is no doubt that several more years of medical attack and improved living conditions are necessary before tuberculosis can be completely uprooted.

Venereal diseases were very widespread in tsarist Russia. In 1913, 180.37 cases per 10,000 population were registered. Registration was supposed to be compulsory, but only persons who applied for treatment were registered. Because medical facilities were scarce, many patients were never treated at all or were treated by quacks and so were not included in the official statistics. This was particularly true of gonorrhoea in rural districts. The national minorities were heavily contaminated with venereal diseases. It has been estimated that 30 per cent of the Yakut population was infected with syphilis. In rural districts and particularly in the oriental parts of the empire, syphilis was not a venereal disease. It was spread through extra-genital infection as the result of certain peculiar customs. In many of these tribes people ate from the same bowl, drank from the same cup, licked the dishes, smoked the same water pipe, kissed icons and each other, and thus spread the disease. Soldiers returning from the front after World War I contaminated the population of their home villages, mostly with gonorrhoea.

⁶⁹ S. A. Kolesnikov, "*Meropriyatnaya po Borbe s Tuberkulezom*" (Measures in the Fight against Tuberculosis) *Sovetskoye Zdravookhranenie (Soviet Health Protection)*, No. 1-2, 1945, pp. 16-28.

The Soviet government decided to fight venereal diseases just as it was fighting other contagions, but it was faced with a very difficult task. It undertook the work immediately, however, and by 1921 was ready to begin a large-scale, well-planned control program. Anti-venereal work is organized very much along the same lines as is that undertaken against tuberculosis. In 1918 a special department was created in the Russian Commissariat of Public Health, and in 1919 the Central Institute for Skin and Venereal Diseases was established in Moscow.

The Institute, beginning in a modest way as a polyclinic, immediately undertook to train personnel for this work. Seventy specialists received training during the first year. During the next fifteen years, 2,800 doctors attended post-graduate courses. The longer courses last from two to eight months. Ten-day courses are given to general practitioners, and gynecologists are invited to attend evening courses. Staff members are sent to the provinces to give special training to local doctors. In 1921, the Institute had a clinical division of 120 beds. Fifteen years later, it occupied three large buildings, and its hospital had 440 beds. Twelve smaller institutes on the outskirts of Moscow and 30 dispensaries were then affiliated with the Institute. Like the tuberculosis institute, it is a research center and a coordinating agency that devises methods, and controls and advises the dispensaries. There were 19 such institutes in 1937.

In the venereal field, as in that of tuberculosis, the dispensary is the fighting unit. Here too the goal is to have one dispensary for every district. Like tuberculosis dispensaries, those established for the treatment of venereal and skin diseases are either independent institutions or are attached to health centers as special departments and offices. In rural districts, the campaign is carried on either from dispensaries similar to those in the cities or by anti-venereal stations. The latter follow the same policy and use the same methods as city dispensaries, but they have smaller staffs and simpler equipment. As long as facilities are inadequate, a great deal of anti-venereal work is carried on by flying squads, or groups of specialists who travel from district to district to examine and treat the population.

The development of this network of anti-venereal institutions (which compares with a total of 12 venereal clinics in all of tsarist Russia in 1914) is illustrated by the following figures:

	1924	1927-28	1936	1938	1940
Dispensaries					
Urban	—	—	484	545	521
Rural	—	—	62	53	24
TOTAL	60	293	546	598	545
Stations					
Urban	—	} 388 all others	207	306	425
Rural	—		328	434	520
TOTAL			535	740	945
Departments and Offices					
Urban	—		894	966	1,002
Rural	—		108	88	113
TOTAL			1,002	1,054	1,115
Mobile Squads	20		16	15	8
TOTAL NUMBER	80	681	2,099	2,407	2,613

In addition to the above stationary enterprises and the regular flying squads of specialists, a large number of expeditions were sent into Central Asia and other sections of the Union where morbidity was high. The expeditions, which would remain in one place as long as eight months, included from twenty to thirty specialists, who would start patients on courses of treatment and arrange for them to be cared for subsequently by local medical personnel. From 1922 to 1940, it has been estimated that more than 1,000 mobile squads and expeditions were sent into rural districts, and that in one of the most highly infected, incidence of syphilis dropped 70 per cent.

I studied in great detail, in 1935, the First Moscow Dermato-Venereological Dispensary, on whose staff at that time were 40 physicians—dermatologists, syphilologists, specialists for gonorrhea in men and gonorrhea in women. They were treating 1,200 cases a day.

The great problem of the dispensaries is how to attract patients. In addition to a great deal of general propaganda, this is accomplished by providing the best possible service and by making the whole procedure as easy as possible for the patients. No one has to wait. After the first consultation each person comes by appointment. The dispensary is open from early morning until late at night in order that patients may visit it before and after working time. Secrecy is preserved by giving

every patient a number. After the first visit he has only to show the number and need not reveal his name. The attitude toward venereal diseases has changed so radically that they are no longer generally considered something of which to be ashamed. For those people, chiefly former peasants, who still feel embarrassed about going to such a dispensary, everything is done to put them at their ease.

During treatment a patient is kept under constant supervision. If he does not return to the dispensary, a nurse is sent to inquire about him. The law passed in 1927 makes treatment of venereal diseases compulsory and gives the state power to enforce it. If a man does not undergo treatment voluntarily, he can be arrested. I was told that the law has to be applied very rarely. People have come to understand their condition and seldom attempt to escape treatment. They also know that the penal code provides a penalty of six months' imprisonment for "knowingly placing a person in danger of venereal infection." Syphilitic patients are hospitalized during the infectious period, and they receive all the benefits of social insurance.⁷⁰

For hospitalization of venereal and skin cases, 2.2 to 2.4 per cent of all hospital beds have been reserved over a period of years. The number of these beds increased from 7,072 in 1926 to 13,190 in 1940.

A very important task undertaken by the dispensaries is to trace the source of infection. It frequently happens that a patient, after having been enlightened about the nature of his disease, brings his own contaminator to the dispensary. In other instances he gives the address and nurses are sent to make inquiries. In the dispensary mentioned above, the source of infection is found in from 50 to 60 per cent of all cases. Another significant preventive measure that is practised regularly is the examination of the entire family of a patient. Great delicacy is used in arranging for such an examination. The patient is asked for permission to have his family examined. Permission is almost never refused if the doctor takes time and trouble to explain to the patient the possible consequences of his condition for the family.

As in the case of tuberculosis, a venereal dispensary surveys its district and makes contacts with the various health agencies. It does an enormous amount of educational work. Lectures and demonstrations are held in all working places. Since all pregnant women take Wassermann tests, since nurseries and schools are under permanent medical super-

⁷⁰ *Bolshaya Meditsinskaya Entsiklopediya (The Large Medical Encyclopedia)*, 1934, vol. 30, pp. 515-603.

vision, and workers in all enterprises are given periodical examinations, it is relatively easy to discover venereal cases. Most important, however, is the fact that a new code of sexual morality has developed, people marry early, and prostitution has decreased.

It is no wonder that the incidence of venereal diseases has been reduced considerably since the Revolution:⁷¹

Number of Registered Syphilitic Patients
(per 10,000 population)

1913	76.8
1914	74.7
1928	42.8
1929	32.2
1930	29.5
1931	24.7
1936	18.6 (in cities)

Number of Registered Gonorrhoeic Cases
(per 10,000 population)

1914	40.0
1928	31.0
1929	25.7
1930	24.3
1931	20.5

At the fourth All-Union Congress of Dermatology and Venereology, held in January 1937 in Moscow, it was announced that the incidence of primary syphilis in cities decreased between 1913 and 1935 from 25.7 per 10,000 population to 1.8. During the same period the decrease in villages was from 2.66 to 0.62. In Moscow, where medical facilities are better than in other cities, the decrease was even more striking. The morbidity was 206 in 1913, and only 23.2 in 1935.⁷²

It is very interesting to study the figures of one district for a period

⁷¹ N. A. Semashko, *Health Protection in the USSR*, London, 1934, p. 104. The 1936 figure for syphilis is from the excellent survey article by L. N. Mashkilleison and V. A. Rakhmanov, "Venereal Disease Control in the USSR," *American Review of Soviet Medicine*, December, 1945, pp. 100-105.

⁷² *Pravda*, Feb. 1, 1937.

of ten years. The First Moscow Dermato-Venereological Dispensary, already mentioned, has disclosed these results:⁷³

Venereal Diseases Treated (per 10,000 population)		
	1923	1932
Syphilis		
all forms	62.4	34.8
acute-contagious forms	24.3	4.6
Gonorrhoea		
acute	61.3 *	43.1
chronic	52.7 *	3.0
Soft chancre	5.9 *	5.0

* In 1924

Dr. M. M. Zarkhi, director of the Dispensary, attributes these excellent results to improvement in the quantity and quality of service given and to increased propaganda which, during the period, reached more than half a million people:

	1925	1932
Families examined	465	1,079
Children examined	1,536	12,330
Pregnant women examined	699	3,747

I was told in June 1936 that the incidence of venereal diseases decreased steadily until 1934. It then remained stationary until the beginning of 1936 when it again dropped considerably. This occurrence was attributed to the fact that during 1935 there was a great turnover of labor, particularly among young workers, while in 1936 the population had become much more steady and settled. Extra-genital infection in rural districts was disappearing rapidly as a result of the changed modes of living. In the Buryat-Mongolian Republic, the chief source of infection was the lamas in the monasteries. They infected women who passed on the disease to their families. Living conditions and customs are now so completely changed there, however, that the incidence of syphilis has been very much reduced.

The trend observed in June 1936 has continued, although it was tem-

⁷³ M. M. Zarkhi in: *Sovetskū vestnik venerologu i dermatologu* (*The Soviet Journal of Venereology and Dermatology*), 1935, No. 2, pp. 131-148.

porarily reversed during World War II by the German occupation. The following chart indicates the drop in morbidity from 1937 through 1939 in twelve Soviet cities (*per 10,000 population*), in primary forms of syphilis, acute gonorrhoea and soft chancre:

	SYPHILIS			ACUTE GONORRHEA			SOFT CHANCRE		
	1937	1938	1939	1937	1938	1939	1937	1938	1939
Moscow	3.8	2.3	1.3	38.0	32.0	29.8	0.5	0.13	0.08
Leningrad	6.3	2.9	2.2	34.5	25.7	25.2	0.2	0.05	—
Irkutsk	2.14	0.91	0.91	35.0	35.1	30.4	—	—	—
Kharkov	2.6	1.4	1.07	34.0	33.7	30.8	0.06	0.04	—
Odessa	3.7	2.0	1.44	42.6	31.9	34.2	1.5	0.11	0.4
Dnepropetrovsk	1.66	0.68	0.80	38.8	29.5	29.5	0.5	0.2	0.4
Baku	5.58	2.90	3.15	50.9	50.7	46.0	1.27	0.4	0.24
Minsk	2.27	0.63	0.04	20.0	18.0	18.0	0.03	—	—
Rostov-on-Don	2.8	2.7	1.43	44.8	40.0	42.4	0.9	0.3	0.21
Voronezh	5.4	2.5	1.13	57.1	51.0	42.0	0.06	0.03	0.03
Gorky	1.2	1.1	1.19	36.8	21.1	20.0	—	0.03	—
Kazan	1.54	1.07	0.99	32.2	29.2	27.3	0.07	—	—

According to another official estimate, the incidence of syphilis had been reduced by 1941 to 10 per cent of what it had been twenty-five years earlier, and the corresponding reduction for gonorrhoea was 20 per cent. In 1941 soft chancre was virtually non-existent in the majority of Soviet cities.⁷⁴

In the spread of venereal diseases, *prostitution* plays a very important part. No prostitute can escape infection, and once contaminated she becomes an active disseminator of the disease. Prostitution is primarily the result of economic conditions, and every state that is not able to provide work for all its citizens will always have prostitutes. In some capitalist countries, prostitution is regulated. Girls are registered, and they practise prostitution with the sanction of the state, which takes its share of the profits through taxation. In other countries prostitution has been forbidden by law, with the result that it flourishes underground. The Soviet Union was the first country to attack the problem in a rational way, and its success in fighting prostitution is to a large

⁷⁴ G. A. Miterov, *loc. cit.*, p. 60 (footnote 65).

extent responsible for the reduction in the incidence of venereal diseases.⁷⁵

Prostitution was a wide-spread evil in tsarist Russia. Prostitutes were recruited largely from country girls who had been driven into the cities by the miserable economic conditions in rural districts. When, for one reason or another, these girls lost their positions as servants, they could not do other than become prostitutes. Prostitution was regulated. The girls had to deliver their passport to the police. In exchange they received the ill-famed "yellow ticket," which stamped them officially as prostitutes and made it very difficult for them to return to a normal life. They were supposed to be examined regularly by physicians, but the examinations were superficial and the girls contributed greatly to the spreading of venereal diseases. There was a movement in favor of the abolition of prostitution before the Revolution. A congress, held in 1910 with the participation of workers' delegates, unanimously passed a resolution urging the government to close brothels. Nothing came of it, however.

The Soviet state, anxious to give women full equality with men, could not tolerate a condition which degrades woman and makes her an object of particularly brutal exploitation. In its fight against prostitution, the state early made the wise decision to attack not the individual prostitute but the institution. The girl whom misery had driven into prostitution was not to be punished, but all parasites, male and female, who exploited her. The problem was not urgent during the period of war communism. Labor was compulsory, and everybody was so occupied and poor that there was little demand for prostitutes. Conditions changed after the introduction of the New Economic Policy in 1921. Private trade was permitted temporarily, and consequently a good many profiteers assembled in the cities. At the same time there was much unemployment, particularly among unskilled women laborers. Two-thirds of the unemployed were women. The number of prostitutes increased. Although the situation was never as bad as it had been earlier, because the Revolution had given increased dignity to proletarian women, times were so hard that many women had no choice but to become prostitutes.

In 1922 the government took measures to fight the evil. Special councils were established in the local health departments, and a central

⁷⁵ Professor V. Bronner, who organized the campaign against prostitution and with whom I visited the Moscow Prophylactorium in 1935, has published a booky on the question: *La lutte contre la prostitution en U.R.S.S.*, Moscow, 1936.

council was created in the Russian Commissariat of Public Health. It is very significant that the health authorities, not the police, were entrusted with this task. Prostitution is a menace to the people's health and is a social disease in itself. The authorities knew, however, that unemployment was the chief cause of the evil. Hence, the first remedy applied was the creation of employment for those women who were in particular danger, for instance, country girls who had just come to town, or young unemployed women who had just begun to practise prostitution. The councils organized women's cooperatives which made paper boxes, envelopes, lingerie, clothing, and similar commodities. These cooperatives, however, did not flourish; it was hard for them to compete with large-scale production. It was also apparent that they could not possibly solve the problem of unemployment.

After a few years of experimentation, the policy was changed; the councils began to center their attention upon the sick prostitute. In 1925 the health authorities organized a new type of institution, the prophylactorium. It admitted not only prostitutes suffering from venereal diseases, but also other contaminated women who, without being prostitutes, still were endangered and needed some re-education. Women of this latter category lived at home, but worked during the day at the prophylactorium and received treatment and instruction. The fact that a woman worked in such an institution, therefore, did not necessarily mean that she had been a prostitute. From 1925 to 1931, prophylactoria were established in all the large cities; in the latter year 33 were in operation. When unemployment was abolished at that time, prostitution decreased and a number of prophylactoria could be closed. In Moscow, only one remained in operation after 1931 with 394 inmates.

Moscow Prophylactoria, 1926-1930

	1926	1927	1928	1929	1930
Number of prophylactoria	2	3	4	5	5
Number of women treated	128	300	422	600	900
Number of women residents	66	113	210	300	400

The task of the prophylactorium was to cure the sick woman, re-educate her for work, and raise her cultural level. Each of these institutions had living quarters, all medical facilities required, and industrial workshops. One section of the Moscow Prophylactorium which remained open after 1931 was in the country and operated a farm. There

was no charity involved: all the inmates worked at regular wages, and in turn paid for board and lodging. The workshop of this prophylactorium annually turned out products, mostly knitwear, valued at from four to five million rubles.

No girl was ever compelled to enter a prophylactorium. The physician who first saw her usually endeavored to persuade her, but if she did not wish to do so or she later decided to leave, no restraint was used. Inmates of a prophylactorium, therefore, could be kept in the house only through good treatment. Generally, they became so convinced that it was to their advantage to live there that expulsion came to be regarded as a most serious punishment. Recruiting was carried on largely through the anti-venereological dispensaries. Social committees consisting of factory workers also assisted, and not infrequently girls voluntarily applied for admission.

Until 1931 the task of the prophylactoria was relatively easy, since most prostitutes were unemployed women driven into prostitution by poverty. They were normal women and were easy to re-educate. Once they had learned to work and had been given a job and a room, they were readjusted to life. After 1931 and the disappearance of unemployment, the task became infinitely more difficult, because prostitutes were then recruited from women who did not want to work. Many of them were psychopaths and feeble-minded girls, who were unable to perform any skilled labor and found it easier to make a living through prostitution. Many of them had been remnants of the *bezprizorny*, waifs made homeless by the Civil War. They had not learned to organize their lives and adjust themselves to the new society. Consequently, in the final years of their existence, the prophylactoria had to adjust their program to this situation.

During that period, for example, inmates of the Moscow institution followed this schedule: From seven to eight o'clock in the morning, the girls breakfasted. The hours from eight to two, with the exception of time for lunch, were devoted to medical treatment and cultural activities. School instruction was provided and there were various music clubs. From two-thirty until ten at night, except for an interruption of half an hour for dinner at five, the girls worked in the workshops. At ten tea was served, and at eleven the girls went to bed. The whole schedule was arranged in such a way that the girls were busily engaged during the evening when it was dark and they would be most likely to want to go into the streets. Before 1932 the girls were kept in the

prophylactorium for not more than a year; after that date it seemed necessary often to extend the period to two years.

The prophylactoria were very well equipped. The medical staff of the Moscow institution consisted of four syphilologists, a psychiatrist, a dentist, an internist, and two consultant professors whose special fields were the treatment of syphilis and gonorrhoea in women. The prophylactorium also maintained a large teaching staff. Medical service cost approximately 100,000 rubles a year, and 60,000 rubles were spent annually for educational purposes.

The results were good. The Moscow prophylactoria treated 3,810 women between 1926 and 1935; 3,277 of them had been infected with venereal diseases. The mere fact that such a large number of women were removed from society until they were completely cured is significant. Of the 3,810 persons treated, 2,143 or 56.3 per cent later went to work in industry; 1,237 or 32.5 per cent voluntarily left the prophylactorium, and 382 or 10 per cent were expelled for having violated the rules of the institution. The prophylactorium kept in constant touch with former inmates working in factories or on farms. Regular meetings were held, and every year the former inmates elected three representatives to serve on the advisory board of the prophylactorium.

I was informed that about 90 per cent of all the former pupils who went into industry remained there; 41 per cent of them became shock workers, that is, highly qualified workers. Twenty-one per cent undertook some social work besides their regular factory work. Only 10 per cent did not remain at work, and one in every two in this group returned to the prophylactorium voluntarily for further education.

There can be no doubt that the number of prostitutes in Soviet cities had decreased considerably by 1936, although it is difficult to give accurate figures. Before the Revolution, cities like Moscow and St. Petersburg had an average of from 25,000 to 30,000 prostitutes. In 1928 a survey was made in Moscow by groups of workers who were members of the advisory boards of the prophylactoria. They surveyed the streets and the various localities where prostitutes are generally found, and came to the conclusion that there were about 3,000 prostitutes in Moscow. This was at a time when 80,000 women workers were registered as unemployed. In 1930 a similar survey was undertaken, and it was found that the number had decreased to about 800. There was another method of ascertaining the relative number of prostitutes. When the anti-venereological dispensaries traced the source of infection, they learned

how many of their patients had been infected by prostitutes. The figures for Moscow are the following:

	1914	1925	1927	1934
Total number of patients	388	190	132	75
Number of these patients contaminated by prostitutes, and percentage of total	221 (56.9%)	60 (31.7%)	35 (26.2%)	9 (12.0%)
Percentage compared with 1914	100	27.1	15.0	4.0

As prostitution gradually disappeared from the Soviet scene in the last few years prior to the war, one by one the remaining prophylactoria were closed and the system discontinued. It represented an interesting and successful method of removing the principal causes of the evil, and helped a large number of women to readjust themselves to the new social environment.

Alcoholism, like prostitution, is the result of unfavorable social and economic conditions. Misery, poor living conditions, and lack of educational and recreational facilities drive a man to drink. In 1913 the consumption of vodka, the most popular liquor in Russia, amounted to 8.1 liters or more than two gallons per person.⁷⁶ The average worker spent more than a quarter of his wages on liquor,⁷⁷ which often was sold to him by his company's stores. Thus the employer, and the state through its excise tax, made large profits.

Like the United States, Russia had its period of experimentation with prohibition. During the Civil War, manufacture and sale of alcoholic drinks were forbidden. The experiment failed in Russia, just as it did in the United States. Liquor was not bootlegged from abroad but was distilled in homes. Great amounts of much-needed bread grain were wasted in this manner, and the population poisoned itself with poor liquor. The policy was radically changed after the Civil War. Liquor

⁷⁶ V. M. Molotov, *The Plan and Our Tasks*, Moscow, 1936, p. 63.

⁷⁷ N. A. Semashko, *Health Protection in the U.S.S.R.*, London, 1934, p. 118.

began to be manufactured, and still is, by the State Spirit Trust. Sale to minors is forbidden, and the government is empowered to prohibit all sales of alcoholic drinks on holidays or whenever it may seem advisable.

At the same time that the government began to control the use of liquor, it also began to fight the causes of alcoholism by improving living conditions, by encouraging physical culture, and by developing all the educational and recreational facilities that we have already mentioned. Much propaganda against abuse of alcohol has been carried on in all working establishments. Many Party members and a very large number of Young Communists use no alcohol at all, and thus set an example for the people to follow. Most important is the pressure of public opinion. Society objects to drinking and a man who is seen intoxicated disgraces himself. The average consumption of vodka dropped to 4.5 liters in 1931 and to 3.7 in 1935.⁷⁸ Less than half of the pre-Revolutionary amount is now consumed; much more alcohol is produced for the manufacture of synthetic rubber than for drinking purposes.

One rarely sees intoxicated persons in the streets of Soviet cities. There are drunkards, of course, and the problem they present is very similar to that of prostitution. As long as there was unemployment, some people spent their last kopek on liquor. People who drink now are often neurotics and not easily curable. Treatment, however, can be enforced by law. If a man is caught drunk repeatedly, he can be arrested and can be compelled to undergo therapy in a special institution.

A Moscow prophylactorium for alcoholics which I have visited was organized in 1930. At the time of my visit, the staff consisted of seven physicians and sixteen nurses. Patients stay there for from four to six weeks and about a thousand persons are treated annually. The treatment is primarily educational and consists largely of occupational therapy. Gravidan is given occasionally. The prophylactorium maintains that 20 per cent of its patients are permanently cured, 30 per cent are temporarily cured, and 50 per cent represent doubtful cases. Every case is followed up by nurses, and regular meetings of former inmates are held. Great efforts are made to keep in touch with every individual patient. Dangerous and incurable cases are sent to special rural labor colonies.

⁷⁸ V. M. Molotov, *loc. cit.*

Closely connected with alcoholism and prostitution is another social disease, *crime*, which can be mentioned only briefly here. In June 1936, I visited the labor commune, Bolshevo, near Moscow. Most of its 5,000 members were former thieves. This commune was organized in 1924 by the GPU upon the initiative of Felix Dzerzhinski.⁷⁹ It was a great experiment that began with the admission of 18 vagrant children. Four criminals were soon added to the group, and eleven more were admitted some time later. At the time of my visit, the commune consisted not only of the 5,000 members but also of their families—a total population of about 10,000. Among the facilities for the children of these former thieves was a splendid nursery which I found to be spotlessly clean and beautifully furnished. A crowd of happy youngsters attended by nurses were at play. I could not help thinking under what different conditions such children would be brought up in other countries.

When a person is convicted of crime, he may be given an opportunity to work in a place like Bolshevo instead of going to jail. It sometimes happens that criminals do not wait until they are caught by the police, but report voluntarily and ask to be allowed to work in a labor commune. Once a man has joined the group, full confidence is placed in him. The colony is not guarded, but the members have to pledge themselves to keep four iron rules: never to steal, never to drink, to work, and to obey strictly the rules which the members themselves have made. The commune is administered by a council elected by and from its members. Thus all officials are former criminals. During the first two months, newcomers are not allowed to leave the place, and for six months they are under supervision. Then they may become full members of the commune and are permitted to go away on free days or after working hours.

As a labor commune, Bolshevo had no state subsidy. It was not only self-supporting but was actually a prosperous industrial center producing commodities valued in 1936 at 80 million rubles a year. It specialized in the manufacture of sporting goods, such as skis, hockey sticks, tennis rackets, and footballs. Since treatment consisted of re-education to work, all members of the commune were employed in the various workshops. They received union wages and paid for their board and lodging. The profits were large enough to permit the commune to

⁷⁹ *Bolshevsy. Ocherki po istorii Bolshevskoi imeni G. G. Yagoda trudkommuny NKVD. (Those from Bolshevo. Sketches on the history of the Labor Commune Bolshevo of the People's Commissariat of Internal Affairs.)* Moscow, 1936.

build model institutions, among them a hospital, a nursery, a club house and athletic fields. Besides working in the factory, all members attended classes where they were instructed in the courses of a seven-grade school. They received further instruction in the various clubs. A period of from two to three years is considered sufficient to re-educate a man. After that time, he may leave if he chooses and his criminal record is destroyed. Many, however, prefer to remain in a commune. As a matter of fact, Bolshevo itself lost its identity as a labor commune several years ago because of the disposition of its members to reside there permanently after they had served their term of re-education. Because they and their families insisted on remaining, and utilized all the available dwelling space, Bolshevo became a regular Soviet community. All criminals were thereafter sent to other communes, which have been established in all the larger cities. The Kharkov commune has become famous for its manufacture of very good miniature cameras.

Labor communes of the Bolshevo type serve primarily to re-educate young criminals, mostly thieves. Other criminals, particularly political ones, are re-educated in other enterprises. The building of the White Sea-Baltic Canal⁸⁰ and of the Moscow-Volga Canal were gigantic undertakings which not only benefited the country economically but served as a method of social readjustment for thousands of individuals. Other labor communes operate farms. Whatever the work, it is designed to demonstrate to the members of the group that honest labor leads to a better life than crime. During the last war, many criminals were released for military service and redeemed themselves and won their release by their heroism at the front or in special war assignments.

The socialist state feels responsible for all its members. It attempts to give equal opportunities to all. It opens wide the door to education and guarantees a job to everyone. If an individual becomes anti-social and resorts to crime, this means that society has made a mistake, that a man through unfortunate circumstances was deprived of opportunities. It is, therefore, the duty of society to treat him as it would treat a sick person, and aid him in his social recovery. In the process of therapy, it is essential that the self-respect of the criminal should not be weakened, but rather strengthened. Article 9 of the Criminal Code reads: "Measures of social defense shall not have as their object the infliction of

⁸⁰ *Belomor. An Account of the Construction of the New Canal between the White Sea and the Baltic Sea*, New York, 1935.

physical suffering or personal humiliation. The question of retaliation or punishment does not arise.”

It was to be expected that improved living conditions and the development of cultural facilities would lead to a significant reduction in the incidence of crime. This has actually happened. Crime reached its peak between 1930 and 1933 when the kulaks opposed the Five-Year Plan. There has been steady improvement since then. From 1933 to 1935, crimes against personal property decreased by 55 per cent, murder and manslaughter by 50 per cent, and sexual offenses by 75 per cent.⁸¹ Convictions for mismanagement of state funds increased somewhat in the mid-thirties, and there was a great deal of hooliganism until society absorbed the last of the homeless waifs and vagrant children. The severe hardships and emotional upsets caused by the last war have also apparently created new problems of crime, which the authorities are now coping with and which can be expected to disappear as Soviet life returns to the customary social pattern.

Regardless of future decreases in the amount of crime, however, there will always be some psychopaths who will become criminals. Their rehabilitation will constitute a difficult task, but one for which the medical profession should assume responsibility.

Protection of Labor

In the socialist state, man has a duty to work and a right to work.

Man has to work in order to live. That is good, for work gives significance to life, ennobles it. Work permits the creation of material and cultural values without which human existence would not be worth living. Work balances our lives and is, therefore, an essential factor of health.

The socialist state has created a new attitude toward work. The Soviet worker knows that he is not toiling for the ultimate benefit of a boss but that he controls and distributes the surplus values he creates. This knowledge has helped a great deal to make work joyful and to remove some of the hardships and ill effects peculiar to certain types of work.

There is no doubt, however, that many occupations are dangerous and can be highly harmful to health. Modern industry has put physical and chemical forces of high potency in close proximity to man. In a

⁸¹ *Izvestia*, July 2, 1936.

society based on the duty and right of every citizen to work, therefore, the protection of health begins with the creation of the best possible working conditions, conditions designed to prevent the incidence and spread of disease.

Like health protection in general, the protection of labor is the concern of the workers themselves. The organs in this endeavor, which is based upon the Labor Code,⁸² are the trade unions. They have served as the duly appointed administrative agents of the government in all matters pertaining to labor law, social insurance and industrial safety since the abolition of the Commissariat of Labor in 1933. This has proved to be a wise assignment, both because of the unions' direct contact with industry and their highly representative character. By 1945, trade union membership had risen to a total of more than 27 million, representing about 85 per cent of all Soviet workers. This membership was spread among 191 unions.⁸³

The Labor Code of the RSFSR, put into operation on November 15, 1922, was adopted virtually without change by the other Union Republics. The various codes were amended repeatedly after the Constitution of 1923 had empowered the All-Union authorities to establish basic labor laws. As a result, this legislation is practically uniform throughout the Soviet Union.⁸⁴ Representing a new departure in labor legislation, these Soviet codes do not apply only to industrial workers but cover every wage-earner without exception, including office or white-collar employees, persons working at home and craftsmen organized in cooperatives or artels.

No industrial plant or workshop may be built, rebuilt or transformed until the plans have been approved by the trade unions and health authorities. This approval is in the nature of a guarantee that all regulations have been complied with, and that all known measures for the prevention of accidents and diseases have been incorporated in the new layout. No plant may begin operating, moreover, until it has been examined by labor and sanitation inspectors. No newly designed machine may be put into production until one of the labor-

⁸² *Kodeks Zakonov o Trude (Labor Code)*, Moscow, 1929.

⁸³ Disclosed by Mikhail Tarasov, Soviet trade union leader, during a visit to the United States in 1945.

⁸⁴ See the very useful book by I. I. Troizki, *Die Arbeitgesetze der Sowjetunion*, (Moscow-Leningrad, 1935).

protection institutes operated by the trade unions has certified that it does not create a safety hazard.⁸⁵

The labor inspectors, appointed by the trade unions and trained in special Labor Welfare Schools, must prove their fitness for their duties by passing civil service examinations. There were more than 5,000 of these inspectors in 1938, compared with less than 200 in tsarist days.⁸⁶ Their principal function is to enforce regulations drafted jointly by the central (all-Union) committees of the trade unions and the respective industrial management to cover standards of safety and hygiene. The regulations apply to safety equipment, work clothing and safety measures; they also specify the hours and conditions under which pregnant women, disabled persons and workers in other special categories may be employed. The labor inspectors as well as the sanitary inspectors have the authority to administer fines and close individual workshops, even entire plants, if they find conditions unsatisfactory.

To be efficient, supervision of labor conditions in a plant must be constant. Besides the regular labor inspectors who travel about from plant to plant, therefore, a labor protection commission is created by each Works Committee (*Fabkom* or *Zavkom*) or Local Committee (*Mestkom*), the top trade union committee for a single enterprise or group of enterprises in a single locality. Jointly with the plant management, these commissions determine the allocation of funds set aside for safety measures and pertinent improvements in working conditions. Moreover, each production group or brigade, generally composed of not more than twenty workers in the same shop or other primary production unit, elects a "public inspector." He reports violations of safety regulations to the commission. The latter has the authority to levy fines, and with the consent of the regular labor inspectors may prosecute cases under the law. On the alert for unsafe working conditions, these commissions report shortcomings and suggest improvements.

Throughout Soviet industry, vast numbers of workers thus serve as voluntary guardians of industrial safety. In 1936, about 200,000 volunteered for labor inspection.⁸⁷ Under special conditions, the number grows. In 1944, for example, a special category of "public inspector" was established for the protection of the boys and girls under 18 years of

⁸⁵ Edwin S. Smith, *Organized Labor in the Soviet Union*, National Council of American-Soviet Friendship, New York, 1943.

⁸⁶ *Ibid.*

⁸⁷ *Izvestia*, June 30, 1936.

age who had streamed into industry at the height of the war emergency. Moreover, every worker is encouraged to suggest methods of making his work more efficient and safe.⁸⁸ He has practical incentives for doing so: If he makes a suggestion that is adopted, his name and particular contribution are mentioned in the wall newspaper of his plant or shop, his photograph may be displayed in the factory club, he may receive premiums in the shape of money or luxury goods.

Besides their overall role in the promotion of plant safety, the labor protection commissions do a great deal of educational work. This has been a vital service in Soviet industry. Countries like England, the United States or Germany, which have a long industrial tradition behind them, are possessed of vast forces of industrial workers who have virtually grown up in factories, and whose parents and grandparents were industrial workers before them. In the Soviet Union, on the other hand, many factory workers were peasants only yesterday. In the Ordzhonikidze Toolmaking Factory in Moscow (*Stankostroenie im. Ordzhonikidze*) I learned on my visit in 1936 that 30 per cent of its 4,000 workers, representing 19 nationalities, were formerly peasants. Obviously, such workers have to be taught not only how to handle a machine efficiently, but also how to handle it safely.

Sanitary facilities in most of the factories taken over by the Soviets from the old regime were appallingly bad, and had to be rebuilt and reconditioned to measure up to the new standards. This was not always an easy job. I visited a large number of factories in many regions of the Soviet Union. I found the old factories greatly improved and most new factories as good as factories ever can be. How excellent they were I came to realize after I had visited a number of plants in Western Europe and America, some in countries which are considered to be socially advanced.

I shall never forget the metallurgical factories of Zaporozhye, a new industrial city of more than 150,000 inhabitants that seemed to have sprung up overnight after the completion of the Dnepr Hydroelectric Station. I saw there steel mills surrounded by beds of roses and walked through gardens before entering the plant. The workshops were equipped with all possible safety devices. Even so, life in the proximity of a blast furnace will never be pleasant; the handling of white-hot

⁸⁸ A total of 5,680 recommendations were submitted in one year by workers in Leningrad's machine-building plants. *The IXth Congress of the Trade Unions of the USSR* (Moscow, 1933), page 81.

steel will always be hard work. Workers who serve society by doing this exhausting work deserve the best living conditions that society can provide. No privileges are great enough to compensate for their hardships. The same is true for miners working underground. They provide under incredibly hard circumstances the basic raw materials without which half of the other industries could not exist. Safe labor conditions and complete social security are the least they can expect.

Critics of the Soviet Union have pointed out that the industrial workers are given a privileged position in the socialist state, e. g., that they receive more and better medical service than other groups of the population. If this be true, it is perfectly justified. Industrial workers made the Revolution. They were the first builders of socialism. They were formerly the most exploited and underprivileged class. Their work is infinitely harder and more injurious to health than that of peasants and office workers. It is only right that they should have been the first to benefit by the new social order.

I shall always remember with deep emotion a day in 1935 spent in the Freser Tool Works, in Moscow, where I found pleasant surroundings, flowers everywhere, large well-ventilated and well-lighted workshops with thousands of workers, men and women, mostly young people. The men were clean-shaven, the women wore bright kerchiefs. All were busily engaged in work while a woman's sweet voice sang, in German, through the loudspeaker Schubert's song, *Du bist die Ruh', der Friede mild*. And I could not help remembering other factories I had seen in the capitalist world. You come to realize what work can be like, and what it must eventually become everywhere if there is to be a real civilization.

The protection of labor requires a great deal of research. New tools are constantly being invented and new safety devices have to be sought. In 1936, there were 40 scientific research institutes devoted to labor protection in the Soviet Union. Generally, they are financed and operated by the trade unions. The Scientific Bureau of the All-Union Central Council of Trade Unions acts as their clearing house, assembling the results of all investigations and communicating them to the various industries.

These institutes, to be found in all the industrial centers of the Union, generally base their activities upon the needs of plants in their own areas. In Moscow, the All-Union Scientific Research Institute for the

Protection of Labor devotes itself to problems of the automobile, tractor, military and transport machinery industries, including railroad equipment. It has physiology, hygiene, ventilation, lighting and psychotechnics departments, and one for the study of methods of individual protection. When I visited this organization in 1936, experiments were in progress on gas metabolism, high pressure and radiation. Considerable attention was being devoted to the influence of meteorological factors. I saw large models of factories where new heating and ventilating systems had been installed for experimental purposes. Problems of local heating and ventilation, point-heating and air-douches were receiving special attention. I was shown a new apparatus that removed dust from grinding-wheels.

Whenever an institute develops methods of improving labor conditions or constructs new safety devices, these are put into immediate use. Problems are usually brought to the institutes by the factories, which are often very impatient for their solution. There are no privately controlled patents to delay the use of a new apparatus or to raise its cost. Nor are there antagonistic financial interests coldly calculating whether or not a safety measure will pay out in dollars and cents. Soviet production must be increased, but not at the expense of the worker's health.

Although the trade unions operate the majority of these institutes, they are not the only agency concerned with labor protection. The former Commissariat of Heavy Industry, now reorganized into several ministries, maintained a special section, called Technology of Safety (*Tekhnika Bezopasnosti*) which developed scores of safety devices every year.⁸⁹ A slogan frequently heard is, "From the technology of safety we march to safe technology."

Obviously, all these institutions must cooperate very closely with medical agencies. Their staffs consist mostly of scientists, engineers and hygienists, who are engaged primarily in studying the physical and chemical factors of labor. For the study of occupational diseases and the medical aspects of labor protection, however, their work is integrated with that of about 25 medical institutes.

