

N.A. Semashko – theorist and organizer of public health

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The article is dedicated to theorist and organizer of Soviet public health Nikolai Aleksandrovich Semashko, who has made a significant contribution to the development of the national health system.

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Nikolai Aleksandrovich Semashko (1874-1949) was an outstanding figure of the 20th century. A scientist who focused on the problems of social hygiene, he was an organizer of the highest level of management for domestic health care. He was recognized by the international scientific community and made a significant contribution to the organization of the health system in Russia. Many of his theoretical positions and organizational principles have not lost their relevance to this day. [1] (figure) Semashko's organizational talent was most clearly demonstrated when, in May 1918, he was appointed head of the Moscow Soviet's health department.

In July 1918, the People's Commissariat of Health (Narkomzdrav) was formed by decree of the Council of People's Commissars of the RSFSR. Semashko was named the people's commissar of health – "the head doctor of the republic." It was the world's first independent central authority in charge of a country's entire medical and health sphere. Narkomzdrav was entrusted with the leadership of the military hygiene sphere, medical treatment of the civilian population (urban, rural and health insurance), the institutional bodies and health agency departments (People's Commissariat of Education, the People's Commissariat of Railways), as well as medical and sanitary departments of the local councils

for workers and peasants' deputies. Narkomzdrav began its activities in the difficult conditions of civil war. The national economy had been destroyed. The country was experiencing an acute shortage of food. An epidemic of parasitic typhus was causing huge damage to the population. There was a lack of medical staff and there was a shortage of medical facilities.¹

First of all, it was necessary to unite the different disparate departments and charities for medical care into one medical system, nationalize health care institutions, organize the fight against typhoid, cholera and "Spanish flu" epidemics, supply the army with medical services, take measures to protect the health of children and youth, organize treatment and preventive measures for workers and peasants, and much more. It was Semashko's responsibility to find the solution to all these problems. [2]

¹ The consequences of World War I and the events preceding the October revolution of 1917 were reflected in all areas of the Russian economy, including in the field of medicine. Pre-revolutionary Russia in terms of medical care was practically on a par with many other countries, and in many respects superior to them (the unique Zemstvo Russian service, for example). In the early 20th century the management of medical care was in its infancy, and in such areas as sanitation and hygiene, it had not yet been addressed. World War I, the Russian Revolution with the subsequent change of the political system, epidemics, the overall difficult socio-economic situation, and the social and political policy of the new government led to the need to create a new public health system in Russia of a different level and scale.

Semashko was helped in improving health care in these difficult conditions by his associates Z.P. Soloviev, V.M. Bonch-Bruevich, A.V. Golubkov, P.G. Dauge, E. P. Pervuhin, the well-known doctors M.I. Baranov, M.I. Barsukov, V.S. Veisbord, I.V. Rusakov, V.A. Obukh, and the medical scientists L.A. Tarasevich, E.I. Martsinovsky, A.N. Sysin, P.I. Kurkin, N.I. Tezyakov and others. [3]

Under Semashko's direction, the number of hospital beds was expanded, outpatient clinics were opened, ambulance stations were opened or reopened, the supply of medicines in the capital was improved, emergency measures were taken to prevent the spread of infectious diseases and living conditions in Moscow were improved.

An important issue during the first days of Narkomzdrav's work was the fight against tuberculosis and sexually transmitted diseases. In order to organize medical aid to the population on a new basis, Narkomzdrav created a pharmaceutical department, and pharmaceutical subdivisions were set up in the health departments of local councils. In 1918, on Semashko's initiative, Narkomzdrav created a department of health education, which became the responsibility of the state. Semashko initiated the establishment of a network of clinics to fight against occupational diseases. Every year, the number of medical personnel in the network of medical and prophylactic institutions increased.

By the beginning of 1929, there were 246,100 hospital beds, which was 40 percent higher than the number for 1913. The network of medical and outpatient care institutions expanded: at the beginning of 1929, there were 13,204 (in 1913 – 5,597). The number of women's and children's consultation centers on January 1, 1929, amounted to 2,151, and the number of places in day nurseries for the same period increased more than hundredfold. [4]

Of special merit was Semashko's implementation at the state level of district-based

health care organization² and health education, preventative health care and outpatient methods.

