2. The report is a discursive one touching on most aspects of medical service and public health.

3. Organization charts of the Rural Medical Service, Administration of Medical Education, and Public Health Education are included. The report contains no recent statistics; figures given relate to the pre-revolution medical situation.
Background for Russia.

To understand the organisation of the medical services of Soviet Russia, some knowledge of the geographical, physical and social condition of the country is essential.

The Soviet Union covers about nine million square miles and has a population of 201 million. It stretches from the Arctic in the north to the subtropical regions of Central Asia in the south and from the Pacific in the east to a line more than 5,000 miles long (starting from the Baltic to Turkey) in the west. All varieties of geophysical conditions are met. The natural potentiality of the country is said to be unlimited and as yet greatly unexplored.

Anthropologically the Russians are a heterogeneous race, and culturally and economically, until recent years, greatly diversified. All known diseases were present in small or large measure, chiefly large.

It was the medical and health aspect of the present U.S.S.R., especially in the fields of preventive medicine and rural health, with which we delegates from Burma were chiefly concerned. The present system starts with the establishment of a new social order - a Socialist State - dating from the 1917 revolution.

History of Russian medicine

The history of Russian medicine is full of epidemics of plague, typhus, cholera, smallpox and similar preventable and environmental diseases. Famines, over-crowding, insanitary conditions and malnutrition contributed greatly to the morbidity and mortality rates from these diseases. Health knowledge was poor; belief in magic-rites and unfounded folk medicine was rife, fostered by the "medicine man" and witch doctors. The story of Rasputin proves that such belief existed even in the minds of the highest in the realm.

There was no medical service in the land except at the Courts and in a few big cities until recent years.

Historical: During the 11th and 12th centuries physicians were invited from the Middle East (Byzantium, Syria and Armenia). 13th and 14th centuries: saw a few western physicians.

15th to 17th century: many English and a few German and Dutch physicians came to Russia.
in 1581 - The first pharmacy was established in Moscow by James FRENCHMAN, and English apothecary, for the benefit of the court and its followers.

in 1620 - A Board of Pharmacy was established to check the potency and toxicity of drugs and to distribute imported drugs. This Board of Pharmacy later undertook the work of checking the qualifications of incoming physicians and surgeons and granting them certificates to practise in Russia.

in 1672 - The Board became the Chamber of Pharmacy.

in 1682 - The Chamber established the first hospital in Moscow, mainly for war veterans and incurables, and selected and sent Russian students for training outside Russia.

in 1725 - The Pharmaceutical Chancellery, under Robert ERSKINE, trained surgeons whose duty was to inspect hospitals and pharmacies.

in 1726 - Academy of Science was established.

in 1736 - Medical Faculty established. This provided full training for medical students.

in 1770 - Venereal diseases hospital founded in the reign of Catherine the Great.

in 1790 - Medical Boards in provincial towns were set up.

Local Government (Zemstvo)

At the beginning of the 19th century Russian medicine was very backward and health and sanitary conditions were in a hopeless state. With the abolition of serfdom in the middle of the 19th century, Local Government (or Zemstvo) was introduced in 1864, to decentralize administration. The Zemstvo was a district assembly elected by the inhabitants (but not on the basis of universal suffrage). The votes were divided in the ratio of one for landowners, one for the middle men (bourgeoisie) and one for the peasants while taxation was in the proportion of 11 to 19 to 37.

The Zemstvo also administered charity and welfare institutions, education, public health, etc.

At this time, 1865-70, the provincial capitals had hospitals of 50 to 300 beds, and districts had hospitals of 20 to 150 beds.
The provincial hospitals were expected to have one physician per 50 beds and one Feldsher per 25 beds, but this was not always possible owing to shortage of doctors. The peasants, though contributing the major share of the revenue for the hospitals, rarely enjoyed hospital facilities as they were mainly for the war-wounded and convicts.

Zemstvo was asked to take over the medical service at this stage when hospitals were in poor condition and health service in the rural areas did not exist.

Zemstvo repaired existing hospitals and organized two systems by which health services could reach the villagers:

1. The touring system by which physicians toured villages and gave advice and permitted Feldshers to carry out treatment,
2. The stationary system by which a doctor, two Feldshers and a midwife at a hospital enabled the villagers to visit the hospital for treatment.

By the first method the physician wasted a lot of time in travelling and it was only suited to very sparsely populated areas. The second system proved better, as the physician stayed in one place, saved time and energy otherwise spent in travelling, had the facilities of the hospital available and could work with the aid of the Feldsher and midwife. The Feldsher was thus made what he was meant to be, namely assistant to the physician.

In 1870, when Zemstvo started, there were 756 medical stations, but by 1890 there were 1805 stations along with full personnel.

The Zemstvo medical administration was run by executive boards of district and provincial assemblies, i.e., non-medical personnel. They were advised by the Zemstvo physicians.

Zemstvo arranged salaries, increments, living quarters (free of charge) and travelling expenses and pensions for their physicians.

In 1892, there were 12,000 physicians in Russia of which 16% or 2,000 were in the service of Zemstvo.

Thus Zemstvo was the first attempt to give rural Russia an organized health service. It made a study of the medical topography of Russia and was powerful enough to force factory owners and labor-employed industries, etc. to maintain physicians
for the welfare of their workers.

As Zemstvo was maintained by the contribution of the people and the services were free, this was the first large scale attempt at organizing medical service as a public (free) service, on lines of national insurance.

Basic Statistics

In 1900 there was one physician per 25,000 of the population and one medical station of 50 to 300 beds per 36,000 of the population.

In 1913 there existed, for 80 million agricultural people, 4,367 medical stations, 4,539 fieldshers stations and 49,000 beds. Though the service was far from satisfactory, it managed to create a medical organization with a network of medical stations all over the country and accustomed the people to the idea that medicine was not a trade, but a public service free to and the right of all.

The death rate was about 30 per 1,000 and the infant mortality rate was 24½ per 1,000 births; these two figures are good criteria of the health status of any region.

This was the condition in 1914.

After four years of war, with its loss of a large percentage of physicians, destruction of hospitals and famines caused by war and pestilence the country in 1918 was in a much worse condition.