One of the best known of these medical institutes is the Obukh Institute of Labor Hygiene and Occupational Diseases, established in Moscow in 1923. Its three main divisions comprise a clinical department with a medical and surgical station, sections for nervous diseases and

⁸⁹ *Izvestia*, June 30, 1936.

diseases of adolescence; a department of hygiene; and an experimental department. Besides maintaining a 155-bed hospital, this institute controls 20 beds in another hospital for the study of occupational skin diseases. Workers in particular industries are sent to its dispensary for periodic examinations. A decade ago, it was cooperating with the All-Union Institute of Experimental Medicine in studies of old age and longevity, and was giving ten-day postgraduate courses throughout the year.

In the Soviet Union, every case of occupational disease must be reported to the health authorities. In Moscow, every case of industrial poisoning, real or suspected, must be referred to the Obukh Institute, which dispatches squads of investigators to study each situation on the spot.

The work of the Obukh Institute covers the entire field of occupational diseases: actiology, prophylaxis and therapy. It looks into such matters as the working capacity of diseased individuals. If a man becomes too disabled to continue on his job, the Institute recommends other work to which he may be adjusted. It determines the length of time a patient should rest after an operation before resuming his work.

In its psychotechnic division, I studied the case history of a girl who had been trained in a factory school to become a locksmith. She was so inefficient at this work that she was referred to the Obukh Institute. An examination revealed that she was a highly intelligent girl but had no ability for manual work. At the suggestion of the Institute, she entered a training school for teachers. Subsequently, she became a good teacher. The socialist state, which guarantees every citizen the right to work, wants him to work at the job for which he is best fitted.

During the war this institute devoted itself primarily to the study of "oxygen hunger" resulting from poisonous substances, liver disorders and kidney diseases, which became prevalent among workers in tank arsenals, munitions plants, and the chemical and non-ferrous industries. Problems arising from the influx of adolescents into Soviet industry, where they helped replace workers mobilized for military service, were other special concerns of the Institute during the war emergency.⁹⁰

Institutions engaged in the same type of work as the Obukh Institute, which itself has branches in other cities, functioned before the war in Kharkov, Kiev, Smolensk, and Leningrad. There were smaller institutes or dispensaries for occupational diseases in a score of other places.

⁹⁰ Edwin S. Smith, *loc. cit.*

The Institute for the Hygiene of Labor⁹¹ in Leningrad had a staff of 280, including 140 scientific workers, and an annual budget of two million rubles.

Through medical and technical research, health hazards of industrial work can be reduced considerably. However, there are groups of workers who are constitutionally endangered and need special protection. This applies particularly to women and children.

The Labor Code forbids the employment of children under 16 years of age. Young people from 16 to 18 years are not allowed to work more than six hours a day. Women and persons under 18 years of age may not be employed in especially hard and dangerous work, nor in underground work. The trade unions specify these occupations, and further determine the limit of weights that may be carried by women and minors. Women and persons under 18 years of age are not permitted to work on night shifts. Exceptions may be made for women in special cases provided they are not pregnant and not nursing children. Pregnant women are released from work on full wages for 28 days before and 42 days after confinement. Nursing mothers must be given intermissions for the nursing of their children of at least half an hour, at intervals of not more than three and a half hours. These intermissions are considered working time.⁹²

Good as working conditions may be, there will always be enterprises in modern industry, particularly chemical enterprises, that are essentially harmful to health. Their workers must have special protection. Where there is danger of poisoning, milk is served to the workers. When the task is particularly harmful or when it is performed under abnormal temperature, in dampness and dirt, or when the rules of general hygiene require it, special working clothes and other protective facilities, such as masks, are provided for all workers. Medical supervision is particularly strict in such enterprises and examinations are carried out at regular intervals as directed by a decree issued jointly on November 16, 1935 by the Chief Inspector of Sanitation of the RSFSR and the All-Union Central Council of Trade Unions.⁹³ Exam-

⁹¹ Described in "Russia Today, Medicine under Socialism," *The Lancet*, August 22, 1936.

⁹² I. I. Troizki, *loc. cit.*, pp. 99-101.

⁹³ *Ofitsialnyi Sbornik Narķomzdrava RSFSR (Official Collection of Documents of the People's Commissariat of Public Health of the RSFSR)* Moscow, 1936, No. 6, pp. 8-9. See Appendix V.

inations must be given once every four months in lead and mercury industries, once every six months in most of the other chemical industries.

This undoubtedly helps a great deal, but by far the most important measures for protecting the workers' health in such industries are the reduction of hours and the granting of longer vacations.

Russia was the first country to introduce the eight-hour working day, established by decree of the Council of People's Commissariats as early as November 11, 1917.⁹⁴ In 1927, when the tenth anniversary of the Revolution was being marked, it was decided to reduce working hours gradually from eight to seven, without reducing wages. Working time on night shifts is one hour less than on day shifts. To protect the health of workers employed in industries considered harmful, their working day has been shortened to six, five and in certain cases to four hours.

Overtime is allowed only in special cases specified by law, with the consent of the trade unions. Persons under eighteen years of age, and pregnant and nursing women are not allowed to do any overtime work. The total number of overtime hours may not exceed 120 a year.

Another innovation of great hygienic significance was the shortening of the week. During the period of the First Five-Year Plan, most industries worked continuously without interrupting production for a single day. In such plants, the five-day week was the rule. This meant that persons worked for four days and rested on the fifth. In other words, each day one-fifth of the workers of any enterprise had a free day while the others were at work. The only free days the population had in common were national holidays. This arrangement had serious inconveniences, so that the six-day week was gradually introduced beginning in 1931. Under this system, five consecutive days were devoted to work and the 6th, 12th, 18th, 24th and 30th of each month were free days.

Every worker has a vacation of at least two weeks or twelve working days annually. In many occupations, however, vacations last a month, six weeks, and even two months. Mercury workers, for example, work five hours a day and have vacations of one and one-half months. Additional vacation time is granted also to workers whose occupations are not particularly harmful but who are obliged to live in unhealthy cli-

⁹⁴ An English translation of the decree is published in: James Bunyan and H. H. Fisher, *The Bolshevik Revolution*, Stanford University Press, 1934, pp. 304-308.

mates. Citizens whose occupations prevent them from taking regular vacations, such as Soviet seamen, are permitted to accumulate earned vacation time to a total of two months. Workers in professional categories, such as teachers, physicians, scientists and artists usually have a minimum of one month's leave annually.

It should be pointed out, however, that the approach of World War II, and then the German invasion temporarily reversed the trend toward a shorter work week and longer vacations. In 1940, at the suggestion of the trade unions, which were alert to the war menace, the working day was lengthened to eight hours in a six-day work week with the seventh day as the free day. In other words, the USSR re-instituted our system of seven-day weeks. When the attack came in 1941, industrial management was granted the right to order overtime to a maximum of three hours daily (paid at time-and-one-half) and the 11-hour day became virtually the rule in the war industries. Moreover, extra pay had to serve as a substitute for vacations during this crucial period.

One of the first fruits of victory in Europe was the return to the 48-hour work week in July 1945. Pre-war vacation schedules were also restored that same month except in certain crucial industries where management was authorized to replace leave with compensatory pay until the end of 1945. National policy is to resume the process of shortening the work week as rapidly as the overall economic situation permits.

As indicated by the table on the next page, industrial accidents were sharply reduced, virtually cut in half during the First Five-Year Plan.⁹⁵ Accident reduction in the principal industries during the period of the First and Second Five-Year Plans ranged from 17 to 74 per cent.⁹⁶ Laws forbidding or restricting the use of lead, mercury and other substances dangerous to health, also the structural isolation of certain shops, mechanization of harmful processes and installation of ventilating and other hygienic equipment have resulted in a steady drop in cases of industrial poisoning; the downward trend was even more pronounced between 1936 and 1941.⁹⁷

⁹⁵ *The U.S.S.R. in Figures, 1935*, Moscow, 1935, pp. 278-279.

⁹⁶ S. I. Kaplun, "*Dvadsatipyatiletie Sanitarnoi Okhrana Truda*" (25 Years of the Sanitary Protection of Labor), *Gigiyena i Sanitariya (Hygiene and Sanitation)*, 2-3, 1943, p. 21.

⁹⁷ Z. Smelyansky, "Factory Hygiene in the USSR," *Soviet Medical Chronicle*, October, 1944.

	NUMBER OF ACCIDENTS AT WORK (per 1,000 insured workers)			NUMBER OF CASES OF TEMPORARY DISABILITY (per 100 insured workers)		
	1928	1933	1933 rate as % of 1928 rate	1928	1933	1933 rate as % of 1928 rate
	Coal mining	465.0	291.6	62.7	156.5	93.7
Ore mining	334.2	192.1	57.5	144.6	90.1	62.3
Metallurgy	321.8	198.1	61.6	128.3	96.7	75.4
Machine building	320.2	168.5	52.6	153.4	110.4	72.0
Match industry	306.0	148.6	48.6	204.9	109.3	53.3
Sawmills and plywood	274.5	173.9	63.4	164.4	115.6	70.3
Textile industry	74.4	48.0	64.5	122.1	94.3	77.2
Needlework industries	109.2	44.7	40.9	177.3	114.6	64.6
Leather industry	259.5	111.3	42.9	201.7	119.5	59.2
Boot and shoe industry	183.6	91.2	49.7	202.1	116.3	57.5
Building construction (RSFSR only)	195.4	95.3	48.8	—	—	—

At the beginning of the war, the leapfrogging of plants to emergency quarters in the East led to an increase of such cases; by 1943 they were again on the decline. In munitions plants, workers were examined twice, sometimes four times a year, and transferred immediately from operations which seemed to be endangering their health.⁹⁸ The campaign for reduction of accidents on the railways during the war helped account for a drop of one-third or more in the number of injured on these roads in 1942 compared with the previous year.⁹⁹

Although the general operations of the factory and regional polyclinics and ambulatoria as medical centers are described elsewhere, something should be said here about the organization of medical service for victims of industrial accidents.¹⁰⁰ This is based on standard methods and facilities, which include a system of first-aid stations in each large plant, with stretchers and first-aid kits in every department

⁹⁸ *Ibid.*

⁹⁹ Edwin S. Smith, *loc. cit.*

¹⁰⁰ N. N. Priorov, "The Organization of Traumatologic Services in Soviet Industries," *American Review of Soviet Medicine*, December, 1944, pp. 100-103.

and, when necessary, with individual kits at each work bench. A nurse trained in industrial hygiene is on duty in all first-aid rooms serving less than 100 workers, and an industrial physician serves larger groups. Each department usually has some workers who have been trained in first-aid, and who thus can begin to administer it at the scene of an accident. The first-aid treatment is continued in the first-aid station, with surgery following if necessary, also any special therapy which may be needed to complete the patients' recovery.

Patients requiring this further treatment are directed from the first-aid station to the traumatological clinic; this is an independent unit in the largest plants but is otherwise a department of the factory or regional polyclinic, which is fully equipped for the treatment of industrial injuries. In addition to from five to ten beds for surgical cases, it usually has operating rooms, a dressing station, rooms for X-ray, physiotherapy and the application of plaster casts, and a blood bank. Types of injuries attended to include flesh wounds, dislocations, fractured fingers and forearms, bruises, sprains, burns and occupational dermatoses. Workers with other types of injuries are usually sent to a hospital or to one of the special traumatological institutes for treatment of leg and arm injuries.

Like the first-aid stations, the traumatological clinics operate throughout as many shifts as the plants which they serve. The clinics do considerable educational work in accident prevention. They also give pre-placement examinations to prospective new workers, and periodically examine those with physical handicaps, tuberculosis and other special health conditions.

Such protective measures in industry itself, combined with the comprehensive systems of social insurance and general medical care, provide a constant supervision of the worker and his environment which has already resulted in a marked reduction of health hazards in industry and augurs well for future progress.

Protection of Mother and Child

The Russian Revolution abolished not only the exploitation of man by man but also the exploitation of woman by man, as a matter of course. To the liberated woman were accorded equal rights with man in all spheres of economic, social, political and cultural life. Had the Revolu-

tion achieved nothing else, this liberation would still have made it an event of great historic significance.¹⁰¹

Children determine a nation's future; a state can have no more valuable asset than physically and mentally healthy children. In bearing children, women perform one of society's most important functions, and are therefore entitled to every possible consideration. Yet for centuries they were kept in a condition of servitude: dependent on man, father or husband, for a livelihood; working hard with no possibility of choosing their work; deprived of political rights and educational facilities.

Beginning with the French Revolution and continuing throughout the nineteenth century, a strong movement to emancipate women developed in many parts of the Western world as a result of industrialization. By employing women, industry gave them a chance to earn their own money; this, in turn, gave them a freedom they had not previously known. Moreover, women who performed the same work as men felt entitled to the same rights.

During the second half of the nineteenth century, women succeeded in gaining admission to higher schools and thus the liberal professions were opened to them. In the United States and the British Dominions, women were accorded the right to vote and be elected to office relatively early; suffrage was given to women in many European countries following the First World War. And yet, even in the most pro-

¹⁰¹ The literature on the protection of women and children in the Soviet Union is very extensive. An excellent study of the conditions until 1932 is: Alice Withrow Field, *Protection of Women and Children in Soviet Russia*, New York, 1932.—A brilliant summary of the problems, as seen in 1936, is Alice Withrow Field, "Woman and the Family, A Comparison of Soviet Decrees," *Research Bulletin on the Soviet Union*, Vol. I, No. 11, Nov. 1936. I have made frequent use of both publications.—Further general literature: E. Conus, *Protection of Motherhood and Childhood*, Moscow, 1933.—Fannina Halle, *Woman in Soviet Russia*, New York, 1935.—Susan M. Kingsbury and Mildred Fairchild, *Factory, Family and Woman in the Soviet Union*, New York, 1935.—F. Nurina, *Women in the Soviet Union*, New York, 1934.—Ella Winter, *Red Virtue*, New York, 1933. More recent developments are covered in two pamphlets by Rose Maurer, *Soviet Women*, and *Soviet Children and their Care*, published during World War II by the National Council of American-Soviet Friendship, New York. Another recent survey is the mimeographed report by Anna Kalet Smith, *Health and Welfare Services for Mothers and Children in the Union of Soviet Socialist Republics*, Children's Bureau, Labor Department, Washington, (about 1945).

gressive democratic capitalist countries, there is continual discrimination against women. The teacher who marries, frequently loses her job. Many hospitals refuse to admit women internes. The woman worker is generally paid lower wages than the man, and in case of pregnancy loses her income. In countries where women theoretically enjoy all possible rights, only those who can afford servants for the household and nurses for the children can take full advantage of these rights. The working-class woman has neither the economic freedom to enjoy recreational and cultural facilities, nor the time to play an active part in the life of the nation.

Women are infinitely more burdened by their sex than are men. They are handicapped periodically, and every pregnancy interrupts the course of their social life. Under a capitalist economy, where profit is the driving motive of production, there will always be discrimination against women. They will either be considered unprofitable workers or will be made profitable through increased exploitation. Full equality of woman with man is only possible in a socialist economy which produces not for the profit of few but for the welfare of all.

In according women equal rights, the Russian Revolution first realized a claim which had always been an important part of the socialist program. As early as 1866, at the first Congress of the First International at Geneva, Marx demanded equality for women and proposed state protection of motherhood and childhood. Everywhere socialist parties fought for the emancipation of women.

This was the case in pre-revolutionary Russia also, where women played a most active part in the revolutionary movement. Russian women of the educated classes were emancipated long before their Western European and American sisters. All of us who studied in European universities before 1913 recall the Russian girl student. Her hair was bobbed; she was diligent and politically conscious. By contrast, the Russian working-class woman had a hard lot. She had practically no rights, and was kept in illiteracy; she was virtually the property of her husband and was exploited by the church. Yet she toiled on, performing an important function in her country's economy. Russian agriculture would have been inconceivable without the labor of these women, once referred to by Maxim Gorky as the "dumb tools" of old Russia.

The Revolution of 1905 presented demands for improvements in the conditions of the Russian working woman. Night work was to be

forbidden women and children; leaves on full-pay or half-pay were to be granted women before and after confinement. Few of these demands were granted, however, and those that were granted affected only a very small proportion of the industrial workers.

Women took an active part in the Revolution of 1917. During the Civil War, they fought side by side with men and performed deeds of great heroism. It was obvious that when the period of reconstruction began these women would not stand aside but would participate in all the tasks and privileges of building the new society.

The law of March 15, 1917 establishing universal suffrage granted Russian women the right to vote and to be elected to office. The journal *Rabotnitsa (The Working Woman)* began to appear openly and exerted great influence. Conditions were beginning to change for women.

Marked improvement followed the October Revolution (November 7, 1917). On December 18, 1917, a decree was passed concerning marriage, children and divorce. During November 1918, the first All-Russian Congress of Proletarian and Peasant Women convened in Moscow with 1,200 delegates representing all population groups. Problems concerning the rights of women and children were discussed in all their aspects. Meanwhile, it was becoming evident that, while it was easy to issue decrees, some time would be required before women would be able to enjoy their liberties and participate fully in the life of the nation. Political activity presupposes education, political and otherwise. A beginning would have to be made by abolishing illiteracy and liberating women from religious prejudices and superstition. They would have to be trained to perform skilled work in industry, and would have to be educated in order to be able to enter the professions in increasing numbers.

The 1917 decree concerning marriage, children, and divorce (effective January 1, 1918) was, however, a great forward step in their personal status. Complicated marriage formalities were abolished. All that was required was registration at the local marriage registry office. Religious marriage was not forbidden but had no legal standing. In order to marry, a man had to be eighteen and a woman sixteen years of age (in Transcaucasia, sixteen and thirteen). The only persons forbidden to marry were mental defectives, relatives in direct line of descent, and those whose previous marriage had not been dissolved. Both partners could keep their surnames or adopt the surname of husband or wife, as they chose.

All births had to be registered. Children born out of wedlock had equal rights with children born in wedlock. Orphans and abandoned children were wards of the state and could not be adopted by private individuals.

Divorce by mutual consent had existed in Russia since 1907. The new law simplified the procedure. If both husband and wife petitioned for the divorce, it was granted immediately; otherwise, the petition was reviewed in the presence of both parties. If one of the partners had deserted the home and his address was unknown, the case was decided two months from the date of publication of a summons in a newspaper. Under the new law, moreover, unless a satisfactory agreement had already been reached by husband and wife, the court decided who should support the children and whether alimony should be paid.

In 1927, after long and careful consideration which included public discussion of a draft of the legislation, a new marriage law was promulgated.¹⁰² This new code, by introducing the *de facto* marriage, abolished the concept of illegitimacy of children; whether registered or not, a man and a woman who had sexual relations were considered legally married and had all the obligations of marriage. Both partners had equal rights and equal duties; alimony and the support of children could be required of either or both. The new law established eighteen years as the marriage age for both partners, and required that each should inform the other about the state of his or her health, about any previous marriage and the existence of children. Infecting a partner with a venereal disease was made an offense punishable by as much as three years' imprisonment. Divorce was greatly simplified: a marriage could be dissolved without trial by one of the partners without the consent or even the knowledge of the other partner. Property acquired during the period of marriage was considered mutual property, even if the wife had not engaged in any special work.

Divorce was made somewhat more difficult under the law of June 28, 1936, which also covered abortions, aid to large families and other measures. The presence of both parties was required at divorce proceedings, which took place then in the office of the local registrar of vital statistics. Divorce fees were raised slightly, and parental respon-

¹⁰² I. A. Rostovskii, *Sovietskii zakon o brake, seme i opeke* (Soviet law on marriage, family and guardianship), Moscow, 1935.—*The Soviet Law on Marriage, 1927*, New York.—*The Code of Laws on Marriage, Family, and Guardianship of the Russian Socialist Federated Soviet Republic*, London, 1936.

sibility was increased. Alimony was fixed at one-quarter of the wages for one child, one-third for two children, and one-half for three or more children.

Continuing the trend of counteracting "light-minded attitudes toward the family and family responsibilities," as it was expressed in the 1936 law, the latest overall family welfare law (July 8, 1944)¹⁰⁸ prescribes definite court procedures for divorce and boosts fees to a level where they serve as a definite deterrent to hasty marriage and ill-considered divorce. The petitioner for divorce must present his request to one of the peoples' or lower courts, and also publish it in a local newspaper. When the case comes up for consideration, in the presence of both parties and the witnesses summoned, the court tries to effect a reconciliation. Should this fail, the petitioner may take his case to a higher court, which settles questions of the custody of the children and division of property if the marriage is dissolved. Compared with divorce fees ranging from 50 to 150 rubles under the 1936 law, under the 1944 measure they range at the court's discretion from 500 to 2,000 rubles exclusive of the 100-ruble fee for filing the petition.

By according recognition only to registered marriages, the 1944 law withdraws the legal status previously granted *de facto* or common-law marriages. However, while this legislation deprives mothers of children born of such marriages of the right to court action to establish paternity or obtain paternal support, these unmarried mothers receive substantial state aid for one or more children until they reach the age of twelve. These are in addition to the allowances provided under the law for all mothers beginning with the date of birth of their third child.

The various modifications in Soviet marriage and divorce laws reveal the parallel tendencies of the state to devise a system that would give women full equality, would assure their material welfare and that of their children, and would strengthen family ties. These ties were admittedly loosened in the first few years after the Revolution, when, for reasons which can be easily understood, many persons indulged in sexual license. Age-old bonds and old taboos had been broken. People suddenly felt free and did not yet know the limitations of their freedom. During the Civil War, moreover, men and women lived in a period of great strain, facing death at any moment.

Lenin and the other Bolshevik leaders strongly disapproved of the

¹⁰⁸ See Appendix IX for text of this decree, and Appendix VII for the text of the 1936 law.

sexual license of this period; they considered it a gross misinterpretation of Marxism. Engels had pointed out in *The Origin of the Family, Private Property and the State*,¹⁰⁴ that socialism, by liberating women and by removing economic considerations from the institution of marriage, would create such conditions that true monogamy, instead of collapsing, would at last become a reality—even for man.

The atmosphere of Russian cities is exceedingly clean. Alluring posters, smutty magazines, obscene shows—all these sickening forms of cheap sex-advertising—are inconceivable in Russia. People marry young and there is no reason in the world why they should not. Both usually have an income and continue their work after marriage. The only difficulty for the young couple in the large cities at the present time is to find rooms. Sex life in the Soviet Union is more normal than in any other country. Conditions are consolidated today and family bonds are considerably strengthened. You even find not infrequently a puritanical attitude in young people.

Taking full advantage of their right to work, Soviet women have entered the process of production in ever-increasing numbers, and with wages equal to those of men of the same occupation and qualifications. In 1941, these women represented about 45 per cent of all Soviet factory and office workers. During the war, according to an estimate made in 1943 by the Anti-Fascist Women's Committee, women rose to the national emergency by accounting for 70 to 80 per cent of all factory and farm work. Their war record is suggested in the fact that 70,000 women were decorated, 56 named "Heroes of the Soviet Union."

The steady increase of women students in institutions of higher learning reflects their growing importance in the professions. Of 601,000 college and university students in 1939, 43 per cent were women; percentages of women in the pedagogical and medical schools ran considerably higher.¹⁰⁵ Particularly noteworthy has been the rising enrollment of the Eastern woman, ruthlessly oppressed and enslaved before the Revolution, in these higher educational institutions. Although these women under the old regime would have spent their lives veiled and in complete illiteracy, by 1935 their representation included 16 per cent of all Uzbek students in the higher schools, and 18 per cent of the Tadzhik

¹⁰⁴ Book 2.

¹⁰⁵ M. Pichugina, *Women in the USSR*, Foreign Languages Publishing House, Moscow, 1939, p. 22.

students.¹⁰⁶ Today, after nearly a generation of socialism, they accept opportunities for higher education much as do their sisters in the European USSR.

The growth in the percentage of women students in various educational institutions during the first eight years of the five-year plans is illustrated by the following figures (*as at beginning of year*):¹⁰⁷

	1928	1931	1934	1935
Universities and engineering colleges	28.1	28.3	36.5	38.0
Industrial (including building construction and transportation)	13.4	15.5	22.4	23.3
Agricultural	17.4	25.4	32.1	31.8
Social-economic	21.1	24.8	36.0	39.0
Pedagogical	48.7	44.4	50.2	48.4
Medical	52.0	58.0	75.1	71.2
Technicums	37.6	38.8	43.9	44.1
Industrial (including building construction and transportation)	9.5	25.8	30.1	29.6
Agricultural	15.4	31.0	30.1	31.6
Social-economic	36.3	48.2	54.5	54.6
Pedagogical	53.5	51.9	54.6	55.2
Medical	89.3	87.3	80.7	79.7
Workers' faculties	15.6	24.8	36.9	36.6

With more than 19 million women working on the collective and state farms by 1941, thousands had already served as farm chairmen and many more thousands had been leaders of farm brigades. Women collective farmers by the hundreds have been in the forefront of the various movements for peak efficiency in Soviet agriculture. Consequently, when their husbands and brothers and sons were called to the front, they were able to keep the Soviet farm plant operating in high gear.

The record of women's activity in state administration reflects similar progress. In 1934, 80 per cent of rural women voters took part in elec-

¹⁰⁶ *Moscow News*, March 4, 1936.

¹⁰⁷ *The U.S.S.R. in Figures, 1935*, Moscow, 1935, p. 260.—*Socialist Construction in the U.S.S.R., Statistical Abstract*, Moscow, 1936, p. 457.

tions to the village soviets, compared with 28 per cent in 1926. Of those elected deputies to these local soviets, 26 per cent were women in 1934 compared with less than 10 per cent in 1926. The election of 274 women as deputies to the Supreme Soviet of USSR early in 1946 considerably augments their representation in the highest executive authority of their government. Scores of women have served or are serving today as heads or assistant heads of the All-Union or Union Republic commissariats or ministries. Among them is M. D. Kovrigina, who is a Deputy Minister of Health in charge of child-health services for the USSR.

Women have been liberated and are enjoying their liberties. They are doing men's work, but they also have their own function to fulfill, the bearing of children. They have an additional and very important task, and it entitles them to special protection.

The Soviet government recognized from the beginning that the future of the nation lay in its rearing a healthy young generation, trained in the principles of socialism. It also recognized women's rights to special protection. The protection of motherhood and childhood, therefore, became a primary concern of the state. Regulations of the Labor Code which tend to protect women in production have been discussed in the preceding section of this chapter. Moreover, special institutions were created to advise and protect them at the various crucial periods of their life. The scientific foundation for this work was laid by the Central Scientific Institute for the Protection of Mother and Child¹⁰⁸ in Moscow which works in close contact with the Ministry of Public Health. The Institute, one of twenty-three of its type which had been opened in the USSR by 1941, studies any and all problems concerning woman and child in health and illness. It establishes norms, set standards for similar institutions in other cities and trains a specialized personnel.

Throughout the country, Women's Consultation Bureaus have been established, usually within the regular health centers. These bureaus, also referred to as maternity clinics or pre-natal clinics, generally have three departments: one for sexual hygiene, one for pregnancy and child-birth, one for gynecology. Here the woman can get advice whenever she needs it. The young girl may call at the Bureau for information about menstruation. She is encouraged to come for a physical examination when she leaves school. The young woman having sexual intercourse will be instructed in sex hygiene and birth control. There is no se-

¹⁰⁸ Literally "Motherhood and Infancy."

crecy about birth control. Advice is never refused, and mechanical and chemical contraceptives are available in the bureaus and in pharmacies.

When a woman becomes pregnant, she is examined in the special section of the bureau and a certificate of pregnancy is issued to her which gives her many privileges. She does not have to stand in line and is given preferential treatment everywhere. She is given information about her condition, is instructed in what she should do, and is requested to report once every month for examination. A home visitor inspects her home and ascertains that everything there is satisfactory. This visitor advises her about diet and tells her what to prepare for the child.

If the woman is engaged in some occupation harmful to her condition, she is transferred to lighter work or stops working. Whatever her occupation, overtime work is ruled out for her after four months of pregnancy. Her maternity leave of 77 calendar days, on full wages, is estimated to cover 35 days before and 42 days after delivery. Post-natal leave is extended to 56 days in the event of abnormal confinement or the birth of twins. Maternity leave is augmented by the usual annual vacation, which must be granted a woman worker at either end of her maternity leave.

The Women's Consultation Bureau (*zhenskaya konsultatsiya*) is often set up in combination with the Children's Consultation Bureau (*detskaya konsultatsiya*) also known as the child-health center. Together they are sometimes referred to as the maternity and child-welfare center. Their combined development is shown by the following statistics:¹⁰⁹

	1913	1928	1932	1938	1942
Urban	9	1,383	2,126	3,103	3,499
Rural	—	768	1,162	1,765	2,304
TOTAL	9	2,151	3,288	4,868	5,803

The Fourth Five-Year Plan calls for a considerable increase in the number of maternity clinics by 1950. It also calls for the staffing of each of these bureaus with a physician, midwife, public-health nurse and social worker.

¹⁰⁹ G. A. Miterev, *Narodnoye Zdravookhraneniye za 25 Let Sovetskoi Vlasti* (Health Protection During 25 Years of Soviet Power) Medgiz, Moscow, 1942, pp. 92, 93.

Every larger city has its Museum for Mother and Child where regular meetings for pregnant women are held and where they are instructed in a popular way in the anatomy, physiology, and hygiene of child-birth, and on the care of infants.

From 1920 to 1936, a pregnant woman in the Soviet Union could decide whether she would bear a child or whether she preferred to have an abortion performed. Inasmuch as abortion is forbidden by law in the capitalist world, not for medical but for moral and religious reasons and for national security, the USSR's former legalization of abortion and then its repeal in 1936 elicited a great deal of discussion throughout the world. Yet, we all know that secret abortions are performed on a very large scale elsewhere, and that every country loses annually, as a result of septic abortion, thousands of young women in the prime of life. Great social injustice lies in the fact that, despite all prohibitions, women of means can always find a physician willing to perform an abortion while working women have to resort to uneducated midwives or quacks. Laws forbidding abortion are, therefore, particularly severe upon the working class.

On November 18, 1920, the Commissariat of Public Health and the Commissariat of Justice issued the following decree:¹¹⁰

During the last ten years in the Western European countries as well as in ours, the number of women who have decided to have pregnancies interrupted artificially has been growing larger and larger.

Legislation of all countries fights this abuse by inflicting punishments on the woman who undergoes abortion and on the physician who performs it.

Far from leading to desired results, this method has removed the operation to the basement of the social edifice, has made it clandestine. Woman has become the victim of greedy and often unskilled abortionists.

The results have been fatal: nearly fifty per cent of the total number of women who have undergone the operation have become victims of septic intoxication, and about four per cent paid with their lives.

The Workers' and Peasants' Government is conscious of this serious evil to the community. It combats this evil by propaganda against

¹¹⁰ Quoted from: N. A. Semashko, *Health Protection in the U.S.S.R.*, London, 1934, p. 83.

abortions among working women. By working for socialism, and by introducing the protection of maternity and infancy on an extensive scale, it feels assured of achieving the gradual disappearance of this evil. But, since the moral survivals of the past and the difficult economic conditions of the present still compel many women to resort to this operation, the People's Commissariats of Health and Justice, anxious to protect the health of the women and considering that the method of repressions in this field fails entirely to achieve this aim, have decided:

(1) To permit such operations to be made freely and without any charge in Soviet hospitals, where conditions are certain to minimize the harm of the operation.

(2) Absolutely to forbid anyone but a doctor to carry out this operation.

(3) To deprive any nurse or midwife found guilty of performing such an operation of the right to practice, and to try her by a People's Court.

(4) A doctor carrying out an abortion in his private practice with mercenary aims will be called to account by a People's Court.

PEOPLE'S COMMISSAR OF HEALTH, N. Semashko.

PEOPLE'S COMMISSAR OF JUSTICE, Kurski.

This decree was passed without any enthusiasm; decidedly, it was an emergency measure, a negative good if not a positive evil. It was necessary because of such facts as these: Women were engaged in the process of production. Wages were low, housing very poor. Birth control was in its infancy and maternity homes and nurseries were still scarce. Clandestine abortions were very frequent, with disastrous results for the mother's health.

The government felt that under such conditions it was infinitely better to legalize abortion and have it performed by skilled physicians and in hospitals where control could be exercised. The government was well aware that abortion was a poor method for regulating population and that, even when performed under the best possible conditions, it might harm the woman's health. At the very time that legalization became effective, therefore, both government and Party began to issue propaganda against abortion. And they did infinitely more. They made tremendous efforts to remove the causes of abortion by endeavoring to raise wages, to improve living conditions, and to create maternity homes and nurseries.

As soon as abortion had been legalized, institutions known as *abortaria* were established in which specially trained surgeons performed the operation.¹¹¹ Since some time elapsed before a sufficient number of beds could be made available, clandestine abortions were still performed. Their number decreased rapidly:

Percentage of Abortions Performed Outside the Hospital ¹¹²

1923	56.9
1924	43.2
1925	15.5
1926	12.2
1932	10.0

After 1932, when sufficient facilities had been provided not only for the large cities but also for smaller towns, secret abortion almost disappeared.

The death rate from abortions performed in hospitals was exceedingly low. In 1931 it amounted to 5 for every 100,000 abortions performed, while it was 30 for those performed outside of hospitals.¹¹³ Perforations were very rare and, according to statistics, amounted to not more than from 0.07 to 0.23 per cent.¹¹⁴

All doctors agreed, however, that repeated abortions affected the woman's health in a serious way. Although it is impossible to give accurate statistical data about morbidity following induced abortion, yet there is no doubt that menstrual disturbances, endocrine troubles, sterility, and ectopic pregnancy were frequently observed as a result of repeated abortions. Health authorities, therefore, never ceased to discourage women from having abortions. In 1924, under pressure of the medical profession, a regulation was passed that abortion should be allowed only in case a pregnancy would seriously endanger the life and health of a woman. The regulation was soon repealed, however, since

¹¹¹ The problem of abortion in the Soviet Union is very well summarized in: Frederick J. Taussig, *Abortion, Spontaneous and Induced, Medical and Social Aspects*, St. Louis, 1936, pp. 405-420.

¹¹² E. Conus, *Protection de la maternité et de l'enfance dans l'Union Soviétique*, Moscou-Leningrade, 1933, p. 39.

¹¹³ *Akusherstvo i Ginekologiya (Midwifery and Gynecology)*, 1931, vol. 10, pp. 153-163.

¹¹⁴ E. Conus, *l.c.*

it actually defeated its purpose by immediately leading to an increase in the number of secret abortions.

Nevertheless, facilities in the cities were so inadequate in 1924 that it was impossible to admit all women who demanded an abortion. Therefore, for a while, abortion was permitted only to those women who already had one child and did not have the means to support more, or to those who, regardless of means, had several children. A method utilized to discourage abortions and at the same time provide more funds for the erection of new abortaria was the charging of a fee for the operation. The amount of this fee was determined by dividing the monthly family income by the number of family members. One-quarter of the quotient was then charged. The fee, however, could not exceed 40 rubles, and it was obligatory that indigent women be operated upon free of charge.

In 1935 a regulation became effective that no abortion of a first pregnancy should be performed unless necessary for medical reasons; that it should be performed only during the first three months of pregnancy; and that a second abortion should not be performed until six months after the first one.

The operation consisted in curettage with or without anesthesia; the patient was kept in the hospital for three days and was away from work for two weeks. At the same time, propaganda against abortion increased. Party members were urged not to resort to the operation, in order to set an example for other workers. Whenever a woman applied for the operation, her economic status was investigated. If it were such that she could afford to have a child, physicians and social workers would repeatedly try to persuade her to bear the child. Seventy per cent of all women applying for abortion could be dissuaded. Methods of contraception were improved, and after an abortion, the woman was instructed in their use.

Nevertheless, the number of abortions performed in the large cities increased continuously until about 1930, that is, during the period of reconstruction and during the first hard years of the First Five-Year Plan:

Births and Abortions in Moscow and Leningrad¹¹⁵
(after Genss)

	TOTAL POPULATION	TOTAL BIRTHS	TOTAL ABORTIONS	Per 1,000 general population		ABORTIONS
				BIRTHS	ABOR- TIONS	PER 100 BIRTHS
Moscow						
1914	1,754,900	54,405	5,537	31	5	10
1921	1,176,600	36,000	6,723	31	6	19
1925	1,855,000	57,537	18,071	31	10	31
1926	2,019,453	58,384	31,886	29	16	55
1927	2,083,000	53,369	40,001	26	19	75
Leningrad						
1914	2,217,500	55,460	—	25	—	—
1924	1,221,000	31,601	6,692	26	6	21
1926	1,535,000	42,608	21,646	28	14	51
1928	1,700,000	38,463	53,562	23	32	139

Despite the large number of abortions, however, the birth rate did not drop and the Soviet Union gained in population by about three million every year. It should not be forgotten that abortion was primarily urban. Relatively few abortions were performed in rural districts, and hardly any among the national minorities. It must also be borne in mind that the figures include all abortions performed for medical reasons. According to some estimates, these accounted for about 30 per cent of the total. Another factor that has to be taken into consideration is that many cases of unwanted pregnancy occurred, which would have been prevented in other countries with more highly developed methods of contraception.

Genss has published an interesting survey of the reasons for abortion given by 5,365 women who had asked to have the operation performed.¹¹⁶ It reveals that in 31 per cent of all cases, economic conditions were responsible for the operation; in 29 per cent, the reason was size of the family; in 20 per cent, women wanted to conceal the results of

¹¹⁵ From Frederick J. Taussig, *Abortion, Spontaneous and Induced*, St. Louis, 1936, p. 410.

¹¹⁶ *Ibid.*

sexual intercourse; in 11 per cent, debility or ill health was mentioned; and in 8 per cent, various family reasons were declared to be the motive.

Although statistics are unavailable, there can be no doubt that after 1932 there was a marked decrease in abortions in the large cities. The decrease in Moscow in 1933 is said to have amounted to from 10 to 20 per cent; several abortaria were closed. Improved living conditions and better facilities for mother and child account in large part for the change. At the same time, however, there was an increase in abortion in the smaller towns where more abortaria had become available.

