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## Nikolai Semashko – social activist and health care organizer

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The article is devoted N.A. Semashko. The focus is on his role in health care, including children's health care, which was a priority in his work from 1917 to 1949.

Keywords: N.A. Semashko, the health system, health of children

Nikolai Aleksandrovich Semashko (1874-1949) was a member of the USSR Academy of Medical Sciences (1944) and the RSFSR Academy of Pedagogical Sciences (1945). He was one of the first organizers of the national health care system.

A lot has been written about the life and work of Semashko, a professor at the medical faculty of the 1st Moscow Medical Institute – mainly about his role as a revolutionary, social hygienist and large-scale health-care organizer. We have attempted to cover such issues as the role of Semashko in the organization of health care.

Semashko was born September 20, 1874, into a family of teachers in a village of the Elets district in the Orel province. Upon finishing studies at the Elets grammar school (1891), he entered the medical faculty of Moscow University, where he studied with such distinguished professors as I. M. Sechenov, F. F. Erisman, N. F. Filatov, N. V. Sklifosovsky and S. S. Korsakov. In connection with his participation in the revolutionary movement, Semashko had to finish his medical education at Kazan University. After graduation in 1901, he worked first as an epidemiologist in the Samara and Orel provinces, and then from 1904 as a zemstvo district sanitary doctor in Nizhny Novgorod.

From 1908, Semashko was engaged in teaching activities. He moved to Paris, where he worked as a school teacher and doctor in a Russian school, which called for new teaching principles: co-education for boys and girls; the teaching of God's law was excluded from the program; the school

paid much attention to the physical development of children, the study of natural science, Russian language and literature. It was at this school that Semashko first revealed the makings of a talented teacher. In his work "Lived and Experienced," Semashko wrote: "I taught hygiene and was an educator. The kids were nice, mostly children of immigrants. There were kids from Russia. Among the students was Maxim Peshkov, son of A. M. Gorky." [1, p. 58] Semashko's children attended the same school.

From 1913 to 1917, Semashko lived and worked as a doctor in the Balkans (first in Serbia and then in Bulgaria), and after the October Revolution he returned to Russia.

From 1918 though to 1930, Semashko was the first People's Commissar of Health of the RSFSR. Under his leadership, the foundations were laid for Soviet health care as social health care. He successfully conducted the fight against epidemics and created a network of medical research institutions. Semashko was a prominent theorist and social activist. His creative legacy includes more than 250 works on medical and organizational issues in health care, social hygiene, as well as on the history of medicine.

Being the Commissar of Health, Semashko paid much attention to maternal and children's health – this was the medical focus of his scientific activity. Another facet of his scientific work was the problems of pedagogy, school health, physical education, children's sex education and the training of pediatricians.

Obviously, evaluating Semashko as a scholar, public figure and children's health care organizer should start by evaluating the characterizing features of his health care system. Semashko

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largely used the experience of German medicine as a basis, but later he formulated the theory and principles of national health care organization and created a system that was internationally renowned. [6, p. 103]

Semashko based his proposed health care system on several ideas: common principles of organization and centralization of health care, equal access to health care for all citizens, unified prevention methods and treatment, the elimination of diseases' social basis, conducting extensive sanitary, epidemiological and therapeutic measures, involving the public in health care, giving priority to children and mothers.

All of these ideas had been developed by many leading doctors in Russia since the end of the 19th century. Until 1864 in Russia, hospitals, homes for the insane and almshouses provided medical care only in cities. After the zemstvo reforms, zemstvo districts were required to "provide for the people's health care," and for the first time in the history of Russia, zemstvo districts established medical institutions serving peasants. Zemstvo district medicine was founded on a precinct principle, which later became the main basis of Soviet medicine.

Urban medicine was better organized, but access to care was extremely uneven: it was concentrated mainly in the cities of the European part of Russia. At the beginning of 20th century, almost every ministry and department had its own medical service, but their work were not consistent, which was especially noticeable during epidemics and in years of crop failure and famine. The morbidity and mortality rate of the Russian population remained at a high level.