Ministry of Health

On 11th July, 1918, the People's Ministry of Health was established as a central body, its purpose being:

(1) To provide qualified health and medical services, free of charge, to all workers.
(2) To carry out public health measures for all including
   (a) Sanitation (protection of soil and water)
   (b) Establishment of communal feeding (with proper balanced and hygienic diet)
   (c) Prevention of the development and spread of contagious diseases and
(3) To combat social diseased (T.B., V.D., Alcoholism, Etc.)

The Commissariat of Health controlled the health administration of all the constituent republics until 1923. Since then the decentralization of administration under central directive has been adopted. The health work of the entire country is planned and controlled by a central agency and executed by the different constituencies.
The Structure of General Administration of the U.S.S.R.

The Ministry of Health of Soviet Russia is a supreme body which is required to initiate policies for relief, education and research in the medical field. It also has the duty and power to enforce the maintenance of a certain standard. Its power extends throughout Russia, but is distributed, for administrative purposes to constituent republics.

The structure is thus given in a diagramatic form:

SUPREME COUNCIL OF THE U.S.S.R.

Supreme Council of Constituent Republic

Council of People's Council of Ministry of Health of Constituent Republic
Ministry of Health of U.S.S.R.

Ministry of Health of Public Health of Constituent Republic

Public Health of U.S.S.R.

Regional Territorial Regional Territorial
Council of workers Dept. of Pub. Health
Delegates - Exec. Comm.

City Council of Workers City Health Department
Delegates - Exec. Comm.

District Council of Workers, Delegates District Health Dept.
Exec. Comm.

Village Council of Workers
Delegates - Exec. Comm.
While conceding that the constituent republics are sovereign and that each has its own constitution to suit its special socio-topographical condition, the constitution should conform to that of the Constitution of the U.S.S.R., so that planned economy to protect the people's health in all the republics is possible.

For ease of administration the country is divided into the following:

- Group of villages
- Group of towns and villages
- District (raions)
- Territory (krai)
- Region (oblast)
- Republic
- Union

The Soviets of each of these divisions are elected for two years. They direct the activities of the organs of administration subordinate to them, ensure public order and observance of the law; protect the right of the citizen; direct local economic and cultural construction and draw up the local budget. The committee consists of a chairman, vice-chairman, secretary and members, and the committee is directly accountable to both the Soviet which elected it and the executive organs of the higher Soviets. The highest organ of state power of a Union republic is the Supreme Council, elected by the citizens of the Republic for a term of four years. It elects a President and Ministers and the body is called the Council of Ministers.

The highest organ of state power of the U.S.S.R. is the Supreme Council of the U.S.S.R. It has exclusive legislative powers and consists of two chambers.

1. The Council of the Union, elected by the citizens of the U.S.S.R. on the basis of one deputy for every 300,000 of the population.

2. The Council of Nationalities consisting of an equal number of deputies representing various nationalities.

Both councils have equal rights and all laws must be passed by both.

The Supreme Council, at a joint sitting of both chambers, forms the Government or cabinet -- the Council of the Ministers.
of the U.S.S.R. -- and is the supreme body of the legislature. Its decisions and orders are binding throughout the U.S.S.R.

The Structure of Soviet medicine.

Centralized direction and decentralized activity is well illustrated in the structure. "The health of the people is their own responsibility." Therefore the people are expected to start and administer that responsibility. Thus the base of the administration is very broad, like that of a pyramid. The base is formed by the various health committees from collective farms and factories and wherever people work and live and play and study. Each committee is usually further divided into sub-committees to deal with wages, social insurance, housing, work-kitchens and food, protection of labor and culture, etc. so that a great percentage of persons are actively connected with health and health administration directly or indirectly. The committees devote a great deal of their effort to cooperation with the physicians; the improvement of the workers' health; national use of social insurance funds; maximum utilization of kindergarten nurseries, sanatoria, etc. They organize lectures, exhibitions and health campaigns.

All this work is voluntary, but "as the Health of the people is their responsibility," also compulsory! Hence it comes about that many millions of people outside the health medical structure are actively participating in improving the health standard of people and inducing the population to respond to the efforts to do so.

By virtue of the powers and functions vested in it, the village and small town Soviets

1. Supervise hospitals and sanitary facilities maintained on the village soviet budget.
2. Take steps to organize sanitary inspection in homes and communal concerns and to combat venereal diseases, etc.
3. Propagate knowledge of personal hygiene, physical culture, etc.
4. Look after the insane and the sick (chronic) and cooperative workshops for invalids.
5. Maintain registers of insured persons and disburse benefits, etc.

The next higher administrative health unit is of the Raion (district). More than 3,500 raions exist in the U.S.S.R. The
health officer in charge of the Raion is the Inspector of
Public Health who is responsible for all health work in them.

Large cities may be divided into boroughs and the city
administration is equivalent to a Raion. The Health Department
of a city controls preventive and curative medical facilities,
and advises all medical institutions in the city or District.

The next higher health administrative unit is that of the
Krai (territory) and Oblast (region) which control all medical
activities within their respective areas.

At the Republican level, health is in the hands of the
Ministry of Health of that Republic which controls preventive,
diagnostic and curative medicine, research, medical education,
etc. inside that republic.

At the Union level, the Ministry of Health of the U.S.S.R.
besides being in administrative charge of all Republican Minis-
tries of Health, is also in charge of certain independent Sci-
cific and Research centers such as Research Chairs of Medicine
and other Medical studies, colleges, etc.

The Minister of Health (who is a medical person himself,
or herself as at present) is assisted in his work by the Colle-
gium and by the Scientific Medical Council. The former is an
advisory body on administrative matters consisting of the Minis-
ter, Deputy Minister, President of the Medical Workers' union,
Head of the Bureau of Finance of the Health Ministry and a
peasant delegate. Any other representative may be co-opted as
needed. To the Collegium is attached a body called the Planning
Commission whose duty it is to work out the details for carrying
out the policy recommended by the Ministry. These detailed plans
must have the approval of the Collegium prior to being put into
operation.

The Scientific Medical Council has no administrative res-
ponsibility. It is composed of medical scientists who advise
the Minister of Health on the best technique or therapy to deal
with a particular health problem. This council is composed of
all the best brains of all research and administrative institutes.

