MATERNAL AND CHILD HEALTH IN THE USSR

Report prepared by the Participants in a Study Tour organized by the World Health Organization

WORLD HEALTH ORGANIZATION
GENEVA
1962
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From 29 August to 12 October 1960 a group of 19 persons from 17 countries visited four regions of the USSR: the Russian Soviet Federal Socialist Republic and the Soviet Socialist Republics of the Ukraine, Georgia and Uzbekistan.

The group consisted solely of doctors specialising in maternal and child health, most of whom held important positions in this sphere in their own countries (see Annex I for the list of participants, and Annex II for the list of institutions visited).

This visit was one of a number of study tours through which the World Health Organization is providing certain health workers with the opportunity of gaining first-hand experience of the organization and working of health services in countries other than their own.

Thus, in 1958 and 1959 two groups of doctors had been able to visit various parts of the USSR to study the Soviet health services. The report of the study tour of October 1958 has been published by WHO under the title *Health Services in the USSR*. It gives a clear description of the general organization of the health services in the USSR and numerous references will be made to it in this paper.

The 1960 tour was concerned more specifically with studying the maternal and child health services, which are marked in the USSR by such special characteristics that it seemed of interest to make their structure and operation more widely known. That is the purpose of this report, which is the result of the joint efforts of all members of the group, particularly the Drafting Committee.

The members of the group also had available a report on maternal and child health in the USSR, drawn up by an official in the Ministry of Health of the USSR, which gave some interesting supplementary information on some points mentioned in the WHO publication.

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1 Public Health Papers, No. 3, Geneva.
In each Union Republic visited the members of the group were able
to consult numerous documents and were given brochures in Russian,
English and French on most of the establishments and institutes they
visited.

This report is therefore based on what was observed during the visits,
the documents kindly supplied by the Ministries of Health and the facts
gathered in the course of discussions with Soviet doctors and officials
or between the members of the group. Sub-groups each made themselves
responsible for part of the report, and some members made a more
specific contribution in respect of a branch or branches of the subject
familiar to them. This basic work, carried out during the tour itself,
greatly eased the task of the Drafting Committee.

The report makes no claim to be an exact description of the way
in which the maternal and child health services work throughout the
vast expanses of the Soviet Union, but the group does think that it has
been able to pick out the main features of a system new to many of
its members.

Furthermore, having had the opportunity to visit four republics
that differ considerably in climate, ethnic features and the pattern of
disease, the group tried to judge to what extent the basic principles are
applied in very different areas, and what results it had been possible to
achieve in places where conditions at the outset had been very disparate.
Those members of the group who came from countries now in the course
of development particularly appreciated the visit to Uzbekistan, a
country where the situation a few decades ago was comparable to that
which exists in most of their own areas today, but has been profoundly
changed by the rapid development of medical and welfare services.

The members of the group wish to tender most sincere thanks to
the World Health Organization and the Government of the Union
of Soviet Socialist Republics, who organized this study tour, to the
Governments of the Union Republics, who gave the group such a warm
welcome, and to all the Soviet colleagues whom they met, whose friend-
liness made this study tour so pleasant.

Special thanks are due to those whose task it was to prepare the tour
in the USSR and ensure that all went well, and particularly to
Dr. N. S. Yegorova, Deputy Director of the Department of Special
Medical Services in the USSR Ministry of Health, and to Professor
L. S. Persianinov, Chief Obstetrician in the USSR Ministry of Health
and Corresponding Member of the USSR Academy of Medical Sciences,
who accompanied the group during the whole tour.
Maternal and child health (MCH) occupies an extremely important place in the Soviet health services.

Advocated by Lenin at the beginning of the new regime in 1917, the protection of the health of mothers and children was the subject of a decree published on 19 December 1917, which constituted a real charter of maternal and child welfare in the USSR. Recalling that two million infants died every year in Russia, the government called on women citizens, mothers and medical specialists to fight to safeguard the generations to come and to combat the ignorance of the people, one of the main causes of this mortality.

The decree said among other things:

"All the establishments, large and small, of the People's Commissariat of Public Assistance that serve the needs of children, from the foundling homes in the capitals to modest village crèches, are being amalgamated in a single State organization, in charge of the Department of Maternal and Child Health, in order to form a single integrated system with the establishments serving pregnant women and mothers, a system which will strive to achieve the purpose to which the efforts of the State are directed — the production of citizens of a high mental and physical calibre."

This is a good definition of MCH as it is understood in the USSR. It aims not only at watching over and protecting children from their birth until the age of 14 or even 18 years but also at giving women, as mothers or future mothers, the benefit of permanent protection. It is concerned, therefore, with a large section of the population. This fundamental principle has been put gradually into practice through a series of decrees, whose application has been made possible by the launching of the successive plans of development.

On 27 June 1936 the Government promulgated a decree prohibiting abortion, amending divorce legislation and above all increasing the material assistance given to pregnant women and mothers, introducing allowances for mothers of large families and extending the system of maternity homes, crèches, kindergartens and other establishments
(Decree of the Central Executive Committee and the Council of People's
Commissars of the USSR).

In a decree of 8 July 1944, the Presidium of the Supreme Soviet of
the USSR provided for an increase in state assistance to expectant
mothers, mothers of large families and unmarried mothers and the
strengthening of the maternal and child health services. Also, as the
bringing up of children by their mothers is considered to be a task worthy
of the highest regard, the honorary title of Mother-Heroine,¹ the "Glory
of Motherhood " Order and the Maternity Medal, which entitles mothers
to the receipt of an allowance,² were instituted.

A decree of 25 November 1947 also dealt with the payment of allow-
ances to mothers of large families and unmarried mothers.

A decree of 25 March 1955 gave effect to a law increasing the matern-
ity leave granted to pregnant women, which had been reduced during
the war.

The figures obtained in the various republics give an idea of the
development of the maternity and child health services. As a result of
the counter-balancing system of allocating credits, which assists those
Republics unable to finance the whole of their programme themselves,
all the Republics seem to have benefited from the same development,
and the rapid progress made in Uzbekistan, although later than that in
the Ukraine, is nevertheless conclusive.

In all the Republics a feature worthy of note is the tremendous
increase in the number of medical and paramedical staff, which keeps
pace with the increase in the number of establishments designed mainly
for preventive medicine: women's advisory clinics, children's advisory
clinics, feldscher-midwife posts and sanatoria. The halt in progress
caused by the War, particularly in the invaded areas such as the Ukraine,
should be noted, as also the great strides made in the last few years.
Finally, the figures show that the rural areas are somewhat behind the
towns in their development but this is only a time lag, and has already
been partly eliminated in the Ukraine so far as medical supervision of
pregnancy and the number of births taking place in maternity homes
are concerned.

The study group was given statistics on maternal mortality from
which it appears that the death rate in childbirth is very low (0.5 per
thousand). Infant mortality, which was 275 per thousand in 1913 in
certain areas for which statistics are available, is now 40 per thousand
in the same parts of the USSR. Such figures are not exceptional on the
world scale and have even been surpassed by numerous countries.

¹ Conferred on mothers who have given birth to and reared 10 children.
² Ranging from 200 roubles for three children to 2500 roubles for 10 children (see note, p. 18).
Rather than on this decrease, which is due in part to the improvement in social and economic conditions, emphasis must be laid at the beginning of this report on the value of planning based on research,¹ and the consistent efforts made to put into effect the principle laid down in 1917 and followed for 40 years. The results obtained struck the Group particularly during its visit to Uzbekistan.

That is not to say that the system is perfect. The authorities are on the contrary convinced that it is still inadequate in size and the latest Seven-Year Plan provides for a 20 per cent. increase in the number of hospital beds for children and a 50 per cent. increase in the number of places in crèches and kindergartens in the period 1958-1965.

At the same time great efforts are being made to improve the working of the services and to improve techniques. Some establishments visited by the Group are still only attempts to apply new findings. Examples are the crèche-kindergarten-school groupings, or the boarding schools. They will be introduced generally if the practical results are satisfactory. This dynamic and evolutionary aspect of planning should be emphasized.

¹ See also pages 61-67.
The very wide aims pursued by the maternal and child health services in the USSR and the equality with men guaranteed under the Constitution to women, who participate in all public activities, lay a distinctive imprint on MCH in the USSR.

Concern for the welfare of mothers and children finds concrete expression in social as well as medical protection for women and in the care given to children, who are very often looked after in special establishments (crèches, kindergartens and sanatoria).

The importance of the work to be done justifies the large resources allocated to it and the relatively high degree of working autonomy enjoyed by the services which carry it out.

These services are identical in all the 15 Union Republics. They have to serve an area of 22 400 000 square kilometres with a population in 1959 of 208 800 000 persons, of whom 100 000 000 (48%) live in the cities and 108 800 000 (52%) in the countryside. Each republic is divided into oblasts and each oblast into rayons, each of which in turn consists of several districts (uchastki).

The health services are run by the State. Every member of the medical and paramedical staff is an official, holding a post in a highly planned and strictly graded State organization (see diagram).

The services provided by the health authorities are free of charge and steps are taken to make them universally available. This implies making buildings available and training a sufficient number of staff. However, in the case of treatment at home, patients must pay for medicaments.

Public health is understood in its widest sense and a very marked priority is given to preventive medicine. With this in view, great efforts are made to provide health education at all levels. The health authorities maintain close contacts with the public, who co-operate on a wide scale in their activities.

1 The terms in italics correspond roughly to province, region and district respectively.
Medical research forms part of the activities of the health services and the successive plans of economic development have been based on systematic research.¹

The MCH services are organized along the same lines as the Soviet health services in general,² in which the Minister is assisted by a scientific committee and a board consisting of the directors of the departments, of which there are several (see diagram).

*Maternal and child health*

In the Ministries of Health, Maternal and Child Health is one of the most important services, on the same level as the Medical Services for Adults and the Epidemiological and Sanitational Service.

While in the republics of the Ukraine and Georgia, for example, MCH forms a department directly subordinate to the Minister, in the Union Ministry it forms part of the Department of Special Services. Sharply differentiated, it not only has its own administration but also possesses its own buildings and staff. In order to provide a sufficient number of paediatricians, faculties of paediatrics have even been established side by side with faculties of medicine. Despite this very marked differentiation, it will be seen in studying the way in which they work that the maternal and child health services are completely integrated in the general activities of the health services, which constitute a single, undivided system.

The MCH services are headed in the Ministry by the Chief Medical Officer for the Maternal and Child Health Services, assisted by two specialists, one an obstetrician-gynaecologist, the other a paediatrician. Obstetrics and gynaecology occupy a very important place in the maternal and child health services and from the technical point of view, with their specialist physicians and midwives, are sharply distinct from the child health services, in which paediatricians and nurses are employed. The same duality is found in the main administrative sub-divisions: oblasts, cities and rayons. At the oblast or city level, the Chief Medical Officer for the MCH Services has two assistants: a paediatrician and an obstetrician. At the district level there are on the one hand, paediatricians and paediatric nurses and on the other, obstetricians and midwives.

It might be feared that this separation might hinder the harmonious working of the services as a whole. In fact, the distinction is fully justified because of the very different techniques used in obstetrics and

¹ See page 61.
² See Public Health Papers, No. 3, Annexes 3 and 4.
paediatrics, and the administrative link is provided by the Chief Medical Officer of the Maternal and Child Health Services, who heads the service down to the rayon level. In practice, the interdependence of the two services is complete both in advisory clinics and in maternity homes or domiciliary work.

In the cities the centre of maternal health work is the Women's Advisory Clinic attached to a maternity home and the gynaecological service, while the corresponding centre for child health is the combined hospital-polyclinic, which has crèches and homes for small children attached to it and is responsible for medical supervision of kindergartens and schools.

In the rural areas, where the population is sparser, the services are less distinct. The Director of the Rayon Hospital, who is responsible for public health in the countryside within his administrative area, is assisted in regard to maternal and child health by a chief paediatrician and a chief obstetrician. One or several district children's polyclinics are linked to the hospital. Furthermore, in addition to the main hospital there may be secondary rural hospitals. All these hospitals include beds for children and an obstetrical and gynaecological section.

At the lower level of the medical districts are found the feldschern-midwife posts so characteristic of the system. At this level the MCH service also has permanent or seasonal crèches, kindergartens and homes for small children. In the State and collective farms the organized health services are reinforced by the participation of the farmers, who supply certain premises and provide some financial aid.

Urban and rural areas alike can send pregnant women, and women or children suffering from fatigue or chronic diseases or convalescing, to the "sanatoria" — the rest homes so commonly encountered in the USSR (see page 49).

The MCH Department is linked with numerous other services attached either to the Ministry of Health or to other ministries and with voluntary bodies.

Co-operation between all these services is very close and the fact that some establishments are within the jurisdiction of other ministries does not affect the integrated character of the health system.

The Department of Epidemiology and Sanitation in the Ministry of Health plays an important role in the protection of child health. Without going more deeply into its structure, it is sufficient to say that it has Child Hygiene Sections in the Ministries of Health of the USSR and the Union Republics, and that there is a network of more than 5000 Sani-

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1 See in this connexion Public Health Papers, No. 3, p. 22.
tation and Epidemiological Centres. One of its tasks is to ensure the observance of rules of hygiene in the planning and construction of buildings, and consequently standard designs for medical establishments or schools as well as for dwellings are placed before it for approval. It exercises permanent supervision over the observance of the sanitary regulations in such establishments, covering everything from food hygiene to toys, and helps to combat infectious and parasitic diseases by detecting and isolating cases. It discusses the planning of vaccination campaigns and in some cities its staff may even take part in some campaigns. Health education, problems of nutrition and the Statistical Service all fall within its orbit, making it one of the most important departments of the Ministry.

The Statistical Service, the Group found, bases its work on report cards, identical throughout the Soviet Union, that have to be filled in by all preventive and curative establishments. In every establishment a responsible nurse, often specially trained, draws up the daily report card. These cards are collected once a month and are sent through the various levels of the administration to the Ministry. The Group was told that the cards are then coded and the results mechanically tabulated. There is a handbook describing the way in which the forms are to be filled in and giving a classified list of diseases, which is at present peculiar to the USSR and differs from the international classification.

From the large number of doctors making diagnoses and the fact that practically all bed-patients are in hospital it may be presumed that the statistics obtained are solidly based.