In the late 19th to early 20th centuries, children's hospitals were opened in Russian cities. The largest ones were: Prince Oldenburg Children's Hospital in St. Petersburg, A. V. Morozov Children's Hospital in Moscow, and St. Vladimir Children's Hospital in St. Petersburg. In addition, there were children's disease clinics at universities, hospitals for chronically ill children, and infirmaries at orphanages. In general, the number of Russian children's institutions was extremely inadequate. Government measures for the protection of children's health were limited and essentially amounted to to maintaining a number of medical

institutions for children. [2, p. 54] In Russia at the beginning of the 20th century, there were only 1,427 pediatricians. [3, p. 76]

By the beginning of the 20th century, pediatrics was already an independent branch of medicine. The pediatric profession had taken form and a pediatric scientific community was actively working. In 1912, the first congress of pediatricians was convened. The amount of literature on pediatrics increased, and a special journal dedicated to pediatric medicine began to be published. [3, p. 78] However, the incidence of disease among children, especially in the first year of life, remained high, as did the infant mortality rate. Infant mortality rates from the late 19th century until 1913 ranged from 240 to 270 per 1,000 live births – more than two times higher than in developed countries. In 1913, across the whole country there were only 6,824 maternity beds; only 5.2 percent of births were carried out with medical assistance; there were only nine children's consultation services and 19 nurseries with 550 places. [4, p. 691]

Among the measures to combat child mortality at the beginning of the 20th century, pediatricians called for improved economic conditions, increased doctors' numbers, the protection of the health of women who combined motherhood with professional work, the opening of new children's hospitals and child care units. They stressed the need for recognition by the whole of society that children's mortality was a national disaster, and undermined not only economic well-being, but also threatened the further development of Russia. N. P. Gundobin, D. A. Sokolov and G. N. Speransky argued that the care of children should be conducted with the cooperation of the state, local governments and private charity. [2, p. 53]

At the end of the 20th century, the Medical Council of the Ministry of the Interior created a government commission for improving sanitation and reducing mortality in Russia, chaired by S. P. Botkin, for "finding measures for the widespread improvement of Russian health." The last chairman of the committee was G. E. Rein, who finally formulated the idea of the need for a centralized system of health management. For the organization of such a system, the commission developed the world's

first standards for the provision of medical care and determined the necessary amount of funding and number of doctors. The ministry's plans were primarily aimed at social hygiene and sanitation to address conditions conducive to the emergence and development of diseases. However, the medical community condemned the idea. Many famous doctors believed that the ministry would become a bureaucratic superstructure, which would interfere with the free development of rural and urban medicine. [5, p. 53-54] However, the work of Rein's commission was not in vain. The difficult economic situation after the revolution had convinced most doctors that in such circumstances there needed to be a concentration of resources, government management and planning for the health care industry. The information and development produced by the Rein commission were used in the work of the RSFSR People's Commissariat of Health (Narkomsdrav), established in June 1918 for nationwide district health management. Semashko led the RSFSR People's Commissariat of Health. From that point, due to the efforts Semashko and his followers, the system began to built in a planned manner. Some parts of the system established by Semashko remain in Russia to the present time.

People's Commissariat of Health The conducted the running of all departmental, rural and health insurance institutions. The concentration of resources - even though limited – in the hands of one agency allowed for sufficiently substantial results in overcoming traditional infectious diseases, reducing maternal and child mortality, the prevention of social diseases, and health education. The idea of integrated solutions to social, scientific and technical problems of large state significance as a result of the concentration of resources and the planned economy was a surprising social innovation at the time and attracted the world's attention to the Soviet Union's efforts.

The implementation of this system was founded on "step-based" medical care. This can be represented schematically: Paramedic and midwife station, district hospital, regional hospital, city hospital, and then specialized institute. Such a system of medical institutions allowed for the provision of common principles in the organization of health care for the entire population – from the smallest villages to the capital cities. However, despite the best efforts of Semashko, the unifying of all of medicine into a single system failed. The army, railroad, miners and some other institutions kept their own medical institutions. [6, p. 104]

The accessibility of health care was ensured by medical care being free. All citizens were assigned district polyclinics and depending on the complexity of the disease could be sent for treatment up the stages of the health care pyramid.