Inspector of Sanitation

The Minister of Health of the U.S.S.R. is also the Chief
Inspector of Sanitation of the U.S.S.R. The Deputy Minister
of Health of each Republic (who is in charge of the sanitation
of the Republic) receives from the Minister of Health uniform
policy directives modified to suit local socio-geophysical
conditions.
Inspectors of Sanitation are attached to the health department of every subdivision of government down to the raion (district). A minimum of one inspector per 25,000 of the population has been decreed. The duty of the inspectors is to see that minimum sanitary conditions are maintained in their fields of activity, especially with regard to: 1) food (composition, cleanliness, etc.), 2) eating places, 3) housing, 4) school hygiene, 5) industry and health, 6) health resorts, etc. The inspectors have legislative power to close premises that do not come up to normal standards and to inflict penalties. It is customary to fine an individual or group of individuals instead of a factory or hotel.

The Ministers of health, both in the Centre and in the republics, are men and women of high professional standing who are appointed by the Supreme Soviet. Besides carrying out their administrative work in the Ministry, they have other assignments in hospitals, colleges and/or research institutes. This, they claim, is an advantage because the officers are seldom out of touch with current medical thought, practice and progress, and this helps them in suggesting and formulating new policies and plans.

Financial allocation to Health

Roughly about 26 - 28% of the total revenue is said to be allocated to education and health. This is subdivided into:
- Education (incl. health education) . . . . . . . 50%
- Health and physical culture . . . . . . . . . . 20%
- Social insurance . . . . . . . . . . . . . . . . . . 26%
- Aids to mothers and children . . . . . . . . . . 4%
Total: about 130,000 million roubles
Exchange: 1 rouble = K 1.25
Barter value: 1 rouble = 25 pyas

Health Budget of Republics

Each Republican Health Ministry prepares its own budget estimates (with due consideration for the financial implications of the All-Union Health Plan which is a part of the five year plan) for health, including such subjects as physical culture, medical education, medical relief, building programs, etc.

These estimates are received at the Central Ministry of Health where they are examined. The requirements are seldom challenged. Occasionally extra grants are made to the Republics if what is considered an essential work by the Central Ministry has been allocated less or no money for the project by the local republic, rather than reduce the budget for one of their other items thereby upsetting a prearranged local program.
Medical Personnel and Medical Education

There are over 200,000 doctors in the Soviet Union and about 21,000 doctors graduate every year; many more are still required to work the preventive and curative services of the country.

The population of the U.S.S.R., as stated elsewhere in this report, is about 201 million and the rate of increase three million per year.

Yet in 1917 there was an acute shortage of physicians in Russia, and following the casualties of the civil war and the typhus epidemic, the shortage was so great that the state had to give training of medical personnel a high priority. Training was given in the old medical schools and more and more students encouraged to take up a medical training, regardless of sex, race and class, preference being given to children of workers and peasants. Entrance examination requirements were made exceedingly low; as a result, many students failed to graduate even though the standard of the examination was also lowered. The crucial problem was that of pre-medical education. To give the necessary pre-medical basic education, workers with at least three years’ work to their credit, who wanted to study medicine, had the opportunity to do so, were admitted to the Medical Workers’ Faculty. There, while still working at the factory, he was instructed in the basic sciences during a three to four year course, in literature, languages, mathematics, physics, chemistry and political science. This enabled him to appear and pass in the entrance examination to the Faculty of Medicine.

In 1922, the medical curriculum was altered to give emphasis to the prevention of diseases. Social hygiene instruction was given in all medical schools and communicable diseases were taught in detail.

This revised curriculum was unsatisfactory, as it crowded the course of study with too many additional lectures without much benefit to the student in way of practical experience.

In 1930, medical schools were divorced from the universities which were under the Ministry of Education and placed solely under the Ministry of Health. It was contended that the Ministry of Health knew more about the health needs of the country and the type and number of different workers needed for fighting the diseases.

The types of workers needed were:

1. Practitioners for general medical and prophylactic work.
2. Public Health Physicians
Medical schools were, therefore, divided into:

1. Faculty of General Medicine and Prophylaxis following a four-year course.
2. Faculty of Hygiene (three-year course), and
3. Faculty for the protection of mother and child (four-year course).

On this basis, a medical student began specialising from the start of his medical education. Lectures were largely replaced by seminars and laboratory discussions. All teaching became complex (or as applied to future clinical work). Students worked in groups. Final examinations were abolished and professors were required to judge from their collective work during the period of training whether or not a particular group of students were fit to be passed.

The physicians resulting from this system of training proved unsuitable.

In 1932 annual tests and a final examination were reintroduced.

Enquiry into Medical Training

In 1933 and 1934 an enquiry was made into medical education and the following criticisms were made against the existing system of teaching:

1. Basic sciences were not taught, or were neglected; students lacked fundamental knowledge. This resulted in the students' inability to apply information acquired at lectures to practical effect.

2. Non-therapeutic specialities were overdeveloped. There was a lack of general practitioners for towns and villages.

3. Early specialisation in curriculum was inimical to the physiological understanding of a pathological process.

4. The group system of training allowed too many unfit physicians to pass out.

5. Correspondence courses unsuitable and should be forbidden.

Present-day Medical Training

At present admission to medical institutions requires graduation from a ten-year schooling for all students and an entrance examination. The entrance examination consists of Physics, Chemistry, Russian and one foreign language. The standard of these science subjects is fairly high.

Since 1945 the period of training for medical students has been six years. The curriculum is given in Appendix (C).
The first examination in Elementary Anatomy, Physiology, and Biology is held at the end of the first six months; those that fail are allowed to take the examination once again and if again unsuccessful, leave the course.

At the end of the fourth year, the students are sent out for practical work in small towns to gain experience in the future problems that they will meet in the field. In Moscow alone there are more than 7,000 beds for teaching purposes in general medicine and surgery and specialties. The staff available for teaching is adequate with the ratio of students to teachers as one to ten. Three examinations, besides the preliminary entrance examination, are held at the end of six months, the third year, and the final year of the course. The final year is spent mainly in practical training in hospitals, polyclinics and medical centres.