Among the ministries concerned in the protection of maternal and child health, mention should be made of the Ministry of Education, which runs the schools, the kindergartens, homes for children over three years of age, and holiday homes, all of which are under the medical supervision of the Ministry of Health, and the Ministry of Social Welfare. The State Planning Committee also has a section which deals with this problem.

Finally, voluntary organizations give important aid to the MCH Service. There are many of them; the Red Cross and Red Crescent, the Trades Unions, the Committee of Soviet Women, the Pioneer Organization, the Young Communist League, etc.

The Red Cross and Red Crescent is the most active, and many members of the other organizations also figure among its 35 million members, with their 370,000 local organizations. The Red Cross and Red Crescent Societies, whose sole resources are the contributions and voluntary work of their members, have no establishments of their own but give active assistance to the health authorities, particularly in maternal
and child health, by participating in health education, helping the schools for mothers, encouraging mass campaigns for vaccination, providing home help for women who go out to work, helping in work done in the schools, co-operating in setting up and running pioneer camps, etc. Its active members are trained to perform these tasks by doctors.

The Trades Unions also play a part by financing certain establishments (sanatoria, pioneer camps and rest homes) and by paying part of the allowances.

The Committee of Soviet Women discusses and studies problems affecting women and children. Its suggestions are often adopted and it took the lead in advocating the longer maternity leave and the increase in the number of beds in maternity homes and places in crèches and kindergartens envisaged in the latest Seven-Year Plan.
MATERNAL AND CHILD HEALTH IN THE USSR

THE MINISTRY OF HEALTH OF THE USSR

DEPARTMENT OF SPECIAL MEDICAL SERVICES
ASSISTANT DIRECTOR OF THE DEPARTMENT, IN CHARGE OF OBSTETRICAL AND GYNECOLOGICAL AND CURATIVE AND PROPHYLACTIC SERVICES FOR CHILDREN
Scientific Adviser, Obstetrics and Gynaecology and Chief Obstetrician-Gynaecologist of the USSR

SANITARY INSPECTORATE OF THE USSR
Inspector General of School Hygiene
Chief Inspector for Communicable Diseases of Childhood
Epidemiological Department

MINISTRIES OF HEALTH OF UNION REPUBLICS

DEPARTMENT OF CURATIVE AND PROPHYLACTIC SERVICES FOR MOTHERS AND CHILDREN
Scientific Adviser, Obstetrics and Gynaecology, Chief Obstetrician-Gynaecologist
Chief Inspector for Pediatrics, Chief Protectionist

SANITATIONAL AND EPIDEMIOLOGICAL DEPARTMENT
Chief Inspector of Child and Adolescent Hygiene
Chief Inspector for Communicable Diseases of Childhood

THE MINISTRIES OF HEALTH OF AUTONOMOUS REPUBLICS (OBLAST AND KRAI HEALTH DEPARTMENTS)

CHIEF OF THE CURATIVE DIVISION
Inspectors of Obstetrics and Gynaecology, Chief Obstetrician-Gynaecologist

SANITATIONAL AND EPIDEMIOLOGICAL CENTRE
School Hygienist, Epidemiologist

CITY HEALTH DEPARTMENT
Deputy Chief of the Pediatrics, Obstetrics and Gynaecology Service or Chief of the Curative Division

RAYON HOSPITAL
Rayon Obstetrician-Gynaecologist, Epidemiologist
Rayon Pediatrician, Child Health Service, with Communicable Diseases Service

SANITATIONAL AND EPIDEMIOLOGICAL centre
Sanitary and Epidemiological Centre

RURAL HOSPITAL

- Voluntary Assistance Councils in Child Health Institutions

MEDICAL INSTITUTES AND INSTITUTES FOR THE FURTHER TRAINING OF PHYSICIANS
Obstetrics and Gynaecology
Pediatrics
Child and Adolescent Hygiene

RESEARCH INSTITUTES
OBSTETRICS AND GYNECOLOGY
PEDIATRICS

INSTITUTES
OBSTETRICS AND GYNECOLOGY
PEDIATRICS
CHILD AND ADOLESCENT HYGIENE

USER ACADEMY OF MEDICAL SCIENCES

SEMINARIO INSTITUTE OF PUBLIC HEALTH ADMINISTRATION (Medical and Child Health Section)

ACADEMY OF MEDICO-SOCIAL SCIENCES
Institute of Physical Education and School Hygiene

PEDAGOGICAL INSTITUTES
Departments and Courses of School Hygiene

MEDICAL INSTITUTES AND INSTITUTES FOR THE FURTHER TRAINING OF PHYSICIANS
Obstetrics and Gynaecology
Pediatrics
Child and Adolescent Hygiene

OBSTETRICS AND GYNECOLOGY
PEDIATRICS

WORLD HEALTH ORGANIZATION
Rural, Semi-urban and Urban Areas

Social Council for Obstetrics and Gynaecology

Social Council for Pediatrics

Social Council for Hygienists (Doctor for Schoolchildren and Students)

All-Union Scientific Societies

Republican Scientific Societies

City Scientific Societies

Committees of the Red Cross and Red Crescent Society

- \* Voluntary Assistance Councils in Child Health Institutions
MATERNAL HEALTH

LEGISLATION

The legislation for maternal welfare is the same throughout the Soviet Union, with apparently only a few slight variations from one republic to another.

The Constitution of the Union of Soviet Socialist Republics guarantees women the same status as men:

Article 122: Women in the USSR are accorded equal rights with men in all spheres of economic, government, cultural, social and political life. The possibility of exercising these rights is ensured by the granting to women of an equal right with men to work, payment for work, rest and leisure, social insurance and education, by State protection of the interests of mothers and children, by State aid to mothers of large families and unmarried mothers, by the granting of maternity leave with full pay and by the provision of an extensive system of maternity homes, crèches and kindergartens.

All occupations are open to women and it is common to see them working on building sites or at road-mending, types of work considered in many countries to be little suited to women’s capacities. They are protected, however, by numerous regulations, any infringement of which is severely punished.

The main regulations in regard to mothers are as follows: as soon as she becomes pregnant a woman must cease to undertake heavy work or work in trades that may be harmful to her or her unborn child. She is entitled to 112 days’ leave, 56 days before the birth and 56 days after. The post-partum leave can be extended if the state of the mother or the child warrants it. There is an automatic extension of 14 days if she gives birth to two children or more, or following an abnormal labour, or in cases of premature birth.

Once pregnancy has been confirmed a woman may not be dismissed from her employment, and during her maternity leave the undertaking for which she works must pay her her full salary. If her post-partum leave is extended she continues to draw her salary for three months.

* Unofficial translation.
from the date of the birth. She may then prolong her absence from work for a further nine months without losing her job, but not being paid.

A pregnant or nursing woman may not undertake overtime or night-work, and must not be sent on any mission involving travelling. If it is impossible to keep a woman worker at her previous job because she is pregnant or nursing a child, she is transferred to another job in the same industrial establishment or office at her previous wage. Soviet legislation makes managements answerable for refusal to give a woman employment on the ground that she is pregnant or for reducing her salary for the same reason. There is the same protection for nursing mothers.

Upon the birth of a child every family receives an allocation of 300 roubles, intended for the purchase of the layette or special foods needed for the baby. This allowance is the same in all the republics of the USSR and is paid in two parts: 250 roubles \(^1\) at the time of birth and 50 roubles when the child is aged five months.

The pension law also confers a number of advantages on women. The pensionable age, which is 60 for men, is lowered to 55 for women, and the length of service necessary to qualify is reduced from 25 to 20 years. In the case of mothers who have brought up five children to the age of eight and over a further reduction of five years is laid down.

Large families are entitled to certain privileges. They can claim better housing, and are granted reduced rates in crèches and kindergartens. They are also given an allowance for the third and each subsequent child.

The main object of the maternal and child health services is to keep women under observation during pregnancy, childbirth and the post-partum period. However, to give effect to the principle of establishing medical protection for all women throughout their lives the services provided include, in addition to ante- and post-natal clinics, advice on abortion, sterility, the menopause, the detection of cancer of the reproductive system, and all gynaecological disorders.

**ADVISORY CLINICS AND CHILDBIRTH**

*Before the birth*

The antenatal clinics are not essentially different from those in other countries. The number of visits during pregnancy varies between eight and twelve — quite high figures. During the first visit, which takes place very early in pregnancy (in the second or third month), the physician

\(^1\) The rouble in 1960 was worth: $0.25; Sw. fr. 1.07; NF 1.22; 1/104.
makes a general and obstetrical examination. Tests of the urine for albumin and glucose and serological tests of the blood (for the detection of syphilis) are carried out, a chest X-ray taken, the teeth examined and any treatment needed given. Three tests are used for the detection of syphilis (one complement-fixation test and two flocculation tests). During subsequent visits the obstetrician-gynaecologist makes the usual examinations and may request any further tests that he considers necessary. Despite the very low rate of positive serological reactions for syphilis, a second serological test is made during pregnancy. Apart from these visits the woman is regularly visited in her home by her district midwife. She is thus kept under continuous supervision. In addition, and this is a feature peculiar to the Soviet system, during the last month of pregnancy the district paediatrician and the district nurse visit the woman in turn to study the social and economic conditions in which the child will be born. Both at the antenatal clinic and during the visits a very great educational effort is made.

If the pregnancy presents some slight anomaly, appropriate treatment is given and the woman remains under strict supervision by the staff of the women's advisory clinic, the gynaecologist visiting her in her home if necessary. The doctor may prescribe any rest he considers necessary. In some large cities this can be taken in a special establishment, a rest home (known as a “sanatorium”) for pregnant women. If the pregnancy follows a more abnormal course the woman is immediately admitted to the abnormal-pregnancy ward of the maternity home.

Finally, mention should be made of psychoprophylactic training for childbirth, a method devised by Professors Platonov and Velrovski, which is widely used in most women's clinics and maternity homes. The aim is to avoid pain in labour without having recourse to harmful procedures. The method is based on the conditioned-reflex theory of Pavlov and consists in explaining to the woman the physiological mechanism of pregnancy and labour, preparing her for labour through a series of suitable physical exercises and teaching her a way to behave during actual labour in order to “channel off” the pain. Childbirth thus takes place under more favourable conditions, reducing the risks for mother and child alike.

Eight weeks before the end of pregnancy the expectant mother is recommended to attend lectures on psychoprophylactic preparation for childbirth. The teaching is done by gynaecologist-obstetricians or by midwives assisted by a series of audiovisual aids: posters, pictures and films. Furthermore, the gynaecologist-obstetrician has already been able, from his first visits onwards, to study the psychological make-up of the mother and to commence training in the course of individual
interviews. The advice given in the clinics is supplemented by advice given in the home and forms part of the health education given by all members of the health-service staff, which plays such an important role in the USSR.

Childbirth

One of the first aims set by the Soviet Government was to have births take place in maternity homes under the supervision of qualified staff. In the cities visited by the Group almost all women are regularly examined and kept under observation from the beginning of their pregnancy and practically all births take place in maternity homes. The slightest abnormality is very quickly detected and steps are taken very early to remedy it. Under these conditions maternal mortality is low and has fallen in the Ukraine to 0.49 per thousand births, as shown by the following table:

<table>
<thead>
<tr>
<th>Year</th>
<th>Towns</th>
<th>Rural areas</th>
<th>Maternal mortality per thousand births</th>
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<tr>
<td>1913</td>
<td>1.2</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>1940</td>
<td>88.3</td>
<td>57.6</td>
<td></td>
</tr>
<tr>
<td>1950</td>
<td>93.4</td>
<td>58.6</td>
<td>0.90</td>
</tr>
<tr>
<td>1955/57</td>
<td>99</td>
<td>92.4</td>
<td>0.6</td>
</tr>
<tr>
<td>1959</td>
<td>99.5</td>
<td>98.3</td>
<td>0.49</td>
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In the rural areas the tendency is the same but the organization has been built up later and more slowly. It does not seem as complete, but it is planned that it shall be so by 1965, at the end of the current Seven-Year Plan. To carry out this programme the number of maternity homes has been increased. There are at the moment 975 of them, not including collective-farm maternity homes and the obstetrical services in general hospitals. The total number of maternity beds is 204,800, which is 12.7% of all hospital beds or about one bed per thousand inhabitants.

The length of stay in the maternity home is nine days but can be extended if necessary. During her stay in the maternity home the woman rests completely and here again advantage is taken of her presence
in the hospital to continue the health education previously begun, which at this stage deals with the hygiene of nursing mothers and the feeding and care of babies.

After the birth

From the time that she leaves the maternity home and returns home, the woman and her baby will be kept under observation by the paediatrician, nurse and midwife of her district. She must go back at least twice to the women’s advisory clinic for post-natal care, the first time in the week following her discharge from the maternity home and the second time at the end of her maternity leave.

Factories and offices also have special advisory clinics — antenatal, post-natal and gynaecological — which women can attend during working hours and in which certain forms of treatment can be given. The midwife in charge of the clinic is also called upon to teach women some notions of hygiene and medicine. For that purpose she has available the material necessary for teaching personal hygiene and the prophylaxis of gynaecological disorders, for conducting the campaign against abortion, etc. It is the midwife who, with guidance from the doctor, works out the approximate date of birth and informs the management, which can thus arrange for a temporary replacement of the woman concerned.

Abortion

It is necessary to know the history of the abortion problem in the Soviet Union to understand the present position of the Government on the subject. The way that legislation has moved from absolute liberty to severe control and finally to a compromise solution is the key to the present position.

Immediately after the October Revolution in 1917 the right of a woman to terminate an unwanted pregnancy was recognized: abortion became unrestricted and could be carried out easily in "abortaria". In 1936 a radical change was made. The Government, fearing a lowering of the birth-rate and conscious of the dangers of abortion, made it illegal except under medical prescription based on very strictly defined indications such as tuberculosis, cardiac insufficiency, etc. In November 1955 there was another change. The right to abortion was restored in order to respect the constitutional rights of women and allow them freedom to arrange their own lives, but the Government remained anxious to discourage abortion and a very extensive propaganda campaign was launched at the same time to dissuade women from practising it.
Today, then, abortion is again legal, but any abortion undertaken to terminate a pregnancy of over 12 weeks or practised secretly, not in a medical establishment, is still considered a criminal act.