After the revolution, the children's health care system received a powerful developmental boost. The new government, which came into power in 1917, proclaimed the official relationship towards children as part of public policy, taking full care of them in matters of health, material security, education and training. An enormous role was played by physicians' enthusiasm, based on the idea of the good of the people as the main objective of the new socialist state.

Literally from the first days of Soviet power, maternal and infant care received official status. At Semashko's initiative, a specialized system of medical institutions for children was created, repeating the system for adults- from district clinics to specialized research institutes. The same vertical system was organized to support mothers and children- from prenatal clinics and precinct maternity hospitals to, once again, specialized institutions. Having worked at the People's Commissariat of Health, the Children's Commission at All-Russian Central Executive Committee, the Institute of School Hygiene, the Institute of Health Care Management and other institutions, Semashko "considered the task of facilitating the growth of a generation of healthy and cheerful people a noble one. 'The health of mothers and children is a necessary condition for the improvement of mankind" he said. [7, p. 116]

In 1917, Semashko had already set the government the task of saving millions of children's lives. Together with A. M. Kollontai, V. M. Bonch-Bruevich and V. L. Lebedeva, Semashko did much to fulfill this task. In December 1917, the board of the People's Commissariat of State Charity decided to establish the Department of Mothers' and Children's Protection, which began to operate from January 1, 1918, led by Lebedeva.

Prominent pediatricians G. N. Speransky, A. A. Kisel, A. A. Koltypin, V. I. Molchanov and S. I. Fedynsky actively participated in his work. In difficult conditions of havoc they developed new forms of preventive and curative care.

By decree of the People's Commissariat of State Charity January 30, 1918, all the institutions involved in the service of mothers and children were transferred to the Department of Mothers' and Children's Protection. Decrees were issued to improve the lives of the mothers and children. One of the first decrees of the Soviet government was a decree according to which women were entitled to maternity leave with full pay. Mothers and children were provided with free medical care. Pregnant and breastfeeding women and infants receive double food rations. A special allowance was established for items for the care of newborns and feeding children during the first three months of life. Since the fight against high infant mortality had been prioritized, the department launched broad work on organizing infant homes and children's hospitals. All these activities allowed pediatricians to more effectively care for the health of children in the first year of life.

The issue of children's nutrition was very acute at the time. "Hunger affected nearly 25 million people and of those 25-30 percent were children, or about 8 million." [8, p. 10] At the initiative of Semashko, government regulations were adopted: On September 1918, the People's Commissars adopted a decree "On the strengthening of child nutrition," and in May 1919 – a decree "On free children's rations." Nutritional standards were developed for each child, according to which all food products for children under the age of 14 were provided by the state for free. Despite the economic difficulties across the country, by 1920 some 1.5 million people received free food. By 1922, the number of children receiving free meals reached several million. [7, p. 119]

In May 1921, Semashko issued an ordinance that regulated the housing stock for childcare facilities. The best premises were ordered to be immediately vacated and repaired – palaces, mansions, apartments and cottages – to provide space for children's institutions. As a result, the number of institutions for the protection of mothers and children increased from 34 in 1918 to 2,419 in 1921. Among the institutions for the protection of mothers and children in 1921, there were 1,402 nurseries, 470 shelters for children aged up to three years, 135 homes for mothers and children, 118 dairy kitchens, 216 consultation centers and other institutions. [7, c. 122]

In 1921, under the direction of Felix Dzerzhinsky, the Commission for Improving the Lives of Children was established with auditing and facilitating functions. Semashko actively participated in the work. From 1926 to 1936, he led the work of the Children's Commission of the Central Executive Committee. The initial statute of the Children's Commission of the Central Executive Committee read: "The commission to improve the lives of children shall be responsible for the following tasks:

1. Give assistance with food, shelter, fuel ... to the agencies in charge of providing for the life and health of homeless children;

2. Monitoring the implementation of resolutions of central and local authorities in order to ensure all their needs are met, as well as legislative initiatives on these issues;

3. Publication of orders relating to the life and health of children." [8, p. 4-5]

The children's commission decided to evacuate starving children to more favorable areas. "Over the course of 1921, 55,355 children were evacuated. For this purpose, 92 sanitary trains were employed. During the evacuations 554 children fell sick and 185 died." [8, p. 10]