Based on the experience of Zemstvo medicine, Semashko developed the district-based principle for the health care system, the distinctive feature of which was its public availability, free access and a high level of skilled care. Semashko applied this principle both in the countryside

and in the city, with its aid building the entire network of medical institutions, including urban dispensaries, clinics and hospitals. Semashko wrote the following: "The organization of the health system according to district-based principles gives care providers the opportunity to better know their district, the working and living conditions of its population, to identify the frequent and chronically ill, to know their patients, to conduct not only medical, but also preventive measures, to better deal with the emergence and spread of infectious disease, etc. In this way the district doctor becomes the 'local' doctor, a family friend. The knowledge of their area and its inhabitants

allows for the better recognition and treatment of disease." [5] All this is largely anticipated in the foundations of modern family medicine, the role of the general practitioner, which has been successfully used in many foreign countries and is becoming more widespread in our country.

The importance of preventative measures was known long before the work of Semashko. Well-known statements of Russian science luminaries – N.I. Pirogov, G. A. Zakharyin, A.A. Ostroumov, as well as M.Y. Mudrov and E.O. Mukhin – confirmed the importance of disease prevention. Semashko brought the doctrine of preventative measures to the state level. [1]

Semashko considered the foundation of prevention to be socioeconomic measures at the state level with a focus on improving workers' conditions and the improvement of sanitary

² Prior to the revolution in Russia, the district-based principle was the basis of Zemstvo medicine.



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conditions in the surrounding environment. He pointed out that a preventive orientation must permeate the work of medical institutions of all health units. Semashko believed that an important tool for the implementation of preventive medicine was the widespread use of regular medical checkups in the practice of all health facilities. "Regular medical checkups are a powerful agent for preventive medical institutions," Semashko wrote. "It provides for a timely diagnosis, prevention and treatment, as well as systematic observation, for both sick and healthy people." [6] The clinics organized at the time were designed to provide the most advanced diagnosis and highly skilled care by specialists. They were charged with mobilizing society to combat disease, carry out health education, ensure the use of ancillary institutions (cafeterias providing specialized menus, night and day spas and children's playgrounds), and if necessary arrange further treatment for the patient (in a hospital, sanatorium, resort, etc.).

Ensuring dispensaries offered such services, Semashko also anticipated one of the modern trends in the health care – day patient facilities.

Dispensaries not only treated people, but diagnosed diseases in their early stages. Already at this time, visiting nurse care had been organized – a systematic monitoring of patients.

The fight against socially dangerous diseases (venereal, TB) for the first time became the duty of the state and was organized not as a narrow therapeutic goal, but as a prophylactic-sanitation system based on clinics. [6]

Routine medical checkups began to actively take root in 1926. One of the first examples was introduced into the Moscow health system, headed by V. A. Obukh, and later on in Leningrad, Kiev and other major cities. [7] Semashko linked this method with the district principle of medical care: In his opinion, curative and preventive care had to be in harmony in the work of a doctor.

The system of medical care put in place by Semashko took into account the need to protect workers' health. At the time, an enterprise that employed less than 1,000 workers was required to have a health center, in which care was provided by mid-level medical personnel. If there were more than 1,000 workers, the health centers were headed by doctors. At large enterprises, medical units were set up including workshop health

centers, clinics, hospitals, maternity wards, children's institutions, etc.

All elements of the medical institution systems in enterprises – from health centers to the medical unit – worked mainly in two fields – sanitary-epidemiological and therapeutic. Medical units also provided specialized medical care.

Semashko stated that health improvements for the population should begin with health improvements for the mother and child. The system of maternal and child protection services was set up on a new principle: maternity health services (pregnancy and childbirth), the provision of care for children from infancy to pre-school and school-age children, and the provision of adolescent health care. A network of children's institutions was formed – nurseries, children's sanatoriums and other establishments.

A child's life, starting from the intrauterine state, was under the control of the state (advice for pregnant women, birthing aids, advice for mothers and children, nurseries, kindergartens, baby clinics, hospitals, sanatoriums and resorts, etc.). Development of the country's spa business was also attributable to Semashko.