Any pregnant woman, therefore, may ask for her pregnancy to be terminated. She will then consult the obstetrician-gynaecologist who, after warning her of the risks of the operation and trying to persuade her to change her mind, is not permitted to refuse to carry out the abortion. Unlike all other forms of hospital treatment, which are completely free of charge, hospital treatment for any abortion not carried out for medical or social reasons has to be paid for and costs 50 roubles, the woman continuing to draw her salary.

Abortion, even when practised under medical supervision, involves risks and there are still an appreciable number of abortions carried out illegally for psychological reasons. The Government has therefore sought to prevent abortion and its complications by setting up special advisory centres where women may learn how to use contraceptives. Rather than the rhythm method, which is considered ineffective, the means advocated are mainly local and mechanical (cervical occlusive caps which the woman is taught to use), or chemical (pastes, suppositories or powders).

It was not possible to obtain precise data on the frequency of induced abortion, but it seems that the legalization of abortion and the teaching of methods of contraception to women have not reduced the birth-rate. However, in contrast to the publicity given to advisory centres on contraception in some Republics, such as the RSFSR and the Ukraine, in others, Georgia for example, where the population increase is low (only 17 per thousand against the general average for the USSR of 25 per thousand), there is extensive propaganda against abortion, and it is one of the main themes of health education.

Sterility

Although it is relatively rare, action is also taken to combat sterility. Specific data were obtained at the Institute of Female Physiology and Pathology at Tbilisi in Georgia, where very full research on this problem is carried out (see page 66). They will perhaps be of interest, although they do not reflect exactly the position in Georgia as a whole and still less in the USSR as a whole.

Women who sought advice at the Institute in the course of one year did so for the following reasons:

1270 for primary sterility;
782 for secondary sterility;
487 for endocrine disorders;
75 for troubles of the menopause;
50 for spontaneous abortion.

Out of the 782 causes of secondary sterility:
27 were secondary to childbirth;
71 were secondary to spontaneous abortion;
617 were secondary to induced abortion;
67 were secondary to extra-uterine pregnancy.

The large number of cases secondary to induced abortion will be noted.

Many women come early, most of them (872 out of 1210) less than five years after marriage, in order to seek advice and treatment.

One of the factors in sterility is often late marriage, as is suggested by the following figures which indicate the number of cases of sterility in relation to the age at marriage of the women concerned.

<table>
<thead>
<tr>
<th>Age at marriage</th>
<th>21-25</th>
<th>26-30</th>
<th>31-35</th>
<th>36-40</th>
<th>41 and over</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile women</td>
<td>141</td>
<td>474</td>
<td>366</td>
<td>217</td>
<td>12</td>
</tr>
</tbody>
</table>

This explains in part the distribution of the cases of sterility by age as shown in the table below.

<table>
<thead>
<tr>
<th>Age</th>
<th>21-25</th>
<th>26-30</th>
<th>31-35</th>
<th>36-40</th>
<th>41 and over</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>205</td>
<td>302</td>
<td>389</td>
<td>310</td>
<td>4</td>
</tr>
</tbody>
</table>

The sterility of the couple was due to the husband in 30% of the cases.

All these data explain the research undertaken by the Institute on the factors responsible for late marriages, the causes and treatment of sterility in women, and the causes and treatment of male sterility.

Methods of treatment evolved by the Institute — medical (antibiotics and hormones), physiotherapeutic, or surgical — have brought about cure, i.e. pregnancy, in 227 out of the 1270 women who came for advice, a success rate of 20%. Artificial insemination is not practised.

**Menopause**

When the menopause occurs at a normal age without any particular complications, women continue to be kept under observation by their district doctors. In the case of menopausal disorders women are sent to a special advisory clinic in which a gynaecologist, a neuropsychiatrist and a general practitioner work as a team. These clinics also try to avert premature menopause and hence to prolong the period of child-bearing.
Detection of cancer of the reproductive system

With a view to early detection of all tumours of the reproductive system in women, any woman from the age of 20 years onwards has the right to regular examination every six months in a gynaecological establishment.

Legal protection

In the Soviet system there is no sharply distinct social-welfare service, but some establishments dealing with maternal and child health, notably all women's advisory clinics, include a legal advice bureau with a lawyer in charge. The purpose of the bureau is to explain to women the rights of mothers and children. The lawyer will assist the woman to ensure respect for those rights and where necessary will plead her case before committees or courts. The lawyer intervenes in cases, for example, in which an alcoholic husband causes conflicts, by having him sent to a special clinic. He can give his opinion in cases of requests for abortion, pointing out certain social conditions such as inadequate housing or the number of children already brought up, for example. It can be said that in practice he takes the place of the social worker or welfare worker in other countries, and that his legal training gives him extra qualifications for protecting the rights of women.

Advisory clinics for girls

The clinics of this type that have been established in some cities are reserved for girls with abnormal puberty, who are taken to them by their parents or sent by the school doctor. They are run by a gynaecologist, assisted by a paediatrician and sometimes by a neuro-psychiatrist, with whom various specialists collaborate. It is also possible to have any sort of examination carried out which will enable treatment to be prescribed and its effectiveness tested, often over the course of several years.

ORGANIZATION

These activities, aimed at keeping women under constant medical care, obviously create a need for establishments with a large staff. In 1959 there were 27,400 obstetrician-gynaecologists, 129,800 midwives and 77,300 midwife-feldschers. The organization is not exactly the same throughout the Soviet Union and the urban services, which are generally fully developed, should be distinguished from the rural services, which have not yet been developed to the full.
Urban establishments

These establishments comprise in the main the women's advisory clinics, maternity homes and the gynaecological services, to which should be added the rest homes for pregnant women and the women's clinics attached to factories and offices. Most of the buildings are old and even those built recently are of very plain architecture, with no hint of luxury. They possess the essential equipment and the buildings are properly maintained. The contrast between the simplicity of the equipment and the range of services provided is striking.

A women's advisory clinic brings together all the activities already described, except the maternity home. It serves either a complete rayon or several districts. The one in the Shevchenko rayon of the city of Kiev is a typical example. The rayon it serves has 35 000 women among its population. The staff consists of one chief physician, one general practitioner, 15 district physicians (gynaecologist-obstetricians), 32 midwives and nine general employees.

The active members of the Red Cross, furthermore, give the clinic valuable support. For 10 years now all the births in the rayon have taken place in the hospital. Since 1958-59, 85% of pregnant women have been under medical supervision from the beginning of pregnancy and 86% have been trained for childbirth by the psychoprophylactic method.

Maternity homes. The number of beds varies with the size of the population served. Every maternity home, however, includes the following services:

1. The services which deal with normal births. They include reception rooms, the labour preparation ward, the labour ward, the post-partum wards, the newborn babies' ward and the operating theatre. Normal births take place in general wards containing 6-10 beds. The size is not solely dictated by architectural considerations but has a theoretical basis. The operating theatres are simple and the anaesthesia apparatus and the sterilization equipment, while not very modern, are adequate.

2. The services for women with abnormal pregnancies and those with febrile complications.

3. A gynaecological service with separate operating theatre. There seem to be enough beds to avoid overcrowding.

Maternity Home No. 2 in the Podolski rayon of Kiev is an example of such homes. It serves as a clinic for the Gynaecology and Obstetrics Department of the Kiev Institute for the Further Training of Physicians.
In addition to its consulting rooms it consists of 110 beds for normal births (about 3000 births a year), an abnormal-pregnancy department in which some 600 women are treated every year, 20 beds for women with febrile complications, and a gynaecological service with 50 beds, which receives an average of 1100 women every year from the Podolski rayon and other rayons of Kiev.

Sanatoria for pregnant women

The term “sanatorium”, which in some countries is reserved for establishments in which tuberculosis is treated, has a completely different sense in the Soviet Union and means a rest home or a convalescent home. The sanatoria for pregnant women are of this type. These establishments, which are owned by the trades unions, are still not very numerous, and there are only a few cities, such as Moscow, that possess one. They only admit women in good health who go there to rest. The stay there averages 12 days but may be extended, and it is very often during the period of ante-natal leave that women have the benefit of it. Advantage is taken of their stay in the rest home to give them a course on the psychoprophylactic method of childbirth. Health education is a very marked feature of these establishments, and they contain a school for mothers. The health educators have ample material at their disposal (among other things, in Moscow, a library of 5000 books) and can use every means of education: lectures, films, television, etc. The woman is under medical supervision and is given a varied diet. Stays in these sanatoria have to be paid for, but the amount to be paid depends on the income of the woman or her husband, and in many cases the trades unions pay the cost of the stay. At the sanatorium for pregnant women in Moscow the sum varies between 60 and 150 roubles for the stay, but a third of the places are allocated free of charge.

Working of the services

The length of the working day for medical staff is six hours, but arrangements are made for the usual emergency and stand-by services. Furthermore, advisory clinics are often open from 8 a.m. to 8 p.m., thus allowing women to attend at the most convenient times for them. Liaison between the women's advisory clinic and the maternity home is very easily made. In any case the tendency is to set up the clinic in the actual building of the maternity home and to place it under the same management. During the last months of her pregnancy a card is given to the woman, who presents it at the maternity home at the time of admittance. The maternity home in its turn fills in two further cards;
one, which deals with the woman, is sent to the women’s advisory clinic in preparation for the post-natal advisory services, and the other, which deals with the child, is sent to the children’s clinic to make it possible to "follow up" the state of health of the baby there. When the mother and her child are discharged from the maternity home, the district paediatrician is informed of their return home.

The clinic has available a sufficient number of district midwives and nurses for adequate domiciliary services. In most cases women attend the clinic themselves. If a woman’s pregnancy is in any way abnormal, she is immediately sent to hospital — in the special ward of the maternity home. The gynaecologist-obstetrician only makes domiciliary visits if the woman’s state of health makes it necessary.

Establishments in rural areas

The organization is at four levels: the rayon hospital, the district hospital, the collective- and State-farm maternity homes, and the mother’s advisory clinics, most of the clinics being attached to the feldscher-midwife posts.

The rayon hospital is a general hospital which includes an obstetrical and gynaecological unit, working on the same lines as in an urban maternity home.

The district hospital. There is not a hospital in every district, but there may be one or several secondary hospitals in a rayon. These hospitals include beds for pregnant women, labour beds and gynaecological beds.

Collective-farm maternity homes. The collective-farm maternity home forms the basis of the system in the rural areas. The Government is attempting to increase their numbers and in the Ukraine, for example, there were 7374 of them in 1959. The building is provided by the collective farm and its size will depend on the size of the farm. It will consist at least of a reception and waiting room, an examination room, a labour ward and three hospital beds (one ante-natal bed and two beds for women who have already had their babies). The post is manned by a midwife and an auxiliary, whose job it is to run the ante-natal clinic and undertake normal deliveries. Laboratory examinations are carried out in the rayon hospital. The midwife’s work is checked periodically by the obstetrician-gynaecologist of the district, upon whom she can call in case of need. The midwife also works with the collective-farm feldscher. In a case of abnormal pregnancy the woman is sent to the district or rayon hospital, either in a hospital ambulance or in a collective-farm vehicle.
The number of births that take place in these maternity homes varies according to the size of the village, but in any case it is the midwife’s duty to take an active part in the health education of the people. Three times a week she will run the “school for mothers”. It will be seen later that she is also responsible for supervision of the health of babies up to one year of age.

_Feldscher-midwife posts._ These posts constitute the smallest working health units and are mostly situated on the collective farms.
CHILD HEALTH

The child health services aim at keeping the individual under permanent medical protection from birth onwards. Since children have special characteristics which it is important to take into account, the protection of their health and welfare warrants the organization of medico-social services sharply distinct from those established for adults.

As in the case of maternal health, the various activities will first be described and then the establishments in which they are carried on and the way in which they work.

SOCIAL LEGISLATION

The provisions for social welfare include a number of measures designed to encourage breast-feeding and to assist large families and unmarried mothers. Special allowances are granted to mothers with three children or over. In the case of unmarried mothers the Ministry of Social Welfare pays a monthly allowance of 50 roubles until the child has reached the age of 12. In case of need an allowance of 100 to 150 roubles for a period of six months can be requested from the Ministry of Health.

A nursing mother who goes out to work is entitled to one hour's absence per day to feed her baby at home or in the crèche without any loss of wages.

If the child falls ill and is treated at home, the district paediatrician issues the mother with a medical certificate which enables her to stay at home to look after her child without losing her wages, if her absence from work is only for a short period.

If the child falls ill and is sent to hospital, the mother can go with it if there are medical reasons for doing so. Money is allocated for this purpose in the hospital budget. During her stay in hospital the mother continues to draw her wages, which are paid by her trades union.
As already stated, families receive an allowance at the birth of a child which increases with the number of children, and large families are given priority and reduced rates for the placing of their children in creches.

To inform the mother of the rights of her child and to help her to ensure that those rights are respected, a legal advice bureau is attached to the polyclinic for children.

THE NEWBORN CHILD

Specially qualified staff take care of newborn children at home or in the maternity homes, where most births take place.

If all goes well, the paediatrician attached to the maternity home is present at the birth and takes charge of the newborn baby. The baby is immediately taken into the newborn babies’ ward, which has room for several dozen children, and entrusted to specially trained nurses. Children are taken to their mothers every three hours for the breast-feeding that is the rule.

The care given to newborn babies is in general similar to that given in other countries. Worthy of special notice, however, is the regular use of vitamin K (0.01 g in a single injection for the mother and 0.001 g in three separate injections for the child). Ocular infections are prevented by instilling drops of a penicillin solution into the eyes at birth and three hours later.

Especially strict precautions are taken to prevent infection and at the least suspicion the children are immediately isolated, as are children born of mothers suffering from infectious diseases. As a result, according to the information supplied to the Group, staphylococcal infections of mothers and newborn babies do not seem to constitute a serious problem.

It is during the stay in the maternity home that the first vaccination, the one against tuberculosis, is given.

On the ninth day mother and child leave the maternity home, and thereafter are kept under observation by the district medical staff.

PREMATURE BIRTHS

In the Soviet Union, in conformity with the present international standards, a baby is considered premature if its birth weight is 2500 g or less. Russian paediatricians also take into account the height (45 cm or less), development and maturity of the child.
The frequency of premature births in the USSR is relatively low and seems to vary between 4 and 6%. In the textile plant in Tashkent, where the medical services have large numbers of female workers under their supervision, the percentage of premature births fell from 7.3% in 1953 to 4.8% in 1959. This situation is due in part to the effectiveness of ante-natal care. Illness during pregnancy, and particularly pregnancy toxaemia, are considered to be main causes of prematurity.