The struggle against children fleeing orphanages began. In order to regulate orphanages, they were classified into types. "There must be an orphanages for regular children. Another network of children's homes should be created for children and adolescents who are maladjusted, where attention should be paid to prevent possible escapes. The third group of institutions should be created for the children of ill parents. Only under these conditions can plans be made to serve the child population." [8, p. 20]

A whole collection of Semashko's work was devoted to managing the struggle with homelessness: "The elimination of homelessness and neglect at a local level," "Immediate tasks and the fight against homelessness," "Permanently eliminating child neglect" and others. [9, p. 67] The fight against homelessness was long and

difficult. In May 1923, the "Homeless and Sick Child Week" was held across the entire country, the purpose of which was to oversee the work of public children's institutions and raising funds for children. Many families took in orphaned children to raise. The week helped organize new childcare facilities and improved existing ones. At the initiative of Semashko, the People's Commissariat of Health, the People's Commissariat for Education and the Commission to Improve the Lives of Children, "Children's Weeks," "For a Healthy Change" weeks and other activities were organized and held. While they were being held, special newspapers devoted to these activities were issued, lectures were organized and articles in periodicals were published. Semashko was the author of many of these articles and lectures.

He paid special attention to children's professional education. He helped create workshops and garden plots for orphanages. The children's commission organized a farm in Crimea, which was an educational and industrial base for the training of adolescents in agriculture. Labor colonies were organized for the correctional education of young children.

Improving child nutrition, increasing childcare facilities and other activities contributed to the elimination of child neglect. In 1939 it was considered that homelessness in the Soviet Union had ceased to exist.

One of the activities in the People's Commissariat of Health during the economic recovery period was reducing child mortality and preventing the incidence of disease among children. The People's Commissariat of Health created a special scientific committee to combat child tuberculosis, headed Kisel, who even before the revolution studied the disease. Model centers for children with tuberculosis were established for the first time: a children's clinic, a school-sanatorium for children suffering from tuberculosis of the bone, and others. Kisel was the head of the People's Commissariat of Health's first model tuberculosis clinic. One of the world's departments of pediatric tuberculosis first was the Leningrad Pediatric Medical Institute created by P. S. Medovikov. During this period. clinical features of tuberculosis in children were studied, and methods for early diagnosis were developed, as well as combination therapy,

and organizational forms of care including spa treatment and measures to prevent the spread of disease. The USSR was a pioneer in the study and implementation of mass tuberculosis vaccination.

On Semashko's initiative, specialized clinics, children's sanatoriums and pioneer children's camps were opened. In 1931, the House of the Crippled Child was opened in order to assist children with disabilities. In 1934, the Pediatric Rheumatic Clinic was opened in Moscow. Semashko initiated the establishment of children's neuropsychiatric clinics and specialized institutions for the education of mentally retarded and deaf children.

Work on the organization of medical and preventive care for women and children in the first decade of Soviet power contributed to the creation of a Russia-wide and then USSRwide conference on the protection of mothers and children. The conferences were conducted in 1920, 1923, 1925 and 1929. They played an important role in the choice of strategy for system development, organizational development and staff training problems.

From the beginning of its rule, especially during the period of the Civil War, the government focused on the development of closed-type institutions - the isolation of the child within a particular social medium, so that the predominant childcare institution became the Mothers' and Children's Homes, Children's Homes, Orphanages and Orphan Boarding School. Over time, the opening of a charity was gradually embarked upon. [2, p. 55] In December 1920, the first conference on the protection of mothers and children made a decision to prioritize open institutions, such as nurseries, kindergartens, counseling centers, and dairy product distribution centers. After 1920, consultation centers, catering for children aged up to one year, were transformed into motherhood schools. There then appeared counseling centers for pregnant women; initially they served only pregnant women, but later all women. From 1924, women's clinics started to issue permission for free abortions. In the beginning, the activities of women's and children's consultation centers were totally preventive in nature, but gradually they began to acquire therapeutic functions. In 1927, the organization of obstetrics, which was run by the Therapy Department of the People's Commissariat of Health, was also moved to the Department for the Protection of Mothers and Children.