On May 25, 1936 the draft of a law forbidding abortion was published and submitted to the people for discussion and suggestions. I was in Moscow at the time and every day found the newspapers full of comments for and against the bill. Meetings were held at all places of work for its discussion. On June 27, it went into effect with several modifications. The full text of the bill is reproduced in Appendix VII. The bill forbids abortions, whether performed in or outside hospitals, "in view of the proven harm of abortions." Abortion is "allowed only in those cases where the continuation of pregnancy endangers the life or threatens serious injury to the health of the pregnant woman, and equally when a serious disease of the parents can be inherited. Such abortions, moreover, may be performed only in hospitals or maternity homes."¹¹⁷

The bill, however, did not simply prohibit abortions; it provided considerably increased benefits for mothers. Social insurance benefits were extended to certain groups of women not previously insured, and the Health Commissariats of the constituent republics were required to increase greatly facilities for mother and child in maternity homes, obstetrical stations, nurseries and kindergartens. Maternity leaves were extended for office workers, and allowances for infant layettes and for nursing of infants were increased. Also authorized in the 1936 law were special allowances to mothers: 2,000 rubles annually for five years from the birth of their seventh and each subsequent child. From the date of birth of an eleventh and any subsequent children, a state contribution of 5,000 rubles and annual allowance of 3,000 rubles for a period of four years following the child's first birthday were granted mothers.

This system of payments to mothers was liberalized in the 1944 family welfare law to begin on the birth of the third child with a single

¹¹⁷ The medical indications justifying an abortion are listed in Appendix VIII.

grant of 400 rubles and progressively increase. The payments established in 1936 for the seventh and subsequent offspring were retained. As a study of the text in Appendix IX indicates, the 1944 law also calls for further expansion of mother and child institutions, including the creation of special rest homes for unmarried expectant mothers as well as nursing mothers in poor health.

The 1936 bill was widely publicized and thoroughly misunderstood outside Russia. The same might be said, to a lesser degree, about some of the provisions of the 1944 measure, especially its divorce provisions and the material and honorary awards for mothers of large families. For example, many people seem to have assumed that the repeal of the abortion law especially was a retreat toward bourgeois principles. Others believed that the Russians were trying to increase the population for military reasons, as has been done in Italy and Germany.

These beliefs are erroneous. At the time the abortion legislation was introduced, the Russian birth rate was rising higher than ever, the death rate was dropping. Moreover, as events subsequently proved, the country had more than enough men available to spring to her defense, to the eternal benefit of the entire anti-fascist world. Allowances granted to mothers of large families are not premiums but financial aid to alleviate the economic burden of a large family, some of which the mother herself is presumably prevented by home and family tasks from assuming during her period of child bearing and rearing. Moreover, the use of contraceptives is not discouraged.

In brief summary, abortions were legalized in 1920 because they were an unavoidable evil under the conditions prevailing at that time. In 1936 it was felt that those conditions had changed radically. Capitalist exploitation had been abolished. The material well-being and the political and cultural level of the population had advanced, and facilities for caring for mother and child had been provided. In other words, the causes for abortion had been removed sufficiently to warrant revision of the decision of 1920. The bill of 1936, therefore, was not a retreat but on the contrary a further advance in the protection of mother and child.

Legalized abortion was an experiment of great interest, not only to the Soviet Union but to the rest of the world. These conclusions may be drawn from the experiment: repeated abortion is harmful to the mother's health and hence should be forbidden in any society that is able (1) to guarantee a job to all its members, men and women; (2) to provide medical and social institutions to care for mother and child

free of charge; (3) to give adequate financial aid to large families; (4) to give contraceptive advice to all who seek it. If a society is unable to realize such conditions, it had better control abortion by legalizing it.

Soviet women today bear their children, and the tendency is to have confinements take place, whenever possible, in maternity homes or lying-in hospitals. Before the Revolution 98 per cent of all Russian women had no medical aid in childbirth; most of them were not even assisted by a midwife. Even in cities not more than from 15 to 20 per cent had a doctor.¹¹⁸ Today when a pregnant woman approaches the time of her confinement, she is referred to a maternity home by the Women's Consultation Bureau where she has been given pre-natal care. I visited such homes in various regions of the country and found many of them well-equipped and comparable to the best in the Western world.

A model hospital is the Clara Zetkin Maternity Home in Moscow. The building, formerly a military barracks, has been completely reconstructed. The place is almost entirely operated by women; the staff consists of 200 persons, only three of whom are men. There are accommodations for 150 women and 125 children. The director, Dr. Bliznyankaya, a plump little woman radiating energy and optimism, studied at the University of Munich, and she and I had many teachers in common. The hospital has three divisions: one for aseptic cases, one for septic or suspect cases, and one for tubercular cases. The wards are spotlessly clean. Several factories like the Stalin Automobile Plant have their own wards, financed by the factory. Relatives are not admitted to the wards, but each bed has telephone and radio connections. In former years when the food situation was not quite satisfactory, patients received additional food from their homes. Beginning in 1935 the budget was increased, more and better food was given to the patients, and no outside food was permitted.

Much attention is given to the prevention of eclampsy. Whenever the consultation bureau finds early symptoms, the woman is hospitalized without delay. If a case occurs in the maternity home without having been observed before, the consultation bureau is immediately notified. The mortality in 1933 amounted to nine per cent, in 1934 to two per cent. Eclampsics are treated in a special dark room.

In 1936, mothers remained in the maternity hospital for eight days.

¹¹⁸ A. Roubakine, *La protection de la santé publique dans l'U.R.S.S.*, Paris, 1933, p. 70.

It was then anticipated that accommodations would be sufficient within the next year or two to make the stay nine days after delivery in normal confinements. This was apparently not achieved, and during the war the stay in the Clara Zetkin Maternity Home was only seven days. War difficulties may have figured somewhat in the reduced hospitalization of the period, but it was probably due primarily to the fact that the increase in facilities, although substantial, did not keep pace with the marked rise in the birth rate after 1935.¹¹⁹ In 1936, practically all city women were delivered in hospitals. In 1939, the percentage of such deliveries was 95 and in rural districts probably no more than 50. However, small maternity homes with from three to five beds have been provided for many collective farms, and where these do not exist, there are maternity stations which give pre-natal care to the pregnant woman and deliver her in her home.

As in so many other instances, the provision of adequate facilities is a question of time, although one complicated by the great destruction of hospital facilities during the war. It is significant that the 1944 family aid law was followed within the year by the opening of new maternity homes with a total of 11,000 beds. A recent decree calls for the construction of enough additional facilities to accommodate all urban women and 70 per cent of the women in rural districts needing maternity care. Moreover, the Fourth Five-Year Plan calls for a 50 per cent increase in the number of maternity beds by 1950.

		Maternity Beds ¹²⁰				
		1913	1928	1932	1938	1941
USSR						
	Urban	5,192	18,241	26,984	74,480	75,612
	Rural	1,632	9,097	16,673	60,323	66,261
	TOTAL	6,824	27,338	43,657	134,803	141,873
RSFSR						
	Urban	3,782	13,510	18,767	49,579	50,800
	Rural	1,621	7,042	12,022	37,220	40,814
	TOTAL	5,403	20,552	30,789	86,799	91,614

¹¹⁹ From 1935 to 1936 the birth rate doubled in Moscow region. *Moscow Daily News*, March 3, 1937.

¹²⁰ G. A. Miterev, *loc. cit.*, pp. 91, 92.

Anesthetics were rarely used in deliveries prior to 1936; since then, they have been given with increasing frequency. In the First Moscow Medical Institute, evipan was being given ten years ago either by intramuscular injections or by enema. Paraldehyde was also being used, and another method is the anesthetising of the zone of Guesde with novocaine.¹²¹ Painless childbirth is now more widely utilized, however, according to methods developed by Professor Lurye of Kiev, who won a Stalin Award of 100,000 rubles in 1941 for his work in this field.

In the maternity homes, the mothers are instructed in infant care. They are urged to nurse their children, and as a rule do so.

When a child is born in a hospital, notification is sent either to the Children's Consultation Bureau connected with the mother's place of work or to the one serving the district of her residence. These Bureaus usually have three departments: one for infants, one for children from one to four years¹²² and an educational department. Ten to fourteen days after leaving the hospital, the mother takes the child to the Bureau. She repeats the visit twice a month until the child is six months of age, and then goes less often. She is given a card indicating what milk the child should have. If she is unable to provide breast milk for the child, or if he is weak, she may obtain milk from the Breast Milk Station. Mothers with a surplus of milk supply this station and are compensated in money and extra food. Such mothers, obviously, are carefully examined, and a Wassermann test is made in each case. In 1940, there were more than 2,000 of these stations, usually attached to the Children's Consultation Bureaus.

In these Bureaus, the development of the child is carefully watched and recorded; he is vaccinated and given medical care if necessary. The mother is also advised in all matters concerning the child. After the child has been weaned, which usually occurs between the seventh and twelfth months, the mother presents her milk card at a Milk Station and obtains the milk prescribed by the pediatrician. Such milk depots are found in every city district and often at the factory or other establishment where one of the parents is employed.

When the working woman returns to her place of work six weeks or more after the birth of her child, she often finds a *nursery*¹²³ that cares

¹²¹ D.Z.Z. (*Deutsche Zentral Zeitung*), July 15, 1936.

¹²² The age limit was raised from three to four years in 1943.

¹²³ The Russian literature on nursery problems is enormous. I quote only a few

for her child during working hours. Or if the establishment is so small that it has no nursery of its own, there is an institution in the neighborhood. Unfortunately there are not enough places available as yet so that not every child can be received in a nursery. Preference is given to working women and those with lower incomes.

No woman is compelled to bring her child to a nursery. If she is not nursing him or if she has someone living with her, she may prefer to leave the child at home. The idea of the nursery is not to regiment the population, as is sometimes heard outside Russia, but to help mothers so that they can have children while they are actively engaged in the process of production.

Before the Revolution infant mortality was appallingly high in Russia.¹²⁴ It was surpassed only by India, Romania and Hungary:

1871-75	26.9%
1876-80	26.4%
1881-85	26.7%
1886-90	26.4%
1891-95	27.5%
1896-1900	26.1%
1901-05	25.8%
1906-10	24.7%

Conditions were so alarming that a society was organized for the reduction of infant mortality. But it achieved little. Between 1871 and 1914, the death rate registered little change, despite the fact that great progress was being made in other countries.

After the Revolution, the care of children became one of the government's primary tasks, and a particularly difficult one. There were few facilities, no trained personnel, and no example to follow. The methods

pamphlets that I have consulted: B. Goldenberg and T. Lyakerman, *Tekhnicheskii minimum yasnovo rabotnika* (*Technical minimum of the nursery worker*), Moscow, 1935.—I. Tsimbler and F. Smuglova, *Yasli v borbe s tuberkulezom y detei rannevo vozrasta* (*The nurseries in the fight against tuberculosis of very young children*), Moscow, 1935.—N. Nazarova, *Odezhdza dlya detei rannevo vozrasta* (*Clothes for very young children*), Moscow-Leningrad, 1934.—N. S. Nazarova and A. Iu. Dunaevski, *Yaselnoe stroitelstvo* (*Construction of nurseries*), Moscow-Leningrad, 1934.—N. S. Nazarova and P. A. Gurski, *Detskaya mebel i oborudovanie yaslei* (*Children's furniture and nursery equipment*), Moscow-Leningrad, 1934.

¹²⁴ The figures from A. Roubakine, *La protection de la santé publique dans l'U.R.S.S.*, Paris, 1933, p. 77. .

of Froebel and Montessori had been worked out for small groups, but Russia had to take care of many millions of children. A beginning was made by establishing a few nurseries in connection with factories that employed primarily women, as for instance textile mills. The Institute for the Protection of Mother and Child devoted a great deal of its research to nurseries. It operated a model nursery for experimental purposes. The network of nurseries gradually spread. When new factories were built, nurseries were built at the same time as an integral part of the plant. Other enterprises came to realize the need for having mothers relieved of the care of their children. The large government offices now have nurseries attached to them, as have the student dormitories in universities. It is firmly believed that woman should not be barred from any occupation, and that whatever her work may be, she should be given the opportunity of having children without forfeiting her career.

In rural districts the need for nurseries was less urgent. Since a peasant household usually consists of a large number of people, the older women can take care of the children while the younger women are at work. In those very districts, however, health conditions among children were particularly bad. Infant mortality was higher than in cities. Old-time superstitions, still alive, manifested themselves particularly in the care of young children. Rural nurseries had to be established primarily for medical reasons. After collectivization of the land, however, the demand for seasonal nurseries to care for children during the summer was great.

The development of nurseries in town and country, seasonal and on a year-round basis, is illustrated through the following figures:¹²⁶

		Number of Places in Nurseries				
		1913	1928	1932	1938	1941
Permanent	Urban	550	53,748	257,659	460,911	554,448
	Rural	—	8,306	342,519	280,568	299,598
	TOTAL	550	62,054	600,178	741,479	854,046
Seasonal		10,600	195,000	3,929,100	3,424,300	4,045,600
TOTAL—PERMANENT AND SEASONAL		11,150	257,054	4,529,278	4,165,779	4,899,646

¹²⁶ G. A. Miterev, *loc. cit.*, p. 81.

In 1932 about 60 per cent of the women working in the key industries could get their children admitted into nurseries. The plan was to make this 100 per cent by 1937, but the goal was not reached. Then it was planned to double nursery and kindergarten facilities by 1942, but war interfered. As an increasing number of housewives were drawn into industry during this crucial period, however, there was a rapid expansion of these institutions in the unoccupied areas. In one 18-month period during the war, the number of city and farm nurseries in thirty-five *oblasts* or regions increased by 80 per cent.¹²⁶ Rural nurseries, permanent or seasonal, accommodated an estimated 45 per cent of all farm children under three at the end of 1943.¹²⁷ The Fourth Five-Year Plan calls for the expansion of accommodations in rural nurseries operating on a permanent basis from 854,046 in 1941 to 1,251,000 in 1950.

The Soviet nursery serves a three-fold purpose. It liberates the working woman, it cares for the child, and it educates the child as well as the mother. The director of the nursery is generally a woman physician and the staff consists of doctors, psychologists, and nurses. Most nurseries have a capacity of from about 50 to 125 children. They are organized in three divisions: one for the infants under one year, one for children in the second year, and one for those in the third year. Some nurseries operate in shifts according to the working hours of the mothers.

The equipment and routine of Soviet nurseries are more or less standardized; similar institutions are found in Moscow and in the Caucasus, as well as in Central Asia and Siberia.¹²⁸ On her way to work, the mother brings her child to the nursery, undresses him, puts the clothes in a locker, and delivers the nude child to a nurse who weighs him and gives him to the pediatrician for a routine examination. The temperature is taken and, if any symptoms are discovered, the child is brought to the infirmary or, in case of more serious illness, to the hospital. If a child is found to be dirty and neglected, the

¹²⁶ *Pediatrnia*, Moscow, March 9, 1944.

¹²⁷ F. I. Zborovskaya, "Okhrana Zdorovya Materi i Rebenka" (Health Protection for Mother and Child). From the Collection, *XXV Let Sovetskovo Zdravookhraneniya (25 Years of Soviet Health Protection)*, edited by G. A. Miterov, Moscow, 1944, pp. 137-145.

¹²⁸ The nursery routine is very well described by Alice Withrow Field, *Protection of Women and Children in Soviet Russia*, New York, 1932, pp. 143-155.

mother and child are sent home and a visiting nurse goes to inspect it. Once in the nursery, the child is dressed in nursery clothing and joins the children of his age.

Small infants are kept in cribs; they have toys to play with, and at regular intervals the mothers come to nurse them. The mother removes her working dress, and puts on a sterilized gown especially made for the purpose with slits at the breasts. After having fed the child, the mother receives her own lunch in the nursery free of charge. In such a way, a very close cooperation develops between the nursery workers and the mothers, who are in daily contact with pediatricians. In the nurseries mothers learn how a child should be dressed and fed properly. They learn that fresh air is not harmful to children, as was believed for centuries and is still believed in many parts of Europe. Home visitors inspect the living places regularly in order to find out under what conditions the children live.

Once a child begins to crawl, he enters the second group. He then plays in the pen and has a different set of toys. Gradually he is taught to develop certain habits, such as bathing and eating. He learns to urinate and go to the stool at definite times. Special tables accommodating three children have been devised for meals, on the assumption that one nurse can feed three children. Eating in groups also develops a certain spirit of cooperation, for regardless of how greedy a child may be, he soon learns that he has to await his turn. At the age of one year and nine months a child is expected to be able to undress alone, and at the age of two and a half years he is expected to make his own bed and to dress himself. Part of the standard equipment of every nursery is a staircase and slide. At the age of two the child is expected to be able to walk upstairs, and at two years and nine months, to walk downstairs without holding on to the banister.

Older children play in groups; their toys are automobiles, locomotives, airplanes, tractors, besides, of course, dolls and teddy bears. They sing and dance. Whenever possible, they play out-of-doors shoveling snow and chopping wood. In the summer many nurseries are moved to the country. The children are brought in contact with nature and labor, and there is no more touching sight than to see a brigade of youngsters watching a herd of cattle or observing the work of a tractor and listening to an explanation of its use.

At the age of three the child leaves the nursery as an independent little citizen, who is healthy in mind and body and does not have to

rely on adults in his daily living habits. During these three years the mother has had a thorough education that will prove valuable to her in rearing other children.

There can be no doubt that the war increased the importance of the nursery. As an institution, it was made to adapt itself to many emergency situations. Most city nurseries, for example, increased their operating hours as the mothers' hours of work rose in the emergency. Many nurseries set up special sections where ill or ailing children remained for several weeks at a time under medical supervision, observation, or in quarantine. Boarding facilities were made available in some nurseries for youngsters whose mothers' work required travel from home.

Before the war, too, there were, among the special types of nurseries, some where children lived all the time.¹²⁹ Such an institution was called the Children's House (*Dom Mladentsa*). The one I visited in Moscow, the Children's House No. 5, had accommodations for 125 children under eighteen months who had been orphaned or abandoned. The routine was the same as in other nurseries except that the children remained there at night.

A considerable expansion of this type of institution, and of similar ones for older children, took place during the war when military casualties and Nazi atrocities among civilians in the occupied areas broke up many Soviet families. There are estimated to have been some 1,700 of these special wartime institutions in the spring of 1943.¹³⁰ However, a foster-family placement system has been developing in recent years in the USSR. In the Russian SFSR, under the strict supervision called for by a law passed in 1936, orphans and other homeless children between the ages of five months and 14 years may enjoy normal family care, financed out of public funds or by collective farms.¹³¹ In addition to the outright adoption of war orphans into many thousands of families, other war orphans and children of missing parents have thus received the benefits of home life under strict medical supervision.

¹²⁹ E. G. Karmanova and S. O. Dulitski, *Dom Mladentsa (House of Child)*, Moscow, 1934.

¹³⁰ Rose Maurer, *Soviet Children and Their Care*. (Pamphlet.) National Council of American-Soviet Friendship, New York, undated, p. 23.

¹³¹ Anna Kalet Smith, "Health and Welfare Services for Mothers and Children in the Union of Soviet Socialist Republics" (Mimeographed Report), Children's Bureau, Labor Department, Washington, 1945, p. 17.

A unique Soviet institution is the *Room for Mother and Child* in the railroad station. These rooms serve mothers traveling with children. The Room which I visited in the Kazan Station in Moscow had a physician and twelve graduate nurses, besides technical personnel. Seven of the nurses came from the national minorities and thus knew a good many languages. Two nurses were stationed outside the Room to receive the mothers or accompany them to the railroad platforms. The Room had 93 beds, 73 of which were for children. It was in operation day and night and cared for about 400 children every day.

When children are brought into one of these rooms they are looked at by the doctor. They are washed and have their clothes disinfected. They receive meals, rest, and have two rooms in which to play with varied toys and games. One playroom is for small and one for older children. The service is free of charge. Mothers pay for their food, if they can afford it. A three-course meal is served for only 80 kopeks.¹³²

The work achieved for the liberation of woman and the protection of mother and child finds its best illustration in the *Museum for the Protection of Mother and Child* that was opened in Moscow in 1933. Under the able leadership of Dr. Berkovitz, it has become a great educational center and visitors who want to be informed on the subject should not fail to study the Museum in great detail. In graphs, models, preparations, photographs, pamphlets, it gives a cross section of the work done and illustrates the principles applied throughout the Union. It is divided into two major departments and has the following sections:

THE WOMAN AND MOTHER

1. Development of socialist industry and agriculture in the USSR and the task of the Protection of Motherhood and Childhood.
2. Protection of Motherhood and Childhood as an integral part of the system of socialist construction.
3. The rights of mother and child. (Why the working woman struggles in capitalist countries. The functions of social and legal services. The rights of the married woman in the USSR and in capitalist countries. The rights of the child within the family in the USSR and in capitalist countries. Paternity and alimony. Social insurance and maternity.)

¹³² Equivalent at fixed rate of exchange to 16 cents; at correspondent's rate of exchange to 8 cents.

4. Protection of Motherhood and Childhood in the industrial and financial plan of the country.
5. Women's Consultation Bureaus.
6. Hygiene of the pregnant woman.
7. Stages of pregnancy and abnormalities of pregnancy.
8. Women's diseases and how to fight them.
9. Abortion and the fight against its use.
10. Birth control.
11. Maternity care and its influence upon the preservation of health of the working woman in industry and agriculture.
12. Hygiene of the new-born child.

THE CHILD

13. Communist education of the infant; physical education. Norms of development. Cleanliness. Clothing. Daily diet. Air, sunshine, and water. The development of the child's movements. Objects and toys likely to influence this development favorably. Children's Consultation Bureaus. Instruments and objects used in child hygiene. Clothing patterns.

14. Nutrition.
15. The fight against infant morbidity and mortality.
16. Communist education, the educational work in nurseries.
17. Home-made toys and the establishment of simplified nurseries.
18. Models of simple objects for the equipment of nurseries.
19. Children's life in nurseries.
20. Simple forms of social education of children; walks in groups, playgrounds in the neighborhood of dwellings.
21. Education of the child in the family (models of furniture and toys, adequate instruction).
22. Publicity and propaganda.

The Museum is a center of education and information, one of the few where the visitor is not only allowed but encouraged to make photographs of whatever he chooses. I spent several days studying it and always found it crowded with visitors from all over the Soviet Union who came to seek instruction on some particular point. One person, who wants to know what is the most suitable clothing for nursery children, finds not only various models but is able to buy patterns for a few kopeks. Another person is perhaps chairman of a col-

lective farm that plans to build a nursery. He comes to see what is the best and at the same time the most economical equipment. Groups of women are given lectures on legal problems. The Museum, a most lively center, has been duplicated in many other cities.

Programs for the protection of mother and child are still in a developmental stage. The difficulties that had to be overcome were tremendous because of the backwardness of the country. Yet the work has already resulted in a considerable drop in infant mortality; although still higher than in America, it has been reduced to less than 50 per cent of what it was prior to the Revolution. In 1930, it amounted to 14.1 per cent; the Leningrad rate then was 14.6, and Moscow's 12.3. By 1936 infant mortality stood at 11.8 in the USSR and 8.8 in the Byelorussian Republic.¹³³ In Moscow, battling for its life in 1941, infant mortality was kept down to 10 per cent.

Institutions caring for the mother from the moment of conception until after childbirth and for the child until the age of three are all controlled by the Ministries, formerly Commissariats of Public Health. Nurseries have an important educational part to play, but medical considerations are in the foreground.

When the child leaves the nursery and joins the *kindergarten*, he enters an institution that is under the control of the Ministries of Education. The kindergartens admit and educate children from the fourth to the seventh year. Like the nurseries, they are built in connection with working places or residential districts. Statistics for number of institutions available and for children educated in them vary so much that it is necessary to quote several sources. According to Dr. E. Conus,¹³⁴ tsarist Russia had only about 200 pre-school institutions, while the development after the Revolution was the following:

	1928	1931	1932	1933
Number of children in pre-school institutions	308,000	2,755,000	5,231,000	about 6,000,000 in RSFSR alone

¹³³ *Handbook of the Soviet Union*, New York, 1936, pp. 455-456 — I. A. Kraval, *Zdorove i Zdravookhranenie Trudyashtshikh S S S R (Health and the Protection of Health of the Working Population of the U.S.S.R.)*, Moscow, 1937, p. 42

¹³⁴ E. Conus, *Protection de la maternité et de l'enfance dans l'Union Soviétique*, Moscou-Leningrad, 1933, p. 96.

	1928	1931	1932	1933
Number of the above who are in permanent institutions	104,000	808,000	1,346,000	2,350,000

According to Dr. Conus, 90 per cent of the children of Moscow workers and 75 per cent of those in the industrial districts of the Ural in 1932 were taken care of in pre-school institutions.

The USSR in Figures, 1935, gives the following statistics:¹³⁵

Kindergartens			
	1928-29	1930-31	1933-34
Number of institutions			
Cities	2,215	5,289	11,931
Rural localities	302	1,285	15,277
	<hr/>	<hr/>	<hr/>
TOTAL	2,517	6,574	27,208
Number of children (<i>in thousands</i>)			
Cities	118.3	309.1	751.9
Rural localities	10.9	57.1	568.8
	<hr/>	<hr/>	<hr/>
TOTAL	129.2	366.2	1,320.7

Another source, the newspaper *Pravda*, has reported that there were 23,599 kindergartens in 1936, compared with 2,132 in 1928.¹³⁶

The statistics vary so much because there are several different types of pre-school institutions. There are kindergartens where children spend the day only; there are others in which the children live day and night. There are also a great many children's playrooms connected with clubs of working establishments. There are other children's playrooms attached to schools for adults. And finally, there are innumerable playgrounds in squares, parks, court-yards of dwellings, and outside the city which are operated only during the summertime. While some statistics include all pre-school children in such institutions, other statistics limit themselves to regular kindergartens in the network operated by the Ministries of Education. An official publication of 1944 indicates that in 1940 about 1,300,000 children were accommodated in such permanent kindergartens.¹³⁷

The work of the kindergartens consists of definite subjects designed to further the physical, intellectual, and political development of the

¹³⁵ P. 253. ¹³⁶ *Pravda*, March 5, 1937. ¹³⁷ F. I. Zborovskaya, *loc. cit.*, p. 142.

child. According to A. Pinkevich, the program includes the following themes:¹³⁸

Theme one: the organization of the life of the group, in the course of which children become accustomed to manual labor and the observance of hygiene. They get to know nature and a number of elementary arithmetical concepts. At the same time children learn to appreciate music and art generally. The chief forms of education at this age are games, drawing, etc.

Theme two: children's participation in the improvement of sanitary conditions. This theme is elaborated in the same manner as the first.

Then come the following themes: participation in celebrations of the October Revolution; organization of "economic corners"; participation in the general work of organizing for winter sports; Lenin Commemoration Days; organization of "working corners"; participation of children in the Red Army celebrations; spring work; organization of vegetable-gardens and flower-beds.

The teacher is obliged to develop the themes in accordance with the children's general development; he should in no way hasten the work to the detriment of planning and service. The problem of manual labor and polytechnical instruction holds an important place in pre-school education. According to his strength, the child is drawn into manual work and taught to study and understand it. From the very first steps of his social development the child must take his part in the working life of the nation and master the attitude toward labor which prevails in his native country.

Before the Soviet child stands a future of intense work in the building of the new socialist society amidst conditions of rapidly developing technique and science. This means that he will have to make continual adjustments in the rapidly changing conditions of the building of a new world. The basis of these adjustments must be knowledge systematically acquired during the period of his upbringing and education.

It should be clear for this reason why many Soviet teachers demand that children taught in the schools and pre-school establishments shall be trained to make rapid adjustments, to coordinate movement and action, to work effectively, to invent and create. Prime importance is

¹³⁸ A. Pinkevich, *Science and Education in the U.S.S.R.*, New York, 1935, pp. 49-51.

attributed, not to physical strength and mechanical habits, but rather to the ability for coordination.

This is why the child while still young is given mechanical toys and taught to build models, miniature machines, etc.

It need not be stressed that the pre-school period, as well as the school period, aims at the inculcation of the materialist international world outlook.

The kindergartens I visited were of very different quality. While some were excellent in every respect, others were rather poor in equipment as well as management. It is my impression that the kindergarten still is a weak spot in the Soviet educational system. There is no doubt that from the medical point of view the first three years in the child's life are more important than the following four years. Nevertheless, adequate facilities must be provided to bridge the period between nursery and school. The Fourth Five-Year Plan schedules the provision of kindergarten facilities for 2,260,000 youngsters in 1950—virtually double the 1940 total—and the efforts to create better as well as more pre-school establishments which were initiated in the last few pre-war years are continuing.

Even though the kindergartens are controlled by the Ministries of Education, responsibility for the health of the children enrolled rests with the Health Ministries.¹³⁹ Most kindergartens are connected with factories and other working establishments whose medical units perform this child-health work as part of their regular duties.

At the age of seven, the child enters the regular school, which generally has ten grades in the city and seven in the village. The war has delayed the program to make 10-year education universal and compulsory by 1942, but it will probably become so in another few years. In the 1943-1944 school year, a shift was made in the large cities from a co-educational system to one of separate classes for boys and girls. Under this new system, girls receive special instruction in anatomy, psychology and hygiene to prepare them for their future tasks as wives and mothers.

The school child's health is supervised by school physicians. Every child is given an entrance examination by pediatricians assisted by

¹³⁹ S. R. Blagaya, *Ozdorovitel'naya i gigiensheskaya rabota v detskikh sadakh* (*Health and hygiene work in kindergartens*), Moscow, 1935.

psychologists. At present the number of these physicians is utterly inadequate and part of the work has to be done by middle medical personnel. The situation is not so serious as it might seem, however, because every school child, like every adult, is registered in a health center where he receives medical service. Under a reorganization order issued in 1943 by the Ministry of Health of the USSR, school and kindergarten children must be examined twice a year and receive any necessary medical treatment at clinics, hospitals, sanatoria and similar institutions. For every 2,500 to 3,000 school children in cities and factory settlements, a physician must be appointed. School pediatricians attached to local health departments were transferred to the children's clinics.

Weak and sickly children are segregated in so-called health groups and are under the special guidance of physicians.¹⁴⁰ Just as in other countries, there are open-air and forest schools in which children threatened by tuberculosis or similar diseases are educated. Special rest-homes receive school children on free days. One such home in Moscow, located near the Maxim Gorky Park, admits daily from 600 to 1,000 children between the ages of four and seventeen years. A rest-home for parents is situated in the neighborhood. The service is entirely free of charge and parents obtain passes for the children from their workshops. The rest-home is open from nine in the morning until nine in the evening. The children are organized in groups of 30 according to age, and follow a strict schedule beginning with a medical examination and physical exercise. They have four meals during the day and spend the time in playing games, singing, dancing, painting, and so on.

Medical supervision does not relax when the child enters adolescence. In Moscow and several other cities, all young people are given not only a physical but also a mental examination upon entering higher schools. Thus the boy and girl are brought into contact with a psychiatrist and given a chance to discuss their problems with a doctor on whom they can call later if necessary. This plan represents a mental hygiene measure of greatest significance.¹⁴¹ In Moscow the work is

¹⁴⁰ A. G. Tseitlin, N. A. Semashko, T. Z. Serebryanskaya, and T. M. Grozovskaya, *Ozdorovitelnye gruppy v massovoi shkole, Rezhim i pedagogicheskaya rabota (Health groups in the public schools, Régime and educational work)*, Moscow, 1934.

¹⁴¹ V. A. Gilyarovski, Z. A. Soloveva, and A. I. Vinokurova, *Voprosy psikhonev-*

performed by the State Scientific Institute of Neuropsychiatric Prophylaxis and in other cities by similar institutions.

A very important part in the health program of young people is played by the various youth organizations, especially the *Octobrists* (children of 7 or 8 years of age), the *Pioneers* (from 10 to 16), the *Komsomols* (from 16 to 26). In all larger cities the Pioneers have their own houses, designed to further the development of especially talented children.

The finest of these is the House of Pioneers opened in Moscow in 1936. It consists of a group of three buildings. The first building contains reading-rooms for the different age groups; special study rooms; a lecture hall with 200 seats; a room for the study of the history of Moscow with special library, maps, albums, and dioramas; a room for prospective travelers containing the model of a camp, geographic reliefs, and essential astronomical data. There are also special studios for young sculptors and painters. The second building is devoted to a theater with 800 seats where children stage and produce their own plays and give puppet shows, concerts, and ballets. The third building is devoted to science and technology. It has special laboratories for mechanics, electricity, carpentry, railroads, botany and zoology. It also has rooms for experimentation equipped with radio, telephone, and telegraph. There are, in addition, an open-air theater, sport grounds, and a boat on the river from which the children can communicate with the house by wireless telegraphy. The House admits daily in two shifts 1,500 children, who have been selected and sent by their schools. It was furnished and decorated in exquisite style by the best artists of the country, and the equipment was presented by the workers of various factories.

The Pioneer organization does a great deal for the leisure time of children. It arranges daily excursions for those who spend their vacations at home, and it operates year-round vacation camps in the country. All travelers in Russia during the summer months have seen everywhere these camps in which boys and girls usually spend six weeks. In 1939, two million youngsters spent their vacations in such camps, while another 450,000 combined play with medical care in the children's sanatoria.¹⁴²

rologii detei i podrostkov (Problems of psycho-neurology of children and adolescents), Moscow-Leningrad, 1936.

¹⁴² F. I. Zborovskaya, *loc. cit.*, p. 142.

A new institution is the sanatorium-kindergarten where children remain from two to six months under medical care. As part of a vacation move that was intensified directly after victory in Europe in order to improve the health of children who had been particularly affected by the war, youngsters were put on Volga River boats for 40-day cruises, and several other new types of vacations were arranged. As usual, many of the programs, funds and facilities were provided by the trade unions.

Undoubtedly the most beautiful of the Pioneer camps is Artek in the Crimea where 500 boys and girls live under perfectly ideal conditions. It is a camp of a special type which admits primarily children who, during the year, have achieved some special distinction, such as the little Siberian girl whom I saw, who was the first of her age to pass the Red Cross examination in her town. Artek is host each season to a very "international" crowd: children from all over the Union speaking dozens of languages. And when they sit around the camp fire in the evening, they sing their native songs in Russian, Georgian, Uzbek, and many other languages. I found some foreign children in this camp: Germans whose parents had been killed in Nazi concentration camps or Spaniards whose parents had been murdered in the Asturias. Like other similar institutions, Artek has a whole set of laboratories where the children may work when the weather does not allow outside games. The camp has an outdoor theater. Actors from the best Moscow children's theater spend their summer vacations there and give plays twice a week. Thus the children see the best theater that the Soviet Union has to offer. Artek, which carried on its good work at a mountain resort in the Altai during the German occupation of the Crimea, was seriously damaged by the invaders and is now being restored.

It is perfectly obvious that these camps represent a most powerful factor in the protection of the children's health. The whole life of the young Pioneer tends to make him health-conscious and to make him consider health as a civic duty.

The State Central Scientific Research Institute for the Protection of Children and Adolescents in Moscow, which is controlled by the People's Commissariat of Public Health of the RSFSR, plays an important part in laying the scientific foundation for child's work. The Institute studies the development of the child in all its aspects. Classi-

cal physiology is the physiology of the adult organism. In this Institute the whole work is re-done for the young and growing organism.¹⁴³ The Institute has a staff of 130 scientific workers, and its main activities center around the following subjects: 1. study of the peculiarities of the growing organism (morphology, physiology, psychology); 2. a) children's diseases, b) neuro-psychiatric diseases of children; 3. hygienic organization of children's institutions; 4. activities (study and work) of healthy and sick children; 5. physical culture; 6. social hygiene.¹⁴⁴ The Institute has not only numerous laboratories but also a clinical division. The director, Professor Shurpe, is a man of great vision and energy; he is a real Bolshevik. An interview with him is an experience that nobody can ever forget.

3. MEDICAL SERVICES

As a result of the great scientific progress of the past hundred years, medicine has become highly technical and highly specialized. While it is true that the general practitioner can effectively treat the majority of minor ailments and, under rural conditions, may have to cover more or less the entire field of medicine, there can be no doubt that the general practitioner feels infinitely stronger if he is a member of an organized group of physicians. It is equally true that children's and women's diseases, skin and venereal diseases, tuberculosis, diseases of the eyes, of ear, nose, and throat, nervous diseases, etc., are treated much more effectively by specialists. A trained obstetrician is always preferable to a general practitioner. Surgery has branched off into various specialties and the great significance of dental care is fully recognized today.

Medicine has become much more successful than it ever was in the past because of this specialization, and we may expect more of it in the future. If we wish to take full advantage of the present technology of medicine, we must have organized groups of physicians including general practitioners and specialists practicing together in medical

¹⁴³ V. G. Shefko and V. N. Skosyrev, *Anatomo-fiziologicheskie osobennosti detskovo vozrasta* (*Anatomical and Physiological Peculiarities of Child Development*) Moscow-Leningrad, 1935.

¹⁴⁴ E. I. Shurpe, *Problemy i Zadachi Nauchno-Issledovatel'skoi Raboty po Okhrane Zdorovya Detei i Bodrostkov* (*Problems and Tasks of Scientific Research on the Protection of the Health of Children and Adolescents*), Moscow, 1936.

centers. This also has the advantage that the patient may obtain all the help and advice he needs in one place instead of having to run around from one doctor's office to another.

Group practice has existed in hospitals since the early beginnings of specialization and has made hospital practice infinitely superior to individual practice. Medical centers have been in operation in the United States since the early days of the Mayo Clinic, and it may be recalled that this very type of practice was recommended in 1932 by the Committee on the Costs of Medical Care in its majority report.

The Soviet Union, endeavoring to create in every field the social organization that makes the maximum use of modern technology for the benefit of the people, has from the start adopted the idea of medical care through medical centers by organized groups of physicians. According to the plan, every individual was to have his medical center from which he would obtain the best care that medicine could give. It goes without saying that consultation and treatment were to be free of charge, a public service to which the people are entitled as a basic right guaranteed by their Constitution.