Since expectant mothers are regularly examined and are sent to hospital upon the appearance of the slightest disturbing abnormality, most premature babies are born in maternity homes and are immediately taken into the special ward. If a premature baby should happen to be born elsewhere than in a maternity home, it is carried to the special ward in a box identical with that used in other countries that have organized premature-baby services. These services are perfectly standardized and have been the subject of a Ministry-of-Health circular. They are based mainly on the continuity of supervision by paediatricians and experienced nurses. Premature babies are rarely individually isolated and infectious diseases are controlled mainly by making the environment healthier (ultra-violet rays, cleanliness in the wards and medical examination of the staff). Incubators are reserved for serious or complicated cases. If necessary, constant temperature is ensured in the room by means of a simple individual heating apparatus. Oxygen therapy is not used except on medical prescription and the concentration of oxygen does not exceed 40%.

Whole mother's milk forms the basic food for premature babies. If development is not satisfactory this is supplemented by administration of an acidified milk, rich in protein. The babies are fed every two or three hours and by the 15th. day the food ingested generally reaches 140 calories per kg of body weight per day.

The length of stay of premature babies in the maternity home varies from one to three months. They do not leave until the paediatrician considers that they can do so without risk, i.e. when they have reached a weight of at least 2 kg.

In the Ukraine in 1959 the mortality among premature babies, according to weight, was:

- 25% for those weighing less than 1500 g;
- 10% for those weighing 1500-2000 g;
- 1% for those weighing over 2000 g.

The main causes of mortality among premature babies are intracerebral haemorrhage, pneumonia, congenital malformations and jaundices due to the incompatibility of the foetal and maternal blood.
BABIES AND CHILDREN OF PRE-SCHOOL AGE

As soon as the child leaves the maternity home it is brought under the supervision of the district paediatrician; in the towns, he is responsible for such supervision up to the age of 14-18 years.

It will be recalled that the district paediatrician and nurse will already have visited the mother during the last month of her pregnancy. Notified by the maternity home, they must again visit the woman at her home within the three days following her discharge and then ensure that she attends for regular consultations three times during the first month, once a month for the next 11 months, every three months during the second year, and subsequently once a year at least.

These consultations take place in the polyclinic, and if the mother fails to come with her child, the district nurse goes to the house and urges her to do so. At each examination the paediatrician examines the child for growth and psychomotor development by weighing it, measuring its height, noting its progress in teething and observing its behaviour. He will recommend a regimen in keeping with the child’s age and rate of growth, carry out various vaccinations according to a general time-table, and apply other preventive measures such as vitamin therapy, ultra-violet irradiation, and sometimes dental fluoridation. Great importance is attached very early to physical education.

These consultations are not designed merely to examine the child medically. Their essential aim is to continue the education of the mother and ensure that the care given to the child, and particularly breast-feeding, are properly carried out. This supervisory system is implemented to the full in the cities. In the rural areas the scattered nature of the population makes it more difficult to apply. Thus, the first visit is often paid by the midwife within a period of five days instead of three. However, in the Ukraine in 1959, 91.8% of newborn babies were examined in their homes by the district paediatrician within three days of discharge from the maternity home. The same paediatrician is responsible for the health of the child until it starts school, and this system, which in the Soviet Union is known as the single-paediatrician system, replaces the former type of organization in which the paediatrician responsible for supervising small babies was succeeded by another paediatrician when the child reached pre-school and school age. It should be added that a certain number of children attend crèches and kindergartens, thus coming partly under the supervision of the paediatrician attached to the establishment concerned.
SCHOOL CHILDREN

Children start school at seven years of age. Several months before the school year starts, the district paediatrician draws up a list of the children who are to begin school and in agreement with the polyclinic specialists plans the medical examinations that each child is to undergo. All the necessary vaccinations must be carried out. A special card is then filled in and sent to the school doctor.

If examination reveals growth disorders or a parasitic infection, the child is treated and sometimes sent to a sanatorium in order that it may start school in good physical condition. The supervision of the child's health thus passes from the district paediatrician to the school paediatrician, but contact is not lost since both of them are attached to the same polyclinic. The school doctor continues supervision of the child and records his observations on an individual medical card. Regular examinations are carried out once or twice a year and include an obligatory dental examination and a chest X-ray by specialists from the polyclinic. Vaccinations are carried out at the dates laid down. The doctor also supervises the diet and physical education of the children and plays a large part in the health education carried out in the school.

Very often at this age the child joins a pioneer organization and is sent during the holidays to a holiday home where medical supervision continues.

THE SICK CHILD

During this long period of supervision one of the main tasks of the paediatrician is the early detection of all symptoms of illness in children and their treatment at home or in hospital. As a result of this careful attention and all the preventive measures taken, morbidity rates among children are quite low and the paediatric services of the hospitals are not overwhelmed with work.

Immediately a child falls ill, it is taken to the polyclinic where, if necessary, the district paediatrician visits it. He will pay as many further visits as are necessary. If a long distance has to be covered, he has a duty car available for the purpose and every domiciliary visit counts as half an hour's work for him. In the big cities the districts only cover a small area (sometimes only a few streets, in very populous quarters). The paediatrician is assisted in his work by the district nurse, of whom he is the immediate superior and whose domiciliary work he supervises. He may request assistance from the physician in charge of the polyclinic or the various specialists who work there. Some
mild and non-infectious diseases are treated in the polyclinic; others are treated at home, but in case of serious illness children are admitted to hospital. It is the district physician who decides whether hospital treatment is indicated and requests it from the hospital, whether general treatment, surgery, or any other special treatment is involved.

In the case of communicable diseases the district paediatrician calls in the local Sanitation and Epidemiological Centre, which takes the patient to hospital, disinfects the premises in which he has been staying and keeps an eye on contacts.

Convalescent children are often sent to a sanatorium where medical treatment is combined with climatic and spa cures under the supervision of specialists. For relapsing diseases like rheumatism children stay several times in such establishments, which work in close co-operation with the hospital in the region from which the child comes.

Invalid children are taken care of by special services. In particular, children suffering from motor disorders have available numerous rehabilitation services or can be sent to spas such as that at Tskhaltubo in Georgia. For example, children suffering from the after-effects of poliomyelitis are treated at Tskhaltubo, where baths in radioactive water are combined with massage, exercises and various forms of physiotherapy.

Now that the system of supervising child health has been outlined, some items of special importance to paediatricians, such as nutrition and diet, vaccinations and the main diseases encountered, will be dealt with in more detail.

Child nutrition — Milk dispensaries — "Milk banks"

The standard of living of the people and the supervision of child health are such in the Soviet Union that nutritional troubles due to deficiency seem to be a thing of the past.

There are therefore no special "nutritionists", except for those working in a few institutes of nutrition, and it is the paediatricians who occupy themselves with the problem of child feeding. They all have an excellent knowledge of the main laws of nutrition and food requirements. They are capable of determining the theoretical food requirements of a child and then translating them into practice by means of a varied and balanced diet.

Breast-feeding is the rule and 95% of babies are breast-fed. The figures obtained in the Ukraine bear witness to this:

<table>
<thead>
<tr>
<th>Year</th>
<th>Bottle feeding</th>
<th>Mixed feeding</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950</td>
<td>4.1</td>
<td>9.2</td>
</tr>
<tr>
<td>1955</td>
<td>4.6</td>
<td>7.8</td>
</tr>
<tr>
<td>1959</td>
<td>4.5</td>
<td>6.3</td>
</tr>
</tbody>
</table>
Breast-feeding is prescribed until the age of nine months. The child is given six feeds a day in accordance with a strict time-table during the first four months, but goes on to five feeds a day in the fifth month and begins to receive extra food towards six months: gruels made from various cereals, vegetables, and then cheese, eggs, meat and fish. Weaning takes place between the ninth and twelfth months but is discouraged during the warm season.

The very great frequency of breast-feeding in the Soviet Union has made it unnecessary to develop milk-processing and dietetic-products industries such as have grown up in other countries. However, the use of fermented milks of the "kefir" type is very widespread and is considered particularly useful in the feeding of premature and young babies because of its acidity. However, in the milk dispensaries there are a multitude of preparations available which differ very little, however, from one another.

Cow's milk is the food most often used in bottle feeding, mixed feeding or after weaning. It is most often consumed in its natural state and there is an extensive milk-control system run by the Sanitational and Epidemiological Services, consisting of examination of cattle by veterinary surgeons, supervision of cowsheds and the collection of milk and the supervision of distribution establishments and their staff. The milk obtained on the farms is sent to the big cities, where it is pasteurized before being delivered for consumption. Sterilization by boiling is recommended in the towns. In country districts where pasteurization cannot be applied, the consumer is warned that it is necessary to boil the milk before it is drunk. No dairy product can be sold until a sample has been taken and examined.

These measures are particularly strict in the milk dispensaries, whose task it is in the large cities to distribute daily a great quantity of milk, gruels, fruit juices, kefir and vegetable purées. The regulations are applied with particular strictness in the human-milk banks. Milk is distributed without added synthetic vitamins, which are distributed at the polyclinic.

There are few modified or powdered milks, since Soviet paediatricians prefer to use the natural product.

All the products thus distributed are free of charge for children aged one year and under, children presenting a medical certificate and children belonging to a large or poor family.

Mother's milk is prescribed particularly for premature babies and sick babies. Whether it is collected and distributed at milk banks or collected in maternity homes or in women's dwellings, every precaution is taken to ensure that its quality is good. Donors undergo a regular
and strict medical examination and their children are carefully supervised. The milk is used after boiling. The milk banks buy the milk from donors at 50 roubles a litre, but in most cases it is distributed free of charge on medical prescription.

The diet of older babies is very varied and well-balanced. The following, for example, is the average daily ration of a child in a crèche (it supplies 1580 calories):

- Bread: 200 g
- Butter: 30 g
- Sugar: 45 g
- Egg: half
- Cheese: 30 g
- Semolina: 15 g
- Rice: 15 g
- Meat: 50 g
- Potatoes: 200 g
- Flour: 30 g
- Coffee: 3 g
- Cow's milk: 300 g
- Vegetables: 30 g
- Pasta: 15 g
- Fruit: 300 g

These diets, it will be recalled, are drawn up by the paediatrician of the establishment, who is responsible for the daily menus.

**Vaccinations**

Vaccination against tuberculosis, smallpox, diphtheria and whooping cough is obligatory in the USSR. Vaccination against poliomyelitis is not yet obligatory but as a result of health-education propaganda many children have already been vaccinated against it.

Vaccination against typhoid is given individually or, in some republics, such as Uzbekistan, where the risk of infection is higher, on a more organized basis. In some areas vaccination is even given against Flexner dysentery. There is no anti-tetanus vaccination, since Soviet doctors consider that serum therapy affords sufficient protection. The vaccines used are made in the USSR in special establishments, and the four Republics visited by the Group possessed their own manufacturing institutes. Most of the vaccinations are given separately. At the present time only diphtheria and whooping-cough vaccinations are given in combined form.

**Tuberculosis.** Vaccination was carried out until recent years with BCG administered orally to babies or by scarification to older children.
At the present time the preparation of a lyophilized vaccine for intradermal use is being studied. The strain used is still the one supplied by the Pasteur Institute in Paris. BCG is now given by mouth to all newborn babies in the maternity home in doses of 20 mg on the third, fifth and seventh day of life. Use of the Mantoux test (1 : 1000 solution of crude tuberculin) gives about 50% of positive reactions. Vaccination by scarification is done with 50 mg of BCG. In this way, during re-vaccination a percentage of positive tests of 80-85% is achieved. Children are tested every year and are re-vaccinated if the test is negative.

**Poliomyelitis.** Vaccination against poliomyelitis was first carried out by subcutaneous injection of a Salk-type vaccine. In 1958 Sabin developed vaccination with attenuated virus by the oral route. This consists in giving a child at ten days' intervals three pills containing viruses of types 1, 2 and 3 respectively. The vaccine is coated with a sugar excipient and is coloured differently for each of the three types. A year later a booster dose is given with a single pill containing the three types of virus.

Through the network of maternal and child health services this type of vaccination has been carried out on a very large scale and the USSR is thus the first country to have carried out such mass vaccination. It is, however, still too early to judge the results.

Vaccinations are carried out in accordance with a time-table adaptable to each particular case and worked out by the paediatricians and the physicians of the Sanitation and Epidemiological Services. As a rule the time-table is as follows:

<table>
<thead>
<tr>
<th>Age</th>
<th>Vaccine</th>
</tr>
</thead>
<tbody>
<tr>
<td>At birth (3rd, 5th and 7th days)</td>
<td>BCG</td>
</tr>
<tr>
<td>At 2 months</td>
<td>poliomyelitis</td>
</tr>
<tr>
<td>At 3 months</td>
<td>smallpox</td>
</tr>
<tr>
<td>At 6, 7 or 8 months</td>
<td>diphtheria and whooping cough</td>
</tr>
<tr>
<td>At 18 months</td>
<td>diphtheria (re-vaccination)</td>
</tr>
<tr>
<td></td>
<td>BCG (re-vaccination)</td>
</tr>
<tr>
<td></td>
<td>poliomyelitis (booster dose)</td>
</tr>
<tr>
<td>At 4 years</td>
<td>smallpox (re-vaccination)</td>
</tr>
<tr>
<td>At 7 years</td>
<td>diphtheria (re-vaccination)</td>
</tr>
<tr>
<td></td>
<td>BCG (re-vaccination)</td>
</tr>
<tr>
<td>At 9 years</td>
<td>diphtheria (re-vaccination)</td>
</tr>
<tr>
<td>At 12 years</td>
<td>diphtheria and BCG (re-vaccination)</td>
</tr>
<tr>
<td>At 18 years</td>
<td>BCG (re-vaccination)</td>
</tr>
</tbody>
</table>

These vaccinations, which are, of course, combined with other preventive measures, have played a great part in reducing morbidity and mortality through infectious diseases.
Supervision of teething

Dental supervision of children is strictly organized. At Kiev, for example, schoolchildren’s teeth are examined regularly twice a year. Mention should be made of the research on the prevention of dental caries though fluoridation carried out as a result of the work of Professor Lukomski and Professor Novik.