Semashko did not ignore the important issue of physical education for children and adolescents. He approached physical education very broadly – as physical education and as a powerful factor in promoting health. He considered the concept of "exercise" to include not only sports, but also daily exercises, healthy sleep and relaxation. Therefore, Semashko put forward the slogan "Physical culture – 24 hours a day" and fought for a mass sports movement. [10, p. 80]

At Semashko's initiative, the first Research Institute of Physical Culture was created in Moscow and Leningrad. He was the first chairman of the Supreme Council for Physical Fitness and Sports. Semashko paid great attention to physical education in schools, nursing homes, rest homes and pioneer camps. Particular emphasis was placed on corrective exercises for the treatment of several diseases in childhood and adolescence, such as scoliosis. He wrote that it was a new activity, unprecedented anywhere else, that had a great future. Semashko drew attention to the sanitary situation in physical education and sport (he demanded that the air be pure, that here be an abundance of light in the room, and that suitable sports clothing be available for seasonal weather), and also emphasized the role of the physician in selecting the type of sport to best suit a person for health reasons. He contributed to the training of scientists and trainers for physical education and required medical control be in force for physical education classes.

Semashko was the editor of the journals "Theory and Practice of Physical Culture" and "Proceedings of Physical Culture," and the author of numerous articles in newspapers and magazines, which provided practical advice to millions of people. Semashko himself was a good athlete. He took part in swimming and rowing, and also cycled and skied well. He began each day with a complex set of physical exercises.

Gradually, Russia solved the problem of trainingqualifiedpersonnelinthefieldofpediatrics. A great contribution to solving the problem was made by the institutes of mothers and children that were founded in 1922 in Moscow, Kharkov, Kiev and Petrograd, and then in other cities, as well as institutes for protecting children's and adolescents' health, which were simultaneously both research and medical institutions. In 1930, in the 2nd Moscow Medical Institute, a faculty of motherhood and infancy was established, with an obstetrics and gynecology department. It existed until 1936, when the department was reorganized to be a pediatric department. At the same time, the Pediatric Medical Institute was opened in Leningrad, and then pediatric departments were opened in many Soviet republics.

From 1930, antenatal clinics were assigned the task of treating patients with gynecological problems. As a result, in the early 1930s, there was a three-tier system, which exists to this day and includes:

- Women's counseling centers that carry out gynecological treatment, prenatal care, pregnancy diagnosis and referrals for abortion;

- Maternity homes were included from 1927 in the system of motherhood and infancy;

- Children's clinics, with doctors who observed and treated children from the time they arrived home from the maternity hospital up to 15 years of age.

The most important element of the system became the institution of "upbringing outside of the family" - creches where a woman could send children from the age of two to three months, and kindergartens for children aged three to seven years. These institutions certainly played a positive role in improving children's health and reducing child mortality, as the sanitary conditions in these institutions in the cities and in rural settlements were on average much better than in the family home. In preschools, children were provided with food, they were given regular checkups and provided with vaccinations. Thus one of the most important tasks for creches was to ensure the timely return of "working women" to the workplace and to enable the combination of productive labor with motherhood. The turning point in the development of maternal and child health in the USSR began in 1936, when a famous decree of July 26 was issued on the prohibition of abortion. After that, of a real boom began in the development of the system: thousands of beds in maternity wards were set up, both in cities and in rural areas.

In addition to the provision of physicians, mortality rates in the late 1930s were greatly influenced by the introduction of new medical technologies and drugs, particularly sulfonamides and antibiotics, which allowed for a drastic reduction in infant mortality rates, even during the war. The success from the introduction of new technologies was largely provided for by the development of infrastructure and a well-organized drugs distribution system, created in the 1930s.

Thus, in the 1920s and 1930s, basic features of the system for protection of motherhood and childhood in the Soviet Union were created. Medical training was adjusted, a system of centralized management was founded, which determined the functions and tasks of the individual components of the system. And in all of this a great credit belongs to Semashko. "Soviet power follows and guards the child along the way, from his or her natal state: counseling for pregnant women, maternity care, counseling for mothers and children, nurseries, kindergartens, children's clinics, hospitals, sanatoriums and resorts. All the way, the Soviet health care system takes care of the child's health." [11, p. 72-73] Semashko is an example for all who are dedicated to such a complex and very important area of medicine — the organization of health care, including children's health care.

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