Before the Revolution, Russia possessed 1,230 dispensaries, most of them connected with hospitals and similar to our out-patient departments. New medical centers were erected according to plan, most of them independent of hospitals. They were to be so located as to be easily accessible to their patients. Consequently, every city district has a medical center serving its inhabitants, and every large factory has a center to serve its workers and their families. Every plant employing 250 or more workers is required by law to provide medical facilities. Whenever new industries were developed, medical centers were built at the same time.

The number of medical centers in the cities increased steadily. There were 7,340 at the end of the First Five-Year Plan in 1932. In the nine years that followed, this total nearly doubled; there were 13,461 such centers in 1941.

The organization and function of these centers is best illustrated by the charts on pages 236, 237 and 238. These appeared a few years ago in a publication of the Commissariat (now Ministry) of Public Health of the USSR.¹⁴⁵

¹⁴⁵ *Organizatsia zdravookhraneniya v Soyuze SSR (The Organization of Public Health in the USSR)*. Moscow: Narkomzdrav USSR, Central Institute of Health Instruction, 1942.

CHART VII. THE ADMINISTRATION OF MEDICAL CENTERS IN THE CITIES AND INDUSTRIAL AREAS OF THE USSR

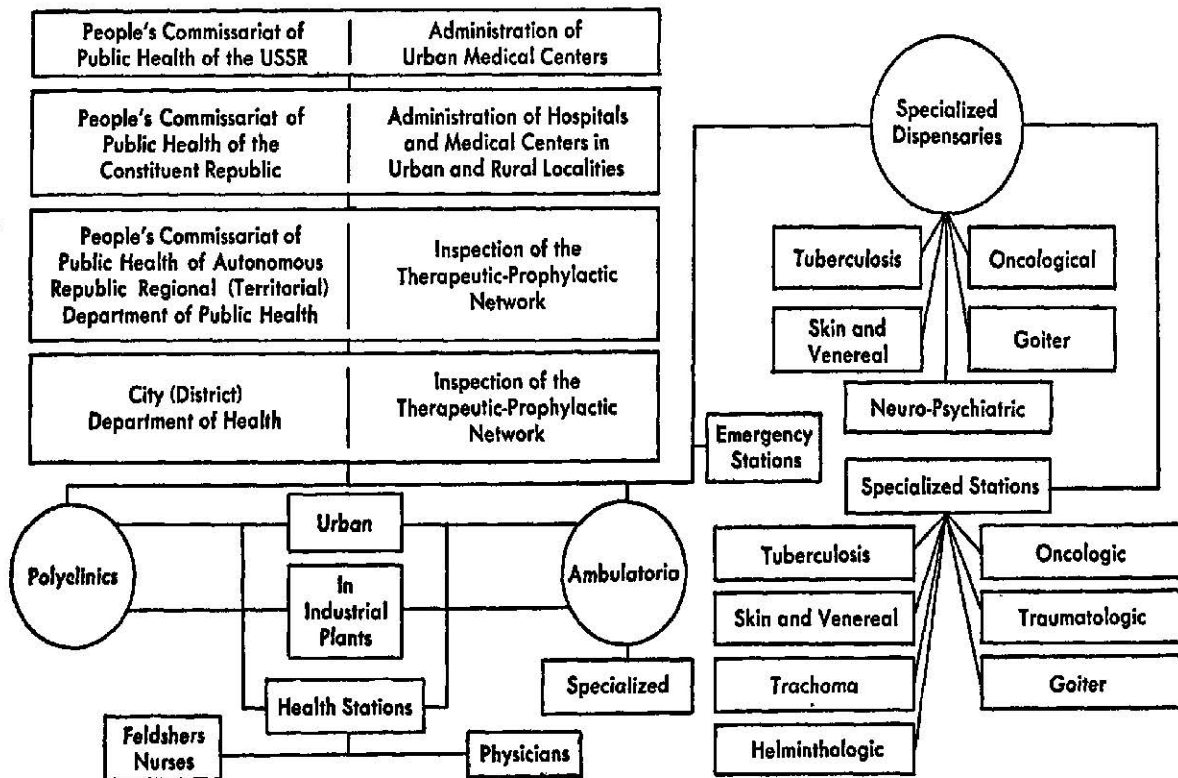


CHART VIII. STRUCTURE OF AN AMBULATORIUM FOR ADULTS

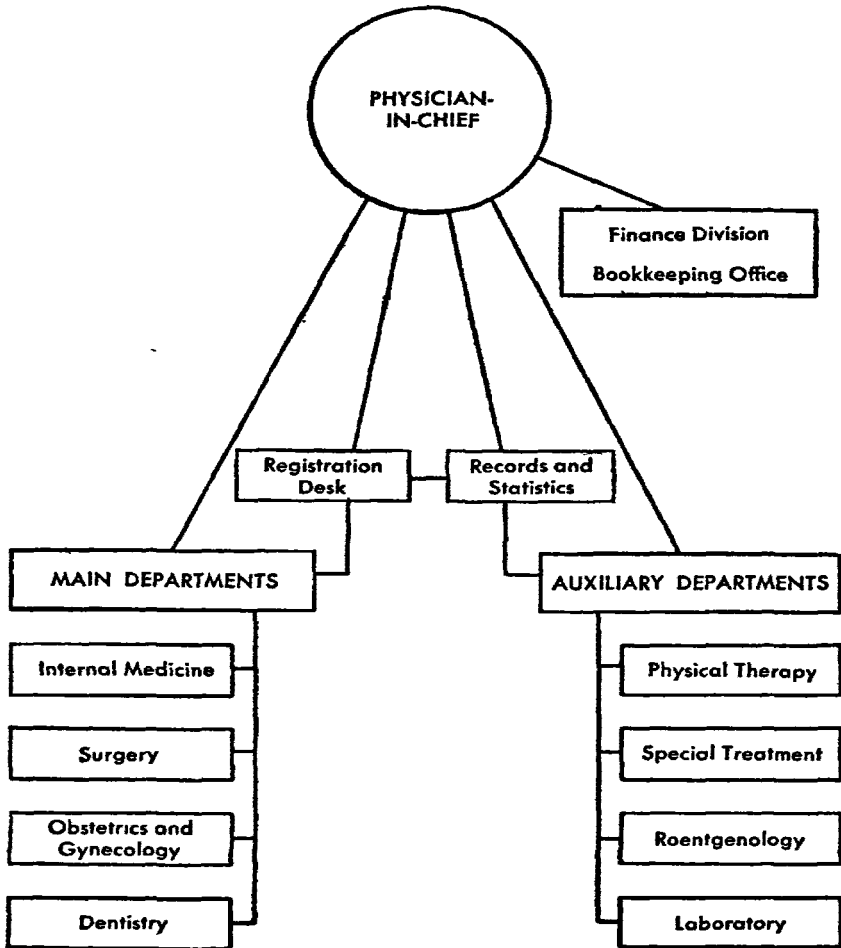
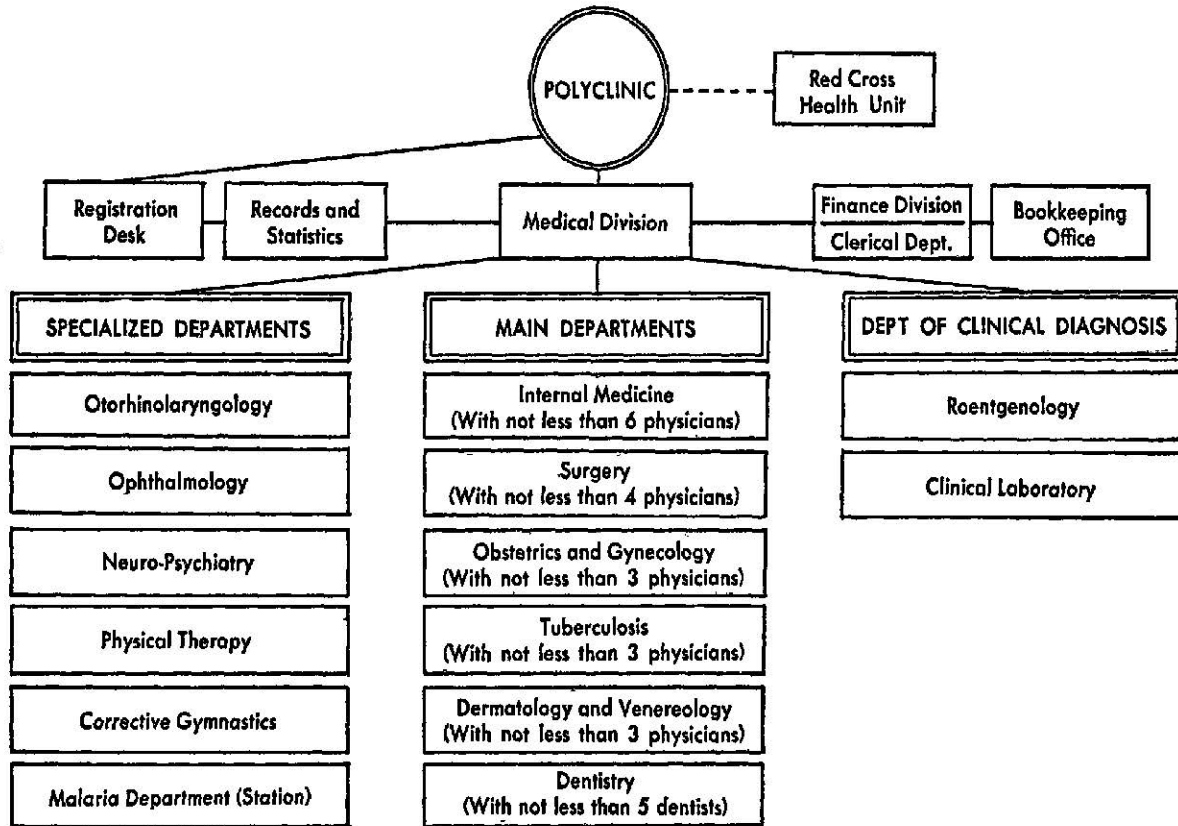


CHART IX. A MODEL POLYCLINIC (for Adults)



In the Soviet Union the health department is in charge of all medical activities. The medical center, therefore, like the hospital, is one of its organs. It is the outpost, the institution which is in constant touch with the population, upon which the people call for advice and help, and from which they are hospitalized or referred to sanatoria or health resorts when their condition requires it.

Just as it has special departments for hospitals, and for rural health facilities, the Ministry of Public Health of the USSR, (formerly the Commissariat), has a Department of Urban Medical Centers. Its function is to determine standards and general principles, to issue policies, to coordinate activities and similar functions of a central agency.

The Ministry of Public Health of a constituent republic administers its medical centers through a department devoted to both urban and rural hospitals and medical centers. The next smaller administrative unit, the Ministry of Public Health of an autonomous republic within the constituent republic or, corresponding to it, the health department of a region (*oblast*) or territory (*krai*), is in charge of the inspection of all medical institutions of the area. The same is true for the next unit, the health department of a city or of a district (*raion*).

What we commonly call *medical center*¹⁴⁶ has no corresponding term in Russian. The Soviet Union instead distinguishes between three types of institutions: the large general center or *polyclinic*, the smaller general center or *ambulatorium*, and the specialized center or *dispensary*. As I have already pointed out, polyclinics and ambulatoria serve residential districts and industrial plants. The dispensaries are institutions specialized for the prevention and treatment of such diseases as tuberculosis, cancer, mental diseases, skin and venereal diseases, and goiter. They are located in strategic points according to need.

Another term requires some explanation. What the Russians call¹⁴⁷ *zdravpunkt* (an abbreviation for *punkt zdravookhraneniya* which may

¹⁴⁶ It is regrettable that we cannot use the term *health center* since it is already being used to designate public health institutions engaged in preventive medicine only. The accent should always be on health. What we usually translate as *public health* is in Russian *zdravookhraneniye*, which means protection or preservation of health. The Yugoslavs have a beautiful term for designating their medical centers. They call them *zdravstveni dom*, house or home of health.

¹⁴⁷ See footnote 146.

be translated as *medical station*), is the smallest unit. It is staffed by physicians or, in some instances, by feldshers and nurses. It gives first aid and routine treatments, and is the outpost of the polyclinic or ambulatorium. Medical facilities should always be as close as possible to the people.

Corresponding to the specialized dispensaries are specialized stations. They are either outposts of large dispensaries or are independent, that is, under the direct control of the health department. They vary according to need. In towns of Central Asia special stations for the prevention and treatment of trachoma or worm diseases may be required.

Most cities have special institutions for what the Russians call "quick aid," that is emergency stations for the treatment of victims of accidents. Their functions have been discussed in an earlier chapter.

While there is a sound tendency toward standardization, the whole organization of medical centers is extremely flexible and is always adapted to local needs. A large industrial undertaking may have a polyclinic, several ambulatoria, and a medical station in every shop. A smaller plant that has not all specialties represented in its medical center will have connections with specialized dispensaries. The principle is that everybody should have all the benefits of medical science.

Urban Medical Services

The *ambulatorium* represents the type of the smaller medical center. A physician is at the head of it and is responsible to the health authorities directly or to the institution to which he may be attached, such as a polyclinic.

The *ambulatorium* is staffed by not more than 14 physicians, which means that it serves up to about 10,000 people. If the group served is smaller, the number of physicians is proportionately smaller. The physicians are general practitioners and specialists. They see patients at the medical center and in the home.

Many specialties are not represented in the *ambulatorium* but, however small it may be, it must be prepared to give medical, minor surgical, obstetric, gynecologic, and dental care. Dentistry is, by the way, an integral part of every Soviet medical unit. Every *ambulatorium* must, in addition, have a laboratory, X-ray apparatus, and equipment for physical therapy. For specialized care not available at the *ambulatorium*, the patient is referred to the nearest polyclinic.

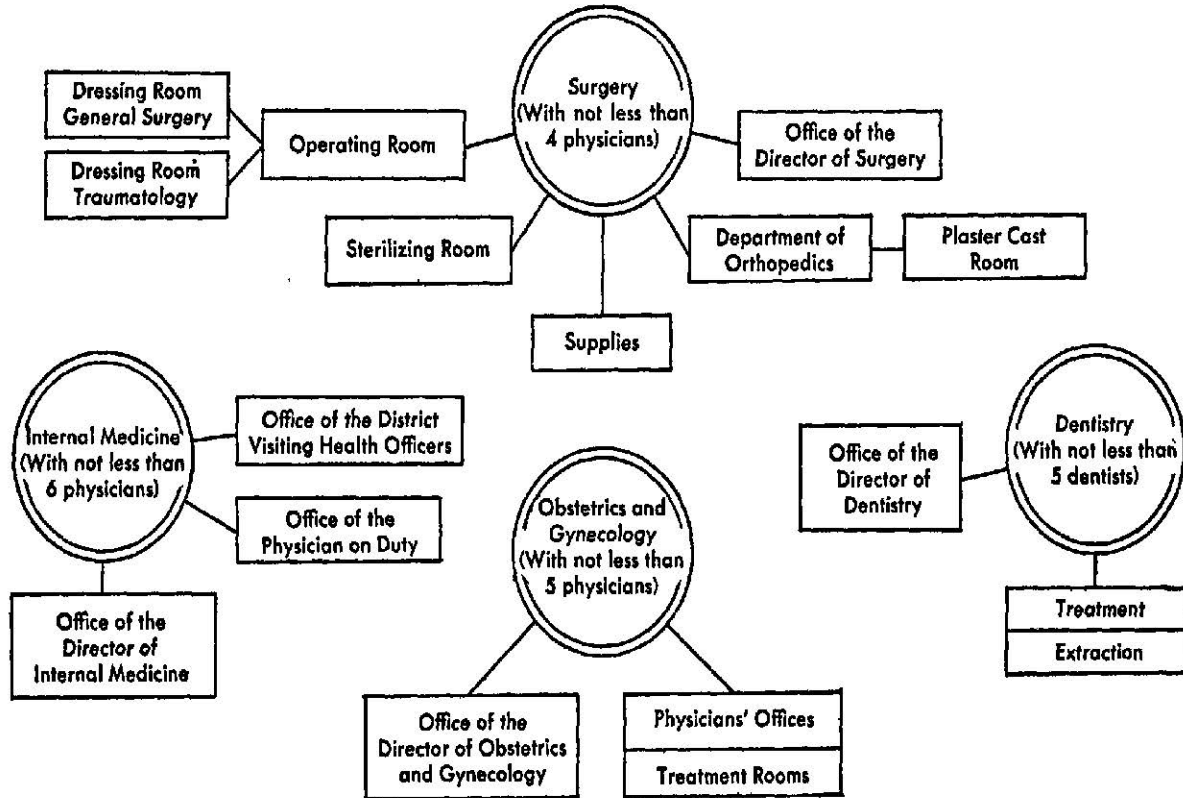
It may seem astonishing that such an institution has no pediatrics department. The explanation is that the Soviet Union, having placed greatest emphasis on the protection of the health of infants and children, has created special institutions for the purpose, the Children's Consultation Bureaus, which are administered by special departments of the health authorities. These bureaus may be independent or may be connected with medical centers, which is usually the case. Since they are administered independently, they do not appear on the chart which pictures the structure of an ambulatorium for the adult population.

The *polyclinic* is the large medical center, prepared to handle all cases that do not require hospitalization. Again, the organization is not rigid. If there is a tuberculosis or venereal disease dispensary in the neighborhood that is large enough to serve the group, the polyclinic may omit these divisions and will cooperate with the dispensary. It must, however, always have at least seven specialized departments: for internal medicine (therapy), surgery, gynecology, otorhinolaryngology, ophthalmology, dentistry, and neuropsychiatry. In the Caucasus, a polyclinic is very likely to have a malaria division or station.

The size of the staff varies a great deal according to the population served. A few examples will illustrate this best. The Volodarski District in Leningrad, a highly industrialized area, has a large polyclinic which is called the Prophylactorium in order to emphasize the preventive aspect of its work; it serves a population of about 125,000 people, mostly industrial workers and their families. There are departments for every specialty; about 200 physicians are attached to the center. The polyclinic has 21 outposts, medical stations of various sizes in the factories of the districts. Staffed with physicians, feldshers, and nurses, these outposts handle many minor ailments, routine treatments and similar work.

Unlike the Volodarski Prophylactorium, which serves a district of the city, the superb United Polyclinic for Railroad Workers which was opened in Leningrad at the time of my last visit, in 1938 (and which I hope has survived the war), gives its services to a definite vocational group. Medical services for railroad workers and their families had previously been scattered; now they were consolidated through this one lavishly equipped medical center and its 14 auxiliary medical stations located in strategic and easily accessible points in

CHART X. THE MAIN DEPARTMENTS OF A POLYCLINIC



the city. But that is not all. Since many railroad workers are stationed along their line, and cannot conveniently come to the polyclinic, the polyclinic puts medical stations on wheels and send them to these workers. It operates a fleet of railroad cars for general and specialized services—X-ray cars, children's consultation cars and health education cars among them.

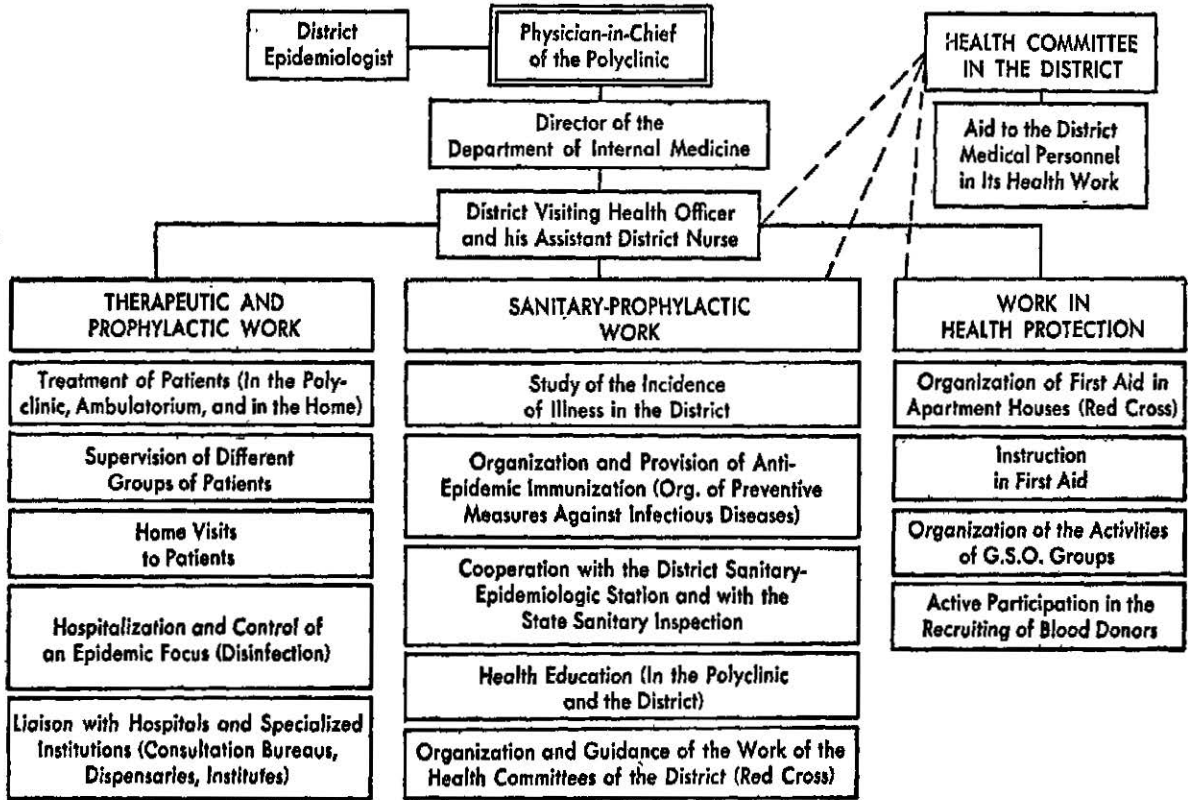
In 1938, the United Polyclinic had 16 departments, 256 consultation rooms and 233 physicians on a staff totaling 800. Like other polyclinics, it has a number of consultants, mostly professors of the medical schools, who are called upon for special cases. For hospitalization the Leningrad railroad workers have their own wards, reserved for them in two city hospitals, and one maternity home. They have in addition 40 summer camps for their children and two children's sanatoria, one in the neighborhood and one in the Crimea.

An example of a medical center serving one definite plant is that of the Stalin Automobile Factory in Moscow that I studied in 1935. Conditions have changed since then because the factory has doubled in size, which means that the medical facilities have also been doubled. At the time of my visit, the factory employed 30,000 workers. It had 15 first-aid stations scattered all over the plant. Each one was inspected twice a month by the surgeon-in-chief. The factory, moreover, had six ambulatoria, each one a medical center in itself with all the major specialties, and a central polyclinic. The medical staff included 112 physicians and 18 dentists. Since this factory, like most Soviet factories, worked day and night in three shifts, the medical units also operated around the clock. The factory had 200 medical and surgical hospital beds in one of the city hospitals and its own wards in a maternity home and a children's hospital. It may be mentioned in parenthesis that the workers of this factory also had their own box at the opera.

Chart X, setting minimum requirements for the structure of basic departments of the polyclinic, requires little comment. It is obvious that the dental department needs offices for treatment and others for extraction, that the department of obstetrics and gynecology has offices for the doctors and rooms for special treatment.

More interesting is the fact that surgery must have a department of orthopedics. That means that every district of a city and every industrial group served by a polyclinic has a permanent orthopedic clinic where patients may obtain all ambulatory care. The clinic also

CHART XI. THE WORK OF A DISTRICT VISITING HEALTH OFFICER
OF A CITY POLYCLINIC (Ambulatorium)



serves as a liaison with the orthopedic hospital, to which it refers patients and from which it receives others for after-care.

The department of therapy as the Russians call it, or department of internal medicine as we would say, has not only offices for the physicians on duty but also for what the Russians call *uchastkie ordinatori* which we may translate as *district visiting health officers*. The function of these officers is explained in detail in Chart XI.

Since the organization of medical centers is always adapted to local needs, a polyclinic for railroad workers or workers of water transportation will always have very large departments for the treatment of rheumatism, arthritis, and similar diseases. On the other hand, a polyclinic serving a textile mill, where most workers are women, will have a large gynecological department and ample facilities for pediatrics.

At the time of my last visit in 1938, there was a marked tendency toward building smaller medical centers, units prepared to serve residential groups of from 50,000 to 60,000 people. Such smaller units are obviously less economical, but it was felt that the country had reached the point where it could afford the increased cost. It was further felt that smaller units would have the definite advantages of being less top-heavy in their administration and closer to the people.

The question has often been raised in this country as to the quality of service given in Soviet medical centers. We know that the services of many of our out-patient departments are not always of the highest quality and are sometimes not much more than emergency care. Is the Soviet patient more than a mere number, rushed through the office and sent home with a bottle of medicine?

Here we must remember that the Soviet physician serves in a medical center on a full-time appointment. He is not serving as a matter of charity or because he wants the prestige of a hospital connection. He has no private patients who make demands on his time or distract his attention. He can devote all his energy, knowledge, and skill to the job. We must also remember that the Soviet medical center is not an out-patient department. It gives complete medical service, preventive, diagnostic, and curative, at the office and in the home, in other words, all services that can be given outside a hospital. There is no restriction on home calls, no fee to be paid for them. It is also striking that one hardly ever sees the crowded waiting rooms that are

such a familiar sight in other countries. Whenever possible patients are seen by appointment, and appointments are kept.

Medical centers are under the supervision of the health departments, and if an institution should be found to be slackening, steps would immediately be taken to remedy the situation. Patients, moreover, have the right to complain to the Ministry of Health, and every complaint is investigated.

Unquestionably the free choice of physician is somewhat limited in Russia, although it still exists to a certain extent. The medical centers employ so many physicians that patients are permitted some choice. A patient who has been treated by a doctor whom he likes wishes to have that doctor again, and so, before calling at the center, he will ascertain when the particular doctor will be on duty. This practice is strongly encouraged as it is recognized that the same doctor should see a patient whenever possible. It should not be forgotten that the free choice of physician is very limited in capitalist countries. In rural districts where only one doctor is available, the patient has no choice whatever. In cities the indigent patient who visits a dispensary can not select his doctor. Others who can pay for private consultation go to the neighborhood physician, although they are rarely able to judge his ability as a practitioner. Modern medicine, moreover, has developed so many objective methods of diagnosis and treatment, which can be handled by a medical man of average intelligence and training, that the free choice of physician becomes increasingly less important.

Chart XI is by far the most interesting and the most important because it reveals a new departure in medical care. It shows that the general practitioner has been given new functions and a new dignity, and it shows further how the health department is branching out and through the medical center is reaching into every home in order to protect the people's health.

The Russian word that we have translated as *district*, lacking a more adequate term, is not *raion* which designates the administrative district of a city but *uchastok*, a section of the population, the section served by a medical center.

The specialist works in his office, as a rule, and goes into the home only exceptionally. The general practitioner, however, has become the *ordinator*, the visiting health officer, the liaison between the medical center and the home. He has a threefold function.

He does *medical-prophylactic work*. He examines and treats patients, at the office and in the home, as a family doctor. But then he also supervises certain groups of patients. A man had tuberculosis, went to a sanatorium, was cured and is back at work. He needs supervision; somebody must have an eye on him to prevent a relapse. In other families people had cardiac, gastro-intestinal, or other diseases. They are no longer disabled; they work, and the doctor knows them, goes to see them spontaneously without being called. He wants to know how they are getting on, whether they are adjusted to their environment or whether special measures are required to keep them adjusted as useful and happy members of society.

If scarlet fever breaks out in a home, the doctor is immediately on the spot, hospitalizes the patient and disinfects the place. He is the liaison between the center and the hospital, but also between the center and the specialized dispensary to which patients may have been referred, and the institute, the medical school from which professors may have been called in consultation.

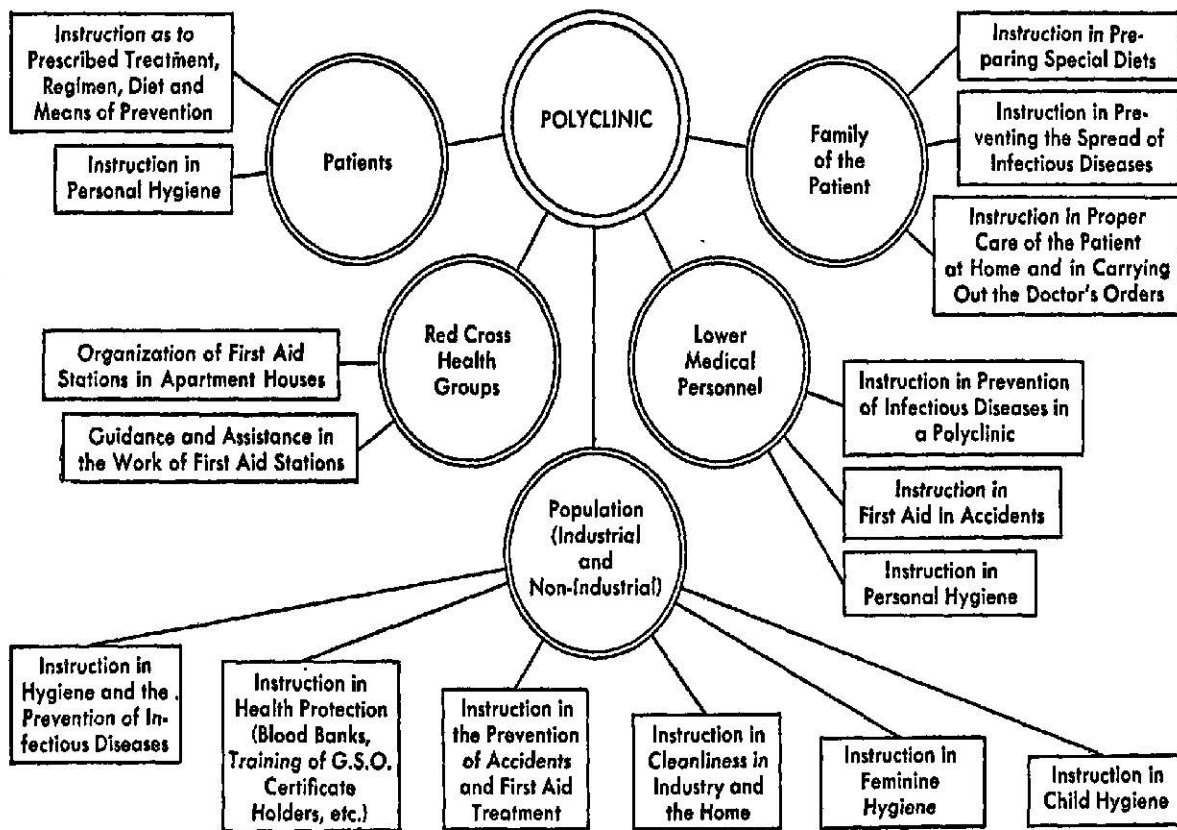
A second group of functions falls under the heading *sanitary-prophylactic work*. One of the most important is what the Russians call "dispensarization of the population," house-to-house surveys made by the doctors and the nurses assisting them. The medical center must know the people it serves, whether they are sick or not. Such surveys give a picture of housing and living conditions, permit a study of the incidence of illness in the district, reveal physical and social causes of illness, and make it possible to apply preventive measures in time. They create a bond between the physicians and the people.

The visiting health officer is in constant touch and cooperates with the epidemiologist and sanitary inspector of the administrative district. He is in charge of immunization, and health education is one of his major tasks. His educational activities are illustrated in detail in Chart XII.

Every district has a citizens' health committee. Soviet medicine has always emphasized that the people's health is the concern of the people themselves and that they must take an active part in the fight against disease. While the committee has no direct administrative responsibilities, it is in close contact with the visiting health officers and lends its aid to all medical workers of the district.

In addition to this general district health committee, every block, every apartment house, has its own health committee that concerns

CHART XII. DISTRICT HEALTH EDUCATION BY THE POLYCLINIC



itself with the health conditions of its unit. One of the many tasks of the visiting medical officer is to organize such committees, to instruct and guide them in their work in cooperation with the Red Cross.

Apartment houses and blocks have not only health committees but also their own first-aid stations. They are the smallest units in the wide network of medical institutions. The district medical center through its visiting physicians organizes these stations and trains people in first aid. Those who have been trained are entitled to wear the Red Cross badge marked GSO which stands for *gotov k sanitarnoi oborone*, meaning "ready for sanitary defense." These first-aiders form circles and the health officer again guides their activities. He also takes an active part in the recruiting of blood donors.

Under the pressure of the war we learned to mobilize the population. We created a civilian defense organization which also reached into every home. The difference is that in the Soviet Union, which recognizes no armistice in the war against disease, these activities are carried on permanently.

Since the prevention of disease requires education first of all, health education is one of the major activities of the medical center. It is directed to five different groups, first to the population at large. Through lectures, demonstrations, exhibits, and discussion groups, all citizens are taught the significance of cleanliness for health, in working places as well as in the homes. They are instructed in personal hygiene, child hygiene, feminine hygiene, in the prevention of infectious diseases and accidents. The principles of first aid are explained to everybody; those who wish to know more about it are given special courses leading to the Red Cross certificate. All are taught the significance of blood banks, a field in which the Soviet Union did pioneer work as early as 1924.

Those people who become Red Cross workers and proudly wear the GSO badge are the physician's helpers and receive special instruction on how to operate first-aid stations.

Very important is the education of the patient. Not only must the treatment be explained to him, but also the factors that were responsible for his illness. He must be advised how to live so as to avoid similar occurrences. And if he is sick at home, members of his family must be instructed in how to take care of him, how to prepare a prescribed diet. If his disease is contagious, special precautions have to be taken.

And finally, the medical center must instruct its own non-professional personnel not only in personal hygiene but also in first aid and in measures to be applied in handling infectious materials.

This tremendous campaign in health education, carried on from year to year in the USSR has been so successful because it is always combined with education in citizenship.

In the United States, we have health centers operated by health departments giving preventive services to the people. We have group clinics giving diagnostic and curative services, but with few exceptions we have not yet succeeded in amalgamating the two. The Soviet Union has created a new type of medical center that takes full advantage of the present technology of medicine. It has once and for all broken down the artificial barrier between preventive and curative medicine. Through the medical center, the health department extends its protecting hand into every home, and the general practitioner has assumed new responsibilities as physician, social worker, and educator to the people.

Rural Medical Services

Thus far in this chapter we have reviewed the organizational patterns and operating methods of the various types of institutions which provide medical care primarily for the Soviet city and town dweller. This survey would be incomplete without a corresponding picture of the services developed for his country cousin. As a matter of fact, the scope and significance of the rural medical services in the USSR, the territory they cover and the number of persons served, far outweigh the urban medical services.

For the Soviet Union is still primarily a rural country though it is rapidly entering the ranks of the leading industrial nations. Despite the population shifts effected by the great industrialization program and the mechanization of agriculture during the thirties, the 1939 Soviet census revealed that about twice as many citizens lived in rural districts as in the cities and towns. The task of providing health services for this large and scattered rural population has been a tremendous one.

Tsarist Russia was a country of great contrasts and contradictions. Although despotically ruled, it had since the beginning of the nineteenth century a liberal and revolutionary movement that became

strong enough at times to force far-reaching reforms. Among these was the abolition of serfdom in 1861, and the introduction three years later of the Zemstvo or local government. In an earlier chapter we have described the organization of this district assembly, as well as its pioneering activity in the administration and development of medical and welfare services throughout the vast Russian countryside.

Thus, through the agency of the Zemstvos, Russia started more than 80 years ago to build up a system of public medical services for its rural population which was administered locally and financed through taxation.

It was a new departure in medical care and was undoubtedly a step in the right direction. Sickness insurance, such as was introduced in Germany 20 years later, is no solution for a poor farm population which can only be helped through public services. There was no charity involved because the people received the services as a right for which they paid through their contributions to the Zemstvo.

In 1913, 4,367 medical stations, each staffed with a physician, were serving the rural population of Russia.¹⁴⁸ They were supplemented by 4,539 feldsher stations. Rural hospitals included 49,087 general beds and 1,632 maternity beds. The facilities were anything but adequate for such a large population, particularly since the distribution was very uneven. In advanced provinces, such as the Moscow Region, the medical stations were so located that they could be reached easily. Conditions were different in the thinly populated provinces of the periphery where the number of medical personnel and facilities was far from sufficient, and among the national minorities medical services were often altogether non-existent.

Under the circumstances, while the medical stations of the old Zemstvo organization were a starting point for the creation of the post-revolutionary rural medical service, Soviet medical authorities were faced with the major task of not only increasing the number of medical stations but also of augmenting and improving their services. In other words, a virtually new organization had to be created to make the whole technology of modern medicine available to the farm population.

¹⁴⁸ All figures quoted hereafter in this chapter, unless otherwise specified, are from G. A. Miterev, *Narodnoye Zdravookhraneniye za 25 Let Sovetskoy Vlasti* (*Protection of the People's Health during 25 Years of Soviet Power*) Medgiz, Moscow, 1942.

The task was relatively easy on the large state farms. One of the two basic types of Soviet farms, the state farm or *soukhhoz* is organized very much along industrial lines. It is usually a single-crop enterprise which raises such crops as wheat, sugar beets, cotton, tobacco or tea, or breeds cattle, sheep, hogs or horses. The state farmer has the same status as the industrial worker. He is a wage-earner, and he and his family enjoy all benefits of social insurance. On most of these farms, such as the famous state grain farms in the neighborhood of Rostov-on-the-Don, thousands of these families live in town-like communities where it is possible to have medical centers and hospitals similar to those in the cities.

The highly mechanized state farm undoubtedly represents the most productive type of agriculture. It is a pattern, however, which for obvious reasons could not be applied to the whole country. The great majority of all farmers, representing about 20 million households, are organized in collective farms, which control about 99 per cent of the sown area.

The collective farm (*kolkhoz*) is a cooperative farm in which all basic means of productions—land, livestock herds, implements, and farm buildings—are the common property of the peasant households that constitute the kolkhoz. Each individual household owns as its private property its homestead, a patch of land, poultry, small stock, and a cow. The peasants live in villages that are administered by a village soviet, a council of peasants' delegates elected by their fellow villagers, and the council in turn elects its executive committee. The collective farm is managed by a chairman and board elected by a general assembly of all collective farmers over eighteen, men and women.