Various methods of prophylactic fluoridation have been tried and compared. Techniques for topical application of fluoride are used mainly for children aged 6-8. A 1% solution is painted on the gums twice on the same day at 15 minutes’ interval. A paste containing 75% or 33% of fluoride, depending on the age of the children, is also being tried. These treatments are given every six months for two years, or four times in all. Iontophoresis with a 1% solution is another topical method used. Each session lasts from 8-10 minutes and three or four applications are given at intervals of two or three days. A second, absolutely identical, course of treatment is given at the age of 12. In the west of the Ukraine trials of oral fluoride administration are being carried out, either by giving 1-mg tablets or by introducing fluoride into drinking water or incorporating it in the salt.

Morbidity and mortality

The Soviet classification of diseases comprises 28 classes and 338 headings. The Group was able to obtain the following information concerning morbidity and mortality rates.

Uzbekistan

For the age-group 0-15 years the following morbidity rates per thousand were given:

<table>
<thead>
<tr>
<th>Cause</th>
<th>1955</th>
<th>1957</th>
<th>1959</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pneumonia</td>
<td>135</td>
<td>86</td>
<td>63</td>
</tr>
<tr>
<td>Toxocosis</td>
<td>4</td>
<td>2</td>
<td>0.5</td>
</tr>
<tr>
<td>Diphtheria</td>
<td>8</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Tuberculosis</td>
<td>5</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

Table 2 shows the progress achieved between 1955 and 1959 in the medical department of a textile plant in Tashkent which is one of the biggest in the Soviet Union and employs several tens of thousands of workpeople.
TABLE 2. CHILD MORTALITY AND CASE FATALITY RATES IN A FACTORY MEDICAL DEPARTMENT, 1955-59

<table>
<thead>
<tr>
<th>Death rate (% of births)</th>
<th>1955</th>
<th>1957</th>
<th>1959</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stillbirths</td>
<td>1.9</td>
<td>1.2</td>
<td>0.9</td>
</tr>
<tr>
<td>Neo-natal deaths</td>
<td>1.1</td>
<td>0.7</td>
<td>0.9</td>
</tr>
<tr>
<td>Infantile mortality</td>
<td>4.7</td>
<td>3.2</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Case fatality rate (%) of cases in the hospitals</th>
<th>1955</th>
<th>1957</th>
<th>1959</th>
</tr>
</thead>
<tbody>
<tr>
<td>General (excluding infectious diseases)</td>
<td>2.7</td>
<td>2.1</td>
<td>1.7</td>
</tr>
<tr>
<td>Pneumonia</td>
<td>5.2</td>
<td>2.4</td>
<td>2.3</td>
</tr>
<tr>
<td>Toxicosis</td>
<td>10.1</td>
<td>3.2</td>
<td>—</td>
</tr>
</tbody>
</table>

Georgia

The Ministry of Health gave the Group the following information on death rates for 1959:

- Stillbirths .................................................. 1.2 per thousand births
- Neo-natal mortality ......................................... 8.0 per thousand live births
- Infant mortality ............................................. 36.2 per thousand live births (66.4 in 1950)

Ukraine

Exact figures were given in the Hospital for Specialized Child Care in Kiev, in which the mortality rate was 0.9% in 1957 and 0.5% in 1959.

In the general medical department, which has 90 beds, the case fatality rate has decreased, as shown in the following table:

<table>
<thead>
<tr>
<th>Deaths per hundred patients</th>
<th>1955</th>
<th>1956</th>
<th>1957</th>
<th>1958</th>
<th>1959</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1 year</td>
<td>5.6</td>
<td>6</td>
<td>4.7</td>
<td>5.6</td>
<td>2.4</td>
</tr>
<tr>
<td>0-15 years</td>
<td>2.8</td>
<td>2.6</td>
<td>2.4</td>
<td>2.3</td>
<td>0.8</td>
</tr>
</tbody>
</table>

The main causes of hospital deaths among children are:

- 0-2 years: pneumonia, gastro-intestinal disorders, congenital malformations;
- 2-3 years: accidents, plus the previous causes;
- 7-14 years: accidents become the most important cause and in 1959 were responsible for 41 deaths out of every 100.
ORGANIZATION

To carry out all their child-health activities the maternal and child health services have numerous buildings available, of which the most modern type, in the cities, is the combined hospital-polyclinic for children. It is still common, however, for hospital and polyclinic to be separate. For medical purposes the crèches, the homes for small children and the medical services of the kindergartens and schools — institutions which in other respects depend on the Ministry of Education — are attached to the combined hospital-polyclinic. In 1959 there were more than 7700 children’s clinics. Ample staff ensures that the service functions properly: at the moment there are 55 000 paediatricians in the USSR and a further 3000 are graduating every year.

Approval of the Sanitation and Epidemiological Service has to be obtained for the building plans for maternity homes, crèches, kindergartens or schools; the Service decides questions of siting. It supervises the sanitary installations in these establishments and is also responsible for hygiene in the kitchens, food inspection and disinfection of premises.

The polyclinics

The polyclinics in general comprise all the services, even specialist services, necessary for supervising child health: child medicine, otorhinolaryngology, dermatology, stomatology, neuropsychiatry, physiotherapy and physical education.

At the entrance to the polyclinic there is always a “screening” room in which the temperature of the child is taken and its throat and skin examined; thereupon any child suspected of being infected with a communicable disease is immediately isolated in a cubicle and then given a more complete examination before being sent home or to hospital. The polyclinic may also include a milk dispensary, a school for mothers and a legal advice bureau. The milk dispensary is often in a separate building.

The hospitals

In the big cities there are special hospitals for children. Some of them provide only general child medical services, whereas others are designed to treat not only medical cases but also special disorders. Some include a ward for premature babies. In other places the children’s department will be merely a section in a general hospital. This reflects two opposite trends: (1) decentralization of the hospitals geographically in order to enable people to be sent quickly to a hospital in their neighbourhood, and (2) concentration of all the children’s medical services in one building.
The urban hospitals used for teaching and research are provided with every type of modern equipment.

The wards are rarely divided into cubicles but there are isolation cubicles and special wards for those suffering from communicable diseases. A mother may be admitted to hospital with her child, and this is usual practice if she is feeding it or if the child is seriously ill. It is interesting to see the importance attached everywhere to health education, which is given the premises it needs and which always has audio-visual education material on display.

*Working of the services*

The chief physician of a combined hospital-polyclinic is not only director of the hospital but also in charge of child health in the whole area served and is thus responsible for the medical services in the children's establishments attached to his combined hospital-polyclinic. In the hospital he is assisted by two councils, a Council of Heads of Department and a Voluntary Assistance Council. The Voluntary Assistance Council includes representatives from various organizations in the area and the children's parents. These people are thus able to express their opinion on the progress of the medical services and can influence it, although they have no administrative functions.

The polyclinic serves a certain number of districts. Each district includes 800 to 1000 children between 0 and 14 years of age, (including about 40 to 45 babies less than a year old) and is served by a paediatrician and one or two nurses. There is, therefore, no free choice of doctor and this sometimes gives rise to disputes which are submitted to the director of the hospital and to a disputes committee.

The district paediatrician divides his working hours between consultations at the polyclinic and visits to children in their homes. Of his six-hour working day he generally spends two hours in the polyclinic and four in the town and must devote one hour per day to health education. This division of the working day, however, varies according to the season. In places where the combined hospital-polyclinic system is in force, the paediatrician must also be on duty on some days at the hospital.

The fact that the number of paediatricians attached to a combined hospital-polyclinic is always higher than the number of medical districts they serve makes it possible to arrange a rotation system, in which each of the doctors spends a period of four months every two years in the hospital service.

The advisory clinics are open from 8 a.m. to 8 p.m., thus enabling parents who go out to work to bring their children outside working hours. In the children's advisory clinics there is no congestion and the doctor
does not examine more than ten children per session. The results of each examination are recorded on a standard card, and a special register is kept at the polyclinic for children presenting pathological symptoms that need particularly careful watching. Vaccinations are recorded on the card.

Every month the physician draws up a plan for regular examinations of children in good health, who are given an appointment. In the same way vaccinations have to be arranged in advance. The nurse devotes part of her time every day to checking the register and tidying the card indexes. Every week the doctor spends half a day checking these cards.

The Kalinin Combined Hospital-Polyclinic in Moscow, which was visited by the Group, is typical of these establishments. It serves 13 000 children living in 14 districts. Each district, therefore, contains an average of 850 children of all ages, of whom 40 to 45 are less than one year old.

The hospital contains 75 beds: the polyclinic includes, in addition to the service for well children, departments of otorhinolaryngology, ophthalmology, stomatology, dermatology, orthopaedics, kinesitherapy, gymnastics and radiology, chemical, pathological and bacteriological laboratories, a legal advice bureau and a special service for children suffering from acute rheumatism of the joints.

8 crèches, 24 kindergartens and 12 schools are attached to the polyclinic. Its budget amounts to 3 682 300 roubles and the staff totals 324 persons, made up of 83 doctors, 173 nurses, 39 orderlies and 29 administrative staff.

In the rural areas

The measures taken on behalf of the child are the same as in the cities but the scattered nature of the population makes a slightly different organization necessary. Children are kept under supervision up to one year of age by the midwife from the feldscher-midwife post. She is responsible for 25 to 30 children, which makes it possible for her to see them several times a year. Her work is checked by the district physician and the rayon paediatrician. The paediatrician works in the Rayon Hospital but makes duty tours of the various districts. Children are in most cases sent to hospital in the children's department of the rayon general hospital.

Crèches and kindergartens

Establishments designed for babies and children of pre-school age are very numerous and very popular. They serve, however, only a portion of the population and are designed to help women workers
or students who are unable to have their children looked after by someone in their own family. It seems that the Government has also encouraged them with a view to inculcating the principles of community life in children at an early age. However, they do not remove the child from the influence of his family. Children are grouped according to age and not according to origin or family milieu. The form of education given to them encourages a social group consciousness. The outgoing and sociable nature of the children is very striking. Musical education and physical culture are used very early, in most cases in rhythmic exercises which tend to develop the community spirit.

Establishments for healthy children of under seven years of age include crèches, kindergartens, children's homes and homes for mother and child. Abnormal children are placed in what are known as "defectology" centres.

The crèches and kindergartens are in general separate. A trial of combined kindergarten-crèches is at present being undertaken in some places, as in the Frunze quarter of Moscow; if the trial is successful the system will be generally adopted. There are even plans for grouping crèches, kindergartens and schools together.

*Crèches*

There is a dense network of crèches in the USSR with places for 1,208,400 children in 1959 (179,900 in the Ukraine, 15,000 in Georgia, 62,700 in Uzbekistan). This figure is, however, considered very inadequate since it is proposed to double the number of places between 1958 and 1965.

In addition to these permanent crèches, there are seasonal crèches in the agricultural areas, for looking after children while their mothers are working in the fields. Thus in Georgia there are 500 seasonal crèches with places for 10,700 children, while in Uzbekistan there are 8,060 temporary crèches with places for almost 200,000 children. Crèches are usually administratively subordinate to the Ministry of Health, but sometimes to other Ministries. If they are administered by other Ministries, the Ministry of Health is still responsible for their medical supervision. They are always attached to the rayon polyclinic, both in town and countryside, and are supervised by a full-time or part-time paediatrician, depending on the size of the crèche.

Children under three years of age whose mothers go out to work or are studying are admitted to crèches.

The post-partum leave, plus the month of annual holidays that the mother can add to it, means that children are rarely placed in crèches before the age of three months.
To provide mothers with the maximum assistance the crèches either take children from the area in which their family lives or are situated in the factory where the mother works. In rural areas they are found on the collective and state farms.

The crèches are open during the six working days of the week and may keep the children for a part of the day or for all 24 hours. There are three types of stay:

(a) a stay of nine hours, equal to the working hours of the mother plus the time necessary for shopping;

(b) a longer stay for children whose parents live a long way from the crèche;

(c) a 24-hours service for mothers who have to travel or to work at night; the baby remains in the crèche during the week and goes home on Sundays and holidays.

The children are generally divided into four groups of 15 to 20 according to age; 3-10 months, 10-18 months, 18 months to 2 years, 2 years to 3 years.

Very great precautions are taken to avoid the spread of communicable diseases. Each group has its own premises: a reception room which serves for "screening", a cloakroom, a dormitory with a veranda, a well-equipped playroom, which is also used as a refectory, and a sanitary block with washbasins and lavatories. An isolation room and a room for breast-feeding are attached to the reception room, and there is sometimes a "sanatorium section" for children whose health requires supervision and a special regimen.

The beds are placed either in the open air on the verandas or in dormitories with wide-open windows, when the climate permits. The part of the garden set aside for each group has shelters for games, sanded paths and raised playgrounds to make it easier for the children to keep the supervisory personnel in view. The kitchen, the administrative offices and the medical room are common to all groups.

The staff of crèches is large, and in general there are two members of staff for every five children, or even more than two for the very small children. The staff includes paediatricians, nurses, teachers, including a music teacher, nurse-educators and nursemaids. If the crèche is a large one, the director will be a paediatrician; smaller crèches are run by a fieldscher or a nurse.

For instance, a crèche with 35 places on a state farm has the following staff: a nurse who acts as director, a paediatrician who is in attendance for two hours a day, a woman fieldscher, nurse-educators, nursemaids, orderlies, a cook and a book-keeper.
According to figures obtained at the crèche in the textile plant at Tashkent, which has a budget of 657,000 roubles per annum and 150 places, the cost per child per day is 12 roubles. Most of the expenditure is met by the Government or the factory, but the parents have fees to pay which vary from 50 to 120 roubles a month, depending on their earnings.

Before admission the children are examined in the polyclinic and their health cards are sent to the crèche. A nurse-educator visits the family at home to make their acquaintance and see the conditions in which the child is living in order to avoid changing its habits too brusquely. During the first few days of its stay in a crèche the child is kept under observation without the family way of life being modified, and then gradually it is brought into line with the way of life of its group. Precise instructions have been drawn up for nutrition, sleep and the daily time-table, based on the age of the child, its state of health and its level of development. The general rules have been drawn up by special paediatric institutes, but the ways in which they are applied are determined by the paediatricians attached to the crèches. Babies may be breast-fed by their mothers in the room set aside for that purpose. Older children receive a balanced diet of 1600 to 1800 calories per day, with vitamins added. It is one of the duties of the crèche paediatrician to see that the food is good and that suitable menus are drawn up.