In the late 1920s, a new type of facility was organized – sanitary-epidemiological stations – bodies that controlled measures to combat infectious and parasitic diseases and organized work to improve the health environment. In 1933, the State Sanitary Inspection was established to guide the work of sanitary inspectorates throughout the country.

Under the direction of Semashko, a streamlined system of sanitary organizations was built, which essentially boiled down to the following basic types of sanitary monitoring – utilities, food, industrial and schools. Sanitary organizations planned anti-epidemic measures. In addition to public health organizations of the Ministry of Health, there were departmental health organizations (e.g., the Ministry of Railways, which served rail transport, and the Ministry of Food Industry), which were entirely subordinate to the State Sanitary Inspectorate of the Ministry of Health of the USSR. [6]

Semashko proposed and implemented the idea of unified control in health care. He laid the foundations for state planning and health care medical statistics, defined the sphere of

development of unified accounting and reporting forms for medical institutions, and designated common provisions in planning preparations, such as "target figures" and "time frames." Semashko suggested the following planning system: "When starting to draw up a plan, health authorities should take into account the economic and sanitary situation of the district, city, republic, or region, the nature of the industry and agriculture in the areas and identify the largest enterprises in urban and rural areas; account for its demographic population, age structure and incidence of disease, epidemic conditions, the state of the health network and its activities, the needs of the population in terms of health care and so on. And based on all the data, taking into account possibilities for further development, draw up plans for health services." [6] He showed that a well-formed health services plan for a republic (district, region, city) is the result of serious analytical work.

Semashko noted that health care should be based on a unified plan, as part of the national economic plan. According to Semashko, health care plans had to determine the fields of work that public health care bodies and individual health care facilities would focus on, as well as show ways to implement them.

As a health care organizer, Semashko paid special attention to the quality of care. He noted that statistical reports should cover the most important quality indicators, such as hospital operations criteria. He singled out the following main four criteria: service period of hospital beds, the average bed turnover in a year, the percentage of mortality and the overlap of clinical and pathologic diagnosis. [6] In modern medicine and medical statistics, many more indicators are used to assess the quality of a medical organization. However, it was Semashko who laid the foundations for this approach.

Semashko maintained and developed the idea of health insurance. He believed that state insurance should cover all employees and their families, that enterprises and the state should compensate a full-time income, they must run unified insurance companies, created with territorial structures on the basis full self regulation by the insured people. Thus, insurance in the Soviet Union was based on the following principles:

1) all hired employees, workers and office staff, in both urban and rural areas, are subject to state insurance;

2) state social insurance is conducted at the expense of the state. The insured is freed from any contributions whatsoever to social insurance;

3) insurance agencies work on the principle of self-governance.

A network of hospitals, clinics and pharmacies serving insured workers was created. Sixty percent of state accommodation in spas and resorts was designated for the workers of hazardous industries, as well as students, military, disabled, farmers, and others.

Semashko laid the foundations for budget-insurance funding for health care, with medical insurance, unlike insurance medicine, becoming a part of health care. And this is undoubtedly to his credit.

As history has shown, such an insurance system is no longer possible in Russia. Modern insurance has other mechanisms and other financing, but it is important to recognize the need, effectiveness and timeliness of insurance medicine, included in the principles proposed V.I. Lenin and successfully implemented by Semashko in the historical period.

Semashko passed on to his students his theory of health care organization, its principles and methods, tried, tested and implemented with proven efficacy in medical practice, and recognized in global medicine. Over the years, he established a school of managers and health hygienists and trained many scientists, including D.V. Gorfin, B.D. Petrov, E.A. Sadvokasova, N.A. Sherstennikov, L.S. Bogolepova, G.M. Danishevsky and others.

It is no exaggeration to say that there is no branch of the health care industry in which Semashko has not made a contribution to its development. Under his leadership and with his direct participation, measures were developed and implemented aimed at the establishment of a network of medical institutions, issues of preventative medicine were addressed, measures addressing maternal and child health were taken, medical checkups were introduced, sanitary operations were organized, health education was introduced, rural health care was organized, sanatoriums and resorts were developed and much more.

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