Part of the crop is distributed among the farmers for their own consumption or for sale in the cooperative market. The major part of the crop is sold directly to state organizations, and of the money that thus comes in a few per cent is used for taxes, a few per cent (usually not more than 2) for administrative expenses; 12-20 per cent is set aside as an indivisible fund for capital expenditures, and the rest is distributed among the farmers and the rest of the farm personnel.

The collectivization of agriculture has greatly raised not only the material but also the cultural standard of the rural population. Schools, libraries, clubs, stadia have come to the village, and the collective farmer (*kolkhoznik*) is an enlightened responsible citizen who takes a very active part in promoting the welfare of the community.

The major problem of the organization of rural medical services in the Soviet Union has been one of developing these services in ways that would best meet the needs of the collective-farm families.

It was obviously impossible to erect complete medical centers with specialists in every collective farm, just as it was impossible to have every farm own all the tractors, combines, and other agricultural machines it needed. The latter problem was solved by establishing Machine and Tractor Stations at strategic points to service groups of farms. In 1937 the country had 6,319 such stations, each serving a number of collective farms.

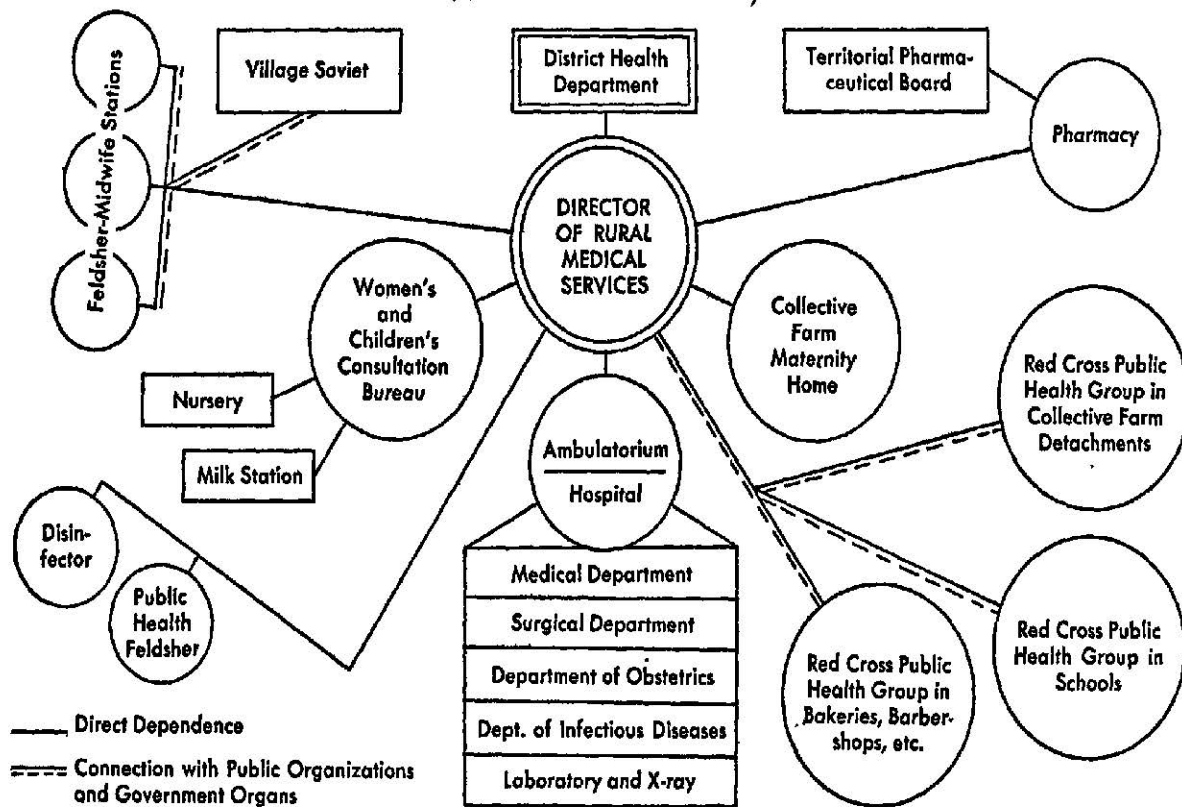
The same principle was applied to the provision of health services. Health units were developed, again in strategic points of a district, each one providing medical services to the population of a certain number of collective farms. The organization of such a unit is illustrated in Chart XIII.

The District Health Department is in charge of all medical services of the district: preventive, diagnostic, and curative. The District Health Officer is responsible for the functioning of the services and for health conditions among the population. It is his duty to visit all health institutions of his district several times every year.

Directly under and attached to the Health Department is a Director of Rural Medical Services who controls all branches of the unit. His most important institution is the medical center, which in rural districts generally combines hospital and ambulatorium. It has a medical, a surgical, a maternity department, one for infectious diseases, and a clinical and X-ray laboratory. These are the minimum facilities required, and many centers have in addition dental departments or departments for the treatment of special diseases prevailing in the district. The size of the hospital varies with the population served. The goal is to have about five beds for every 1,000 population. In some districts the goal has been reached, in others not. The medical center has an ambulance service, and its ambulatorium or outpatient department, receives patients at the office and also sends out physicians to the villages.

The special emphasis placed in the Soviet Union on the protection of mother and child has led to the establishment of separate institutions within the unit. One is the Women's and Children's Consultation Center, staffed with a gynecologist and a pediatrician who also controls a milk station and the farm nurseries. The other is the small

CHART XIII. MODEL STRUCTURE OF A RURAL MEDICAL SERVICE
(Outside of the District Seat)



maternity home of the collective farm, about which I shall say more presently.

The unit has a pharmacy that serves the people directly and also supplies the other branches of the unit with drugs. It is under the control of both the Medical Director and the Pharmaceutical Division of the region (*oblast*). The latter sees to it that it is supplied with the drugs needed, in sufficient quantity, while the former supervises their distribution.

The unit, as I have already mentioned, serves several collective farms. The medical center is located at a point that is easily accessible, but it is obvious that there must in addition be local facilities right in the village. These are the medical stations, which as a rule are staffed not by physicians but by feldshers, nurses, and midwives. These well trained medical workers are perfectly qualified to attend to the everyday ailments of the people. They are in constant touch with the doctors of the medical center, who in turn come to the village stations at regular intervals.

Each collective farm has its Health Committee, on which serve medical workers and farmers elected by their fellow-farmers. They meet regularly to discuss the health problems of the group and to ascertain whether progress has been achieved. They take an active part in drawing up the five-year health plan of the farm and aid the health authorities in carrying it out. On every farm there are, moreover, men and women trained by the Red Cross and holding Red Cross diplomas. They cooperate with the health authorities in supervising the sanitary conditions of the school, the bakery, the barber shop, and similar places. Farmers themselves, they give first aid when accidents occur in the fields.

In addition to the personnel mentioned, the Medical Director has a disinfectant on his staff who is sent wherever his services are needed. There is also a feldsher trained in sanitary engineering whose function it is to help and guide the farmers in improving sanitary conditions.

Such a unit may serve a group of about 10,000 people. The number of units available in a district depends on the size and distribution of the population. The scheme is by no means rigid, but permits a great many variations. The visitor to the Soviet Union is impressed by the elasticity of these institutions. The principles and the goal are always unmistakably clear, and in view of the vastness of the country

and the magnitude of the task a certain standardization must take place. If the goal can be reached in some other, some shorter way, however, no objection is raised.

As an example, I should like to mention the medical facilities of a middle-sized prosperous collective farm in the vicinity of Kharkov that I studied in 1938. The "Sto Pyat"¹⁴⁹ farm had a total population of 780 (including many children) and 4,200 acres of land, fields, and orchards. The farm had its own ten-grade school, a club with an excellent library, a nursery, a kindergarten, and a medical center. The medical center had a dispensary room and ten beds, an isolation room, a general ward, and a maternity ward. The staff consisted of one physician, one dentist, two midwives, and two nurses, a more than adequate staff for a group of this size.

Since Kharkov could be reached easily, cases requiring specialized care or operations could be referred to a city institution and could be hospitalized there.

The medical service available to this one farm is by no means exceptional. As soon as any collective farm prospers, it spends increasing amounts of its indivisible funds on the erection of cultural and health institutions and can afford to have a larger number of medical workers on its budget. It is the task of the District Health Department to enforce minimum standards everywhere, and if local budgets are inadequate, aid must be granted from the state budget.

Before the Revolution the number of women delivered in maternity homes was negligible. The Soviet health authorities made a great effort to provide more facilities, particularly during the Second Five-Year Plan. As a result, 75,612 maternity beds were available in cities in 1941 as compared with 5,192 in 1913. At the same time great attention was paid to conditions in rural districts, and the increase of maternity beds in the villages was even more impressive. From 1,632 in 1913 the number of maternity beds jumped to 66,261 in 1941.

Again the solution of the problem was relatively easy on the large state farms where conditions approximated those of urban communities. We have mentioned that the medical centers serving groups of collective farms had a maternity department. But this was not enough. Maternity care had to be brought right into the villages, had to be as

¹⁴⁹ The Sto Pyat (Hundred and Five) Collective Farm was so named in honor of 105 peasants in the neighborhood who died, during the First World War, defending the land against the Germans.

close to the people as possible. The solution adopted was the construction of small collective farm *Maternity Homes*. Chart XIV gives the plan of such a home.

It is a simple structure with four rooms, reception room, baths, delivery room, and maternity room. It has usually from two to five beds and is staffed with a competent midwife who lives in the building. The regulations call for the location of each maternity home at a distance of approximately 6-8 kilometers, or about 4 or 5 miles from the medical service to which it is attached so that the physician may be reached easily at any time. When a farm decides to build such a home it must contribute 75 per cent of the costs; 25 per cent of the funds are from the state budget.

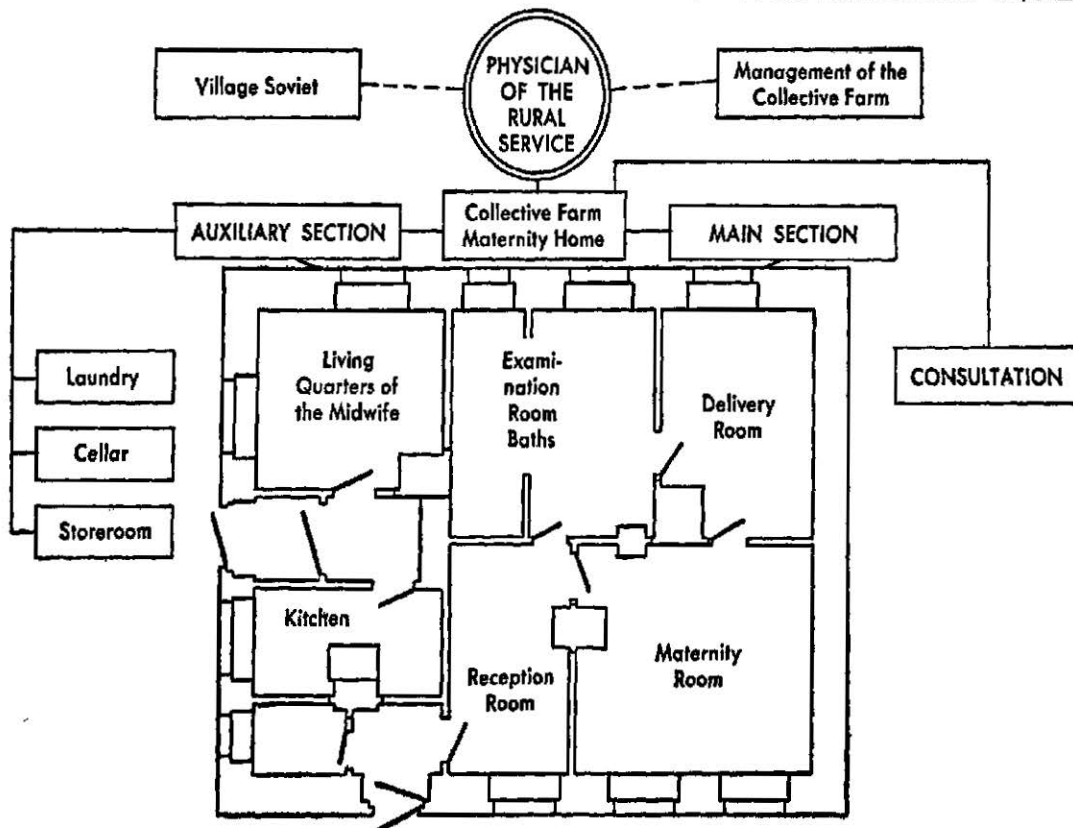
Simple as such a home is, it serves the purpose beautifully. When a farm woman is pregnant she goes regularly to the Women's and Children's Consultation Center for examination. If the pregnancy shows any abnormal symptoms she will be hospitalized in the medical center,¹⁵⁰ but if everything is normal, she waits until the time comes and enters the Maternity Home of the farm. There she is delivered under good hygienic conditions by the midwife and if necessary by the doctor. There she spends a week removed from household duties, has competent care, and is instructed in the feeding and handling of the child.

After being discharged from the Maternity Home, she returns at regular intervals to the Women's and Children's Consultation Center. There the child is examined by a pediatrician and a record is kept of his development. If her work prevents her from taking care of the child, and if she has no member of her family who could do so, the farm may have a nursery that will take the child in while the mother is at work.

The provision of nurseries to the farm population was a totally new development in Russia—and not in Russia alone. Village nurseries were non-existent before the Revolution. In 1941 permanent rural nurseries were taking care of 299,598 children of up to about three years of age. The need for permanent nurseries is obviously much smaller under rural conditions than among industrial city workers. During the long winter period most farm women have plenty of time for their children. The need, however, becomes very acute in

¹⁵⁰ The Medical Center also delivers those women whose farm has no Maternity Home of its own.

CHART XIV. MODEL STRUCTURE OF A COLLECTIVE FARM MATERNITY HOME



the summer when farm work is at its height and every hand is needed in the fields. At such times the farms also operate seasonal nurseries, which in 1941 made provision for the care of more than four million children.

I remember an interview with the People's Commissar of Public Health of the Ukraine on a hot summer evening of 1938. I told him that in the United States we found it difficult to persuade well-trained young doctors to practise in rural districts and asked him what their experience had been. For a while he could not understand why this should present a problem. He came from a farm family himself and said that the majority of the medical students of the Ukraine came from farms and studied with the intention of returning to the farms. As a matter of fact, talented young people are frequently delegated to a medical school by their collective farms which defray all their out-of-pocket expenses while they are studying in the city.

Rural practice is not unattractive to Soviet doctors, and it is not difficult to understand why this is the case. In the first place, the Soviet country doctor does not depend for a living on the per capita spendable income of the population he serves. Being salaried, he is economically independent. His salary is larger than that of a city doctor of equal position and experience, because his task is more difficult and his responsibility greater.¹⁵¹ Like all other medical workers he enjoys the full benefits of social insurance.

The erection of rural medical centers with hospital and laboratory facilities permits the country doctor to practise scientific medicine, the kind of medicine for which he has been trained in medical school. Besides having one month's vacation every year, the rural physician attends every three years a postgraduate course of about three months' duration, either in the regular medical schools or in special postgraduate schools. While attending this "refresher" course, the physician continues to receive his salary in addition to a special allowance. Travel, tuition, board and lodging and textbooks are also provided for him during that period. The country doctor thus keeps in constant touch with medical developments.

Another point to be borne in mind is the system of general training, which I also described in an earlier chapter. This brings nearly

¹⁵¹ The salary scale of rural physicians which used to be slightly lower than that of city doctors, is now from 10 to 20 per cent higher. Decree of *Sovnarkom* No. 1974, December 13, 1942, for text, see Appendix IV.

all young physicians to the countryside for three years of rural practice directly following their graduation. This gives them an all-round experience after which they may return to the city if they so choose, but many remain in the country. This part of the training program brings a constant stream of young physicians into the rural districts.

All these factors combined have attracted many young doctors to the country. But even so their number would be too small to provide medical services to the whole population, and their work is therefore supplemented by that of the so-called middle medical personnel, feldsher, midwife, and nurse, whose training and role in the Soviet system of medical care have already been discussed.

Coordination of Urban and Rural Health Work

Rural health services, good as they may be, always require some backing from the city. Surgeons, gynecologists-obstetricians, and pediatricians are stationed in the rural medical centers that serve the collective farms directly. Specialists in tuberculosis, venereal diseases, psychiatrists, etc., may be found in the more elaborate facilities of the district seat, but the place of the brain surgeon and similar specialists obviously is in the city. Yet the farmer may need their services and it is necessary, therefore, to have an organization that will bring the rural patient to the city specialist or vice versa.

This problem has in many cases been solved extremely well in the Soviet Union. The Moscow District Clinical Institute for example, is a great clinical institution with a large and highly specialized staff of physicians; it serves as a clearing house for the rural district of Moscow. Complicated cases are referred to the Institute for examination by the rural doctors and are either returned to their villages with detailed instructions regarding diagnosis and treatment or, if necessary, are hospitalized and treated at the Institute. Doctors from this Institute tour the district regularly, visit the rural medical centers, see patients, and hold conferences with the local physicians. It is obvious that the efficiency of a rural medical service is greatly increased when it has the constant support of such an institute.

Conditions are more difficult when a rural district is remote from any large city. In such cases it frequently happens that a medical school or large city hospital assumes patronage over the district and sends out flying squads of specialists, flying often in the literal sense

to the villages. All large cities have ambulance airplanes ready to fly to the country in emergency cases. Dental and other clinics on wheels, laboratories on wheels, and other "health-mobiles" are also in use. Because of the long distances, however, and because the winters are long, the snow and mud often very deep and country roads pretty bad, there is no doubt that the airplane will play a much greater part in rural health work than the automobile.

The Soviet Union has made a great effort to bring modern scientific health services to the rural population of its entire vast territory. The job is by no means completed and services are not yet equally plentiful and equally good everywhere. Nevertheless, the pattern is set, and in my opinion it is the best pattern possible at the present stage of technical development.

4. REHABILITATION: RESORTS AND SANATORIA

Endowed by nature with an extraordinary variety of curative forces, the Soviet Union seems to have been predestined for the creation of every conceivable kind of health resort. Developing such resorts, and making them available to the working population is one of Soviet medicine's most brilliant achievements.

The country possesses virtually every known climatic condition: the dry cold air of the Arctic; the dry hot atmosphere of steppe and desert; the moist warmth of southern seashores; all the stimulating climates of forests and mountain regions. Mineral springs of varied composition are found not only in the Caucasus, the Urals and the Far East, but also in the immediate neighborhood of large cities. Medicinal muds and climatic stations exist in abundance. There are also curative products unknown to other countries, among them naphthalan, a medicinal oil found in Azerbaidzhan; and koumiss, the fermented mare's milk which is prepared on the steppes of the trans-Volga region and Kazakhstan.

The Crimea, with a mild climate reminiscent of the Mediterranean Riviera, was the favorite resort of court and aristocracy before the Revolution. Some of the spas, like Kislovodsk, were justly famous for their waters. Yet, not more than 200,000 persons were treated annually in Russian resorts up to 1913. Industrial workers and peasants had no opportunity to take advantage of these places because

they were accessible only to persons of means. And some of the latter, finding the equipment of the Russian spas rather primitive, frequently preferred to travel abroad. Every year, more than 100,000 Russian aristocrats and members of the wealthy bourgeoisie patronized the great spas of Western Europe. A Russian Grand Duke curing his gout or obesity in Baden-Baden, Carlsbad or Marienbad was a proverbial figure.

The Revolution changed conditions radically. A decree of March 20, 1919 nationalized all the health resorts in the country. In 1923, a special Committee for the Improvement of Health Resorts was appointed to put them in order. Resorts in the war zone which had been seriously damaged were to be reconstructed. In all, hygienic conditions were poor; water supplies and sanitation had to be improved. New housing facilities were urgently needed. "Health resorts for the working population" was the slogan under which the entire reconstruction program was systematically planned and carried out. It was placed under the direction of the Chief Administration of Resorts and Sanatoria, a special section of the Commissariat of Public Health, advised by the State Central Institute for the Science of Health Resorts.¹⁵²

This Institute, which is the research center and coordinating agency for health resorts, has its headquarters in a handsome building in Moscow. It has done exceedingly important work in exploring the country, planning health resorts and examining personnel for them. It also engages in continuous research on the application of various natural health factors in the treatment of chronic diseases.

Pre-Revolutionary Russia knew of the existence of about five hundred mineral springs. The various Soviet expeditions sent out by the Academy of Sciences and the Central Institute for the Science of Health Resorts, as well as a survey undertaken in 1932 by the State Planning Commission preparatory to drafting of the Second Five-Year Plan, revealed the existence of about three thousand mineral springs, medicinal mud resources and climatic stations. Without doubt, many more will be found in the course of time, especially in the Asiatic part of the country. The Soviet Union has within its borders,

¹⁵² *Gosudarstvennyi Tsentralnyi Institut Kurortologii*. The German word *Kurort*, meaning *health resort*, has been taken over by the Russian language; hence *kurortologiya*, the science of health resorts.

therefore, all of the natural means required for the treatment of chronic diseases. The resort program is entirely concerned with utilizing and developing these facilities in such a way as to make them available to the entire population.¹⁵³

With few exceptions, health resorts in the capitalist world are money-making institutions. Commercial and medical considerations often clash. The hotel keeper is not primarily interested in the patient's health but in having him spend as much money as possible. Gambling is usually encouraged in many watering places to help their commercial interests. In the Soviet Union, obviously, health resorts are entirely free from commercial considerations. Their sole purpose is to contribute to the restoration and preservation of the people's health. Since they constitute a link in the large chain of Soviet health institutions, these resorts can be planned and developed to meet the public needs.

Soviet health resorts are divided into two groups. The first includes the health resorts of national significance which receive patients from all over the Union. In this group are the famed mineral springs of the Caucasus, the Crimean stations and other places along the shore of the Black Sea. The second group of resorts consists of local health establishments assigned to the service of definite districts. The country has been surveyed in order to provide every district with the resorts needed for the treatment of the various chronic diseases. If mineral water of a specified composition is not found within a district, the nearest such spring is assigned to serve that district as well as its own.

The major resort network, which increased from 5 functioning resorts in 1919 to 49 in 1925, included a total of 104 in 1941. (Under this classification, the ten neighboring resorts on the southern shore of the Crimea are listed as one.) To this total, situated in eight Union Republics, should be added about 60 more resorts in the Western Ukraine, the Baltic, Karelo-Finnish and Moldavian Republics. These resorts, privately operated before the incorporation of these areas into the USSR, were being renovated and integrated into the Soviet resort system during the year preceding the German invasion.¹⁵⁴

¹⁵³ G. Danishevsky, *La balnéothérapie des maladies rhumatismales et ses indications*, Moscow, 1934. The introduction gives a valuable survey of the general problems of Soviet health resorts.

¹⁵⁴ *Spravochnik dlya vrachei po otboru bolnykh dlya kurorty* (*Handbook for Physicians on the Selection of Health Resorts for the Sick*), edited by L. G. Goldfield, Medgiz, Moscow-Leningrad, 1941.

It has been estimated that from 1919 through 1940, from ten to twelve million persons received medical treatment in the major Soviet resorts. Their development during that period is reflected in the following figures:¹⁵⁵

	NUMBER OF SANATORIA BEDS	SANATORIA PATIENTS	AMBULATORIA PATIENTS	TOTAL NUMBER OF PATIENTS
1919	1,840	4,999	—	4,999
1925	26,460	91,338	70,481	161,819
1928	36,100	135,200	160,100	295,300
1932	66,400	383,600	353,200	736,800
1937	102,500	714,000	232,400	946,400
1940	132,002	901,924	230,000	1,131,924

Depending on local climatic factors, the resorts are in operation from four to twelve months of the year. Half of the total number functioning in 1940 were open on a year-round basis, and the majority of the others were open from five to seven months of the year. New courses of treatment prescribed for resort patients went into effect January 1, 1941, and ranged from 24 days for certain nervous disorders to 120 days for patients suffering from active tuberculosis.¹⁵⁶

The relationship between health resorts and sanatoria should perhaps be clarified. At the end of 1939, there were in the Soviet Union 2,078 sanatoria and 1,446 rest homes. Excluding the day and night sanatoria and the one-day rest homes, all within easy access of industrial centers, there were 1,750 sanatoria and 1,213 rest homes. Two-fifths of the total number of sanatoria and nearly one-fourth of all the rest homes were situated in the resorts, which, besides their special treatment facilities, thus represent a concentration of such institutions.

Since many of the resorts are situated in strategic areas of the western USSR, which were either occupied or fought over, as a group they suffered heavy destruction during the war. The Germans are officially charged with the destruction of 976 sanatoria and 656 rest homes,¹⁵⁷

¹⁵⁵ *Dvadsat Pyat Let Sovetskovo Zdravookhraneniya (Twenty-Five Years of Soviet Health Protection)*, edited by G. A. Miterev, Narkomzdrav USSR. State Publishing House of Medical Literature, Moscow, 1944, pp. 145-153. Unless other reference is given, all statistics that follow in this chapter are from the same source.

¹⁵⁶ See footnote 154.

¹⁵⁷ "Statement of Extraordinary State Committee for Ascertaining and Investigating Crimes Committed by the German-fascist Invaders," *Information Bulletin*, Embassy of the USSR, Washington, October 11, 1945.

many of them in the health resorts which they ruined on the shores of the Crimea, in Odessa, in the North Caucasus and elsewhere. Many resorts were temporarily converted into rehabilitation bases for the country's defenders, with evacuation hospitals, convalescent homes and other medical institutions for the Red Army, Red Fleet and Soviet Red Cross and Red Crescent Society.

Obviously such a great development as a network of health-restoring communities has required huge capital investments. During the first two five-year plans, nearly 700 million rubles went into building or renovating sanatoria, and into the general development of resorts.¹⁵⁸ This work continued into the war-interrupted Third Five-Year Plan, when particular emphasis was placed on completing the modernization of the resorts, their mineral springs and balneological facilities. Also stressed were the expansion of special facilities for children, for tubercular, heart and rheumatic cases, and the establishment or further development of resorts in Central Asia and the Far East. The Fourth Five-Year Plan calls for the complete restoration of all war-wrecked resorts by 1950, with resorts operated directly by the Ministry of Health accommodating three million persons annually. Rebuilding operations began in 1945 with an investment of 20 million rubles, and 45 million rubles were appropriated for the same purpose in 1946.¹⁵⁹

Soviet health resorts, even at the peak of their pre-war development, lacked facilities to accommodate all citizens suffering from chronic diseases. Under present conditions, they cannot be expected to meet the maximum need for several more five-year plans. Accordingly, a selection has to be made from the cases qualifying for treatment, and this selection procedure has been worked out as follows:

The physicians attached to the various enterprises first determine which of their patients might be improved by treatment in a climatic station or spa. Then there are consultations with specialists, who are found in all larger cities, either in the local Institutes for the Science of Health Resorts or in the special Sections for Sanatoria and Health Resorts that have been established with the City Health Departments. It is the specialist's task to examine each case thoroughly, determine the nature of the disease, its stage, and the responsiveness of the organism.

¹⁵⁸ G. A. Miterov, *Narodnoye Zdravookhranenie za 25 Let Sovetskoi Vlasti (Protection of the People's Health during 25 Years of Soviet Power)*, Medgiz, 1942, p. 71.

¹⁵⁹ *Izvestia*, February 3, 1946.

Finally, the specialist has to decide what special resort would be indicated, what season would be preferable for the treatment, and whether the treatment should be given in a sanatorium or polyclinic. If an enterprise has more candidates for a health resort than places available, further selection has to be made, taking medical as well as social factors into consideration. Persons who need the treatment most, such as those who work in dangerous workshops or who have poor home accommodations, or persons who have a fine record of work, will be given preference. The others will be treated in the neighborhood either in local sanatorium or polyclinic, as the case may be.

The health resorts issue passes for every available accommodation. These passes are distributed among the republics, territories, and working establishments according to a definite quota. Let us assume that a factory in Moscow has fifteen candidates who have been selected by the medical and social committees for treatment in Sochi. On a certain day, the factory receives ten passes from the authorities in Sochi, meaning that ten places are available on the factory's quota. The other five patients will have to wait until new passes arrive. This may occur the following day, or possibly a few weeks later. Sixty to seventy per cent of the passes are distributed free of charge to workers and are paid for from the social insurance funds. A certain number of passes may be purchased by the trade unions for their members. Finally, there is a small number that can be bought by individual workers, whether manual or intellectual. There are many people in the Soviet Union who can very well afford a treatment in a health resort at their own expense.

Many large enterprises such as factories, offices, and Ministries maintain their own sanatoria in various health resorts for the treatment of their own patients. Trade unions have built a large number of sanatoria¹⁶⁰ and so has the Red Army.

When a patient leaves for a health resort, his complete case history is sent to the physicians there. And when he comes back after treat-

¹⁶⁰ In 1941, trade unions possessed 231 sanatoria and 662 rest homes. After the war, 68 sanatoria and 254 rest homes were intact. The trade union network is being restored under a program which calls for tripling by 1950 of accommodations, which had been sufficiently restored by 1946 to care for 1.5 million workers. Germina Rabinowitsch, "Soviet Trade Union Functions," *American Review on the Soviet Union*, February, 1946. Plan figure from Vassili Kuznetsov's address before the All-Union Central Council of Trade Unions, in Moscow, on April 10, 1946.

ment, the case history is returned to the original doctors, very often with recommendations for an after-treatment. Upon his return, the patient reports to the doctor of the enterprise as well as the specialists consulted previously. They in turn report to the physicians in the health resort. Thus, both the medical authorities at home and those in the health resort know what the result of the treatment has been.

Unlike the resorts of Western Europe, which tend to treat as many different diseases as possible, Soviet resorts have specialized. Undoubtedly, this policy has great advantages. An example is one of the Union's most beautiful resorts, Sochi-Matsesta. Most of the patients in its more than fifty sanatoria are treated for diseases of heart and circulation and for metabolism disorders. This superb resort is situated on the Black Sea at the foot of the Caucasus Mountains, and combines stimulating sea air with a powerful salt and sulphur mineral spring. One of Sochi's best known institutions is the Voroshilov Sanatorium of the Red Army, a superb group of modern buildings in concrete and glass situated on the top of a hill. It has accommodations for 500 patients, club rooms, library, playgrounds, and, of course, all necessary medical facilities. Another equally beautiful sanatorium was erected by the Commissariat of Heavy Industry. Many trade unions have their houses there. A broad automobile highway leads from Sochi to Matsesta where the most modern bathing establishments have been built around the mineral springs. There is a Park of Culture and Rest amid the sub-tropical vegetation along the seashore where daily concerts are given. The growth of Sochi-Matsesta was very rapid.¹⁶¹

	NUMBER OF MATSESTA	
	PATIENTS AND VISITORS	BATHS GIVEN
1914	20,000	17,395
1921	4,565	1,345
1925	7,860	32,000
1927	21,443	134,643
1932	71,682	731,216
1935	118,000	960,000

This development is by no means isolated. For comparison I should like to add the figures for Kislovodsk, a Caucasian spa located 3,000 feet above sea level which is famous for its carbonic acid spring, Narzan. This spring is used not only for the treatment of disorders of heart and

¹⁶¹ *U.S.S.R. in Construction*, No. 1, January, 1936.

circulation, but also provides the Union's most popular table water. The output of the spring is not less than a half a million gallons a day.

Growth of Kislovodsk ¹⁶²

	SANATORIA	PATIENTS
1920	7	675
1923	19	6,019
1926	23	20,963
1929	33	26,779
1932	39	58,320
1935	48	80,000
1936	—	100,000

Although the local health resorts are less conspicuous, they play an exceedingly important part in the health program of the nation. In the immediate neighborhood of Moscow, on the banks of the Kliasma, Oka, and Moskva Rivers, in the midst of pine and birch woods, are many rest-homes and sanatoria. The most beautiful of these is probably the sanatorium of Barvikh, which is in operation all year and is equipped with all medical and recreational facilities. The national minorities are developing their own health resorts. I visited a sulphur bath not far from Nalchik in the Kabardino-Balkarian autonomous republic. It is beautifully located in a mountain valley and, although small, it is perfectly equipped and of great service to the population of the region. In the Moscow Central Institute for the Science of Health Resorts I saw the plans for a score of new sanatoria that are being built at the present time in Siberia, in Buryat-Mongolia, and all over the territory of the Union.

The Central Institute for the Science of Health Resorts in Moscow has already been mentioned. This is, however, only one of many institutions carrying on such research. In 1940 there were eleven institutes, four of national importance, which were entirely concerned with exploiting the natural curative factors of the resorts and with their organization or the training of their scientific personnel. Besides the Moscow institute, which plans the scientific activity of all institutes in this field, those of national importance included the State Balneological Institute on Caucasian Mineral Waters in Pyatigorsk, the Stalin Balneological Institute in Sochi-Matsesta, and the Institute for Clmatotherapy in Tu-

¹⁶² Source cited in footnote 161, except for 1936 figures from *Moscow Daily News*, March 20, 1937.

berculosis, in Yalta. Many smaller institutes in the Union Republics, as well as branches of other medical institutions, separate resort clinics, and the laboratories and local branches of the Moscow Central Institute have been carrying on such investigations. The findings of all these bodies are evaluated, coordinated and given practical application through the Scientific Council of the Chief Administration of Resorts and Sanatoria.¹⁶³

Consequently, the curative factors of the various resorts have become increasingly well defined, the forms of treatment more and more precisely worked out. There can be no doubt that through its health resorts, the Soviet Union is forging one of the most effective means of rehabilitating the health of its citizens.

¹⁶³ See footnote 155.

Science and Research

The philosophy of Marxism is erected upon the foundation of the natural sciences and the science of economics. It is rational. Where such a philosophy prevails, scientific research has the best possible chances of development. The two characteristic features of Soviet science are the disappearance of the distinction between theory and practice, or between pure and applied science, and the planning of scientific research on a nation-wide scale.

There is no "science for science's sake" in the Soviet Union. The Russian philosophers claim that such an attitude develops only in a society in which there is class distinction between manual and intellectual laborers. Where a leisure class appears, individuals can lead a parasitic existence at the expense of the working class and can devote their time to "pure" science. Only in such a society can the idea be conceived that science is degraded by the fact that it may be applied to a useful purpose.¹

In the capitalist world, as we know, science is not an integral part of government activities. Western statesmen know little about science. Since they live in an industrial civilization, they cannot ignore it, and they are more and more frequently obliged to resort to the expert advice of scientists. But they do not consider science and technology as vital elements of the social organism. Western scientists, on the other hand, have known little about politics and economics, and, until the development

¹ For general considerations see: A. Pinkevich, *Science and Education in the U.S.S.R.*, New York, 1935—J. G. Crowther, *Soviet Science*, New York, 1936.—"Excerpts from a Report by Academician P. L. Kapitsa," *American Review of Soviet Medicine*, December, 1944, pp. 173-177.

of atomic energy revolutionized the thinking of many of them, they have cared less. Their political views are often no more advanced than those of a fourteen-year-old child. Many of them live and work remote from life and even boast about their aloofness. Some of them, usually at an advanced age when the arteries begin to be calcified, feel the urge to express their political and economic views, whose childishness soon becomes apparent. The fame they achieved as narrow specialists, however, lends authority to their books and helps to confuse the reader's mind.

Conditions are totally different in the Soviet Union. Science, like other cultural activities, is the result of economic conditions, or rather of the mode of production which prevails in a given society. Where socialism has replaced the capitalistic system, the scientific superstructure is forced to change. Methods of scientific research may be the same in the Soviet Union as in the West, but the attitude toward science and its organization and planning is obviously different.

The immediate goal of the Soviet government is to provide high material and cultural standards for the entire population. The people must be liberated from the fetters of poverty, ignorance, and illness. This, it is felt, will ultimately make possible the establishment of a communist, classless, and stateless society. In order to reach this goal in the shortest possible time, all human capacities must be developed and all activities must be guided by a scientific plan. Without doubt, therefore, the most important government department of the Soviet Union is the State Planning Commission (*Gosplan*). Science is not an incidental factor to this Commission but the very basis of its work. Food must be provided for the people; this requires improved agricultural methods, which in turn depend upon the cooperation of biologists and geneticists. The production of commodities must be increased and, therefore, the resources of raw materials must be explored by geologists and the country must be electrified by engineers. Physicists, chemists, as well as scientists of all disciplines are called upon to devise new methods of manufacturing. Diseases must be wiped out, so the medical scientists are mobilized.

In the socialist state, the scientist occupies a definite place in the national economy of the country. Scientific research is not a luxury supported by philanthropic agencies, but it is, on the contrary, the most powerful instrument that the state possesses for the fulfillment of its task. No wonder that the scientist is greatly esteemed and showered

with honors, privileges and financial rewards. Larger sums are appropriated for research in the Soviet Union than in any other country in the world.

The fact that scientific research is an integral part of the national economy does not mean that theoretical studies are neglected. The contrary is true. Great practice requires great theory. Many scientists are engaged in theoretical studies but it does not put them in a position of aloofness. They remain in touch with life and in contact with manual workers. They are conscious of the fact that theory and practice are one. Not only a synthesis of science is being achieved in the Soviet Union, but a social synthesis of science and practice.

Research is planned just as health is planned. Every scientific institution, like every medical one, has its five-year plan with yearly quotas to complete. This does not mean, however, that scientists are regimented. The planning of a national economy raises problems the solution of which is imperative. The research institutes are called upon to attack specific problems. But there is plenty of room for individual initiative. If a scientist has a promising project of his own, he is encouraged to carry it out and the state finances it. It becomes part of the general plan. Obviously there is scarcely a project of any value that cannot be fitted into a program of such magnitude.