Young graduates are usually sent to practise in rural areas for three or more years: posted according to the needs of the country (the wishes of the individual being met with, as far as possible), where they join rural medical stations and work as assistants to experienced physicians.

The best student may be sent to distant areas on independent charge and are paid higher salaries because of greater responsibility and/or difficult living conditions.

At the end of three years, the graduates attend a post-graduate centre of training for three to four months, while getting full pay and allowances.

Brilliant students who have shown special aptitude for scientific work during medical training may, upon the recommendation of their professors become "Aspirants" (research scholars) and study in their special field for three years. If they complete their course successfully, they may apply for a position as the staff of a research institute and later for an academic position through competitive examination.

Though the remuneration is less than half the pay of the newly qualified graduate, the number of "aspirants" is steadily increasing. In 1913, there were 13 state and private medical schools; now there are more than 72 such centres training about 150,000 students and passing out about 20 to 24,000 doctors yearly. There is a preponderance of women doctors, which reached a height of 75% in 1934 and 80% in 1945 owing to the demands of industry where men are more useful, and of the army. Furthermore the needs of mother and child had to be met and for this women are more suited. Women doctors are given equal facilities, pay and scope as men; marriage and childbirth interfere but little with the work of the woman doctor since provision is made for pregnancy, care of the child, and for house-keeping.

### Numbers of Physicians

Since 1913 the number of physicians has increased as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1913</td>
<td>20,000</td>
</tr>
<tr>
<td>1928</td>
<td>63,000</td>
</tr>
<tr>
<td>1938</td>
<td>113,000</td>
</tr>
<tr>
<td>1941</td>
<td>130,000</td>
</tr>
<tr>
<td>1954</td>
<td>202,000</td>
</tr>
</tbody>
</table>

This gives a rough ratio of one doctor to 1,000 per head of the population. Since the population increase is expected to be three million per year, 3,000
additional doctors are needed annually to meet the demands of the Ministry of Health.

**Physicians**

All physicians are in the service of the state in a teaching institution, medical aid centre, factory or sanatorium, etc. Private practice, while not prohibited, is not possible as a means of livelihood, as no one is likely to pay good, hard-earned money to get treatment which they can get free and under better and more satisfactory conditions.

**Salaries**

Salaries of physicians vary greatly according to experience, responsibility, educational qualifications, professional hazard, whether working in rural or urban area. Further, as physicians are workers they receive in addition to financial remuneration, socialised benefits in kind, e.g. rations food through collective farms or cooperative stores, etc.

- 800-1,000 roubles per month, 10% to 20% extra for work in remote areas.
- Free house, and rations food (value about 400 roubles). 10% increase for every five years' service.
- Higher pay (1) additional minimum 200 roubles for candidates of medicine.
- (2) further additional pay of 500 roubles for doctors of Medicine.

**Doctors' pay in Research Institutes**

This is higher than that of doctors in clinical practice.

<table>
<thead>
<tr>
<th>Category</th>
<th>Roubles Per Month</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. &quot;Aspirants&quot;</td>
<td>800</td>
</tr>
<tr>
<td>2. Candidates of medicine</td>
<td>1750</td>
</tr>
<tr>
<td>3. Candidates of Medicine (Senior)</td>
<td>2800</td>
</tr>
<tr>
<td>4. Doctors of Medicine</td>
<td>3500</td>
</tr>
<tr>
<td>5. Directors of Institutes</td>
<td>6000</td>
</tr>
</tbody>
</table>

There is a 10% increase after every five years.

All doctors enjoy the benefits of social insurance; they are granted one month's vacation per year with pay; as pension at 60 years they receive 40% of the average of last one year's pay. In addition he gets an honorarium for every article that he contributes to a journal, and for every public lecture given. Furthermore, all useful work carries a financial reward.

**Dentists**

As in other countries, dentists were trained in the early days as craftsmen in Russia. They usually served as apprentice for three years in a dentist's office; they then appeared for an examination and if successful, were entitled to practice their profession independently.
In 1881 the first dental school was opened as a private institution. In 1883 there were two categories of dentists. The dental surgeon who underwent training in a Dental school and passed an examination; and the dental technician who served an apprenticeship of three years and then passed an examination.

In 1919 the system was changed and all dentists were required to specialise after medical graduation.

Dental Surgeons

Since 1920 dentists have taken a four or five year training in special Dental schools attached to Medicine schools or in stomatological institute. Their pay starts at Rbs 800.00

Dental Technicians

There is a three year course for dental technicians, with pay starting at Rbs 600.00.

Post graduate facilities are similar to those available to physicians.

Dentistry plays an important part in Soviet Medicine. Every Medical centre has its Dental centre, even in collective farms. The children seem to have good teeth, but many young adults have impressive cold and stainless steel teeth.

Pharmacists

All pharmacies are state institutions and all pharmacists state servants.

Anyone with seven years' schooling can gain admittance to any of the thirty odd pharmaceutical technical schools for three year course. They are employed as assistants in hospital-pharmacies and are attached to rural medical stations.

For training higher pharmacy personal, there are pharmaceutical departments attached to Medical institutes. The requirement for admission is a tenth grade students or a candidate from a pharmaceutical technician sig/.

The curriculum includes general biology, microbiology, human anatomy and physiology, mathematics, mineralogy, physics, chemistry (organic and inorganic), pharmacology, pharmacy, hygiene, chemical defense and other relevant subjects.

Forensic chemists are given the above training with further specialisation.

Large pharmaceutical factories provide pharmacists with practical training.

Upper Medical Personal

The physician, general practitioner, specialist pediatrician, hygienist, dentist, pharmacist, who has had a basic ten year grade and further training in the institute with a university standard, belongs to the category of the upper medical personal.
Middle Medical Personnel

The feldshers, midwife, medical-nurse, laboratory technician, dental technician and pharmacy assistant together form the middle medical worker. They get a pay of Rs 500.00 to 800.00

Feldsher

The word Feldsher is derived from German and means Field-barber. He has been a kind of "Assistant to Surgeons" and at times an "assistant surgeon" (the term surgeon here denotes anyone dealing with health, i.e. surgery medicine, physiotherapist, etc.)