The crèches are not baby-minding establishments and the fact that there are specially trained educators on the staff shows the effort undertaken at this early age to train children. They are given speech training, training in social behaviour, little memory exercises, rhythmic physical training, etc., all this being done as far as possible in the form of group games with musical accompaniment. To harden the children's physique great importance is attached to gymnastic exercises, practised from the cradle onwards, and to life in the open air.

The child is under medical supervision. The regulation vaccinations are carried out. Very strict measures are taken to eradicate communicable diseases. Every day on their arrival at the crèche the children are examined by the nurse, who takes their temperatures and examines their throats and skin. Any child suspected of being ill who cannot be sent back home or to hospital is placed for the time being in the isolation room and is then taken charge of by the district paediatrician. If a case of infectious disease is detected the child is isolated, the premises are disinfected and the children in the sick child's group are put in quarantine if necessary.

In some crèches children are moved from one group to another once a year together with all the staff of the group, in order to avoid any
emotional upsets to the child. There are sometimes three educators for two groups of children and this allows one of them to go with the children when they move up to a different group.

Each of these establishments has its “Voluntary Assistance Council”, on which the parents are strongly represented and which has an active influence on the running of the crèche. The crèche is a good centre of health education, not only because of the daily contact between the staff and the children’s families but also because of the “schools for mothers” or “schools for parents” held there.

Towards the end of the third year the child leaves the crèche, often to go to a kindergarten. In some crèches the transfer takes place on 1 September and to avoid a complete change of both premises and staff the nurse-educator accompanies the child and goes back to see it for several days running at the kindergarten. The child’s health card is sent after it. If the child goes back to its family the paediatrician and the teaching staff of the crèche remain in contact with the parents and give them oral or written guidance on the way to feed and bring up the child.

Kindergartens

The kindergartens, which take children from three to seven years of age, supplement the work of the crèches and prepare the children for starting school. They are very numerous: in 1959 in the Soviet Union there were 39,890 kindergartens with 2,671,000 places. This figure also is to be doubled by the end of the latest Seven-Year Plan. The kindergartens are administered by the Ministry of Education but they are medically supervised by a paediatrician from the rayon polyclinic.

The principles governing kindergartens are the same as those already mentioned in the case of crèches, but the conditions for admission are not so strict. Children are placed in age groups of 3-4 years, 4-5 years and 5-7 years. Each group contains an average of 25 children and has independent premises, but since the dangers of contagion are less, separation is not so absolute as in crèches; thus the garden, the gymnasium and the reception room may be common to all three groups. In addition to the reception room where the children are sorted on arrival, the buildings consist of dormitories, refectory-playrooms, a gymnasium, a medical-consultation room and a sanitary block. There are cloakrooms with individual lockers and the kindergarten provides each child with an apron.

The playrooms contain toys, books, a piano and sometimes a television set. The kindergartens have similar staff to the crèches and the average staffing ratio is one member of staff for 5-8 children.
The budget of a kindergarten with 100 places was 200,000 roubles in 1960, i.e., six roubles per day per child. The parents have to pay between 20 and 200 roubles, depending on their earnings, but the fees are paid by the trades union in the case of an unmarried or deserted mother earning less than 500 roubles per month.

The kindergartens are open on week-days from 8 a.m. to 8 p.m. On arrival every morning the children are examined by the nurse, who takes their temperature and notes the state of the skin and throat. Any child with suspected illness is isolated, or sent home with his mother, or sent to hospital. Each group has its own regimen and time-table.

The educational periods of 15 to 20 minutes each for the smaller children and 40 to 45 minutes for the bigger ones consist of memory and speech exercises. Children are initiated into community life and learn to study nature, to work and to take the responsibility for their actions. Physical exercises and games in the open air are widely used.

A complete medical examination is carried out once every three months and vaccinations are performed on the planned dates. All medical procedures are recorded on the child's medical card. The medical staff also supervises the general hygienic conditions in the establishment and the nutrition of the children.

Homes for small children — adoption

The homes for small children are establishments which take in children of under three years of age who are orphans or whose parents are unable for various reasons to look after them. Children over three years of age are placed in children's homes run by the Ministry of Education. In the homes for small children health regulations are even more strictly applied than in the crèches.

Any child admitted to a home spends 21 days in a quarantine section before joining his age group. During this time he is given medical examinations and tests. There are more children in each group and a larger staff, there being one member of staff for every two children. In particular, whereas there is one paediatrician for every 100 children in a crèche, there are three for the same number in a children's home.

No problem of abandoned children seems to exist. Great efforts are made to help unmarried mothers, who are given active protection with a view to their integration in social life. Many of them, after a short period of re-adaptation, bring up their children themselves.

As for real orphans, they can be adopted subject to the legal guarantees usual in most countries. Applications to adopt at present exceed the number of orphans.
Schools

Children start school at seven years of age and primary and secondary education, which are given in the same establishment, last for 10 years. Some children may finish school earlier, after a seven-year period corresponding to a primary education. In some cities education lasts for 11 years and it is probable that the school-leaving age will be generally raised in the coming years. The school year begins on 1 September and finishes on 15 June. In addition to the long holidays in summer the children have eight days’ holiday in November, 12 days’ in January and eight days’ in March.

Throughout the territory of the USSR school attendance is almost total. The number of children in a class averages 40-45, decreasing gradually as the child moves up the school.

In some overcrowded cities classrooms are used by two groups of pupils and there are two shifts a day, one in the morning from 8.30 a.m. to 11.30 a.m. for the smaller children and from 8.30 a.m. to 1 p.m. for the bigger ones, and an afternoon shift from 2.30 p.m. to 5 p.m. or 6 p.m. Education is free. In some schools pupils remain behind after school to do their homework under the supervision of the teachers. These children can take their meals at school and may take part in organized walks or open-air exercises.

In the general syllabus health education has an ample place. In the lower forms children are taught food hygiene, the prevention of the spread of infectious disease and the advantages of physical education and open-air life.

In the upper forms, they are taught the nature of infectious and parasitic diseases and methods of preventing them. Courses of anatomy and physiology enable them to gain a more thorough idea of the defensive mechanisms of the body and immunity. These concepts of general hygiene and sanitation even permeate the physics and chemistry syllabuses and the teachers of those subjects, by means of carefully chosen examples, contribute to health education.

The prevention of accidents, which have become one of the most important causes of death, is also taught to schoolchildren. They also learn first aid.

This health education is given to the pupils by the teachers in cooperation with the school doctor and the health-education centres, in accordance with programmes drawn up for the USSR as a whole and adapted to each age group.

The school doctor plays an important part in the school. Not only does he supervise the health of the children and the teachers, the hygienic conditions in the school and the food if there is a school canteen, but
he is also concerned with the rest and leisure of the children and above all takes an active part in health education. He may be called upon himself to give some lessons or demonstrations to the pupils. He sees to it that they participate actively in the health education of their schoolfellows and even of their parents by setting up health groups to watch over health conditions in the school or the district it serves.

The sending to parents of the results of the children's medical examinations is an excellent way of keeping in touch with them and the school paediatrician plays a very active part in the educational meetings arranged for parents.

Boarding schools are still very rare but the principle itself is considered as an important innovation, which should permit the training of the perfect citizen.

*Holiday camps — pioneer camps — sanatoria*

During the holidays large numbers of school-children are sent to the country, the forests, the seaside or the mountains to holiday camps, pioneer camps, walking and climbing centres or sanatoria.

There are numerous establishments for spare-time activities. In 1959 there were 2,908 Pioneer Centres, 520 "Young Technician Centres", 254 centres for young naturalists and 146 centres for children's excursions. The pioneer organization, to which a large number of boys and girls belong, corresponds in some respects to the scout organizations in many western countries. The children wear a uniform, a feature of which is a red scarf round the neck. They have a code of honour of which Article 1 declares that the pioneer wishes above all for peace. In this organization the child acquires a conception of responsibility and continues his apprenticeship in community living.

The group visited the pioneer camp at Artek, in the Crimea, which has a world-wide reputation, and was struck by its site and organization. This camp can take 1,650 children aged 12-14 years, who stay in it for a month and gain the benefit of a healthy climate reinforced by life in the open air and a rather abundant and varied diet (4,000 to 5,000 calories). These children come from various Union Republics and even from abroad. The camp is the direct responsibility of the Young Communist League and is open all the year round, being reserved during times other than the school holidays for children in need of rest. It has a complete medical service in which 20 physicians and 36 nurses work. 90 per cent. of the vouchers for a holiday at Artek are granted free of charge.
Sanatoria and health resorts for children

The system of child sanatoria has considerably expanded and in 1959 consisted of 1,098 establishments with 119,400 beds. Some Republics are favoured by climate or their mineral-water resources, such as the Ukraine and Georgia, both of which have a coast on the Black Sea. They have 25,000 and 2,250 sanatorium places for children respectively.

Some establishments specialize in the treatment of particular disorders: tuberculosis, rheumatism, the after-effects of poliomyelitis, gastrointestinal disorders and respiratory diseases. Others on the contrary take tired or convalescent children. For example, among others the group visited the Krasnaya Pakhra sanatorium in the suburbs of Moscow, which caters for children convalescing from rheumatism. Children are sent there on the recommendation of a special panel for a stay of three months, during which maintenance treatment is given, together with education suitable for the child concerned. The staff of the establishment, in addition to physicians and specialists such as dieticians, radiologists and physiotherapists, includes P.T. instructors and teachers.

The regimen followed by the child patients differs according to the stage of the disease and side by side with various curative measures, which include particularly physical culture and exposure to the open air, children can follow a school syllabus that is made easier by a wealth of audio-visual aids.

Delinquent children

According to the information given to the study group the basic educational principle of group living, beginning at a very early age and continued at school and in the pioneer camps, tends to train and bring up a sound younger generation. The community to which the child belongs has its own moral code and sees to it that it is respected.

The First World War, which left thousands of abandoned children to their own devices, brought in its train an increase in juvenile delinquency of which Anton Makarenko made a very thorough study. At the present time handbooks for parents and the advisory services available in the various types of establishment teach parents how to guide their children.

The neuropsychiatric advisory clinics that are attached to some children's polyclinics have to deal above all with children suffering either from slight disorders of the bed-wetting type or more serious behavioural or mental disorders.
HEALTH EDUCATION

In the USSR health education is considered to be one of the most effective methods of improving public health conditions. It is therefore very widely used in the maternal and child health services, which provide every opportunity for demonstrating its effectiveness.

Two points seemed to the Group to be worthy of emphasis. Health education forms part of all health programmes and is found at every level of organization from the Ministries, whose duty it is to draw up the plans and see that they are fulfilled, down to the smallest operational health unit. There is no special health-education staff at the lower levels, but for all medical and para-medical staff (physicians, feldschers, nurses and midwives) and all school-teachers health education is part of their duties. The members of voluntary organizations and the parents themselves participate in this education.

In the USSR Ministry of Health the general direction of health-education activities is the duty of a Chief Inspector in the Department of Sanitation and Epidemiological Services. His main task is to draw up plans for extending the system of Health Education Centres, to allocate funds, to compile reports on health education, to make audio-visual aids and literature available, to supervise the work carried out in the oblasts and to organize the training of staff for health education.

He is assisted in this task by the Central Institute for Research in Health Education. The Institute, which was established in 1938, is also subordinate to the USSR Ministry of Health. Its very numerous staff — 40 physicians (22 with the degree of Candidate of Medical Sciences), 60 para-medical staff and 350 technicians (painters,ographers, film-makers, scenario writers and actors) — and its large annual budget, which amounts to about 12 000 000 roubles, have enabled it to carry out some very extensive work in studying the techniques of health education and developing audio-visual aids. It is the only research institute in the whole of the USSR that specializes in health
education, but other institutes may have a branch of activity concerned largely with health education.

In each Union Republic there is the same organization as in the Union Ministry of Health, with a Chief Inspector and a medical committee attached to the Department of Sanitation and Epidemiological Services.

There are also Health Education Centres, administratively dependent on the Ministry of Health but under the technical guidance of the Central Institute. Now numbering 360, these Centres organize health education in their area. They give technical assistance to all persons working on health education and supply them with the necessary material, adapted to local conditions.

If there is no Health Education Centre in an area, the City or Rayon Sanitation and Epidemiological Centre fulfils the functions of one.

Apart from these specialized institutions, all important establishments (hospitals with more than 250 beds and polyclinics with over 110,000 attendances per annum) include a section, or at least an expert, on health education. In smaller establishments a person is chosen among the physicians or nurses to be responsible for all necessary measures of health education. The person thus selected is known as a "Health-Education Organizer".

At the lower operational levels of the health service, all the staff participate in health education. Out of the normal six-hour day of a physician, half an hour must be devoted to this task. In view of the added importance of health education in the Maternal and Child Health Services, paediatricians are supposed to spend double this time; i.e., one hour per day, on health education, and of this, four hours a month must be devoted to talks to various groups of people.

This health education is carried out in people’s homes, where advice can then be adapted to the living conditions of the family, and in the numerous establishments attended by mothers and children, such as Women’s Advisory Clinics, maternity homes, creches, kindergartens, Children’s Advisory Clinics, rest homes, personal-hygiene clinics, sanatoria, pioneer camps, schools, factories and offices. The multitude of places at which health education is carried out is a special feature of the USSR, and a guarantee of the effectiveness of such education.

The points covered by this system of health education have been mentioned in every case in discussing various measures adopted for protecting the health of women and children and there is no need to return to the subject here.

On the other hand, emphasis should be laid on the variety of the methods used and the multitude of audio-visual aids developed.
For oral propaganda, apart from lectures, talks and study groups, there are discussion sessions and question-and-answer evenings which arouse popular interest.

Wireless and television programmes are widely used and members of the Group saw short cartoons on accident prevention during television programmes in the Ukraine.

All the other means of visual propaganda are very widely used: posters, pictures, diagrams, exhibitions, models, film shows, etc. The Group was able to see several excellent films made by the Central Institute for Research on Health Education, dealing with abortion, nervous children, and the prevention of accidents.

The fact that everyone can read and write gives particular importance to printed health propaganda. Several monthly health-education magazines are published, some in an edition of 800,000 copies, which is still not enough. Books, pamphlets and albums are published by a special publishing house, and the Group was struck by their diversity and their sometimes luxurious finish.

Nothing seems to have been overlooked in this sphere.

During their normal courses of study all doctors and para-medical staff are given the training essential for carrying out this health education.