Wherever science has such a vital task to perform, the demand for research facilities is very great. In 1945, there were about 750 scientific research institutes in the USSR.² Their activity was in most cases highly specialized, but altogether they covered virtually the entire range of human endeavor: agriculture, industry, health, education, science and the arts, nutrition, communications, transportation and labor protection. Every industry has its central research institute with affiliated local institutes, to which it can refer its problems. The results of research can be applied immediately and on a nationwide scale. These institutes have very large staffs and, unlike the industrial laboratories of capitalist countries, they can afford to have scientists engaged in vast and time-consuming investigations. They are not working for profit and need not expect immediate results.

The country's basic research center is the Academy of Sciences of the USSR, often referred to as the general headquarters of Soviet science. Known prior to 1925 as the Russian Academy of Sciences, it was founded

² *The Soviet Union Today*, American Russian Institute, New York, 1945, p. 68.

two centuries earlier by decree of Peter the Great. An important factor in the life of the country, its character has always differed from that of academies in the West. It was not merely a learned society of university professors who met to present papers or to work on some common project. The scholars nominated to the Russian Academy have always become full-time members, receiving high salaries and research facilities in the Academy. In other words, it combined the advantages of the French Académie des Sciences with those of the Collège de France. Many distinguished men were members of the Academy before the Revolution. There were some, however, who entered the institution by favor rather than by merit, and others more worthy who were not admitted because of the reigning tsar's disfavor.

The Soviet government allowed the Academy to continue its existence but reorganized it from top to bottom. Under the Soviet regime, it has become the scientific general staff for the reconstruction of the country. The number of members has increased from about 40 to 147, three of them honorary members, according to a report prepared in connection with its 220th anniversary session in 1945.³ There were also 200 corresponding members. On the staff were some 5,000 scientific workers, which compares with a staff of slightly more than two hundred scientific workers before the Revolution.

In 1939, the former three sections, devoted to physics and mathematics, social sciences and the natural sciences, were expanded to eight as follows: physics and mathematics; chemical sciences; geology and geography; biological sciences; technological sciences; history and philosophy; economics and law; literature and language. The 150 scientific institutions under the Academy include 57 research institutes, 15 museums, 15 laboratories, 35 seismological and biological stations, 11 branches and bases and 4 observatories. The collections in its score of libraries are said to run into tens of millions of volumes. In the quarter of a century ending in 1945, the Academy sent out more than 500 major expeditions to explore the country's mineral and power resources; and 60 more were scheduled for 1946 under the Academy's own new five-year plan.⁴

³ Vladimir N. Obratsov, "220 Years of Russian Science; History of the Academy of Sciences of the USSR," *American Review on the Soviet Union*, November, 1945, pp. 26-31.

⁴ "The Great Stalin Five-Year Plan" (Special Supplement), *Information Bulletin*, Embassy of the USSR, Washington, June, 1946, p. 56.

In 1934, headquarters of the Academy and many of its institutes were moved from Leningrad to Moscow, in order that so important a scientific body might be closer to the center of government and more readily available to the State Planning Commission and the various departments of government, which needed experts in the various fields available for day-to-day consultation. At the time of the transfer, which may also have been a security move because of Leningrad's closeness to the frontier, there was a general tendency to centralize the country's most vital institutions in Moscow.

In Moscow, the Academy was housed in an eighteenth-century palace not far from the Maxim Gorky Park, and a number of adjacent buildings were made available for use of some of the institutes. An entire group of new buildings—a veritable city of learning—was under construction before the war, in order to provide the Russian academicians with the most modern of laboratories and finest of equipment.

The Academy of Sciences is an extremely popular institution and its members live in close touch with the people. Hardly a day passes that the newspapers do not make some reference to its activities. In fact, the popularity of scientists in the USSR is something like that of film stars in America. They receive high salaries and a number of privileges such as good living quarters, automobiles, chauffeurs and the like. During World War II, 32 Academicians, 11 corresponding members of the Academy and 13 affiliated professors and senior scientific workers were awarded Stalin Prizes. Twenty members became Heroes of Socialist Labor.⁵ These scientists represent some of the most intellectually able individuals in the entire nation; a society which is administered by plan obviously requires such ability. Every Soviet scientist cherishes the ambition of eventually becoming a member of the Academy.

What the Academy is to science at large, the *Academy of Medical Sciences*, founded in 1944, is to medicine. This institution, which probably ranks as the world's largest medical research center, grew out of the renowned Maxim Gorky Institute of Experimental Medicine (VIEM⁶ in its abbreviated form) whose own origin traces back to the old Oldenburg Institute or Institute of Experimental Medicine in Petersburg where Pavlov did most of his work as head of the physiology depart-

⁵ Vladimir N. Obratsov, *loc. cit.*

⁶ VIEM is an abbreviation for *Vsesoyuzny Institut Experimentalnoi Meditsiny*, which means All-Union Institute of Experimental Medicine.

ment. Founded in St. Petersburg in 1890, the parent institute was, until 1918, the only large research institute in Russia which devoted itself to problems of theoretical medicine. Maxim Gorky was particularly interested in its work, and at his representations, Lenin in 1919 signed a special decree enabling Pavlov and his staff to continue their researches through state subsidy.

Many of Pavlov's outstanding pupils began to branch off into researches of their own. New laboratories were being built, staff and budget were on the increase when, in 1932, acting on a project submitted by the interested scientists, the old institute was replaced by VIEM. The staff was more than quintupled, and a number of branches were established, among them a subtropical biological station in Sukhumi with a monkey nursery and laboratories for researches connected with the work of the basic institutes. In 1934 it was decided to move VIEM to Moscow, but all the departments and laboratories previously set up in Leningrad, including Pavlov's, remained there. The sum of 100 million rubles was appropriated for a new home for VIEM, and construction began before World War II of a "city of science," devoted entirely to medical research, at a suburban site on the Moscow River.

Like its successor, VIEM was an All-Union Institute, subordinated directly to the USSR Council of People's Commissars. The fact that an institution is controlled by the cabinet gives it great prestige and influence. Important expeditions for the study of various diseases and an investigation of high-altitude physiology were sponsored before the war, when VIEM consisted of 22 departments and laboratories in Moscow, 10 in Leningrad, with the addition of photo-film laboratories and libraries in both cities. In 1940, some 600 research projects were under way, the majority of them completed that same year and about half of them written up and submitted for publication.⁷

VIEM's most important pre-war research projects, jointly investigated by its various departments and laboratories and their large number of affiliated medical centers, covered the investigation of a number of important problems. Among these were the following: traumas, frostbite and burns including wound treatment; infections, invasions and immunity; physiology of low atmospheric pressures; pathogenesis of tuberculosis; pathogenesis of cancer; physiology and pathology of

⁷ N. I. Propper-Grashchenkov, "The All-Union Institute of Experimental Medicine and the War," *American Review of Soviet Medicine*, December, 1944, pp. 108-118.

the cardio-vascular system; digestion; physiology and pathology of the higher nervous activity and the sense organs; role of the nervous system in physiologic and pathologic processes; metabolism and chemistry of organic substances; biological function of physical factors such as high frequency and ultraviolet rays; physiochemistry of cells and tissues; evolutionary morphology.⁸ Academicians who engaged in eight important researches within the field of these investigations won the Stalin Prize.

War brought an immediate revision of VIEM's program, mapped out as it had been for a long-range, comprehensive study of man in health and disease from early infancy to old age. The immediate and pressing concern in 1941 was the needs of man forced to wage war in his own defense, and the protection of the public health under those conditions. Several thousand staff members, among them 100 ranking medical scientists and 300 senior researchers applied themselves to such investigations in VIEM's theoretical departments (evacuated to Tomsk), in regular army hospitals, and in those departments of the institution which remained in Moscow and Leningrad and virtually turned themselves into experimental hospitals and clinics developing methods of treating special types of war wounds and neuroses. Equally active were the VIEM laboratories whose staffs turned out new drugs and hospital materials and served as consultants to military organizations on their use. In the laboratory of Professor Z. V. Yermolayeva, for example, domestic production of penicillin was worked out. Many long-term researches had to be dropped, but were again under way before the war's end.

Just as the old Institute of Experimental Medicine was absorbed into VIEM, so VIEM, divided into a number of independent research institutes, in 1944 became part of a greater entity, the new Academy of Medical Sciences. Headed by Dr. Nikolai Burdenko, founder of Soviet neurosurgery and chief surgeon of the Red Army until his death in November 1946, the Academy has sixty charter members and twenty-five institutes, with others in process of organization. These units are grouped in three departments: medico-biological sciences, entirely composed of institutes formed from VIEM; clinical medicine; microbiology, epidemiology and hygiene. The Academy also has an Army and Navy Research Council, comprised mainly of military personnel.⁹

⁸ N. I. Propper-Grashchenkov, *loc. cit.*

⁹ Jacob Heiman, "The Academy of Sciences of the USSR" *American Review of Soviet Medicine*, October, 1945, pp. 68-71.

The new Academy represents the Soviet Union's most comprehensive blueprint for the solution of the most difficult problems in medicine. No haphazard conglomeration of units, it is rather a great central institution with one major concern, which its various institutes approach from their respective points of view. Such an institution presents the USSR's medical scientists with virtually unlimited opportunities for research, and at the same time makes their researches possible through the financial support and encouragement of the state.

Another very important group of medical research institutes has been referred to repeatedly in previous chapters, namely, those controlled by the Health Ministries of the Union Republics, especially the RSFSR Ministry. While the Academy of Medical Sciences, like VIEM before it, covers the entire field of experimental medicine, each of these institutes concentrates on one specific subject, such as tuberculosis, venereal diseases, or nutrition. These are central institutes which control and direct affiliated *oblast* institutes carrying on similar activities. When one of the specialized institutes has a corresponding division in the Academy, as is frequently the case, there is close cooperation between the two. Often the head of a central Ministry institute is also in charge of a laboratory in the All-Union Academy. Since the endeavors of all these bodies are planned and guided—the responsibility of the Scientific Medical Councils of the USSR and Union Republic Ministries—their investigations can always be coordinated. In 1944, the RSFSR maintained 85 central medical research institutes employing about 3,000 scientific workers; ¹⁰ thousands more worked in the affiliated local institutes. Professor V. V. Parin estimates that at the beginning of World War II, there were 223 research institutes staffed by some 20,000 scientific workers; their total budget was 400 million rubles.

The importance of these institutes to their respective Ministries should be stressed; they prepare the scientific data on which the Ministry builds its policies, and devise the methods which it employs for protection of the public health. In addition to the All-Union Academy and the Union Republic Ministries' research institutes, it will be recalled that I have mentioned in previous chapters a large number of other research institutes, some of them doing very important work, which are controlled by the trade unions and local health departments.

Some of the large number of similar institutes established by the

¹⁰ A. F. Tretyakov, *Okhhrana Narodnovo Zdrovya v RSFSR (Public Health Protection in the RSFSR)*. Ogiz, Moscow, 1944, p. 78.

Ministry of Education also contribute to medical science. This was true, for instance, of the Scientific Research Institute of Physiology, directed for several years by Professor Lina Stern, a scholar of rare ability and energy who is now a member of the Academy of Sciences and director of its Institute of Physiology laboratory. Last, but not least, there are the many departments of medical schools, all of which, like those in other countries, carry on research as well as educational work.

The *Medical Council* is the highest consultative body of the Russian Ministry of Health.¹¹ It consists of about 120 representatives of the various medical and scientific disciplines. Heads of the central research institutes and of the All-Union Academy of Medical Sciences are Medical Council members, as are other scientists whose advice is sought. In 1937, the Council had twenty standing committees covering the various medical specialties. Its bureau meets three times a month and the presidium twice, while plenary sessions are held two or three times a year. Among the standing committees, the one on hygiene is of particular importance. It consists of three commissions, one of which concerns itself with occupational diseases, another with school hygiene, and the third with municipal sanitation. Other committees deal with questions of medical education, vitamins, and endocrines. The committee on standards, consisting of specialists from the various Ministries, is a large body whose function it is to make typical plans for the construction of hospitals, the standardization of their equipment, and so on. The Medical Council also has charge of preparing an All-Union Pharmacopoeia. A special committee, appointed for this purpose, is financed by the Ministries of Public Health of the Union Republics.

Every year the Medical Council appoints ten commissions headed by leading representatives of medical science. It is their function to investigate in detail the research plans of the various institutes and departments. These commissions are instrumental in coordinating the research work of the country, in eliminating unimportant or overlapping subjects, and in controlling the practical and theoretical aspects of the proposed work. The Medical Council has become the most important planning agency in the medical field, and it has amply demonstrated the wisdom of having research directed by a group of eminent scientists rather than by philanthropists and business people who cannot possibly have a sound judgment in these matters.

¹¹ *Moscow Daily News*, June 1, 1936.

Medical science had great difficulties to overcome in the Soviet Union. The demand for persons competent to do research was tremendous. The government needed them in order to fulfill its task, but few people were available. In the years immediately following the Revolution, the younger men were all engaged in practical work. They served in the Red Army and fought epidemics. The only scientists available were the older men. Even those who were loyal to the new regime found it very difficult to adapt themselves to a world that was utterly unfamiliar to them. A primary task of the government, therefore, was to train another generation of scientists. The system of aspirants or research fellows, mentioned earlier, is excellent, but in the beginning the demand for teachers in medical schools was so great that many young scientists were placed in responsible positions before they had reached the maturity necessary for independent research.

The young generation entered upon a scientific career with tremendous enthusiasm, just as it had done in America around 1900. The American experience, however, has proved that enthusiasm alone is not sufficient. Medical research is highly specialized and extremely complex, and it requires a very broad foundation. European scientists who visited America at the beginning of the century often returned home rather skeptical about the future of American medical science. Yet we know that little time was required for America to catch up with European science and even to surpass it in many respects. The same thing has been happening in the Soviet Union, and I am bold enough to predict that it will take even less time there than it did in America, for the very reason that research finds much greater support in the USSR than anywhere else.

In France before the war, a young medical scientist was obliged to spend half of his time in practice in order to make a living. The German Republic before Hitler created many new assistantships in universities and paid scientists good salaries, but under the Nazis salaries in these fields were reduced to a minimum and selection was made on the basis of political rather than scientific principles. Even in the United States, where conditions have been infinitely better than anywhere else in the West, a young man who has no private income often finds it difficult to enter upon a scientific career. Despite the many fellowships and positions available in the research departments of universities and in private foundations, many young scientists have to live for years on minimum salaries that do not allow them to support a family. Conditions

are totally different in the Soviet Union because, from the beginning of their career, scientists enjoy the same social security as does every other worker.

Another great difficulty that had to be overcome resulted from the fact that the Soviet Union was long practically isolated from the rest of the world. It was almost impossible for a scientist to go abroad, and foreign literature was hard to obtain. Much energy was wasted on problems that had already been solved, and discoveries were made that proved to be no discoveries at all. Conditions greatly improved in the last several years before the war. In 1945, the State Central Medical Library in Moscow, which was founded in 1919, had nearly 450,000 volumes in its permanent collection, including new foreign literature.¹² The first public medical library to be established in Russia, this institution supplements its regular activities by serving as consultant to the numerous small libraries maintained by medical institutions throughout the country, with which the Moscow library has close working relationships. Whenever a new school is erected, the Central Library supplies it with a basic collection of books. During the last two years of the war, this library sent more than 156,000 books, journals and pamphlets to help restore the collections of libraries destroyed during the German occupation. Physicians, translators and reviewers of foreign literature are available at the institution to give bibliographical information, and to prepare written references at the request of institutions and individuals. Nearly 100,000 such inquiries were received in the ten months ending May 1, 1945. The State Central Medical Library also maintains a department which abstracts foreign medical literature for publication in Soviet medical journals. Cataloguing services are available, a critical bibliography of medical literature¹³ is issued, and postgraduate courses are conducted for medical librarians.

In 1945, there were central public medical libraries in thirteen of the sixteen Union Republics, a total of 48 *oblast* medical libraries in the Russian and Ukrainian Republics, also 83 other medical libraries in the colleges, research institutes, medical centers and other organizations.¹⁴ Since 1939, the State Central Medical Library has supervised

¹² L. J. Bassias, "Activities of the State Central Medical Library in Moscow," *American Review of Soviet Medicine*, October, 1945, pp. 92-93.

¹³ *Tsentralnyi Referativnyi Meditsinskii Zhurnal*; (*Central Journal for Medical Abstracts*).

¹⁴ L. J. Bassias, *loc. cit.*

the activities of these other libraries. It provides them with special services, such as placing all their orders for foreign periodicals. During the last two years of the war, the central institution shipped nearly 2,500 volumes of Soviet medical literature to the United States and Britain and received from them 16,000 books, journals and reprints. About 5,000 of these items have been added to its permanent collection and the rest deposited in other libraries.

Before World War II, Soviet and Western scientists began to meet with increasing regularity at international congresses. The Soviet Union usually sent fairly large delegations abroad, and beginning in 1935 began to hold such conferences more frequently on Soviet soil. The International Physiological Congress, held in Leningrad and Moscow in 1935 under the presidency of Pavlov, was a great scientific event which brought hundreds of foreign physiologists to the USSR. It is to be hoped that contacts between Soviet and Western scientists, which increased during the war, will become still closer in the future for the benefit of both groups.

Another difficulty which medical science encountered was the shortage of paper, which for a long time made the publishing of scientific works very difficult. There is still a shortage because the demand for books is inexhaustible. The number of publications, however, has increased considerably in the last few years.

Since 1937, when the USSR Commissariat of Health organized its own publishing house, it has directly issued most of the USSR's medical literature under the imprint of the State Publishing House of Medical Literature or *Medgiz*. In a socialist society, obviously, the publication of a scientific book does not depend on its commercial value, nor on foundation grants. If a manuscript is worthy of being printed—and nobody but scientists make that decision—the state undertakes the publication and remunerates the author. The enormous scale on which medical information is disseminated in the USSR, not only to hundreds of thousands of students annually, who require textbooks by the millions, but also to the general public for improvement of health practices and prevention of disease, necessitates the issuance of thousands of medical books, manuals and pamphlets annually in millions of copies. The issuance of 680 book titles in 24.1 million copies in the difficult year 1942, compared with 375 titles in editions aggregating 21.9 million copies in 1940, illustrates the importance which was attached to the communica-

tion of medical information to doctors and health administrators, to students, lay organizations and individuals during the war emergency. For the five-year period from 1938 through 1942, a total of 1,983 medical books were published in editions totaling 193.4 million copies.¹⁶ The trouble with Russian books is that they are always sold out no matter how large the edition may be.

A publication that deserves particular mention is the *Large Medical Encyclopedia*. The first volume appeared in 1928 and the work was completed under the editorship of N. A. Semashko with the publication of the thirty-fifth volume in 1936. The Encyclopedia is not only a reference book but a textbook as well. It fulfills a particularly important function in a country in which medical libraries are still scarce, and it has become part of the standard equipment of every medical station. New editions of the various volumes, to be made at regular intervals, will serve to keep the Encyclopedia up-to-date. The undertaking is also very interesting from a theoretical point of view because it represents a first attempt to approach medicine on the basis of dialectical materialism. Another interesting work is the five-volume atlas of the human anatomy by Academician Vorobyev. The Leningrad branch of *Medits* completed its publication in 1943 while the city was still under siege.¹⁶

Medical periodicals gradually increased in number before the war; in 1940, there were 46, with a combined circulation of 14.5 million copies. The number dropped to 18 during the second half of the following crucial war year, and considerable time and the pre-war abundance of paper will be necessary before all can resume publication.¹⁷ The majority of these medical journals are of such importance that they should be available in Western libraries.¹⁸ Many Western scientists are, indeed, beginning to feel it obligatory to learn Russian as well as German and French. Research departments in U.S. institutions should certainly have Russian-speaking scientists on their staffs who can report on Russian medical literature. Since 1936, the *Bulletin de Biologie et de Médecine Expérimentale de l'U.R.S.S.* has been issued under the editorship of Lina S. Stern. It contains in English, French or German, preliminary communications of experimental work done in Soviet institutions, and it is also open to contributions from scientists of other countries. A num-

¹⁶ *XXV Let Sovetskovo Zdravookhraneniya (25 Years of Soviet Health Protection)*, edited by G. A. Miterev, Narkomzdrav, Moscow, 1944, p. 289.

¹⁶ *Ibid.*, p. 290.

¹⁷ *Ibid.*, p. 289.

¹⁸ A list will be found in Appendix XI.

ber of similar Soviet publications, issued regularly or on occasion by scientific bodies, in the Western languages, and especially such journals as the *American Review of Soviet Medicine*, published in New York, have done much to improve medical contacts between the USSR and the Western world, and will no doubt continue to be vital until more British and American scientists are able to read reports of these developments in the original.

It would be very tempting to try to give a picture of the achievements of Soviet medical science. Such a task would demand an entire second volume, however, and it would require someone more competent than I am. Many of these achievements already have attracted world-wide attention. The work of Pavlov and his school is so well known that it hardly needs to be mentioned. Other accomplishments, such as the studies of Velikanov on the serotherapy of gas gangrene and food poisoning, or the therapy of scabies of Demyanovich are known outside of Russia. Research on malaria done at the Institute of Tropical Diseases in Moscow by Martinovski, Sergeyev and their students has been very significant. Filatov's method of transplantation of the cornea is now being successfully used in the United States; his skin transplantation work is important too. The pioneer contributions of Russian scientists to the development of our blood and plasma banks through the studies of Briukhonenko, Shamov, Yudin and others on cadaver and preserved blood are generally recognized. The longevity studies of the late A. A. Bogomolets, best known for his development of the anti-reticular cytotoxic serum, and V. A. Negovski's experiments in reversible clinical death are now attracting world-wide attention, but there are others, less known abroad, which may prove of profound significance. The government's policy of nurturing medical research is, moreover, likely to increase the number of important original contributions to world medicine.

A particularly interesting trend in medical research must be mentioned here. Soviet scientists feel very strongly that our general theory of medicine is utterly unsatisfactory. For the very reason that great demands are made on medical practice, a better theory is urgently needed. Pathological anatomy and pathological physiology, bacteriology and biochemistry have appreciably advanced our knowledge of disease, but we have not come to a synthesis yet. We are still operating with a theory that explains some phenomena but leaves us in the dark most of the time. We need a better theory and it is interesting to notice that

Soviet scientists are working toward some synthesis. I am not competent to pass judgment on Professor A. D. Speranski's theory of neurodystrophic processes,¹⁹ but it undoubtedly is an extremely interesting attempt to formulate a new medical theory based on the recent experiences of neurophysiology.

Another significant fact about Soviet science is the emphasis placed upon the history of science. It is cultivated there more than anywhere else in the world. In Western countries, studies in the history of science are considered a luxury or a hobby for retired college professors. Very few people engage in them and, when they do, they find little support. Millions are spent for scientific research, but the little money required to erect an institute for the history of science that would have equal rank with other scientific departments is unavailable. The Academy of Sciences in Moscow has a special division devoted to the history of science.²⁰ This division is organized in five sections: (1) history of technology, (2) history of physics and mathematics, (3) history of agriculture, (4) history of biology, and (5) history of the Academy. Twenty-four scholars work in these sections. They study their appropriate subjects from the point of view of historical materialism. This new approach has already led to very important results; many facts and events have been presented in an entirely different light and new problems have arisen that had never been seen before. The Academy is not the only institution engaged in such research. Max Lewin is in charge of a Department of the History of Science at the Second Moscow University and his studies on Darwin have attracted wide attention. Professor Hessen is working on the history of physics. His book, *The Social and Economic Roots of Newton's "Principia,"* which has been translated into English, demonstrates better than any other book I know the value of the materialistic interpretation of the history of science.

In the Academy of Medical Sciences, as in VIEM before it, medical history has its center. There is, in fact, an institute devoted to it under the Academy's division of hygiene, epidemiology and microbiology. The director is N. A. Semashko, the former Commissar of Health.

The reason why the attitude toward the history of science is so different in the Soviet Union and in the West is easy to explain. In the capitalist world, scientific research proceeds haphazardly. It is the result of the momentary interests of individual scientists. If they succeed, all the

¹⁹ A. D. Speransky, *A Basis for the Theory of Medicine*, Moscow, 1935.

²⁰ See J. G. Crowther, *Soviet Science*, New York, 1936, pp. 325-336.

better. If they fail, never mind. Research does not follow any definite plan nor is it integrated into the social life of the nation. Not so in the Soviet Union. Marxism has always been aware of the intrinsic value of historical studies. Having a historical task to fulfill, it was obliged to study the mechanisms of history. Through careful historical analyses, Marxian scholars have been able to predict all the major events of the last hundred years. In the Soviet Union, the scientific superstructure is built consciously and this requires historical studies. History in such a society is no longer a luxury intended to satisfy the intellectual curiosity of a few people. It becomes a most powerful instrument—the compass that guides the scientist into the future and allows him to travel without deviations. This new attitude of a scientist who works planfully, conscious of the line of development on which he stands, is creating a new—a socialist—humanism.

Soviet science is inspired by the same revolutionary optimism that enabled the Russian workers to conquer a world. And this very science will enable them to make it a better place in which to live.

Soviet Medicine in Wartime

The war against disease does not begin with sudden attack and does not end with armistice. It is a war that must be waged perpetually against a present or potential foe. It meets its supreme test, however, when to the chronic enemies of health are added the ghastly tolls of the more spectacular warfare of opposing military forces. The vast new strain which modern war imposes upon a nation's public health system usually brings to light that system's organic strength or weakness. This is especially true when invasion and occupation involving enormous destruction of civilian life and property supplement the military operations of an aggressor.

Consequently, World War II provided the most severe test of Soviet medicine that could have been devised. As the titanic battles on the eastern front progressed, therefore, Western opinion of Soviet medicine (as well as of Soviet industry and military strength) had to be drastically revised. The Soviet Union's overall record of saving the lives of more than 98 of every 100 soldiers treated for wounds, and of restoring about 73 of that hundred to active military service presupposes an excellent organization of medical facilities and skillful methods of treatment. These were also basic to an outstanding record of epidemic prevention which was achieved despite brutal invasion and occupation, vast and hasty population shifts and the often dangerous shortages of food and other essentials to healthful living.

Taking into consideration Russia's poor health-protection record in previous wars, it is easy to agree with medical authorities of the USSR that much of the credit for these results must go to the new measures of health protection which had made such rapid headway before Hit-

ler's legions plunged across the borders. As a matter of fact, the existence of a well-planned, comprehensive and flexibly expanding health organization made the transition from peace to war medicine much easier for the USSR than for other countries. Virtually overnight, its medicine was braced to meet whatever demands this most perilous emergency might make.

Another factor which simplified the adjustment was the customary peacetime approach to the elimination of disease. Each prewar campaign against a condition inimical to public health had been regarded as a battle. In this battle, the public health administrators and the various branches of the medical profession were the officers leading armies of lay citizens. Over a period of years these armies served in many battles against the enemies of health. By 1941, consequently, they were conditioned by experience, as well as by patriotism and self-interest, to respond to the special measures which became vital to health security as the enemy advanced across their soil.

The participation in the various programs of the Red Cross and Red Crescent Societies is a case in point. Besides providing the Health Commissariat with eight million volunteer workers in 1941, the Soviet Red Cross instructed five million persons in first aid each year of the war, and from 1941 to 1943 trained 202,000 nurses and 285,000 sanitation guards. These hard-working, devoted volunteers reinforced the depleted staffs of civilian medical institutions besides performing the traditional Red Cross war duties on home and fighting fronts.¹

Obviously, the war created vast new health problems. The Red Army medical corps had to treat millions of casualties of mechanized warfare flowing over thousands of miles of territory. Methods of treatment had to be worked out for unusual types of wounds caused by new weapons, and for the infections and disease that lurked in these wounds. On the civilian front, which often merged with the battlefield during the initial period of retreat and recoil, another set of medical problems was created by bombardment, siege, destruction of health facilities and by wholesale transfers of populations into crowded areas.

On both battle and home fronts, barriers had to be erected against the camp follower of all previous Russian wars—the epidemic. Diseases which had taken years to subdue might well have spread again under the stress of this total war if all medical organizations and the entire

¹ "The Red Cross and Red Crescent Societies of the USSR," *American Review of Soviet Medicine*, August, 1945, p. 567.

population had not been constantly on the alert. There was still another scourge, one that could not be prevented and will require years more of ameliorative treatment: the fanatical enemy's deliberate mistreatment, mental and physical, of inhabitants of the occupied areas whom it did not massacre or ship home for slave labor.

To relate how all these vast problems were handled would be impossible here and now. This is so not only because of space limitations, but also because this great epic of military medicine has yet to be recorded definitively by the participants. The evidence at hand is sketchy, sometimes conflicting; as usual, the historian must wait patiently for it to be accumulated and sifted.

There is assurance that this will be done through a comprehensive study of Soviet wartime medicine. The USSR Council of Ministers announced this undertaking in March 1946, with appointment of a special editorial board of leading medical scientists. Contributors to this projected case history of all branches of the Soviet medical profession are expected to include most of the 300 Academicians and professors and the more than 1,000 senior scientific workers who served the Red Army Medical Service in advisory capacities.² This publication would supplement the graphic record of the medical corps in the war which is already available in the unique Museum of War Medicine which was opened in Moscow in April 1943.³ In addition, the personal exploits of the medical corps are to be memorialized under a program of the Union of Soviet Writers.⁴ An estimated 30,000 of these men and women received military citations for heroism in action.

For the time being, let us leave the exact record of Soviet wartime medicine to the diligent scholarship of its participants. I wish now merely to preface their record with some general observations about the handling of the special medical problems with which the war confronted the Soviet Union. This will allow us to note how the principles and institutions of health protection which have been discussed in previous chapters operated during the war.

The pattern of the Soviet Union's wartime medical program was predetermined, of course, by its established health program, and by the

² *Information Bulletin*, Embassy of the USSR, Washington, April 11, 1946.

³ Y. Akodus, "Red Army Museum of War Medicine," *American Review of Soviet Medicine*, December, 1944, pp. 181-183.

⁴ Lazar Rosenthal, "Recent Soviet Medical Literature," *American Review of Soviet Medicine*, December, 1944, p. 171.

training and actual experience of the Red Army Medical Corps, especially in Manchuria and Finland. The deficiencies of the Russian Army Medical Corps in the Russo-Japanese War and particularly in World War I, when only 40 to 50 per cent of the wounded were returned to service, had taught other important lessons. The late Nikolai N. Burdenko, Surgeon-General of the Red Army, who had served in both these wars, stressed the importance of administration and supply. The experience of other doctors on tsarist battlefronts was also cited to show how excellent field surgeons could be prevented from functioning properly by poor organization and bureaucratic procedures, by delayed removal of the wounded from the battlefield, inadequate transportation facilities and other shortcomings.⁵ Because the solution of such problems was considered vital, emphasis shifted from principles of field surgery to a broad program of military medicine that would meet the needs of a huge fighting force like the Red Army.⁶

A number of special measures were taken to prepare the Red Army Medical Services for the conflict that appeared inevitable. A standard curriculum was established for medical corps training in the military institutes. These institutes, which had prepared only subordinate officers for small army units, began to train medical officers for divisions and army corps. Administrative specialists were trained for divisional, army and front (campaign) medical units, and also for evacuation centers. Officers of the army and front units were given full responsibility for the medical field services of their units. Specialists such as eye, jaw and neural surgeons were excluded from general field units and formed into separate units to man specialized field hospitals.

Hospital beds were apportioned as follows: 30 per cent to the advance or station hospitals, which would care for casualties requiring not more than a month's treatment, and wounded who could not undergo transportation; 45 per cent to the base hospitals, where cases requiring not more than 60 days' care would be treated; and 25 per cent to the evacuation hospitals in the rear, which would handle all wounded requiring extensive treatment or who could not be returned to active service. Eighty of each 100 beds in front areas were allocated for surgical and 20 for internal cases; in the rear the respective propor-

⁵ G. A. Miterev, "Public Health in the USSR; An Historical Review," *American Review of Soviet Medicine*, August, 1945, pp. 548-557.

⁶ Vladimir V. Lebedenko, "Russian Advances in Military Medicine," *American Review of Soviet Medicine*, December, 1943, pp. 161-163.

tions were 70 and 30. Hospitals or departments for special surgery were established in all large cities which had medical research institutes or medical schools.⁷

Military and civilian medical arms worked cooperatively. Coordination of defense with health was traditional. Lenin, through his decree of January 28, 1919, creating the Red Army, placed the direction of its medical services in a War-Sanitation Department (*Voyenno-sanitarny otdel*) to be established in the Commissariat of Public Health, then only six months old.⁸ At the end of the Civil War, this department organized a Red Army medical program, the basic principles of which were set forth in the written works of its administrator, Z. P. Solovyev.⁹

Although the medical corps functioned as a definite military arm in the battle zones of World War II, the hospitals and other medical institutions at the rear, which were placed at the army's disposal, were the responsibility of the Health Commissariats of the USSR and the respective Union Republics in which they were situated. Charged with the organization and administration of these units in September 1941, the Commissariats created a Chief Administration of Evacuation Hospitals. The evacuation hospital network cooperated closely with the army's frontline system of field and base hospitals, and their personnel were brought together regularly in medical conferences.¹⁰

The War Hospital Committee of the USSR Health Commissariat, on which 200 leading medical scientists served, applied itself to the improvement of procedure and treatment in the evacuation hospitals. This committee and hospital councils in the Union Commissariats, territorial and district health departments made decisions in controversial medical questions, and through conferences and literature provided army doctors with news of important medical developments and suggestions for improving their work. Cooperating with this group, and performing a similar function for the medical service at the front was the Medical Council of the Red Army. Moreover, the Council, jointly with the Scientific Medical Council of the USSR Health Commissariat, approved all methods of organizing therapy and sanitary facilities for the war wounded. A Commission on Physical Therapy of the Com-

⁷ E. I. Smirnov, "The Organization of Medical Care for the Wounded," *American Review of Soviet Medicine*, October, 1943, pp. 9-14.

⁸ G. A. Miterov, *loc. cit.*, pp. 550, 551.

⁹ *Ibid.*

¹⁰ I. G. Rufanov and I. B. Rostotski, "Medical Care in the Red Army and Navy," *American Review of Soviet Medicine*, April, 1945, pp. 362, 363.

missariat coordinated the various forms of exercise and physical therapy, which were prescribed for seven in every ten patients in the evacuation and convalescent institutions.¹¹

The best-equipped city hospitals were converted into evacuation centers; health resorts and sanatoria were also placed at the army's disposal. Special hospitals were set up for the treatment of skull, spine, nerve, face and other types of wounds. Most of the new medical graduates, class of '41, went directly into service; half the total of 35,000 physicians in city hospitals went to the front or evacuation centers during the early period of the war. As I have pointed out in the preceding chapter, the scientists in the research institutes, many of whose prewar investigations proved of inestimable value to the new war medicine, devoted themselves almost exclusively to projects which had a bearing upon military medicine. The results were promptly utilized by the therapeutic institutions, where, as a matter of fact, many of the scientists spent much of their time.

Thus, in the field of medicine as in others, the principle, "everything for the front" (*use dlya fronta*) was supreme. Yet, Health Commissar Miterev was particularly proud of the fact that, whereas the number of hospital beds available for civilians had been sharply reduced between 1914 and 1917, hospital accommodations for the general population actually increased during World War II.¹²

An accelerated medical training program was introduced in 1941 to increase the number of physicians but soon abandoned as inadequate; in fact, the long-range plan to improve Soviet medical education led to the extension of the curriculum from five to six years. Nevertheless, the prewar institution of refresher courses was converted to wartime needs, and a broad program of re-training medical men for the various specialties which were particularly understaffed was introduced. During the first two years of war, several thousand internists, obstetricians, gynecologists and pediatricians received training in surgery. Later, as the needs of the civilians in the liberated areas became uppermost, the re-training was in the reverse direction.¹³ Through such policies, the services of the available physicians were directed where they were most needed.

¹¹ I. G. Rujanov and I. B. Rostotski, *loc. cit.*, p. 368.

¹² G. A. Miterev, *loc. cit.*, pp. 554, 555.

¹³ Alexander Shabanov, "Refresher Course for Doctors in the USSR," *American Review of Soviet Medicine*, December, 1944, pp. 179-180.

Soviet methods of treating shock and wounds were in many respects similar to those of the United States and British military services. However, the Soviet methods often required improvisation in techniques or the use of materials which was not demanded of the Western allies with their more abundant medical supplies and their smaller volume of casualties. For example, there were special problems of treatment under winter warfare conditions, and an urgent need for restoring, physically and psychologically, large numbers of casualties whose genital organs had been destroyed in mine explosions.¹⁴ Such problems as these were solved, through research and experiment, by Soviet scientists working in close cooperation with the Medical Corps. Speed was of the essence, of course, but some of the results achieved under great pressure were as successful in their way as some of the important prewar findings of Soviet medical scientists. Ingenious substitutes were devised for critical hospital materials in short supply; some of these makeshifts proved to have considerable merit of their own. Such a claim was made for the sawdust which replaced scarce cotton in bed-pads, pillow cases and plaster of paris dressings.¹⁵

World War II marked the first time in Russian military history that specialized medical and surgical services were available at the front. Another cardinal principle of the field service was that the speed and quality of the initial surgical treatment determined the patient's chances of recovery. Surgeon-General Burdenko's orders were that all wounds must be treated in from six to eighteen hours after they had been incurred.¹⁶ To make this possible, a system of removing the wounded from the battlefield immediately, under enemy fire if necessary, was developed and maintained, thanks to the personal heroism of the orderlies and stretcher bearers, many of them teen-age girls, volunteers trained by the Red Cross.¹⁷ The initial treatment and blood transfusions were often administered where the men had fallen.

The advanced dressing station, usually placed about one mile behind the front line, was considered the most important unit in the field medical system. It had surgical facilities for cases of abdominal and

¹⁴ A. P. Frumkin, "Reconstruction of the Male Genitalia," *American Review of Soviet Medicine*, October, 1944, pp. 14-21.

¹⁵ Lazar Rosenthal, *loc. cit.*, p. 169.

¹⁶ N. N. Burdenko, "Field Surgery in the USSR," *American Review of Soviet Medicine*, June, 1945, pp. 475-477.