Originally Feldshers were the barber-surgeons who followed armies on the march and served their apprenticeship-training under army surgeons and later according to their ability to cure were taken on into the army as its medical personnel.

With increasing output of trained physicians and surgeons all the European armies managed to obtain qualified medical men for their armies except Russia which was lacking in qualified medical men. Thus, the feldsher remained and increased and flourished in Russia; whereas in other countries he died out.

The feldsher practiced his trade not only in the army but also amongst civilians.

In 1864, the Zemstvo medicine created four schools for the training of feldshers; and in 1872 a school for women feldshers and in 1907 a school for women feldsher-midwife were created.

The training in theory was very elementary but more detailed in practicals. Their duty was to assist physicians; carry out their instruction; practise minor surgery; conduct vaccination and anti epidemic campaigns; and in the absence of physicians, carry out first aid and "scientific" medicine and routine treatments on their own. It was considered that it was unquestionably better to have a trained feldsher than to have no one at all.

Owing to the paucity of physicians and the unwillingness of good physicians to leave cities and go into rural areas (where monetary gain from private practice is likely to be very low) rural areas had no medical service. A great number of 7th grade students were willing to gravitate towards this fairly lucrative profession of feldshers which required only a low basic and specific education, and were willing to go to the villages and remote rural areas. The feldsher along with his female counterpart (sister), the nurse-midwife and midwife formed the lowest health unit.

The feldshers are part of the middle medical worker who consists of the male and female feldsher-midwife, medical nurse, midwife, technicians of all types, pharmacists, etc. (At present the term 'feldsherista or female feldsher' is replaced by "Sister"). In 1913 there were nearly 30,000 feldshers with 20% female feldshers. Since then, the female feldsher (sister) has been trained in a larger number than the feldsher and the present ratio is about 3 sisters to 1 feldsher.

In 1935 the feldsher training schools gave a three year course of study for students with seven year educational grade.
The training of the Sister (female feldsher) was in the same line as the feldsher, but with extra training in diseases of women and children, health education, dietetics, personal hygiene and prevention of diseases. It is considered that the Sister is an essential and permanent cog in the health machinery and will continue to be trained and utilised in large numbers as at present. It was mentioned that a Sister is more useful in health propaganda and for minor medicine and surgery than a newly qualified physician! The younger feldshers and sisters appeared well informed and keen.

Their daily compulsory working hours was fixed at four to seven hours a day (depending on type of work). The pay of feldshers average about 500 roubles from the state, and in addition has his/her income as a "worker" in the farm and gets a free house. He/she gets about 20% more for working in the rural areas and is granted an additional 50% to 75% for professional hazards while working in a dangerous infectious disease - epidemic.

It is the intention of the Ministry of Health to gradually reduce the number of trainees for the male feldsher course as the number of physicians in service increases and keep up the training of the other middle personnel. It is proposed that the very senior feldshers who have been in service for a long time and have shown themselves useful to be kept on and the younger group either given the option of going into other technical fields with further specific training as malaria, laboratory technician, etc. or allowed to proceed to medical graduation after having had four years training in basic sciences and passing the usual entrance examination.

The parallel in Burma to the feldsher is the Health Assistant and Public Health Nurse. The feldsher has had science, hygiene, elementary anatomy and physiology in his school curriculum. In the feldsher course, he has sociology, methods of health education, etiology of diseases, pharmacology (simple) and a lot of practical training under physicians amongst the sick and in preventive medicine and epidemic control. After completion, a feldsher may specialise in malaria, infectious diseases, etc., for which extra qualification, he gets extra monetary remuneration.

The female feldsher (sister) midwife is equivalent to the Public Health Nurse, but not so thoroughly trained in clinical and preventive medicine, and she often takes up some speciality as pediatrics, massage, etc.

U.S.S.R. bases her health system on the male and female feldsher, until such time as she can have 1 physician to 500 of population. At present there are over half a million feldshers (male to female in the ratio of 1 to 3) and they are expected to remain for another fifteen or more years as the back bone of the health service in Soviet Russia.

(A syllabus of their training will be sent from U.S.S.R. when ready.)

Midwives

The basic requirement is seven years' education followed by an entrance examination on basic sciences, and general and political knowledge. The midwifery course extends over a period of three years. The Institute for the protection of Motherhood and Infancy in Moscow sets the standard curriculum for the whole country. The midwife's field is mainly in the country-side, since in the cities and towns all deliveries take place in maternity homes.
War work is antenatal advice and care of the mother, conduction of labour and post-partum care of mother and infant, and to refer all abnormalities to institutions.

Nurses

Two types of nurses are trained; in each case the training is two years. Nearly 100,000 students are under training in schools, yet there is a great shortage. They are used in hospitals, health institutes, health units, creches, factories, firms, schools, social services, etc. As many girls preferred to become fieldshirts or physicians or paediatricians (training being free) much propaganda was needed to get students to enroll for these courses.

Medical Workers’ Union

The union for medical workers is the Medical Sanitary Workers’ Union; this is further subdivided into surgeons, physicians, scientific workers, etc. The union dues are one per cent of wages. The union has fixed the working hours of the physicians as six hours a day, seven for fieldshirts, midwife and nurse, and eight hours for lower personnel.

The number of working hours also varies according to occupation when hazards such as tuberculosis, radiography, psychiatric, etc. are met with, the personnel concerned work very short hours.

Red Cross and Red Crescent

The Red Cross and Red Crescent are voluntary philanthropic organisations; the members get elementary education in anatomy, physiology, first aid and home nursing, and are given lectures in health education and preventive medicine. Their number is nearly two million, and they are a non-government, private body, helping in whatever niche may need their services. They wear a badge with the letters G.S.O. which means "Ready for Sanitary Defence".

STRUCTURE OF MINISTRY OF HEALTH

(A) Ministry of Health of Republic

(B) Deputy Ministers in charge of:

1. Treatment,
2. Education, Training and Institutions,
3. Maternity and Child Welfare,
4. Sanitation and Infectious Diseases,
5. Buildings and Capital Construction,
6. Medical Stores, drugs, etc.