Furthermore, specialists are trained in courses lasting from two to six months. In addition, they must attend a refresher course every five years at the Central Institute for Research on Health Education in Moscow and take part in the seminars organized locally by that institute.

In conclusion, the Group has considered it necessary to lay emphasis on health education, not only because it is very important in the maternal and child health services but above all to show how the Soviet Government puts ideas into practice. Health education applied on this large scale is probably to be regarded as one of the main factors in the improvement of public health.
THE TRAINING OF STAFF

The Soviet Government set up after the Revolution immediately realized that any scheme for developing the health services depended in the first place on the staff at its disposal. In 1917 this was very inadequate in comparison with the immense size of the country. In order to meet its needs rapidly, the Government has continued to train a category of physician's assistant, known as the feldscher (see page 57).

At the same time, a policy of intense training of the ordinary types of staff (doctors, midwives, nurses) was pursued and the results of this policy have been cumulative from year to year, in accordance with a well-known law of development.

Before entering the medical faculties or the schools for nurses, midwives or feldschers, students undergo a basic training of which we studied the outlines.

Medical staff

While the faculties of literature, law and the sciences are dependent on the Ministry of Education, the teaching of medicine falls within the jurisdiction of the Ministry of Health. There is therefore, a natural link between the teaching of medicine and public health. Programmes are adapted to the needs of the country and training has a practical nature which increases its effectiveness. The number of physicians trained and the branches in which they are to specialize are determined in accordance with actual vacancies and the number of additional posts envisaged in the development plans.

A second point is also worthy of emphasis and that is the existence, side by side with faculties of medicine in the proper sense, of faculties of paediatrics and faculties of epidemiology and hygiene, grouped together in the "medical institutes".

This is a logical development of the division of the health services into three main sections, each of which is concerned with somewhat different subjects.
For admission to a faculty of medicine the student must pass an examination on the subjects taught during the last year of his basic training, i.e., physics, chemistry, a foreign language and the history of Marxism-Leninism.

The examination is the same for all the medical faculties, but when registering the candidate will have had to opt for one of them. The number of places varies from one faculty to another and from year to year and is fixed by the Ministry of Health.

Since 1958, a student has not been permitted to undertake university studies till he has completed two years' practical work in a factory or other public establishment. In the case of candidates for the medical institutes, a period of practical work in a health establishment can be substituted. This measure reflects the wish of the Government to reduce the difference between manual and intellectual workers.

In 1960, as a temporary measure, 20% of the students were still exempted from this practical training period.

Attention should also be drawn to the facilities given to paramedical staff to gain full medical qualifications. Account is taken of their experience, which is considered invaluable, and whereas the student coming from the secondary school must obtain a mark of 20 to be admitted to the medical school, 16 is sufficient for a candidate from the paramedical services. At the moment, 60% of students are former members of the paramedical services and this practice involves no difficulties, since the basic studies are practically the same. Finally for those who must continue to exercise their profession while studying, there are evening faculties. These faculties work from five p.m. to nine p.m., thus providing 24 hours teaching time per week instead of the 36 hours in the day faculties. Thus in three years they cover the normal programme of the first two years. After three years the candidate can attend the regular courses, being granted a scholarship but continuing to draw his salary. In 1960, 100 students were thus enrolled for the first-year courses of the evening faculty of the Second Moscow Medical Institute.

Scholarships, the amount of which increases as the student advances in his studies, are given to 80% of students. They amount to 220 roubles in the first year, 240 in the second, 380 in the fifth and 480 in the sixth year. From the sixth year onwards, a student performing a doctor's work can also receive a doctor's salary. The best students receive a special scholarship called a Lenin Scholarship, worth 800 roubles per month.

Many students are housed in student hostels, two or three to a room, for a very low rent, amounting to 15 roubles a month in Moscow. They can also eat very cheaply in the university restaurants.
In the faculty, the student has six years of study. During the first two years he is taught the fundamental sciences in theoretical courses and practical work. He does not yet do any clinical training in the hospital but must spend six hours a week in a ward carrying out the basic nursing techniques (therapeutic work being excluded). The teaching is the same whatever the faculty chosen. Indeed, it is only from the third year onwards that the studies diverge and the students must choose between three branches — general medicine, epidemiology and hygiene, and paediatrics.

In the third, fourth and fifth years in the faculty of paediatrics, he will attend courses similar to those given in the medical faculty (medical and surgical pathology, morbid anatomy, bacteriology, and medical biochemistry) with, in addition, special courses in paediatrics: in the third year elementary paediatrics, in the fourth year general child pathology and in the fifth year special child pathology. He has to undertake periods of practical training in the various disciplines, both in hospital services and in the advisory clinics, but the sixth year is entirely devoted to inservice training in paediatrics. Examinations are held once a year.

Any student who fails in an examination may take it again once or twice, and before he is finally sent down his case is considered by a committee which includes a student representative.

After six years' study, if he has passed his examinations, the student obtains his practitioner's diploma. He must then take up the post to which he is appointed by the Ministry of Health. It should be noted that 75% of doctors are women and that the proportion is still higher among paediatricians.

Any student can undertake post-graduate studies after the three-year period of practical work in the medical post to which he is appointed by the Ministry. In some republics, students who pass their final examinations with distinction may be exempted from this requirement.

After these three years of practical experience the doctor may either undertake an "ordinatura", which gives him a higher qualification as a practitioner, or an "aspirantura", which leads to research and teaching.

"Ordinatura". Any doctor, after three years, can ask to be transferred to a teaching department or an institute to improve his qualifications. The training period is for two years. The certificate obtained does not alter his practitioner status but gives him access to executive posts and a higher salary.

"Aspirantura". The "aspirantura" opens the way to research or teaching. Entry to it is by competitive examination. The student is examined in three subjects — pathology, the history of Marxism —
Leninism, and a foreign language. The selection board is composed of professors from the faculties or institutes in which the "aspirant" will work. The marks given range from 0 to 5, but a mark of less than 3 in practice means rejection. This difficult examination is passed by only 65% of the candidates.

The "aspirantura" lasts for three years, during which the "aspirant" works, under the guidance of a professor, at medical care and research and prepares his thesis. He takes part in teaching, acting as assistant, but only gives two lectures a year. His thesis is considered by the Scientific Council of the faculty or institute in which he is working. If it is satisfactory the Council proposes to a Degree Board of the Ministry of Higher Education that he be granted the degree of "Candidate of Medical Sciences".

A Candidate of Medical Sciences pursues his research work on his own. He may prepare a thesis which will gain him the degree of "Doctor of Medical Sciences". In general five to ten years are required to prepare the thesis and to present it to the Scientific Council of the Institute and then to the appropriate Section of the Academy of Medical Sciences, which assesses its value and then submits to the Ministry a recommendation that the candidate be awarded his doctorate.

A Candidate of Medical Sciences may also teach as a "docent". When a "docent" becomes a Doctor of Medical Sciences, he may also be nominated to a professorship whenever there is a vacancy.

Any degree acquired through these competitions raises the doctor in the administrative scale, and any doctor may try to obtain one. Great numbers of doctors do so and the selection thus made is extremely valuable.

**Paramedical personnel**

There are three categories of paramedical personnel in the USSR: feldschers, midwives and nurses.

*The feldschers* are the highest category of paramedical personnel. Although their training tends basically to make them workers in preventive medicine, they obtain sufficient knowledge to carry out simple diagnoses and give ordinary treatment in uncomplicated cases. They are, therefore, assistants to the physicians, taking on certain responsibilities but working in theory under the supervision of a fully qualified doctor, whom they must consult within three days if any treatment begun is not giving satisfactory results.

A *Feldschers’ Handbook* is published by the USSR Ministry of Health. It contains every sort of information on the recruitment, training, administrative status and functions of feldschers. Up till
now the feldscher has been, above all, an auxiliary doctor, employed in a hospital or, in most cases, occupying a medical post in a rural area together with a midwife (feldscher-midwife post). Although the number of doctors is continually increasing and is soon to be sufficient to meet all requirements, the training of feldschers will continue and they will then form a category of highly qualified male or female nurses.

The midwives deal with births in hospitals and maternity homes and give ante-natal care, including training for painless childbirth, in the women's advisory clinics in the cities or in the collective-farm medical posts, so common in the countryside. In the rural areas, on the collective or state farms, they also supervise the health of children in their early years.

The nurses are multi-purpose nurses, trained for hospital work as well as public-health work.

Paramedical personnel are trained in the same way in all the Union Republics and training is directed by a special department of the USSR Ministry of Health. In each republic training is carried out in special schools called "schools for medium-grade personnel", separate from the faculties of medicine, which are reserved for medical students proper, but like them coming within the jurisdiction of the Ministry of Health. The training is completely free of charge.

The general syllabuses are, then, the same for every republic but in accordance with local requirements the accent is placed on particular points in the syllabus or else new subjects are added. Thus in Uzbekistan emphasis is laid on the control of parasitic diseases, such as leishmaniasis or the helminthiases.

Recruitment

In each republic a special committee selects candidates for the medical and paramedical professions, taking into account the needs of each part of the republic. Other things being equal, preference will be given to a candidate from an area where requirements are still great. In accordance with this principle, in 1960 60% of all the pupils in the paramedical schools in Uzbekistan came from rural areas, particularly the collective farms.

The length of the study course depends on the basic education of the pupil, which may have lasted seven or ten years. The course of training for feldschers and midwives with only seven years' schooling lasts four years. In the case of students who have been ten years in primary and secondary school the course lasts 2½ years. In the case of nurses the figures are three years and two years respectively.
In contrast to what happens in most other countries, paramedical training is not based on in-service training in hospitals. Demonstrations are given in the classroom by means of audio-visual aids, including a large number of pictures, diagrams, photographs, wax models, various instruments and even anatomical specimens. Pupils do a course of practical training of 2½ months in a hospital. Other practical training periods are laid down, for instance, in a Sanitation and Epidemiological Centre for the teaching of environmental sanitation and epidemiology, and in a City or Rural Polyclinic.

**Correspondence courses**

The study group was very interested in the existence and results of correspondence courses for training paramedical staff. This training, which is also free of charge, is available to unqualified paramedical staff working in medical establishments and wishing to improve their knowledge in order to obtain a diploma. The correspondence course for intending nurses lasts four years for pupils with seven years' basic education and three years for pupils with ten years' education.

In Uzbekistan these correspondence pupils do a two months' practical course in Tashkent every year. As students they are entitled to an annual leave of two months, during which they continue to draw their full salary. Upon qualification the student receives a diploma which mentions the fact that his training was by correspondence. This form of study is very popular, as will be seen from the figures given in Uzbekistan: there are between 5,000 and 6,000 persons on the waiting list for correspondence courses, and in 1960 out of 620 correspondence students 71 received diplomas in a paramedical branch.

**Refresher courses — courses of further training — promotion**

All paramedical workers can improve their qualifications in various ways. There are refresher or further-training courses that the worker may take while actually holding a post and these are open to every member of the working staff. The government is anxious that the staff should always keep abreast of the latest developments in science. They are therefore called upon to attend refresher courses, the length and frequency of which depend on their branch of activity and vary from two to six months every three to six years. In some places the executive officials are given the task of organizing seminars or giving lectures every month on the premises of their establishment.

Sometimes it is research workers from various institutes who visit the establishment and organize these seminars.
Specialization

A person who after several years' practical experience wishes to work in a different capacity can attend special training courses in various branches. Thus nurses may become health visitors or specialize in electrocardiology, laboratory work on physiology, chemistry or radiology, dietetics or physiotherapy.

Feldschers can specialize in environmental sanitation, diet, laboratory work and dental care.

Finally, it must be recalled that it is relatively easy for paramedical personnel to obtain admission to medical faculties and to obtain a diploma identical with that received by ordinary medical students.

Non-medical personnel

The group visited numerous institutes, hospitals, sanatoria, crèches and kindergartens, and saw doctors and paramedical personnel co-operating with non-medical personnel such as P.T. instructors, teachers, music teachers and legal experts, most of whom are concerned mainly with the development of the child.

There are institutes for training this teaching staff, some of them important enough to be allowed to issue university diplomas.

In addition, the maternal and child health establishments employ a category of staff with no diplomas (cooks, maids, cleaners, nurse-maids, etc.) who also keep up and improve their practical knowledge during working time.
RESEARCH

The important role played by scientific research has already been mentioned in the section on the basic principles of public health in the USSR.

Two points drew the particular attention of the Group: the planning of scientific research and the tendency of the Government to encourage applied research.

The Soviet Government has successfully adapted its general administrative structure to scientific research and in this sphere the USSR probably has the most strictly organized system. Once a research plan has been approved, credits are allocated, all departments concerned give their co-operation, co-ordination between various research workers is ensured and there is no unnecessary duplication. Certainly, research workers may find themselves engaged on work they have not chosen but, in general, their work is not imposed on them. During visits to several research institutes, the Group noted the interest of young research workers in the subject of their study. The Study Group was told that in addition to the matters of general interest on which the Government has asked them to carry out research, research workers may also work on subjects of their own choice.

At the head of medical research is the USSR Academy of Medical Sciences, a State body attached to the Ministry of Health. It is quite distinct from the USSR Academy of Sciences (known as the "big academy") which has no medical section, but of which a few professors in medical institutes are members. Joint annual meetings ensure liaison between the two Academies.

The number of Academicians is fixed at 258 (108 full members and 150 corresponding members) divided into three sections: clinical medicine; medical biology; and sanitation and epidemiology. Four paediatricians and four obstetricians are members of the clinical section.

The USSR Academy of Medical Sciences is now the sole institution for organizing and co-ordinating medical research and 29 institutes
are attached to it out of the 270 research institutes of the Soviet Union, the 241 others being attached either to the USSR Ministry of Health or to the Ministries of Health of the Union Republics or even to the Oblast or Rayon Health Departments.

In Moscow, for example, there are three institutes for research in gynaecology and obstetrics: the Institute attached to the USSR Academy of Medical Sciences, the Institute attached to the R.S.F.S.R. Ministry of Health and, finally, the Moscow Oblast Institute. Where there are several institutes covering the same discipline, one of them is designated as the leading institute.

The Institute of Paediatrics of the USSR Academy of Medical Sciences in Moscow is one of the 20 institutes of paediatrics, gynaecology and obstetrics in the USSR.