¹⁷ They were familiarly called *frontovyye podrugi* (frontline girl friends), a term of mingled affection and respect.

chest wounds, and for those with immediately diagnosable cranial wounds. Preventive injections against tetanus and gas gangrene were administered as a matter of course during the first examination or operation. Shrapnel-caused fractures were immobilized in plaster casts. Blood transfusions for shock and loss of blood were administered in 11 per cent of all the cases treated, according to Burdenko.¹⁸

Cases of multiple wounds were speeded to special hospitals by the ambulance-plane fleet. Others, with their wounds strictly classified, were shipped back from the dressing stations through the appropriate stages of an integrated system of mobile field hospitals, base, district and evacuation hospitals, classification and receiving centers.¹⁹

This system had not been worked out overnight. Based on planning of army medical administrators and scientists over a period of years, it took into consideration the latest developments in blood transfusion, anesthetics, preventive and curative serums, instruments, equipment, transportation facilities. Although the medical program which grew out of all these considerations appeared to provide for every possible eventuality, Dr. Burdenko stressed the need for "adaptability and the faculty of taking into account the circumstances prevailing at the front."²⁰

This proved to be a wise approach, especially when well-established therapeutic procedures which would have been ideal for conditions of trench warfare came up against very different military situations. In the period of grim retreat and evacuation, many medical institutions at the front were in grave danger of being overrun or enveloped, and the wounded had to be rushed to the deep rear for their initial treatment to keep them from being captured. Plans for the allocation of hospital beds, and for distribution of the hospitals themselves, had to be adjusted to the needs of each military operation. While the methods of treatment continued, on the whole, to be highly standardized, the initiative, daring and tenacity of members of the medical corps in organizing and carrying out their assignments were greatly encouraged.

Although the conflict on the eastern front lived up to Pirogov's classic definition of war as an "epidemic of wounds," incidence of disease was kept at a remarkably low minimum. All Red Army men received

¹⁸ N. N. Burdenko, *loc. cit.*, p. 477.

¹⁹ A. Georgevski, Y. Krichevski and B. Gorski, "Medical Organization for a Military Offensive," *American Review of Soviet Medicine*, June, 1944, pp. 389-399.

²⁰ N. N. Burdenko, *loc. cit.*, p. 476.

routine immunization against smallpox, tetanus, typhoid and paratyphoid A and B; typhus vaccines and bacteriophage were used as conditions demanded against dysentery and cholera.²¹ There were local outbreaks of malaria on southern fronts, and other illnesses, but it is a great testimonial to the Soviet health system that for the first time in Russian history no epidemics or other serious health problems broke out among its armies. The bath-trains which cruised along the fronts, the mobile disinfection hospitals, the prophylactic immunization against the most threatening diseases, the intensive prewar indoctrination in hygiene must all have contributed to this record. Moreover, during the period when the Red Army was liberating territory, the advancing units were not permitted to mingle with the population until the latter had passed rigid health tests.

On the home front, too, epidemics were avoided through a number of integrated measures. One was the practice of limiting epidemic foci by quickly hospitalizing anyone suffering from an infectious disease or suspected of having one. All cases of open tuberculosis were also hospitalized; and tuberculosis patients were segregated and their contacts traced. Outbreaks of typhus that followed the destruction of medical and sanitary facilities in the fought-over areas, and a local rise in malaria as people from malaria-free areas migrated to regions where the disease was endemic, were put under control by vigorous action of the local health authorities, reinforced when necessary with resources and personnel from the Republic capitals or Moscow. To check the rising incidence of tuberculosis and typhus during 1942, a series of regulations were issued by Commissar Miterev which called for suitable action. The aid of lay workers and organizations as well as medical personnel was required to carry out the preventive measures. Where specialized medical centers were unable to handle a particular problem, the general medical institutions were summoned to their aid.

As a result of this anti-epidemic program, not only did the incidence of many infectious diseases not increase during this dark and difficult period, but some of the diseases even continued their prewar downward trend. Dr. Vladimir Lebedenko reports that compared with 190 cases of acute infectious diseases per 10,000 of population in 1940, there were

²¹ A. Baird Hastings and Michael B. Shimkin, "Medical Research Mission to the Soviet Union," *American Review of Soviet Medicine*, June, 1946, p. 469.

179 cases in 1942 and 1943.²² This reduction was due to a continuing drop in dysentery and such children's diseases as measles, whooping cough and scarlet fever. The incidence of certain other children's diseases increased, and there is no doubt that children suffered to a considerable extent during the war. They were always the primary object of concern in every difficult situation, and many special measures were taken to improve their diet and general care.

Miterev observed in 1944, in an article published in a Soviet medical journal, that some foreign physicians who had visited the USSR during the war regarded the fact that there had been no epidemics during this period as something of a miracle. Other visiting doctors, and some Soviet physicians are reported by the wartime Health Commissar to have considered this record more or less a matter of good luck. In Miterev's opinion, however, it was due to such precautions as the following: efficient service of medical personnel accompanying troops moving by rail and water; limiting of epidemic foci by enforcing stringent rules on hospitalization; and the fact that from the beginning of the war, all health institutes and hospitals had been converted into a "united instrument for disease prevention." The district physicians associated with the medical centers manned the first line of defense in the battle against infectious diseases. Improved treatment of these diseases in the hospitals lowered mortality and quickened recovery.²³

The most serious health problems arose in the liberated areas. There the destruction of medical centers and hospitals, the wholesale slaughter of their staffs in many communities, and the frightful conditions under which the surviving inhabitants were forced to live required special handling of bad health situations. The usual procedure was somewhat as follows: Teams of physicians, nurses and pharmacists would follow the advancing Red Army units into liberated communities.²⁴ With them would come their "tools"—medical supplies, instruments and disinfecting chemicals. Urgently needed drugs would be air-shipped upon request. Clothing, food and bedding were also included among the hospital supplies. Sufficient hospital and clinical facilities were restored

²² Address of Dr. V. V. Lebedenko at meeting of American-Soviet Medical Society, November 11, 1944, *American Review of Soviet Medicine*, December, 1944, p. 187.

²³ G. A. Miterev, "Current Tasks of Public Health," *American Review of Soviet Medicine*, p. 182.

²⁴ Lazar Rosenthal, *loc. cit.*, p. 171.

to cover emergency needs; drug stores were reopened. The local population aided the teams in their work, but it was not uncommon for the professionals to do much of the carpentry, scrubbing and whitewashing themselves. After these first-aid measures had been carried out, permanent restoration of health facilities got under way. Bakeries, water supplies, schools and medical facilities always had priority in the reconstruction program. Five months after the fighting had ceased in Stalingrad, 10 hospitals, 11 medical centers and 8 children's consultation centers were back in operation.²⁵

Special health situations had to be coped with in many sections freed from German rule. Typhus was a reminder of the occupation in Velikie Luki and Kursk. Malaria rose sharply in the eastern Ukraine, where all anti-malaria stations had been destroyed and the usual preventive measures abandoned. In Byelorussia especially, scabies developed from years of unsanitary living in mud huts and caves. In 1944, teams of 130 medical workers from the USSR Health Commissariat, reinforced by some 400 additional workers from the Byelorussian Health Commissariat, traveled from village to village in trucks and automobiles to aid the affected areas.²⁶ An outbreak of tularemia in the Ukraine was traced to rat-infected food in German warehouses. In besieged Leningrad, rats which followed the population from bomb-wrecked sections of the city to safer areas brought an outbreak of jaundice.

Late 1943 and 1944 was a particularly busy time for the venereologists. Venereal diseases, especially fresh cases of syphilis, had made considerable headway in some occupied areas as the Germans destroyed medical facilities and discarded the regular measures of prevention and prophylaxis which had been responsible for the rapid prewar progress against these diseases. Many German soldiers had infected Russian women but there was no way of proving their responsibility, nor were they held accountable. On the other hand, the death penalty was introduced for Russian women suspected of infecting Germans.

Forty-one expeditions composed of more than 100 venereologists and 82 nurses were dispatched to the affected areas. One of their principal assignments was to restore the old dispensaries for venereal and skin diseases, and to open additional ones where they were needed. More

²⁵ Hans Blumenfeld, "Municipal Reconstruction," *USSR in Reconstruction*, American Russian Institute, New York, 1944, p. 76.

²⁶ L. N. Mashkilleison and V. A. Rakhmanov, "Venereal Disease Control in the USSR," *American Review of Soviet Medicine*, December, 1945, pp. 100-105.

than 200 of these dispensaries and rural stations were opened; staffs of 269 physicians and 340 medical aides were trained to operate them. A total of 1,487 hospital beds were made available for patients with venereal diseases.²⁷

A special series of decrees and instructions was issued by the USSR Health Commissariat during the war for the control of venereal diseases. These called for such measures as the compulsory reporting of fresh cases of communicable syphilis 24 hours after their discovery, and compulsory hospitalization of these cases. General practitioners were given short courses in the diagnosis and treatment of these diseases, and recent medical graduates were encouraged to specialize in the field. Bureaus were organized within city health departments to track down the sources of venereal infection.²⁸

Such measures, and also those for overcoming the newly rising curve of tuberculosis which the war brought were, after all, based on proven methods of dealing with these diseases. Occasionally, however, as an aftermath of occupation, there came some grave disease which defied immediate diagnosis. An example was the mysterious fever which felled, often fatally, many farmers and Red Army troops in the Crimea in the spring of 1944. An expedition of 100 scientists aided by local medical practitioners conducted a series of investigations. This led to the discovery that tick-infested wild rabbits, which had greatly increased under the devastation of war and occupation, were responsible for the outbreak. After the development of a serum and institution of a number of prophylactic measures, which included a major campaign of wild-life extermination, the hemorrhagic fever was brought under control. A full year was required to conquer this disease.²⁹

It is obvious that health situations of this kind, in an environment not yet recovered from war's devastation, from exhaustion, hunger and the strain of physical survival under a brutal occupying force, require swift and well-planned counter-measures. Unless vigorously challenged by an organization which has the means and experience to overcome these conditions, they might easily have engulfed a wide area. The means were often much less than abundant, both as regards medical materials and trained personnel, but with competent administration, education

²⁷ L. N. Mashkilleison and V. A. Rakhmanov, *loc. cit.*, p. 103.

²⁸ *Ibid.*, p. 100.

²⁹ Jacob Heiman, "Medical Progress in the USSR," *American Review of Soviet Medicine*, April, 1946, p. 368.

and the cooperation of the general population, each outbreak was localized and brought under control.

Since the war's end, Soviet medicine has returned to its interrupted, and now greatly magnified task of health protection. The grim reminders of the great conflict remain: the maimed children, the veterans scarred by the war, broken families and the wreckage of once fine institutions of healing must be made whole again. The apparatus of health is being put in order again as rapidly as possible to serve a people who have plunged into an exacting program of reconstruction while still recuperating from the trials of war.

By 1950, according to plan, the material damage caused by World War II will have been completely repaired; then another five-year plan should make fresh headway toward the long-range goal of health protection. Having passed the most grueling tests of war, and emerged with scientific knowledge greatly enriched despite the wounds to flesh and spirit, Soviet medicine has re-dedicated itself to the tasks of peace—the prevention of disease and the active promotion of health in the sixth of the world that it serves.

Epilogue

In concluding this study of the Soviet system of health protection (at least until my first postwar visit to observe it further), I address myself briefly to the young medical workers of America, Europe and elsewhere whom I have had constantly in mind while writing this book—students, physicians, public health officers, nurses and social workers.

Many among you are deeply concerned with the future of medicine. You will more than once be confronted with the necessity of abandoning traditional prejudices in order to serve society more efficiently and to improve its well-being.

My primary consideration in this book has been to describe the principles of Soviet medicine, and those positive achievements which represent a permanent gain. There are shortcomings in performance, of course; none recognizes this fact better than your Soviet colleagues, whose efforts to improve as well as expand the benefits of Soviet medicine help to make it the dynamic force that it is. Yet, I have not stressed these inadequacies and inefficiencies any more than I discussed poor institutions, fee splitting and other negative aspects in my book on American medicine. My method in both books has been identical: to describe the positive achievements of their respective medical systems that have enriched and will continue to enrich the world.

It is no longer possible to deny the great achievements of Soviet medicine; such denial could be easily contradicted by its practical performance under fire, by its acknowledged contributions to medical science, by its comprehensive program and organization embracing all phases of human betterment. Soviet medicine has already demonstrated that socialism works in medicine, and works well even in the formative epoch of the world's first socialist state. Thus, it is a system that is full of promise for the future.

I have approached this study as a historian, in the same detached man-

ner in which I have studied developments and conditions in other countries and other eras of history. And I have come to the conclusion that a new period in the history of medicine has been inaugurated in the Soviet Union. All that had previously been achieved in five thousand years of world medicine represents only its first epoch, that of *curative* medicine. Now a new era, that of *preventive* medicine, has come of age and passed the stiffest test that one could devise.

We medical men know that there will be suffering in the world as long as there are love and hate, frustrated ambitions and other grievances. We do believe, however, that in a civilized society no man should be allowed to die from such elementary and primitive causes as hunger, cold, poverty or preventable diseases. We know that such forces must not be allowed to plague man's future as they have his past. Soviet medicine has shown that these hopes, far from being utopian, are well on the way to being fulfilled.

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APPENDIX I

POLITICAL-ADMINISTRATIVE DIVISIONS OF THE USSR *
(as of October, 1945)

I. RSFSR (Moscow)

KRAIS—6

Altai (Barnaul)
incl. Oïrot AO (Oïrot-Tura)
Krasnodar
incl. Adygei AO (Maikop)
Krasnoyarsk
incl. Khakass AO (Abakan)
Evenki National Area
(Tura)
Taimyr National Area
(Dudinka)
Primorsk (Vladivostok)
Stavropol
incl. Cherkess AO (Cherkessk)
Khabarovsk
incl. Jewish AO (Birobidzhan)
Chukot National Area
(Anadyr)

Koryak National Area
(Palana)

OBLASTS—45

Arkhangelsk
incl. Nenets National Area
(Naryan-Mar)
Astrakhan
Bryansk
Chelyabinsk
Chita
incl. Aginsk Buryat-Mongol Na-
tional Area (Aginskoye)
Chkalov
Crimea (Simferopol)
Gorki
Grozny
Ivanovo

* Capitals or administrative centers of the various units follow in parentheses except where they are the same as the name of the unit.

Translations of administrative terms follow:

Krai = Territory *Oblast* = Region *Okrug* = Area *Raion* = District

Abbreviations:

RSFSR (or Russian SFSR)—Russian Soviet Federated Socialist Republic

SSR—Soviet Socialist Republic

ASSR—Autonomous Soviet Socialist Republic

AO—Autonomous Oblast

Irkutsk
incl. Ust-Ordyn Buryat-Mongol
National Area
(Ust-Ordynski)

Kalinin

Kaluga

Kemerovo

Kirov

Kostroma

Kuibyshev

Kurgan

Kursk

Leningrad

Molotov

incl. Komi-Permyak National
Area (Kudymkar)

Moscow

Murmansk

Novgorod

Novosibirsk

Omsk

Orel

Penza

Pskov

Rostov

Ryazan

Saratov

Smolensk

Stalingrad

Sverdlovsk

Tambov

Tomsk

Tula

Tyumen

incl. Khanty-Mansi National
Area (Khanty-Mansisk)
Yamalo-Nenets National
Area (Salekhard)

Ulyanovsk

Velikiye Luki

Vladimir

Vologda

Voronezh

Yaroslavl

ASSR—12

Bashkir (Ufa)

Buryat-Mongol (Ulan Ude)

Dagestan (Makhach Kala)

Chuvash (Cheboksary)

Kabardinian (Nalchik)

Komi (Syktyvkar)

Mari (Ioshkar-Ola)

Mordovian (Saransk)

North-Ossetian (Dzardzhikau)

Tatar (Kazan)

Udmurt (Izhevsk)

Yakut (Yakutsk)

Tuva (Tuvian) Autonomous
Oblast (Kyzyl)

Koenigsberg Okrug

II. BYELORUSSIAN SSR (Minsk)

OBLASTS—12

Baranovichi

Bobruisk

Brest

Gomel

Grodno

Minsk

Mogilev

Molodechno

Pinsk

Polesye (Mozyr)

Polotsk

Vitebsk

III. UKRAINIAN SSR

(Kiev)

OBLASTS—24

Chernovtsy
 Dnepropetrovsk
 Drogobych
 Izmail
 Kamenets-Podolski
 Kharkov
 Kherson
 Kiev
 Kirovograd
 Lvov
 Nikolayev
 Odessa
 Poltava
 Rovno
 Stalino
 Stanislav
 Sumy
 Tarnopol
 Vinnitsa
 Volyn (Lutsk)
 Voroshilovgrad
 Zakarpatskaya (Uzhgorod)
 Zaporozhye
 Zhitomir

IV. KAZAKH SSR

(Alma-Ata)

OBLASTS—16

Akmolinsk
 Aktyubinsk
 Alma-Ata
 Dzhambul
 East-Kazakhstan
 (Ust-Kamenogorsk)

Guryev

Karaganda

Kokchetav

Kustanai

Kzyl-Orda

North-Kazakhstan

(Petrovavlovsk)

Pavlodar

Semipalatinsk

South-Kazakhstan (Chimkent)

Taldy-Kurgan

West-Kazakhstan (Uralsk)

V. UZBEK SSR

(Tashkent)

OBLASTS—9

Andizhan

Bukhara

Fergana

Kashka-Darya (Karshi)

Khorezm (Urgench)

Namangan

Samarkand

Surkhan-Darya (Termez)

Tashkent

ASSR

Kara-Kalpak (Nukus)

VI. TURKMEN SSR

(Ashkhabad)

OBLASTS—6

Ashkhabad

Chardzhou

Kerki

Krasnovodsk

Mary

Tashauz

- VII. KIRGIZ SSR
(Frunze) AO
South-Ossetian (Stalinir)
- OBLASTS—6
Dzhalal-Abad
Frunze
Issyk-Kul (Przhevalsk)
Osh
Talass
Tyan-Shan (Naryn)
- VIII. TADZHIK SSR
(Stalinabad) RAIONS—60
- OBLASTS—5
Garm
Kulyab
Kurgan-Tyube
Leninabad
Stalinabad
- AO
Gorno-Badakhshan (Khorog)
- IX. AZERBAIDZHAN SSR
(Baku) RAIONS—62
- ASSR
Nakhichevan
- AO
Nagorno-Karabakh (Stepanakert)
- X. GEORGIAN SSR
(Tbilisi) RAIONS—59
- ASSR
Abkhaz (Sukhumi)
Adzhar (Batumi)
- XI. ARMENIAN SSR
(Yerevan) RAIONS—38
- XII. MOLDAVIAN SSR
(Kishinev) RAIONS—60
- XIII. KARELO-FINNISH
SSR (Petrozavodsk) RAIONS—24
- XIV. LITHUANIAN SSR
(Vilnius) UYEZDS—26
- XV. LATVIAN SSR
(Riga) UYEZDS—19
- XVI. ESTONIAN SSR
(Tallin) UYEZDS—10

[SOURCE: Theodore Shabad in *The American Review on the Soviet Union*, February, 1946.]

APPENDIX II

MODEL OF SIX-YEAR CURRICULUM INTRODUCED INTO
SOVIET MEDICAL INSTITUTES BEGINNING WITH
1945-1946 ACADEMIC YEAR

(Authorized by Decree of December 1, 1944)

SUBJECT	TERM	HOURS
1. Principles of Marxism-Leninism	1, 2, 3, 4	250
2. Latin	1, 2	108
3. Foreign Language	1, 2, 3, 4	190
4. Physics	1, 2	144
5. Biology and Parasitology	1, 2, 3	216
6. Anatomy of the Human Body	1, 2, 3, 4	397
7. Histology and Embryology	2, 3, 4	250
8. Inorganic and Analytical Chemistry	1, 2	162
9. Biological Chemistry (including Organic and Colloidal)	2, 3, 4	374
10. Physiology	3, 4	278
11. Training in Military Medicine		
a) General Training	4	42
b) Chemical Defense	9	68
c) Sanitation	10	70
12. Microbiology	5, 6	255
13. Pathological Physiology	5, 6	162
14. Pharmacology	5, 6	219
15. Pathological Anatomy, including Autopsy	5, 6, 11	264
16. Diagnostics and Special Pathology and Therapy	5, 6, 7	332
17. General Surgery	6, 7	213

SUBJECT	TERM	HOURS
18. Operational Surgery, including Topographical Anatomy	7, 8	127
19. Hygiene	7, 8	254
20. History of Medicine	7	34
21. Clinical Therapy, including course on Tuberculosis	8, 9	276
22. Clinical Surgery	8, 9	246
23. Skin and Venereal Diseases	8, 9	124
24. Neuropathology	9, 10	138
25. Organization of Health Services	9	85
26. Obstetrics and Gynecology	7, 8, 9, 10	279
27. Hospital Therapy	10, 11, 12	304
28. Hospital Surgery, including course in Maxillo-facial Surgery	10, 11, 12	332
29. Pediatrics	10, 11, 12	212
30. Infectious Diseases and Epidemiology	10, 11, 12	184
31. Ophthalmology	10, 11	96
32. Otorhinolaryngology	10, 11	96
33. Psychiatry	10, 11	100
34. Forensic Medicine	11, 12	100

[SOURCE: Alexander Shabanov, head of the Central Educational Administration, USSR Ministry of Health. From an unpublished report supplied by Helen Black, New York.]

APPENDIX III

LIST OF MEDICAL INSTITUTES IN THE USSR
(*in order of founding*)

NAME OF INSTITUTE	DATE OF FOUNDING
1. First Moscow Medical Institute	1765
2. Lvov Medical Institute	1773
3. Kharkov Medical Institute	1805
4. Kazan Medical Institute	1814
5. Kiev Medical Institute	1841
6. Tomsk Medical Institute (named for V. M. Molotov)	1888
7. First Leningrad Medical Institute (named for Academician Ivan Pavlov)	1897
8. Odessa Medical Institute	1900
9. Second Moscow Medical Institute	1906
10. Second Leningrad Medical Institute	1908
11. Saratov Medical Institute	1911
12. Rostov Medical Institute	1915
13. Molotov Medical Institute	1916
14. Voronezh Medical Institute	1916
15. Dnepropetrovsk Medical Institute	1918
16. Astrakhan Medical Institute	1918
17. Tbilisi Medical Institute	1918
18. Azerbaidzhan Medical Institute, Baku	1919
19. Tashkent Medical Institute (named for V. M. Molotov)	1919
20. Kubyshev Medical Institute	1919
21. Irkutsk Medical Institute	1919
22. Gorky Medical Institute	1920
23. Kuban Medical Institute, Krasnodar	1920

24. Omsk Medical Institute	1920
25. Smolensk Medical Institute	1920
26. Byelorussian Medical Institute, Minsk	1921
27. Yerevan Medical Institute	1922
28. Ivanovo Medical Institute	1930
29. Stalino Medical Institute	1930
30. Khabarovsk Medical Institute	1930
31. Samarkand Medical Institute	1930
32. Kazakh Medical Institute, Alma-Ata	1931
33. Crimea Medical Institute (named for J. V. Stalin), Simferopol	1931
34. Sverdlovsk Medical Institute	1931
35. Moscow Medical Institute, Ministry of Health of the RSFSR	1932
36. Vinnitsa Medical Institute	1932
37. Bashkirian Medical Institute, Ufa	1932
38. Dagestan Medical Institute, Makhach Kala	1932
39. Ashkhabad Medical Institute	1932
40. Arkhangelsk Medical Institute	1932
41. Izhevsk Medical Institute, Udmurt	1933
42. Kursk Medical Institute	1935
43. Stalingrad Medical Institute	1935
44. Leningrad Institute of Pediatrics	1935
45. Novosibirsk Medical Institute	1935
46. Stavropol Medical Institute	1937
47. North-Ossetian Medical Institute	1939
48. Stalinabad Medical Institute	1939
49. Kirgiz Medical Institute, Frunze	1939
50. Krasnoyarsk Medical Institute	1943
51. Kislovodsk Medical Institute	1944
52. Chelyabinsk Medical Institute	1944
53. Chkalov Medical Institute	1944
54. Yaroslavl Medical Institute	1944
55. Chernovitsy Medical Institute	1945

AUTHOR'S NOTE: In 1945, there were 20 institutes or other higher schools of pharmacology, dentistry and physical culture.

[SOURCE: *A Report on Medical Education in the USSR* by Alexander Shabanov. Supplied by Helen Black.]

APPENDIX IV

SALARIES OF MEDICAL WORKERS

Decree No. 1974 December 13, 1942 Moscow, the Kremlin

ON RAISING THE SALARIES OF MEDICAL WORKERS

The Council of People's Commissars of the USSR and the Central Committee of the All-Union Communist Party (Bolshevik) *resolve*:

I. To raise the salaries of medical workers, beginning December 1, 1942, with establishment of the following official salary scales: *

Head physicians of stationary medical institutions [hospitals, etc.] in cities and industrial settlements

NUMBER OF BEDS PER INSTITUTION

less than 25	750
25 to 100	850
100 to 250	950
250 to 400	1,100
400 to 600	1,250
over 600	1,400

Head physicians and superintendents of ambulatoria and polyclinics in cities and industrial settlements

NUMBER OF PHYSICIANS' CALLS PER YEAR

less than 50,000	750
50,000 to 100,000	850
100,000 to 200,000	1,000
200,000 to 500,000	1,100
over 500,000	1,300

* TRANSLATOR'S NOTE: All salaries are monthly, and in rubles.

Physicians in charge of sanitary-epidemiological and special institutions

NUMBER OF MEDICAL POSITIONS, INCLUDING

THAT OF ADMINISTRATOR

less than 4	800
4 to 10	1,000
more than 10	1,200

NOTE: *Official salaries of Assistant Directors of medical establishments are fixed at 15 per cent below the salaries provided in this decree for Directors [above] of the same institutions.*

Physicians in charge of separate branches of work; state sanitation inspectors, epidemiologists, experts in forensic medicine, psychiatrists, and malaria specialists

In districts,* areas* and cities under 200,000, and in independent city districts 900

In cities of over 200,000, in regional* and territorial* health departments and commissariats of autonomous republics, and health departments for water transport 1,000

In health commissariats of the Union Republics 1,200

1. Physicians in charge of departments and laboratories in medical institutions 550-700-850**

2. Physicians

a) in cities and workers' settlements 500-600-725

b) in rural areas 550-700-850

3. Physicians employed as state sanitation inspectors, epidemiologists, forensic medicine experts, public health physicians 600-750-900 to 1,000

Dentists

a) with a higher school education 500-600-725

b) dental school graduates 375-425-500

c) graduates of middle dental schools (technicums, etc.) 325-375-450

* TRANSLATOR'S NOTE: District—*Raion*; Area—*Okrug*; Region—*Oblast*; and Territory—*Krai*.

** Where three figures are listed, they represent salaries based on professional experience of less than 5 years, 5 to 10 years, and 10 years or more respectively.

Middle Medical Personnel

1. Feldshers, feldsheritsa-midwives, and midwives with middle medical school education, in charge of independent medical stations; feldshers who are assistants to state sanitation inspectors, epidemiologists (physicians), and experts in forensic medicine 375-425-500

2. Feldshers, feldsheritsa-midwives and midwives in charge of independent midwife stations; nurses in charge of medical stations, senior nurses, visiting and district nurses with middle medical school education; X-ray technicians and X-ray laboratory assistants; masseurs, instructors in disinfection with special training 325-375-450

3. Nurses with middle medical school education, dietitian-nurses, public health nurses and instructor-bonifikators with special education 265-310-375

4. Nurses, children's nurses, laboratory assistants, disinfectors, bonifikators, quinine dispensers, vaccinators, prosectors without a complete middle medical school education; nurses engaged in household management, and keeping medical statistics and medical registers 225-275-335

Junior medical workers and service personnel: Sanitation workers, bath-house attendants, nurses, ward cleaners, drug department cleaners, laundresses, mud-bath attendants, morgue attendants and anatomists' assistants 200-225-260

Superintendents of nurseries, children's homes, children's rooms and rooms for mother and child

<i>(with middle medical school education)</i>	<i>(without a complete middle medical school education)</i>
---	---

NUMBER OF BEDS PER INSTITUTION

60 or less	350	300
61 to 80	400	350
81 to 120	500	400
over 120	550	450

NOTE: *In nurseries in continuous operation for 12 hours (1½ shifts), for 16 hours (2 shifts), and in those operating for more than two shifts, superintendents receive additions of 10 per cent, 15 per cent and 20 per cent respectively to their basic salaries.*

Workers in Drug Enterprises

Managers of city drug stores

(with higher pharmaceutical education) (with middle pharmaceutical education)

NUMBER OF PRESCRIPTIONS FILLED ANNUALLY

up to 15,000	600	450
15,000 to 40,000	700	500
40,000 to 100,000	800	600
over 100,000	1,000	750

Managers (superintendents) of drug stores in rural areas and workers' settlements

- a) with higher pharmaceutical education 500-600-700
- b) with middle pharmaceutical education 400-450-525

Checkers, prescription fillers, and controllers

- a) with higher pharmaceutical education 450-500-575
- b) with middle pharmaceutical education 325-375-450

Assistants and manual workers

- a) with middle pharmaceutical education 325-375-450
- b) without a complete middle pharmaceutical education 225-275-350

Drug store attendants 200-225-250 to 275

Cashiers and labellers 250-300-350

Clerks in charge of drug supplies 275-300-325

Superintendents of warehouses with complete pharmaceutical education

ON BASIS OF ANNUAL TURNOVER (*in rubles*)

under 3 million	550
3 to 10 million	650
10 to 20 million	750
more than 20 million	900

Superintendents of warehouse departments with complete pharmaceutical education

ON BASIS OF ANNUAL TURNOVER (*in rubles*)

under 3 million	450
3 to 10 million	500
10 to 20 million	550
more than 20 million	650

NOTE: *Official salaries of warehouse workers without complete pharmaceutical training are 20 per cent lower than the salaries of workers who have completed such training.*

Heads of control-analytical laboratories with higher pharmaceutical education

BASED ON NUMBER OF APOTHECARY ASSISTANTS

maximum of 3	700
more than 3	800

Apothecary assistants

a) with higher education	400-500-600
b) with middle education	325-400-450

(End of Part I)

J. STALIN

Chairman of the Council of People's Commissars of the USSR

A. ANDREYEV

Secretary of the Central Committee of the Communist Party of the Soviet Union

[SOURCE: *Feldsher I Akusherka (Feldsher and Midwife)* No. 1-2, 1943, pp. 49-53.]

APPENDIX V

EXAMINATION OF WORKERS EMPLOYED IN
HARMFUL INDUSTRIES

Regulation enacted by the chief sanitary inspection of the RSFSR and the secretaries of the All-Union Central Council of Trade Unions, September 16, 1935, No. 3705/213.

1. In order to supervise systematically the health conditions of workers working with substances apt to injure their health, and in order to apply the necessary prophylactic measures in time, compulsory periodic medical examinations of the workers occupied in the following enterprise: have been established, supplementing Article 143 of the Labor Code of the RSFSR:

KIND OF WORK	PERIOD OF EXAMINATION
Mining and melting of lead ore	once every 6 months
Melting, pouring, pressing and rolling of lead	once every 6 months
Production of white lead	once every 4 months
Lead acetate, litharge, minium, lead chromate	once every 6 months
Production of batteries	once every 6 months
Work in workshops of the rubber industry (using dry litharge)	once every 6 months
Tetraethyl-lead	once every month
Enamel work	once every 6 months
Extraction and sublimation of mercury	once every 4 months
Work with metallic mercury (manufacturing of thermometers, work with mercury pumps, etc.)	once every year
Production of pharmaceutic preparations of mercury	once every 6 months
Production of fulminating mercury and percussion caps	once every year
Sublimation of white arsenic	once every 6 months

Production of arsenic compounds	once every 6 months
Production and handling of yellow phosphorus	once every 6 months
Production of flourine salts	once every 6 months
Extraction and handling of manganese and its compounds	once every 6 months
Production and handling of carbon bisulphide	once every 6 months
Work with cyanide compounds	once every 6 months
Production of benzol, toluene and xylol	once every 6 months
Production of sodium- and chlor-nitrates of benzol and toluene	once every 6 months
Handling of benzol, toluene and xylol as solvents	once every 6 months
Work in munition workshops	once every 6 months
Production of aniline, its nitro- and chlor compounds	once every 6 months
Industry of raw products used in the production of the aniline dyes (benzilene, beta-naphthylamine, diphenylamine, dimethylamine, nitrozene)	once every 6 months
Production of ursols	once every 6 months
Dyeing of furs with ursol dyes	once every 6 months
Production and handling of chlorine derivatives of hydrocarbons of the paraffin series used as solvents (dichlorethylene, tetrachlormethane, etc.)	once every 6 months
Production and handling of methyl alcohol as solvent	once every 6 months
Work requiring constant contact with products of sublimation of mineral coal, tar, slate (pitch, anthracene, etc.)	once every 6 months only by a dermatologist
Extraction and handling of asbestos	once every 6 months
Production of radium and radio-active substances and their handling (X-ray laboratories)	once every 6 months
Production of chromium salts	once every 6 months

[SOURCE: *Ofitsialnyi Sbornik Narķomzdrava RSFSR (Official Collection of Documents of the People's Commissariat of Public Health of the RSFSR)*, 1936, No. 6, pp. 8-9]

APPENDIX VI

CONTAGIOUS DISEASES IN THE USSR, 1913-1929

(in total number of cases and number of cases per 10,000 population)

	1913	1922	1923	1924	1925	1926	1927	1928	1929
Typhus	118,419 7.3	1,467,955 109.6	242,890 18.1	126,865 9.5	70,415 4.9	55,841 3.8	40,818 2.8	31,090 2.1	29,417 2
Relapsing fever	30,690 2	1,563,557 116.8	258,271 19.3	50,535 3.8	18,640 1.3	14,939 1	6,838 0.5	4,671 0.3	2,939 2
Smallpox	72,236 4.1	62,650 4.7	44,626 3.3	28,374 2.1	16,461 1.1	16,548 1.1	14,023 1	9,715 0.7	6,079 0.37
Plague	535 —	— —	489 0.03	204 0.01	257 0.02	179 0.01	118 0.01	90 0.006	79 0.005
Cholera	324 —	86,178 6.4	149 0.01	10 0	12 0	26 0.001	0 —	0 —	0 —
Typhoid fever	432,275 25.7	352,671 26.3	133,912 10	165,949 12.4	159,619 11	127,757 8.8	142,727 9.8	107,138 7.4	171,263 10.5
Dysentery	511,018 30.5	334,173 25	214,862 16	335,883 25.1	288,517 19.8	246,529 17	265,830 18.3	140,903 9.7	177,252 10.8
Scarlet fever	460,108 3	80,033 6	108,239 8.1	199,811 14.9	261,863 18	349,281 24.1	359,602 24.8	326,538 22.5	386,445 26.6

Diphtheria	506,257 31.4	42,319 3.2	47,770 3.6	66,345 5	69,430 4.8	75,837 5.2	81,809 5.6	82,272 5.7	86,169 5.9
Measles	535,076 32	— —	124,778 9.3	328,691 24.5	631,844 43.5	423,113 29.2	477,099 32.9	608,073 41.9	668,226 46.5
Whooping cough	508,895 30	— —	— —	— —	— —	— —	— —	— —	451,568 31.1
Malaria	3,521,213 216	2,490,982 186	5,556,856 415	5,983,477 416.8	5,124,719 353.1	4,523,696 311.7	3,684,041 253.8	3,296,752 227.2	2,993,072 183
Influenza	3,608,957 64	535,669 40	1,111,016 83	1,854,391 138.5	2,606,494 179.6	4,654,165 320.7	4,902,365 337.8	6,205,524 427.6	6,246,427 430.4
Anthrax	15,167 0.9	3,904 0.3	7,801 0.6	15,496 1.2	16,172 1.1	14,654 1	17,573 1.2	14,422 1	15,454 0.9
Epidemic en- cephalitis	— —	— —	960 0.1	2,076 0.2	2,132 0.1	2,353 0.2	1,730 0.1	1,778 0.1	1,975 0.1
Tetanus	— —	— —	— —	— —	— —	— —	— —	— —	2,476 —
Rabies	940 0.1	— —	— —	— —	— —	448 0.03	— —	— —	— —
Trachoma	— —	— —	265,213 19.8	518,112 38.7	792,476 54.6	961,408 66.2	1,089,208 75.1	1,144,059 78.8	— —
Scurvy	— 4.1	— 17.4	— 6.4	— 4.3	— 5	— —	— —	— —	— —

[SOURCE: A Roubakine, *La protection de la santé publique dans l'U.R.S.S.*, Paris, 1933, p. 31.]

APPENDIX VII

On the prohibition of abortions, increase of material aid to women giving birth, establishment of state aid to large families, broadening of the network of maternity homes, nurseries and kindergartens, strengthening of the criminal penalty for non-payment of alimony, and on certain changes in the legislation on divorces

DECISION OF THE CENTRAL EXECUTIVE COMMITTEE OF THE USSR AND OF THE COUNCIL OF PEOPLE'S COMMISSARS OF THE USSR, JUNE 27, 1936.*

The October Socialist Revolution which laid the foundation for the abolition of all class exploitation, for the abolition of the classes themselves, at the same time laid the foundation for the complete and final emancipation of women.

In no country in the world does woman enjoy as complete equality in all branches of political, social and family life as in the USSR.

In no country in the world does woman, as a mother and a citizen who bears the great and responsible duty of giving birth to and bringing up citizens, enjoy the same respect and protection of the law as in the USSR.

However, the economic breakdown of the country which took place during the first years after the Civil War and the armed intervention, and the inadequate cultural level which women inherited from the pre-revolutionary epoch did not enable them at once to make full use of the rights accorded to them by the law and to perform, without fear of the future, their duties as citizens and mothers responsible for the birth and early education of their children. In this connection, the Soviet power on Nov. 18, 1920, permitted the practice of abortions (artificial interruption of pregnancy) for women so long as, as the People's Commissariat

* AUTHOR'S NOTE: Please refer to the decree of July 8, 1944, published as Appendix IX, which nullifies certain sections of this 1936 decree.

of Health and the People's Commissariat of Justice wrote, "the moral heritages of the past and the difficult economic conditions of the present still force a section of the women to submit to this operation." (Code of Laws, No. 90, p. 471)

Back in 1913, Lenin wrote that class-conscious workers are "unquestionable enemies of neo-Malthusianism, this tendency for the philistine couple, pigeon-brained and selfish, who murmur fearfully: "May God help us to keep our own bodies and souls together; as for children, it is best to be without them."