(C) Region -

1. Chief Regional Health Officer (to plan and coordinate work)/
2. Administrative Officer (to distribute personnel and control work)
3. Assistant Regional Health Officer:
   (a) Curative - 1. Pediatrician
   2. Gynaecologist
   3. Physician
   4. Surgeon

SECRET
(b) Sanitarians with 3 or 4 Inspectors of Sanitation and infectious diseases for malaria, nutrition, food in hotels, school hygiene, etc.

(D) District — 1. Chief District Health Officer (12 to 25)
   (a) Sanitary section,
   (b) Curative section.
   (a) Includes Sanitarians and specialists in infectious diseases, industrial sanitation, T.B., malaria, helminthiasis, etc.
   (b) Includes 1. Gynaecologists,
       2. Pediatricians,
       3. Physicians, and
       4. Surgeons, attached to hospitals.

2. Directors of Rural Medical Services (Details in diagrammatic form on next page)

3. Directors of City Medical Services

(E) Collective farms — Soviet controlling
   (16 to 24)
   Maternity Homes,
   Medical Points/Units,
   Hospitals,
   Nurseries and creches
   Women and Children Consultation Bureau.

(F) Feldsher — midwife points
   (3 to 12) Controlled by village soviet, and directed by Director of Rural Medical Services.

The above is a rough sketch of the structure of the Health structure.

Every individual has his own medical centre from which he can obtain care as his basic right, guaranteed by the Constitution. The health department is in charge of medical activities, including the education of its high, middle and low personnel. The medical centre, the hospitals, feldsher-points, etc. are all under its care, support and direction.

Medical Centres of the U.S.S.R.

The Medical centres of the U.S.S.R. are:
   (1) the large general centre — called Polyclinic,
   (2) the smaller — ambulatorium, and
   (3) the smallest — dispensaries, and medical units stations. The smallest unit is usually manned by a feldsher (male and/or female) who gives first aid and routine treatments and it is, in effect, the furthest outpost of the polyclinic.

SECRET
DISTR CT HEALTH DEPARTMENT

DIRECTOR OF RURAL MEDICAL SERVICES

HO S P I T A L S

POX CLINICS

Sanitary, Anti-epidemic
and disinfectant depts.

PHARMACY
(Medical-
stores).

Women & Children
Consultation Bureau
Nurseries Milk stations

Collective farm
Health Services

(1) Medical Dept.
(2) Surgical Dept.
(3) Obstetrics Dept.
(4) Infectious disease Dept.
(5) Laboratory Dept.
(6) X-ray Dept.
(7) Physiotherapy Dept.
(8) Miscellaneous specialties
(9) Health Education Dept.

Red Cross
School Health
in

Feldsher-Midwife 50x1
units
(health units)

Miscellaneous
Health activities.
Physical education
culture.

also connected with
other governments
Many of the cities have "Quick Aid" stations, where specialists are ready for any emergency at all times of the day and night; this includes an ambulance service.

**Ambulatorium**

An ambulatorium is a smaller medical centre serving about 10,000 of the population. This is attached to a polyclinic and is staffed by a senior administrator-physician with about ten to fourteen physicians under him; these are general practitioners and specialists, who see patients both in the centre and at the patient’s home.

For any specialised treatment, such as psychiatry, radiography, etc., which is not available at the ambulatorium, the patients are referred to the nearest polyclinic.

Pediatrics are dealt with separately and not in ambulatorium. Children get their medical attention at the Children’s Consultation Bureau.

The large medical centre is a polyclinic that deals with patients that do not need hospitalisation. These centres have all specialised centres such as surgery, internal medicine, gynaecology, eyes, E.N.T., dentistry and psychiatry. According to the needs of the locality, there may be departments concerned with Orthopaedics, Tuberculosis, V.D., malaria etc., attached to the polyclinic. Some large polyclinics have nearly two hundred physicians on their staff.

The polyclinics have their outposts and medical stations in factories, residential areas, farms, etc. These outposts deal with minor problems.

Large factories have polyclinics of their own, with first aid centres distributed at various points in the plant. Medical rest rooms, crèches, physiotherapy (with especially radiant heat, U.V.L. and hydrotherapy treatment rooms) were also noted in some of the firms.

**Pharmaceutical Industry**

The pharmaceutical industry was non-existent before 1920. Now, it was noted, the USSR has all the antibiotics and different combinations of sulpha compound which are available elsewhere. Their drug position appeared too short to meet the demand, but attempts are being made to cope with this in the near future. No species of unknown "wonder" drug was noted in their pharmacies.

Cost of medicines in pharmacies appeared high, but since the state supplies all medicines free "if applied for through the proper channel", the high cost did not affect the people. Pharmacies supply only patent and harmless drugs.

Homeopathic pharmacies were seen in Moscow and Tashkent. Herbal medication is also practised. But the prescriber of either type of medicine was expected to be a registered physician and therefore a qualified doctor.

Manufacture of instruments for laboratory and surgery are new projects, but the apparatus and instruments appeared relatively good and comparatively cheap.
ANCILLARY HEALTH SERVICES

Blood transfusion service.

There is a central Institute of Haematology and Blood Transfusions at Bogdanov that advises in scientific progress in haematology and sends out instructions about collection, storage and matching to the eight hundred or more branches attached to medical centres scattered throughout the Union. Most of the blood comes from donors; the blood "donors" are paid high monetary rewards which naturally cancels the term "donor". Some blood is from cadavers, especially accident cases.

Social Welfare

Crippled persons (whether congenital, traumatic or through sickness) are entitled to pensions, free medical service and institutional care, if considered necessary. Rehabilitation of the blind, the crippled, etc., along with those disabled from cardio-vascular and nervous disorders, is undertaken in various centres, and an attempt is made to utilise them in some suitable wage-earning occupation.

Industrial hazard prevention is well advanced. Scientific workers study "hazards" in workshops, mines, mills, etc. and submit proposals for eliminating or minimising accidents. Workers involved in dust, chemicals, T.B. Epidemic, X-rays, and other health injurious trades have shorter hours of work than the "Norm", and longer holiday periods per year.