In addition, most Union Republics have their own Academy of Sciences, which includes a medical or medico-biological division; there will also be a scientific council attached to the Ministry of Health and sometimes paediatric associations and societies of obstetricians and gynaecologists.

Academies of Sciences in Union Republics are directly attached to the USSR Academy of Sciences. Few doctors are members and the Republican Academies intervene very little in medical research.

On the other hand, the role of the Scientific Council, of which the leading research workers in the Republic concerned are members, is much more important. It is the Scientific Council which organizes and co-ordinates medical research inside each Republic.

The associations of paediatricians and of obstetricians and gynaecologists are non-governmental organizations, some of whose members are research workers and others practitioners. Their essential function is to disseminate knowledge of the latest medical progress.

The USSR Academy of Medical Sciences is directed by a Praesidium, of which the Minister of Health is an ex-officio member. It meets in plenary session once a year. The permanent officials of the various sections meet much more often and organize general meetings either in Moscow or in the various Republics. Each section has what are known as Problem Commissions. Each of these commissions receives reports from all the institutes or establishments in the USSR working on the subject with which it is concerned. Every member of the commission is responsible for a particular subdivision of the subject.

For example, there is a sixteen-member problem commission concerned with the health of mothers and newborn babies. The majority of the members are obstetricians, some are paediatricians; some deal more particularly with painless childbirth, others with gynaecological diseases, etc.
These Problem Commissions keep the Academy informed of the most important matters requiring investigation and propose subjects for research to the institutes. The proposals are made in the middle of the year and the institutes have to reply and send in their draft research programmes by the end of the year. There is a seven-year research plan which came into operation in 1958, but it only gives a general outline and so far precise proposals have had to be made each year. However, this rather restricted time-limit is going to be increased to two years and there are already plans covering several years.

In return, the institutes in the various Republics may also propose subjects for research. If the Academy knows that the research is being undertaken elsewhere under better conditions, it informs the institute of the fact, although the institute retains the right to carry on the research suggested.

All the data concerning research schemes accepted are published so that each research worker is kept informed. Research workers dealing with the same subject can thus be continuously in contact with one another. Furthermore, once a year they receive reports sent to the Academy and, sometimes with greater frequency, bulletins issued by their "leading institute". In the institutes themselves, research is directed by the Scientific Council, which consists of the director of the institute, his deputy-director for research, the scientific secretary and the heads of departments.

It is the Scientific Council that every year decides on the work to be undertaken, in accordance with suggestions made by the research workers of the institute and with the directives received from the USSR Academy of Medical Sciences or the Scientific Council of the Republic concerned. Its proposals are sent to the Academy, either directly, if the institute is directly attached to the Academy, or through the Scientific Council of the Republican Ministry of Health.

The second item which deserves special attention is the close co-ordination between the research institutes and the health services. The suggested subjects for research may either arise from the personal experience of the research worker or be suggested by his readings in the world literature. In most cases, however, research is directed along lines suggested by analysis of the results obtained in the maternal and child health services or by the local pattern of general morbidity or occupational disease. With this in mind the annual reports of all health-service establishments are studied by the research institutes. Research, then, aims at solving problems posed by practical experience, such as means of diagnosis, prevention and treatment, and a more rational organization of the health services.
Furthermore, throughout the USSR there are "Bureaux of Inventions and Rationalization" in establishments administratively subject to the Ministry of Health, which consider suggestions made by individual research workers.

Suggestions accepted are put into practice after discussion with the directors of establishments and institutes and in some cases with practitioners.

Indeed, one of the most striking features is the tendency to associate the practitioner with research. It is partly on the basis of the facts gathered by the practising doctor that research schemes are based. By interesting practitioners in research, an attempt is made to raise the general level of their qualifications, to break through their isolation and improve their work.

Professors are responsible for application of this principle and, with that in view, every faculty professor is generally given the duty of providing scientific assistance to an oblast or rayon. Professors, specialists and research workers visit the practitioners from time to time and work with them in the field or in the hospital. Exchanges of doctors between university faculties, institutes and rayon medical establishments are encouraged.

This shows the extent of the efforts characteristic of the USSR to abolish the gap between medical research and medical practice.

Subjects for research in maternal and child health

The USSR Academy of Medical Sciences has recommended research on some subjects considered to be of the greatest importance. Five main subjects make up the programme for research in obstetrics and gynaecology:

1. The organization of obstetrical and gynaecological care (establishment and new methods of work).

2. Painless childbirth and anaesthesia in gynaecology and obstetrics (the psychoprophylactic method, drug anaesthesia and spasmyotics).

3. The achievement of a decrease in stillbirths and neonatal morbidity (prematurity, asphyxia, intracranial haemorrhage, incompatibility between fetus and mother in respect of the Rhesus and other factors, congenital infectious diseases (e.g. toxoplasmosis) and fetal physiology and pathology (development, susceptibility and resistance).


5. The prevention and treatment of gynaecological disorders (inflammatory disease, hormonal dysfunction, tumours, sterility and the effect of work on the female organism).
Research in paediatrics is guided by a Child Health Committee, an advisory body of the Praesidium of the USSR Academy of Medical Sciences. It consists of 25 members, all paediatricians, and has 12 Problem Commissions, whose subject list reflects the main preoccupations of Soviet research in this sphere. The twelve main subjects are:

1. The protection of new-born and premature babies.
2. Respiratory diseases.
3. Diseases of the blood and blood-forming organs.
4. The development and training of children.
5. Rheumatic diseases.
7. Infectious diseases.
8. Tuberculosis.
10. Rickets.
12. The nutrition of young children.

This list is a good indication of the tendency for research to deal with problems which may have practical applications. Tuberculosis, for example, is studied mainly from the aspect of BCG vaccination.

It will be also noted that some subjects are among those that preoccupy many other countries, e.g., rheumatism, prematurity and respiratory disease. On the other hand, it seems a little surprising to find rickets among the twelve main subjects. Indeed, rickets is still considered an important problem, which is astonishing in a country where breastfeeding is general and preventive methods such as vitamin therapy and ultra-violet ray treatment for pregnant women or babies are applied on a large scale. It seems that most cases to which the term "rickets" is applied involve only very slight disorders.

Soviet medical research is not limited to these main subjects, although they cover such a wide field. As the report on the previous seminar pointed out, research subjects are often connected with the experimental physiology and pathology of the higher nervous system and, in that case, are always based on Pavlov's theory of conditioned reflexes.

In the Paediatric Institute in Moscow the Group visited the laboratories of Professor Shchelovanov, in which the psychomotor development of children is studied by means of the establishment of conditioned reflexes, the appearance of which indicates a certain degree of maturity. This objective method is considered by Soviet scientists to be more exact than the tests used elsewhere, in which the personality of the observer obtrudes.

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1 Public health papers, No. 3, Geneva.
Although the Group did not visit a large enough number of important paediatric services to gain an overall impression, it seemed that little research was being done on some subjects high on the research list in other countries, such as diseases of the metabolism and renal disorders.

The credits allocated to medical research are relatively large. The USSR Academy of Medical Sciences has an annual budget of 240 million roubles from the Union Government, and other credits are allocated under the budget of each Republic.

The installations visited by the Group were modest and the buildings extremely simple. Often, converted premises were used, not initially designed for research. The equipment, and particularly the laboratory material, was adequate. Most of the technical apparatus came from abroad. In contrast to this absence of "frills", the actual organization of research appeared to be on very rational lines. Laboratories were close to the clinical departments and both laboratories and clinics had large staffs. The research undertaken dealt with various aspects of the same problem.

An example of this type is the Institute of Female Physiology and Pathology at Tbilisi, in Georgia, which deals with the question of sterility. The research was inspired by the low rate of population increase in Georgia, which at 17.5 per thousand was one of the lowest in the USSR. Research deals with sterility in men as well as sterility in women. The examinations undertaken are very complete: clinical, radiological and endocrinological. Simultaneously, experimental research on animals aims at evolving surgical techniques permitting the restoration of tubal patency. One section of the institute carries out research on the social causes of sterility, particularly the reasons for late marriage. Each section is headed by a highly qualified physician or other specialist, and the research as a whole is supervised and co-ordinated by the director of the institute.

The training of scientific research workers was dealt with in the chapter on medical training (see page 54).

It should be added that, during his studies, the medical student may join a research group attached to a department in his Faculty and thus begin to make himself familiar with the techniques used.

During his "aspirantura" he is guided by a professor and may also attend certain special courses in an institute for the further training of physicians. There are, however, no special courses to train the student or the physician for scientific research.

All research workers must know one foreign language and are thus able to study some of the foreign literature. In the establishments visited, this consisted mainly of books and journals from neighbouring countries.
Since the end of the Second World War, exchanges between the USSR and other countries have increased. Soviet scientists take part in international meetings and congresses. Foreign scientists are invited to the USSR and there is a system for exchanging professors and research workers with some other countries.

Certainly these exchanges will be advantageous in allowing the Soviet scientists to come out of the relative isolation in which they have lived for 30 years. On their side, the visitors will surely be impressed, as members of the Group were, by the rational organization of medical research in the USSR and by the practical results already obtained. It is very probable that in the coming years Soviet medical research, which has the advantage of a very solid foundation, will come to the forefront of world research, as has already happened in other fields.
CONCLUSIONS

The object of this report is to outline the structure and mode of operation of the maternal and child health services in the USSR.

The principle on which the services are based is to give the individual, from birth onwards, the benefit of permanent medical supervision, to train children to become citizens enjoying not only good health but a proper place in society, and to enable a woman to be both a mother and a citizen, as useful as possible to the community without her child having to suffer for it.

This concept is consonant with the political and social system in the Soviet Union. The principle has been put into practice systematically for the last 40 years by training numerous medical and paramedical workers and establishing health services with their main emphasis on preventive medicine.

The maternal and child health services in the USSR constitute an important section of the Ministry of Health, with a certain amount of autonomy, but the general organization is such that integration is complete and this autonomy does not affect the functional unity of the public-health services.

This report has sought to remain objective and to describe rather than to praise or criticize. Everyone is entitled to his own opinion regarding the fundamental concept and the organization based on it. It is certain, however, that most members of the Group, coming from countries in the course of economic development, where medicine must be essentially preventive, were greatly impressed by the concept and its methodical application.
Annex 1

LIST OF PARTICIPANTS

<table>
<thead>
<tr>
<th>Country</th>
<th>Name</th>
<th>Title/Position</th>
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<tbody>
<tr>
<td>Afghanistan</td>
<td>Dr Nizamuddin Shahabzadah</td>
<td>Chief of Maternal and Child Health Clinics</td>
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<tr>
<td></td>
<td></td>
<td>Ministry of Health, Kabul</td>
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<tr>
<td>Argentina</td>
<td>Dr Mario Waisman</td>
<td>Assistant Professor of the Paediatric and Puericulture Clinic</td>
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<td></td>
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<td>of Buenos Aires University</td>
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<td>Dr Ko Ko</td>
<td>District Health Officer, Insein</td>
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<td></td>
<td>Directorate of Health Services</td>
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<td>Cambodia</td>
<td>Dr Long-Nget</td>
<td>Chief, National Maternal and Child Health Service</td>
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<td>Ministry of Health</td>
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<td>Chile</td>
<td>Dr Jorge Rosselot Vicuna</td>
<td>Chief, Training Centre for Maternal and Child Health</td>
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<td>National Health Service</td>
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<td>Ghana</td>
<td>Dr Susan B. G. Ofori-Atta</td>
<td>Paediatrician, Princess Marie Louise Hospital</td>
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<td>Dr Eliza Sebastian</td>
<td>Assistant Director of Health Services</td>
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<td>(Maternal and Child Health)</td>
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<td>Kerala State</td>
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<td>Indonesia</td>
<td>Dr Achmad Dipolidogo</td>
<td>Director of the Maternal and Child Health Division</td>
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<td>Iraq</td>
<td>Dr Salma Sheikh Nuri</td>
<td>Director of Maternal and Child Health Services</td>
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<td>Dr Masao Matsuo</td>
<td>Chief, Maternal and Child Health Section</td>
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<td>Children's Bureau</td>
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<td>Liberia</td>
<td>Dr Archibald Johnson</td>
<td>Medical Director</td>
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<td>Nigeria</td>
<td>Dr R. A. S. Dikko</td>
<td>Principal Medical Officer</td>
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<td>Kaduna</td>
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<td>Northern Nigeria</td>
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Social Paediatrician
Health Services
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Faculty of Medicine
Dakar
Correspondent of the International Children’s Centre for Africa

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Tunis

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World Health Organization Regional Office for South-East Asia

Editorial Committee:
Dr. Asghari Khanum Awan
Dr. Amor Daly (Rapporteur)
Dr. Ahmad Dipolilogo
Dr. Ghassan Jallad
Dr. Jorge Rosselot Vicuna
Dr. Jean Sénécal (Chairman)
Dr. Mario Weissman
LIST OF PRINCIPAL INSTITUTIONS VISITED

**Moscow**
Institute of Paediatrics of the USSR Academy of Medical Sciences. Combined children’s hospital and polyclinic in the Kalinin district. Sanepid Centre of Moscow (urban sanitary and epidemiological services). “Krasnaya Pasha” Sanatorium No. 57 (rheumatic diseases). Secondary General Polytechnical School for Industrial Training, Lenin District of Moscow. Combined crèche-kindergarten No. 304 in the Frunze district. Sanatorium for pregnant women (Sokolniki Rest Home). New University of Moscow. Institute of Health Education. Faculty of Paediatrics of the Second Moscow State Medical Institute. Sklifosovsky Emergency Station. USSR Academy of Medical Sciences. Milk kitchen in the Kryllyshev district.

**Kiev**

**Yalta**
Lenin All-Union Pioneer Camp, ARTEK. Tuberculosis sanatorium for young pioneers at Simex. Ukraina sanatorium for adults.

**Tbilisi**

**Sukhumi**
Children’s home. Institute of Pathology and Therapy of the USSR Academy of Medical Sciences. Feldscher school.

**Batumi**
Chakva sovkhoze tea plantation, Kobuleti district. Crèches, kindergartens, sovkhoze hospital, maternity centre, women’s and children’s consultation centres in rural polyclinic.

**Tskhaltubo**
Tskhaltubo children’s sanatorium. Tskhaltubo branch of the Institute of Scientific Research in Balneotherapy (for gynaecological patients).

**Tashkent**

**Samarkand**
Lenin Sanatorium (for children suffering from tuberculosis of the bone).
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