But while rebelling against abortions as a social evil Lenin considered mere legislative banning of abortions clearly inadequate to combat them. Moreover, he pointed out that under capitalist conditions these laws only reflect the "hypocrisy of the ruling classes" since they "do not heal the sores of capitalism but make them particularly malignant, particularly painful to the oppressed masses." (Volume 16, pp. 498-499)

Only under conditions of socialism, where exploitation of man by man does not exist and where woman is an equal member of society while the progressive improvement of the material well-being of the toilers constitutes a law of social development, is it possible seriously to organize the struggle against abortions, by prohibitive laws as well as by *other* means.

The abolition of capitalist exploitation in the USSR, the growth of the material well-being and the gigantic growth of the political and cultural level of the toilers make it possible to raise the question of a revision of the decision of the People's Commissariats of Health and Justice of Nov. 18, 1920.

Necessary material provision for women and their children, state aid to large families, the fullest development of the network of maternity homes, nurseries, kindergartens, legislative establishment of the minimum sums which the father of a child must pay for its upkeep when husband and wife live apart, on the one hand, and prohibition of abortions on the other, coupled with an increase in the penalty for wilful nonpayment of means for the maintenance of the children, awarded by a court, and the introduction of certain changes in the legislation on divorces for the purpose of combating a light-minded attitude toward the family and family obligations—such are the roads which must be followed in order to solve this important problem affecting the entire population. In this respect, the Soviet Government responds to numerous statements made by toiling women.

In connection with the above and taking into consideration certain remarks made by citizens during the discussion of the draft, the Central Executive Committee and the Council of People's Commissars of the USSR *decide*:

I. ON PROHIBITION OF ABORTIONS

1. In view of the proven harm of abortions, to forbid the performance of abortions both in hospitals and special health institutions, and in the homes of doctors and private homes of pregnant women. The performance of abortions shall be allowed exclusively in those cases when the continuation of pregnancy endangers the life or threatens serious injury to the health of the pregnant woman and equally when a serious disease of the parents can be inherited, and only under hospital or maternity home conditions.*

2. For the performance of abortions outside a hospital or in a hospital under conditions violating the above provisions, the doctor performing the abortion shall be criminally punishable with imprisonment of one to two years, while for the performance of abortions under unsanitary conditions or by persons who have no special medical education a criminal penalty of no less than three years' imprisonment shall be fixed.

3. For compelling a woman to undergo an abortion, a criminal penalty of two years' imprisonment shall be fixed.

4. In relation to pregnant women undergoing an abortion in violation of the said prohibition, to establish as a criminal penalty a social reprimand, and in the event of a repetition of the violation of the law on the prohibition of abortions, a fine up to 300 rubles.

II. ON INCREASING MATERIAL AID BY THE STATE TO WOMEN GIVING BIRTH AND ON ESTABLISHING STATE AID TO LARGE FAMILIES

5. In order to improve the material position of mothers, both working women and employees insured in the organs of social insurance, to increase the allowance issued from the state social insurance funds for the purpose of procuring the necessary articles of infant care, from 32 to 45 rubles.

6. To increase the allowance issued to the mother for nursing the infant, from 5 to 10 rubles a month.

* AUTHOR'S NOTE: See Appendix VIII.

7. In relation to uninsured toiling women—members of cooperative artels and enterprises—to establish that the said allowances be issued by the cooperative mutual aid funds on the same basis.

8. To abolish the limitation fixed by the code of labor laws for women employees (Article 132), making them equal to working women in regard to the length of the leave accorded prior to and after childbirth (56 days prior to and 56 days after childbirth).

9. To establish a criminal penalty for refusal to employ women for reasons of pregnancy, for reducing their wages on the same grounds, providing in the law the obligation of preserving for the pregnant woman, while transferring her to lighter work, her former wages based on earnings for the last six months' work.

10. To establish a state allowance for mothers of large families—for those having six children, an annual allowance of 2,000 rubles for five years for each subsequent child from the day of its birth; for mothers having 10 children one state allowance of 5,000 rubles on the birth of each subsequent child and an annual allowance of 3,000 rubles for a period of four years following the child's first birthday. To extend this article of the law also to those families who at the moment of the publication of the law have the required number of children.

III. ON EXTENSION OF THE NETWORK OF MATERNITY HOMES

To instruct the People's Commissariats of Health of the constituent republics:

11. In order to provide medical assistance in special maternity homes for all women giving birth in cities, industrial and district centers, to establish and open by Jan. 1, 1939, 11,000 new maternity beds, of which in addition to the 4,200 beds provided by the 1936 plan, there are to be established:

In 1936	2,000 beds
In 1937	4,000 "
In 1938	5,000 "

12. In order to extend medical service to women giving birth in rural localities, to provide and put into use 32,000 maternity beds, of which 16,000 beds in the maternity wards of village hospitals shall be financed by the state budget and 16,000 beds by organizing collective farm maternity homes, 75 per cent of the cost of their organization to be assumed by the collective farms and 25 per cent by the state budget.

These are to include:

In 1936—In addition to the 4,300 maternity beds in village hospitals and the 5,000 beds in collective farm maternity homes scheduled by the 1936 plan, 4,000 beds in hospitals and 4,000 beds in collective farm maternity homes.

In 1937—6,000 beds in hospitals and 6,000 beds in collective farm maternity homes.

In 1938—6,000 beds in hospitals and 6,000 beds in collective farm maternity homes.

13. In order to provide obstetrical assistance at home, for women giving birth who are not served by lying-in hospitals, to open by Jan. 1, 1939, 14,400 new obstetrical stations of which 2,700 are to be opened in the villages and 1,370 obstetricians appointed to the new collective farm maternity homes in 1936; 5,000 obstetrical stations in the villages and 2,000 obstetricians at the new collective farm maternity homes in 1937; 6,700 obstetrical stations in the villages and 2,000 obstetricians at the new collective farm maternity homes in 1938.

IV. ON EXTENSION OF THE NETWORK OF NURSERIES

14. To double by Jan. 1, 1939 the existing network of nursery beds for children in the cities, state farms, workers' settlements and on the railways, increasing their total number to 800,000 beds by putting into service:

In 1936, in addition to the 34,000 beds provided by the 1936 plan	100,000 new beds
In 1937	150,000 " "
In 1938	150,000 " "
TOTAL	400,000 " "

15. To double by Jan. 1, 1939 the existing network of nursery beds both in permanent and seasonal collective farm nurseries in rural localities, increasing the number of beds in permanent nurseries by 500,000 and in seasonal nurseries by four million beds, including:

In 1936: In addition to the 70,000 beds in permanent collective farm nurseries called for in the 1936 plan	100,000 beds
In seasonal nurseries in addition to the one million beds called for in the 1936 plan	500,000 "
In 1937: In permanent collective farm nurseries	200,000 "
In seasonal nurseries	1,500,000 "

In 1938: In permanent collective farm nurseries	200,000	“
In seasonal nurseries	2,000,000	“

The People's Commissariats of Health of the Union Republics and the territory, province and district executive committees are to supervise the development of the above network of nurseries.

16. In cities and in industrial centers, beginning Jan. 1, 1937, work in nursery schools is to be in two shifts, to last 16 hours a day, including the rest days.

17. To instruct the People's Commissariats of Health of the Union Republics to secure the appropriate personnel for the newly opened institutions by allotting 15 million rubles in addition to the appropriations made for the training of the intermediate medical personnel.

18. To instruct the People's Commissariats of Health of the Union Republics to build during three years, so as to complete by Jan. 1, 1939, an additional 800 new dairy kitchens in the cities, industrial and district centers for the feeding of 1.5 million children under three years of age and to open:

In 1936—30 kitchens of the first category (at an estimated cost of 83,000 rubles each)

 100 kitchens of the second category (at an estimated cost of 65,000 rubles each)

In 1937—70 kitchens of the first category

 200 kitchens of the second category

In 1938—100 kitchens of the first category

 300 kitchens of the second category

V. ON ENLARGING THE NETWORK OF KINDERGARTENS

19. To triple the functioning network of permanent kindergartens in cities, factory settlements, and on railways within three years, bringing it up to 2.1 million places by Jan. 1, 1939 (as against 700,000 places in the present network of kindergartens); and at state farms, plants and institutions in village localities, up to 300,000 places, as against 130,000 places of the present network, for which purpose the following must be built and put into operation:

In 1936: In cities, factory settlements, and on railways, in addition to 250,000 places planned according to the 1936 program,

150,000 places

 At state farms and at enterprises and in-

stitutions in village localities, the plan for the increase of kindergartens in 1936 is to be left at the former 60,000 “

In 1937: In cities, factory settlements, and on railways 300,000 “

At state farms and at enterprises and institutions in village localities 60,000 “

In 1938: In cities, factory settlements, and on railways 700,000 “

At state farms and at enterprises and institutions in village localities 50,000 “

20. To open permanent kindergartens, with 700,000 places, at collective farms in addition to the existing network of 400,000 places by Jan. 1, 1939, as follows:

In 1936, supplementary to the planned 150,000 for 1936, 50,000 places (total—200,000 places)

In 1937 240,000 places

In 1938 260,000 “

By the same date to provide all children on collective farms with seasonal playgrounds for children of pre-school age, for which purpose the following must be built:

In 1936 (according to the 1936 plan) 4,500,000 places

In 1937 7,800,000 “

In 1938 10,700,000 “

Supervision of the development of the network of kindergartens and seasonal playgrounds for children of pre-school age in village localities is to be turned over to the People's Commissariats of Education of the Union Republics and to the territorial, province and district executive committees.

21. To obligate the People's Commissariats of Education of the Union Republics to train, as early as in the second half of 1936, 50,000 teachers for the kindergartens which are to be opened, releasing 35 million rubles for this purpose in addition to the 1936 grants for the training of cadres for new kindergartens, called for in the budgets of the People's Commissariats of Education of the Union Republics.

VI. ON CHANGING THE SYSTEM OF SUPERVISION OF KINDERGARTENS

22. To amend the decision of the Council of People's Commissars of the USSR, of July 6, 1935 (Code of Laws, No. 35, Statute 309), on concentrating the leadership and management of all kindergartens under

the systems of the People's Commissariats of Education of the Union Republics, turning over to the jurisdiction of the industrial People's Commissariats, kindergartens of their institutions and enterprises which serve children of workers and employees of these institutions and enterprises, and continuing under the jurisdiction of the People's Commissariats of Education only those kindergartens which serve small institutions and enterprises that do not have their own kindergartens. To place direct leadership of the kindergartens under the administration of the enterprise or institution where the kindergarten is organized, with the participation of the factory and plant trade union committees and Young Communist League organizations of these plants and institutions. To reserve for the People's Commissariats of Education of the Union Republics general pedagogical leadership, control of the correct structure of the network of the kindergartens and the training of pedagogical cadres.

The Council of People's Commissars of the USSR is to determine the method of transferring and financing the kindergartens, and also the method of construction and financing new kindergartens in connection with the newly-established system of supervision and management of kindergartens.

VII. ON FINANCING THE ABOVE MEASURES

23. In accordance with this decision, to assign, over and above the sum allocated for 1936 in state and local budgets and the social insurance-budget—the sum of 1,481,300,000 rubles for maternity homes, midwife stations, nurseries, dairies and kindergartens for 1936—692,800,000 rubles for the construction and development of the network of these institutions, increasing the general amount assigned in 1936 to 2,174,100,000 rubles as against 875 million rubles in 1935.

From the above-mentioned 692,800,000 rubles to use on the construction of:

a) Maternity beds in cities	22,200,000 rubles
b) Maternity beds in villages	23,800,000 “
c) Children's nurseries in cities	* 320,000,000 “
d) Kindergartens in cities	* 221,000,000 “
e) Dairy kitchens	9,000,000 “
	<hr/>
TOTAL	596,000,000 rubles

* After taking into account an 11 per cent decrease in construction costs.

On operating expenses:

a) For maintenance of the newly-opened maternity beds and midwife stations	5,000,000	“
b) For maintenance until the end of 1936 of newly-built children's nurseries	11,800,000	“
c) For the extension and improvement of the network of functioning kindergartens by means of utilizing and transforming into kindergartens new sites, porches and other light types of buildings in existing kindergartens, and small repairs to buildings taken over	30,000,000	“
TOTAL	<hr/> 46,800,000 rubles	

On training cadres:

a) For training midwives and nurses of the People's Commissariat of Health	15,000,000 rubles
b) For teachers for town kindergartens of the People's Commissariat of Education	17,000,000 “
c) For preparation of teachers for village kindergartens of the People's Commissariat of Education	18,000,000 “
TOTAL	<hr/> 50,000,000 rubles

24. To assign 70,500,000 rubles for increased maternity aid in accordance with Par. 5, 6, and 8 of this decision.

25. The Council of People's Commissars of the USSR to guarantee the necessary materials for the projected construction in order that the People's Commissariats may begin construction by July 1 of this year.

26. To amend, for the purpose of establishing a uniform fixed system of financing kindergartens and children's nurseries, the decision of the Council of People's Commissars of the USSR of July 6, 1935 (Code of Laws, No. 35, 1935, Par. 310), "On obligatory dues of undertakings and institutions for the maintenance of children's nurseries and kindergartens," to one-quarter of one per cent of the wage fund, to fix direct allocations of 300 million rubles for 1936 for this purpose from the state budget, and to make the corresponding changes in the finance plans of the economic organs and institutions, and also in the income and expenditure sides of the state social insurance budget.

VIII. ON MORE SEVERE PENALTY FOR NON-PAYMENT OF ALIMONY, AND ALTERATIONS IN THE LEGISLATION ON DIVORCE

27. To amend the existing laws on marriage, family and guardianship, with the aim of combating light-minded attitudes toward the family and family obligations, and to introduce in divorce proceedings the personal attendance at ZAGS (Civil Registry Bureau) of both divorcees and the entry into the passports of the divorcees of the fact of divorce.

28. To increase the fees for registration of divorce as follows: 50 rubles for the first divorce, 150 rubles for the second, and 300 rubles each for the third and subsequent divorces.

29. To allot in court judgment on alimony one-fourth of the wages of the defendant for the maintenance of one child; one-third for the maintenance of two children, and 50 percent of the wages of the defendant for the maintenance of three or more children.

30. Payments to collective farm women to be made in workdays on the same basis.

If the mother receiving alimony is a collective farm woman and works with the defendant on the same collective farm, the management of the collective farm in calculating the workdays shall directly enter the corresponding share of the workdays earned by the father (if there are children) to the account of the mother. If the mother works on another collective farm, this entry in favor of the mother of the corresponding share of the workdays earned by the father shall be deducted on behalf of the mother in the final accounting of the workdays, by the management of the collective farm where the father works.

31. To raise to two years' imprisonment the penalty for non-payment of funds awarded by court for the maintenance of children, the search for persons refusing to pay alimony to be made at their expense.

M. KALININ

Chairman of the Central Executive Committee of the USSR

V. MOLOTOV

Chairman of the Council of People's Commissars of the USSR

I. UNSCHLICHT

Acting Secretary of the Central Executive Committee of the USSR

Kremlin, Moscow, June 27, 1936

[SOURCE: *Moscow Daily News*, June 28, 1936.]

APPENDIX VIII

MEDICAL INDICATIONS FOR THE ARTIFICIAL INTERRUPTION OF PREGNANCY (ABORTION)

The medical indications for abortion are:

1. Serious chronic organic diseases of heart and blood vessels; endocarditis with anatomical lesions of the valves of the heart; organic diseases of the valves of the heart and diseases of the heart muscles leading to circulatory insufficiency (oedema, indurated liver, cyanosis, shortness of breath); permanent hypertension which has not been caused by pregnancy.
2. Chronic forms of inflammatory degenerative and sclerotic processes of the kidneys, impairing their function.
3. Nephrolithiasis on both sides (based on X-ray evidence).
4. Open form of pulmonary tuberculosis and also closed tuberculous infections of lungs and pleura with chronic intoxication.
5. Tuberculosis of the urinary tract, peritoneum, intestines, bones, joints and larynx.
6. Chronic diseases of the liver with manifest functional disturbances.
7. Grave's disease with manifest insufficiency of the heart and circulatory system or with other chronic intoxications.
8. Pernicious anaemia (Biermer type) and pernicious anaemia as a result of pregnancy.
9. Leukaemias.
10. Patients suffering or having suffered from malignant tumors.
11. Epilepsy diagnosed in a medical institution.
12. Retinitis or neuritis of the optic nerve caused by pregnancy or by diseases of the peripheral vascular system.
13. Serious diseases of the cornea as a result of physical exhaustion

or endocrine disorders caused by pregnancy (for instance: hypopyonkeratitis, keratoconus).

14. Narrow pelvis with conjugata vera of 7.5 centimeters and less, considerable deformities of the pelvis of various origins, and also considerable scarifications of the vagina making childbirth through natural channels impossible.

15. Abortion is permitted if mother, father or one of the children have suffered or are suffering from one of the following hereditary diseases: haemophilia, idiocy, genuine epilepsy, severe forms of schizophrenia or manic-depressive psychosis, which have been treated in hospitals; serious hereditary diseases of the eye leading to blindness; hereditary deafness and dumbness; hereditary progressive diseases of the nervous system (progressive muscular atrophy, hereditary ataxia).

Contra-indications for the artificial interruption of pregnancy (abortion).

1. Acute and sub-acute gonorrhoea.
2. Acute and sub-acute vulvo-vaginitis and Bartholinitis of any origin, and also furuncles of the genital organs.
3. Erosions with secretions of pus from the cervix uteri.
4. Inflammatory processes of the ligaments and the peritoneum surrounding them.
5. All local purulent diseases and acute infectious diseases.

[SOURCE: *Ofitsialnyi Sbornik Narķomzdrava RSFSR. (Official Collection of Documents of the People's Commissariat of Public Health of the RSFSR)*, 1936, No. 24, pp. 7-8]

APPENDIX IX

Decree of July 8, 1944, on increasing state aid and privileges for mothers, on extension of institutions for protection of mother and child, creation of motherhood medals, orders and titles, taxation of single men and women and citizens with small families, and on changes in laws on marriage, family and guardianship

The Presidium of the Supreme Soviet of the USSR has issued an edict on increasing state aid to expectant mothers, mothers of large families and unmarried mothers; the protection of motherhood and childhood; and institution of the honorary title of Mother Heroine, the Order of Glory of Motherhood and the Motherhood Medal.

The welfare of children and mothers and the consolidation of the family has always been one of the major tasks of the Soviet State. Protecting the interests of mother and child, the state extends substantial material aid to expectant mothers and mothers for the maintenance and upbringing of children. During the war and after the war, when considerable material difficulties exist for many families, state aid must necessarily be extended.

In order to increase material aid to expectant mothers, mothers of large families and unmarried mothers and to encourage large families and increase the protection of mother and child, the Presidium of the Supreme Soviet of the Union of Soviet Socialist Republics *resolves*:

FIRST, to increase state aid to mothers of large families and unmarried mothers.

1. To establish that state allowances are to be granted to mothers of large families (whether the husband is living or not) on the birth of the third child and of each subsequent child, instead of the existing procedure of granting state allowances to mothers of six children on the birth of the seventh and of each subsequent child.

2. Payment of state allowances to mothers of large families is to be effected as follows: On the birth of the third child to a mother with two children, a single grant of 400 rubles. On the birth of a fourth child to a mother with three children, a single grant of 1,300 rubles and a monthly allowance of 80 rubles. On the birth of a fifth child to a mother with four children, a single grant of 1,700 rubles and a monthly allowance of 120 rubles. On the birth of a sixth child to a mother with five children, a single grant of 2,000 rubles and a monthly allowance of 140 rubles. On the birth of a seventh child to a mother with six children, a single grant of 2,500 rubles and a monthly allowance of 200 rubles. On the birth of an eighth child to a mother with seven children, a single grant of 2,500 rubles and a monthly allowance of 200 rubles. On the birth of a ninth child to a mother with eight children, a single grant of 3,500 rubles and a monthly allowance of 250 rubles. On the birth of a tenth child to a mother with nine children, a single grant of 3,500 rubles and a monthly allowance of 250 rubles. On the birth of each subsequent child to a mother with ten children, a single grant of 5,000 rubles and a monthly allowance of 300 rubles.

Monthly allowances to mothers of large families are to be paid beginning with the second year of the child's life and continuing until the child reaches the age of five.

Mothers with families of three, four, five or six children at the date of issue of the present edict will receive allowances under the present article for every child born after the publication of the present edict.

Mothers with families of seven or more children at the date of issue of the present edict retain the right to receive large family allowances according to the procedure and in the amounts set forth in the decision of the Central Executive Committee and the Council of People's Commissars of the USSR of June 27, 1936, namely, for the seventh, eighth, ninth and tenth child, 2,000 rubles each annually for five years from the day of the child's birth, and for each subsequent child 5,000 rubles in a single grant and 3,000 rubles each annually for four years, beginning with the child's second year. For every child born after the publication of the present edict, allowances will be paid in accordance with and in the amounts set forth in the present article of the edict.

In determining state allowances for large families, children killed or missing on the fronts of the Patriotic War are to be included.

3. To establish allowances for unmarried mothers for the maintenance and upbringing of children born after the publication of the present

edict in the following amounts: 100 rubles monthly for one child, 150 rubles for two children and 200 rubles for three or more children.

State allowances to unmarried mothers are paid until the children attain the age of 12.

Unmarried mothers with three or more children are entitled to allowances issued in accordance with paragraph 2 of the present article, in addition to the allowances provided for under the present paragraph.

Upon her marriage an unmarried mother retains the right to the allowance provided for under the present article.

The mother who received alimony for children born prior to the publication of the present edict retains the right to receive alimony until the children come of age, but is not entitled to receive the allowance provided for under the present article.

Mothers of children born in 1944, prior to the publication of the present edict, who have not been receiving alimony, are entitled to the allowance provided for under the present article.

4. If an unmarried mother wishes to place her child in an institution for children, said institution is obligated to accept the child, who will be maintained and brought up fully at the expense of the state.

The mother of the child has a right to reclaim it from the institution and bring it up herself if she so desires.

While the child is in the institution, no state allowance is to be paid.

5. To increase single grants paid from the social insurance funds and the mutual aid funds of producers' cooperatives, for newborn infants, from 45 rubles to 120 rubles, facilities to be extended for the purchase by the mother of layettes for this amount.

SECOND, to increase the privileges for expectant mothers and mothers, and on measures for extending the network of institutions for the protection of mother and child.

6. To increase maternity leaves for women factory workers and office employees from 63 to 77 calendar days (35 days before and 42 days after childbirth), with payment during this period of the state allowance in the amounts fixed heretofore. In the event of an abnormal birth or the birth of twins, post-natal leave is to be extended to 56 calendar days.

Managers of enterprises and institutions must grant expectant mothers annual vacations, which must be timed to precede or follow maternity leave.

7. After four months' pregnancy, women are not to be given overtime work at enterprises and institutions, and women with infants are to be exempted from night work throughout the period of nursing.

8. To double additional food rations for expectant mothers beginning with the sixth month of pregnancy and for nursing mothers during four months of nursing.

9. Managers of enterprises and institutions must render aid to expectant mothers and nursing mothers by issuing additional food products from auxiliary farms.

10. To reduce by 50 per cent fees at kindergartens and nurseries for the accommodation of children of parents with three children and with monthly earnings up to 400 rubles, with four children and with monthly earnings up to 600 rubles, with five or more children regardless of earnings.

11. To instruct the Council of People's Commissars of the USSR:

(a) To approve the plan for the organization in republics and regions of additional mother and child centers, and also of special rest homes for needy unmarried expectant mothers, as well as for nursing mothers in ailing health. Inmates of such rest homes are to perform light tasks compatible with the state of their health.

(b) To approve the plan for the extension of the network of children's institutions under the People's Commissariats and other departments; to provide accommodations for all children in need of such service, at the same time to provide for the extension of the network of medical consultation centers for children, and of milk kitchens, of nurseries for infants and evening accommodations at kindergartens and maternity institutions in areas liberated from the German invaders.

(c) To provide for the obligatory organization at enterprises and institutions where women are employed in large numbers, of nurseries, kindergartens and special rest rooms for nursing mothers.

(d) To make it obligatory for the People's Commissariats in their plans for industrial construction to provide for the building of children's institutions (nurseries, kindergartens, mother and child rooms) with accommodations sufficient for all children of women employed at the given enterprise and in need of such services.

To approve measures for the considerable extension of the output of clothing and footwear for children, toilet accessories for children, and the like, both for children's institutions and for sale to the gen-

eral public, as well as for the extension of the chain of workshops producing children's clothing and shops catering to mother and child.

THIRD, on the institution of a Motherhood Medal and the Order of Glory of Motherhood; on the establishment of the honorary title Mother Heroine.

12. To institute a Motherhood Medal, First and Second Class, for award to mothers who have given birth to and reared six and five children respectively.

13. To institute the Order of Glory of Motherhood, First, Second and Third Class, for award to mothers who have given birth to and reared nine, eight, and seven children respectively.

14. To establish that the title of Mother Heroine is to be conferred upon mothers who have given birth to and reared 10 children, this award being accompanied by the presentation of the Order of Mother Heroine and a scroll from the Presidium of the Supreme Soviet of the USSR.

15. The award of the Order of Glory of Motherhood and the Motherhood Medal, as well as the Mother Heroine title, comes into effect when the last child born reaches the age of one year, if the remaining children from the same mother are living.

Children killed or reported missing on fronts of the Patriotic War are to be included when these awards are made to mothers.

FOURTH, on the tax on single men and women and citizens with small families.

16. In modification of the edict of the Presidium of the Supreme Soviet of the USSR of November 21, 1941 "On the tax on single men and women and childless citizens of the USSR," tax will henceforth be levied upon citizens who have no children and on citizens who have one or two children: for men over 20 and up to 50 years of age and for women over 20 and up to 45.

17. The tax is to be levied in the following amounts:

(a) Citizens paying income tax will be taxed to the extent of six per cent of their income in the absence of children, one per cent if they have one child and one-half per cent if they have two children.

(b) Collective farmers, individual farmers and other citizens of households subject to the agricultural tax will be taxed to the extent

of 150 rubles annually in the absence of children, 50 rubles annually if they have one child and 25 rubles annually if they have two children.

(c) Other citizens having no children will be taxed 90 rubles annually, those with one child 30 rubles annually and those with two children 15 rubles annually.

18. To exempt from the tax:

(a) Servicemen of the rank and file, sergeants and petty officers.

(b) Army and Navy officers of units and organizations on active service.

(c) Wives of servicemen specified in points (a) and (b) of the present article.

(d) Women receiving allowances or pensions from the State for the upkeep of children.

(e) Citizens whose children have been killed or reported missing on fronts of the Patriotic War.

(f) Men and women students of secondary and higher schools up to 25 years of age.

(g) Invalids belonging to the first and second categories of invalidity.

FIFTH, on changes in laws on marriage, family and guardianship.

19. To establish that rights and obligations of husband and wife provided for under the law codes of the Union Republics on marriage and family, re guardianship, accrue from legally registered marriages only.

Persons who have been married de facto prior to publication of the present edict may legalize their relations by registering the marriage and stating the actual period of their conjugal life.

20. To abolish the existing right of a mother to appeal to the court for the purpose of establishing fatherhood and claiming alimony for the upkeep of a child from a man to whom she is not legally married.

21. To establish that upon the registration of the birth of a child whose mother is not legally married, the child is given the mother's surname and any patronymic the mother may indicate.

22. The registration on passports of marriages, indicating surnames, names and patronymics and year of birth of the other party to a marriage, as well as the place and time of registration of marriage is obligatory.

23. To establish that divorces are to be effected publicly through the courts. At the request of husband or wife a divorce in certain cases on the decision of the court may be heard in camera.

24. The following procedure is to be followed when petitioning for dissolution of marriage.

(a) A petition for the dissolution of a marriage is to be submitted to the People's Court, giving reasons for the divorce as well as the full name, date of birth and address of the other party to the marriage; in filing a petition for divorce, the sum of 100 rubles is to be paid.

(b) The court summons the party against whom the petition has been filed, to acquaint him or her with the contents of the petition, to ascertain the motives for the divorce, as well as to establish witnesses to be summoned during the court proceedings.

(c) Announcement of the filing of a petition for divorce is to be published in a local newspaper at the expense of the party filing the petition.

25. The People's Court is obliged to establish the motives for the filing of a petition for the dissolution of a marriage, and to take steps to reconcile the parties, for which purpose both parties must be summoned, and in case of necessity witnesses as well.

In the event of failure by the People's Court to reconcile the parties, the petitioner has the right to file a petition for the dissolution of the marriage with a higher court.

To establish that a decision regarding the dissolution of a marriage may be passed by the regional and city courts or the Supreme Court of the Union or Autonomous Republic.

26. The regional, territorial and city court or the Supreme Court of the Union or Autonomous Republic which decides that the marriage should be annulled, must:

(a) Settle the question of the custody of the children between the parents and determine which of the parents is to defray expenses for the maintenance of the children and to what extent.

(b) Establish a procedure for the division of property, whether in kind or in respective proportions between the parties.

(c) Restore to each of the divorced parties their original surnames if they so desire.

27. On the basis of the court decision, the civil registry office draws up

the certificate of divorce, makes a corresponding entry in the passports of both parties and charges one or both parties, at the decision of the court, a sum ranging from 500 to 2,000 rubles.

28. To instruct the Supreme Soviets of the Union Republics to make, in accordance with the present edict, the necessary changes in the legislation of the Union Republics.

29. To instruct the Council of People's Commissars of the USSR to draw up statutes covering the procedure for the payment of allowances to expectant mothers, mothers of large families and unmarried mothers in accordance with the present edict.

30. To instruct the Council of People's Commissars of the USSR to adopt measures regulating the procedure of registration of marriages, births, etc., providing for the introduction of a solemn procedure for which suitable premises properly furnished are to be set aside, and for the issue to citizens of certificates duly drawn up.

31. In accordance with criminal legislation in force, the state prosecuting organs are to prosecute those guilty of performing illegal abortions, of insulting and humiliating the dignity of mothers and of refusing to pay alimony for the upkeep of children.

32. To consider as null and void:

(a) Articles 5, 8, 10, 27 and 28 of the Decision of the Central Executive Committee and Council of People's Commissars of the USSR of June 27, 1936 "On prohibiting abortions, increasing material aid to mothers, establishing state aid for mothers of large families, extending the network of maternity homes, nurseries and kindergartens, greater punishment for non-payment of alimony, and on certain amendments in legislation on divorce." (Code of Laws of the USSR, 1936, No. 34, Article 309.)

(b) The Decision of the Central Executive Committee and the Council of People's Commissars of the USSR of November 14, 1936 "On the procedure for the payment of allowances to mothers of large families." (Code of Laws of the USSR, 1936, No. 59, Article 448.)

(c) Article 14 of the Decision of the Council of People's Commissars of the USSR, the Central Committee of the Communist Party of the Soviet Union (Bolshevik) and the All-Union Central Council of Trade Unions of December 28, 1938, "On measures regulating labor discipline, improving the administration of state social insur-

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ance and combating abuses in this field.” (Collection of Decisions of the Government of the USSR, 1929, No. 1, Article 1.)

(Signed) M. KALININ

Chairman of Presidium of Supreme Soviet of USSR

A. GORKIN

Secretary of Presidium of Supreme Soviet of USSR

Moscow, Kremlin, July 8, 1944.

[SOURCE: *American Review on the Soviet Union*, November, 1944.]

APPENDIX X

STRUCTURE OF THE ACADEMY OF MEDICAL SCIENCES,
USSR

I. DEPARTMENT OF MEDICO-BIOLOGICAL SCIENCES

1. Institute of Experimental Biology
2. Institute of Normal and Pathologic Morphology
3. Institute of Physiology
4. Institute of Biologic and Medical Chemistry
5. Institute of Evolutionary Physiology of the Higher Nervous Activity
6. Institute of General and Experimental Pathology
7. Institute of Experimental Medicine
8. Institute of Pharmacology, Toxicology and Chemotherapy

II. DEPARTMENT OF HYGIENE, MICROBIOLOGY AND EPIDEMIOLOGY

1. Institute of Bacteriology, Epidemiology and Contagious Diseases
2. Institute of Virus Study
3. Institute of Malaria, Medical Parasitology and Helminthology
4. Institute of General and Communal Hygiene
5. Institute of Industrial Hygiene and Occupational Diseases
6. Institute of Nutrition
7. Institute for the Organization of Public Health, Medical Statistics and Social Hygiene

III. DEPARTMENT OF CLINICAL MEDICINE

1. Institute of Experimental and Clinical Surgery
2. Institute of Neurosurgery
3. Institute of Oncology

4. Institute of Neurology
5. Institute of Hematology and Blood Transfusion
6. Institute of Obstetrics and Gynecology
7. Institute of Experimental and Clinical Therapy
8. Institute of Tuberculosis
9. Institute of Pediatrics
10. Institute of Psychiatry

Executive Body or Presidium: composed of the President of the Academy, the three Vice Presidents, the Scientific Secretary, three members, and Scientific Secretaries of the three Departments.

Supreme Body of the Academy: the general meeting of members, called by the Presidium.

[SOURCE: *Spravochnik na 1945 god (Handbook for 1945)*, Academy of Medical Sciences, USSR, Moscow 1945, pp. 90-91.]

APPENDIX XI

MEDICAL, BIOLOGIC, AND PHYSIOLOGIC JOURNALS

NAME OF JOURNAL	NUMBERS PER YEAR	ANNUAL SUBSCRIPTION RATE <i>(in American dollars)</i>
Akusherstvo i ginekologiya (Obstetrics and gynecology)	6	2.00
Byulleten eksperimentalnoi biologii i meditsiny (Bulletin of experimental biology and medicine)	12	5.00
Vestnik venerologii i dermatologii (Venerology and dermatology bulletin)	6	2.50
Vestnik otorinolaringologii (Otorhinolaryngology bulletin)	6	3.00
Vestnik oftalmologii (Ophthalmology bulletin)	6	6.00
Vestnik khirurgii imeni Grekova (Grekov surgery bulletin)	6	4.00
Voyenno-meditsinski zhurnal (Military medical journal)	12	3.50
Voprosy neirokhirurgii (Problems of neurosurgery)	6	5.00
Vrachebnoye delo (Medical practitioner)	12	6.00

Gigiyena i sanitariya (Hygiene and sanitation)	12	1.30
Gospitalnoye delo (Hospital practice)	12	3.00
Zhurnal mikrobiologii, epidemiologii i immu- nobiologii (Journal of microbiology, epidemiology and immunobiology)	12	6.00
Zhurnal obshchei biologii (Journal of general biology)	6	4.00
Klinicheskaya meditsina (Clinical medicine)	12	5.00
Meditsinskaya sestra (Hospital nurse)	12	1.00
Meditsinskaya parazitologiya i parazitarnyie bolezni (Medical parasitology and parasitic diseases)	6	4.00
Mikrobiologiya (Microbiology)	6	5.00
Nevropatologiya i psikhiiatriya (Neuropathology and psychiatry)	12	6.00
Pediatriciya (Pediatrics)	6	5.00
Problemy tuberkuleza (Problems of tuberculosis)	6	5.00
Sovetskaya meditsina (Soviet medicine)	12	6.00
Stomatologiya (Stomatology)	4	3.00
Sovetskoye zdravookhraneniye (Soviet public health)	12	3.00
Farmokologiya i toksikologiya (Pharmacology and toxicology)	6	4.00
Farmatsiya (Pharmacy)	6	3.00

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Feldsher i akusherka (Feldsher and midwife)	12	1.80
Fiziologicheski zhurnal imeni Sechenova (Sechenov physiological journal)	6	7.00
Khirurgiya (Surgery)	12	6.00

[SOURCE: 1946 Periodica USSR, Mezhdunarodnaya Kniga, Moscow, 1946.]

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turned over to Dr. Sigerist his chair as professor of medical history at Johns Hopkins and the directorship of the Institute of the History of Medicine which he had founded there. Dr. Sigerist held this post for 15 years, retiring in the summer of 1947 to concentrate entirely on the monumental task of completing his projected six-volume social history of world medicine.

Dr. Sigerist is the author of *Man and Medicine* (1932), *The Great Doctors* (1933), *American Medicine* (1934), *Socialized Medicine in the Soviet Union* (1937), *Medicine and Human Welfare* (1940), *Civilization and Disease* (1943) and *The University at the Crossroads* (1946), as well as many articles in scholarly journals.

The present work is the result of years of study and personal investigation on the part of Dr. Sigerist. He first became interested in the achievements of Soviet medicine in 1932. After studying Russian and all the available literature for three years, he made several extensive trips through the Soviet Union studying health institutions and organizations under varying conditions. His volume, *Socialized Medicine in the Soviet Union*, published in 1937, was characterized by the *London Times* as ". . . far and away the most thorough and most understanding account yet available of the deliberate planning of the Soviet statesmen in the realm of public and personal health."

Since the publication of *Socialized Medicine in the Soviet Union*, Dr. Sigerist has continued his studies of Soviet medical developments, has again visited the Soviet Union to observe them at first-hand, and has written a number of notable articles on the subject. All of this has aided in making *Medicine and Health in the Soviet Union* the definitive volume on Soviet medical theory and practice.



Dr. Henry Ernest Sigerist, the world's foremost medical historian, was born in France in 1891 and educated in Switzerland, England and Germany. At first his ambition was to be a philologist, and he learned to read and write Latin, and Greek fluently, studied Hebrew, Arabic and Chinese, and learned Sanskrit well enough to read the great Hindu classics in the original.

His interest in general science and medicine led him to get his medical degree at the University of Zurich. In 1925 he succeeded the great Karl Sudhoff at the University of Leipzig as head of the world's first medical history institute. In 1931 Dr. Sigerist came to the United States upon the invitation of Dr. William Henry Welch of Johns Hopkins University. The following year, Dr. Welch

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