Physical Culture

Physical education and training are introduced into schools and working establishments as a routine, while physical culture is considered a matter of national importance and an essential part of the programme of social construction. The programme is under the All-Union-Council of Physical Culture, which was established in 1923, and whose function it is to coordinate all efforts designed to develop physical fitness, to supervise and guide actual work, to train teachers and promote research.

Anyone who wishes to join a sports club is given a complete medical examination and is re-examined regularly twice a year by a specially trained physician; all training is done under medical supervision and control. Having passed the medical test, the candidate can choose what he wishes; pole vaulting, hurdles, sprinting, etc. or train in a general way for the G.T.O. diploma which is to encourage the development of all-round sportmen. To gain the G.T.O. diploma, besides being a particularly good worker in his occupation, and of a friendly disposition, the worker is required to show his physical skill in running, jumping, skiing, bicycling, rowing, shooting, throwing a hand-grenade, marching in a gas mask: moreover he must have knowledge of first aid, political economy and the history of physical culture.

There are two degrees for the G.T.O. diploma. For the second degree parachute jumping is also included. Tests are differentiated according to age groups and sex. School and inter-school competitions to select the best candidates for the district, region and republic are held yearly.

Instructions in physical culture, after gaining the G.T.O., train for four years at special training schools, and the demand for their services is great. They are instrumental in making the public conscious of the need for physical fitness, and assist in training the public to become physically fit.
Work, recreation and rest are organised on a national scale, with a centralised organization guiding the principles and mode of operation throughout the Union. Rest periods are granted to prevent workers from getting tired of monotonous work. Such periods are spent in open spaces or rooms provided with diversional activities such as music, radio talks, chess, etc.

HEALTH EDUCATION

Since prevention of disease requires the people to be educated in health matters, health education is one of the major activities of the medical centres right down to the fieldshers unit.

a. To the population-at-large knowledge is spread by means of public lectures, radio talks, cinema shows, posters, exhibits and discussion groups. Emphasis on necessity for cleanliness at work, in public places, in homes, etc.

b. To smaller groups, e.g. in a firm or collective farm, by instruction in personal hygiene, child hygiene, prevention and etiology of infectious diseases and accidents.

c. To select groups, instruction in First Aid and Home Nursing, Blood Banks, disinfection, etc. are given.

d. To patients, in hospital and polyclinics, lectures are given on factors that cause disease in general or some specific ailment.

It may be noted that patients are considered to be more receptive to details of treatment, and causes and progress of illness, while they themselves are sick; hence at "slack" times the physician is expected to teach patients and even non-medical personnel, in hospitals, for a prescribed number of hours per week. Thus health education is an integral part of Soviet health and it is obligatory on all members of the medical and health services to give health education lectures in their respective spheres of work. Voluntary organizations and other agencies take part in these programs of education. The form and extent of the education depends on the need of the community that is being taught.

A high standard of hygiene among the people as a result of systematic and planned educational work (and nutritional status) contributes greatly to the success of the prophylactic and curative measures adopted by the state. The wide network of medical and prophylactic institutions made medical assistance immediately and easily available, and inspectors from the sanitary sections ensure that working standards are maintained.
The methods recommended to be adopted in imparting health knowledge are worked out in a special institute - the Central Institute of Health Education (Moscow) maintained by the Central Ministry of Health. There are, in addition, other institutes and local centres in constituent republics. These institutes are in charge of specially trained men who are also members of local health departments. Big medical and prophylactic institutions have health education departments whose personnel assist the physicians working at various institutions in their education work by supplying them with literature, visual aids, lecture material and at times, lectures also. Institutes also maintain workshops for the manufacture of visual aids. Publications in the local language of the republic are freely distributed and models and posters are displayed at all places of public gatherings such as club houses, cinema halls, firms, etc.

The training of medical workers in the theory and practice of health education is begun in the medical colleges. The students are taught the principles, tasks, methods and forms of Soviet health educational work, and learn of the various institutions which are available for that purpose, to general population. While undergoing medical clinical training, stress is placed on the dissemination of a knowledge of health. For three months during their fifth academic year students train in the city hospitals and rural institutions in the practice of medical and prophylactic work; this aids them to understand the illness of a patient, not as an individual indisposition, but as a flaw in the general make-up of the country. The students also gain practical experience in the education of the rural people.

Pamphlets on malaria, rabies, diphtheria, trachoma, worms, child care, maternity welfare, health institutions, sanatoria, etc., are available free to all schools and public bodies. The standard of imparted knowledge varies according to the educational strata of the people to whom they are supplied. Pamphlets for schools and teachers deals with the subjects in great detail.

HEALTH EDUCATION - GENERAL

1. In Schools

In schools general education is compulsory for seven years (this is likely to be raised to ten). In the third and fourth years Fundamentals of Hygiene is a part of the curriculum; elementary anatomy and physiology, the functions of different organs, the importance of fresh air, clean water and soil, cause and prevention of infectious diseases, etc., are taught with the help of visual aids of various kinds. Teachers and school physicians regularly address parents of junior pupils on coordinating health building activities and hygienic habits at school and in the family. Senior students have lectures on nature study; zoology, along with greater details in anatomy and physiology, and on First Aid measures. They also maintain a watch on the health and hygiene of the junior students and assist the school medical officer and nurse in routine physical examinations. Thus the rising generation learns in practice how to preserve health and environmental sanitation.

2. In Mother and Child Consultation Bureau

From conception, a mother is expected to attend the medical institution where she will have her confinement, and health education is an essential part of the work of these institutes.

Instruction on the anatomy and physiology and hygiene of pregnancy, and rules
for the infant care are taught to expectant mothers.

Since the whole process of physiological child-birth is explained to the mother, the groundlessness of fear of pain is understood; thus physical prevention of labout pain is gained (anaesthesia is not used, as a rule, for labour).

In certain centres, a correspondence course on the care and feeding of infants; maternal and child hygiene; psychical prevention of pain; causes, signs and symptoms of common childrens' ailments and infectious diseases; prevention of accidents, etc. is given. These courses, in the form of booklets, are read at Mother's group meetings, in families, etc. and are potent sources for the dissemination of health knowledge.

3. In factories and other places of work

At the same time as creating adequate sanitary and hygienic conditions in industrial enterprises, much is being done to popularise a knowledge of hygiene and the promotion of hygienic habits amongst workers. Health Education is carried out by the medical and intermediate medical personnel of the factories, etc. Each new worker to the factory is taught the labour hazards of the work, and the industrial and health prophylaxis for that enterprise. First Aid is taught to all workers. By informing him of the health hazards, a woman is made health conscious and is capable of taking measures to prevent disease. Complete liquidation of occupational diseases and a rapid drop in traumatism is the aim in all factories.

4. In medical and prophylactic institutions

Apart from the doctor-to-patient talks on health and preventive aspects of disease, physicians conduct talks with groups of patients in hospitals, sanatoria, etc. Besides the dissemination of knowledge, a cooperative spirit is developed between physician and patient. The receptiveness of a group of hospital patients to details of a disease suffered by the group as a whole, or by an individual in the group, is said to be greater than that of a group of fit persons. Specially trained nurses are a great asset in this field of health education propaganda.

5. Mass Education

Public lectures are arranged under the auspices of clubs, schools and other forums in club houses, parks, lecture theatre halls, etc.

The information is spread:

a. Through the press, newspapers, periodicals, wall news-sheets, etc.

b. Through libraries, public and school, etc.

c. Through film strips and radio talks. The Central Research Institute for Health Education and its associate bodies form the advisory committees for all Health Education in the USSR and its constituent republics. Health Education of a Polyclinic is given in a diagramatic form in the next page.
HEALTH EDUCATION

AT

Polyclinic

Family of
patient

1. Prevention of spread of
diseases
2. Care of convalescent
patient
3. Preparation of diet
4. Psychological adjustment

Instruction in

Lower Medical
Personnel

Instruction
1. Prevention of
infectious diseases
2. First Aid & accident prevention
3. in Personal Hygiene

GENERAL POPULATION

Instruction in

Hygiene &
Prevention of diseases

Health
Protection
Blood Bank
Training of
G.S.O.

Prevention of
Industrial &
Civil Accidents
First Aid Treatment

Cleanliness
in
Industry & Home

Feminine
Hygiene

Child
Hygiene

50X1

1. Organization of
First Aid Stations
2. Assistance to needy
persons (social &
work)
CONTROL OF EPIDEMIC DISEASES

Russia has, as far as we could observe, and from statistics produced, controlled preventable diseases. The major epidemic diseases and infections prevalent are:

1. Malaria
2. Cholera
3. Smallpox
4. Plague
5. Typhus
6. Typhoid and dysenteries

I. Malaria: This was a great economic problem, affecting nearly 2% of the whole population before 1918 and rose to nearly 16% in 1920 following the mass displacement of population. In 1920, the Central Institute of Tropical Diseases was created in Moscow to serve as research, training and organizational headquarters. In 1923, the first All-Union Malaria Conference was held in Moscow and a detailed mode of operation for eradicating Malaria was organized.

I. Malaria stations were built in all endemic areas. There are nearly 2,000 permanent malaria stations in the USSR equipped with

a. a laboratory for (1) diagnosis, and (2) study of epidemiology, vectors, transmitting season, etc.

b. a dispensary to supply drugs,

c. personnel (1) Physicians with special post-graduate malaria training, (2) Laboratory technicians, (3) fielders (male and female) with anti-malaria training to carry out the instructions of physicians, (4) field workers (four per 1,000 of the population) working as acquirers, (5) Part-time workers (belonging to other health activities, e.g. nurses, midwives, Red Cross and Red Crescent members)

II. a. The Ministry of Agriculture and

b. The Ministry of Transport were asked to cooperate in (1) the drainage of marshes and swamps, (2) cultivation and irrigation to suit anti-malarial measures, (3) the provision of transport labour for treatment and equipment, (4) arrangement for transport of people from hyper, hyperendemic area to other localities.

Thus the Anti-malarial campaign which has been highly successful has:

(1) Research centres

a. to study incidence in the Union,

b. to study vectors and their habits,

c. to study effects of anti-malarial drugs and anti-mosquito chemicals,

d. To train middle medical personnel for anti-malarial work.

(2) Educational facilities for

a. post-graduate training of anti-malarial physicians. (More than 2,400
such trained physicians are available now and the institute train about 120 medical personnel per year.)

b. Middle personnel, both academic and practical in Regional Malaria Institute

(3) Manufactures:

Drugs; of quinine, Paludrine and Chloroquine equivalents (Quinnine: placmotsid and Akrykhin) and Malarial and Parisgreen are prepared and DDT is manufactured in state controlled pharmaceutical concerns. and

Plant/Equipment: all equipment required is manufactured in large quantities, and stocked ready for issue.

(4) Cooperation with other ministries:

a. Education
b. Agriculture
c. Town planning and Industrial Development,
d. Transport
e. Finance

No mass movement to a new area can take place prior to the "all clear" by the sanitary department following:

a. the investigation of the soil for helminthiasis, mosquitoes, etc.,

b. the area for malarial incidence,

c. sanitary conveniences, etc.

In an area of malaria endemicity, after making the preliminary survey as to incidence, vector, etc., the anti-malarial campaign is started on a mass scale with all possible hands taking part. For this, collective farmers, medical students, para-medical personnel, malaria institutions and all other available physicians and technicians, along with untrained labourers, are drafted to carry out intensive anti-malarial work.

a. Acriquinisators issue anti-malarial drugs to all people,

b. DDT sprayers treat all houses, and cattle,

c. Sanitary squads clear up breeding areas,

d. Large tracts of water are treated with oil and parisgreen and with DDT aerial spray,

e. Chronic carriers are isolated and kept under observation and treated (if necessary in hospital)

f. Health and anti-malarial education of the mass are given continuously,
h. A general improvement in the nutritional standard of the people by provision of better food, vitamins and minerals is arranged.

After a period of two to three months of such an intensive programme, the mosquitoes have no chance to breed, and carriers have been brought under observation and control; the area now needs one or two permanent anti-malarial units to see that the good that has been effected is maintained; this is an easy matter, all the local people having been educated theoretically and practically continue to cooperate. By such "drives" in different endemic areas, by educating the people whose active cooperation in anti-malarial measures (Paludrine 0.26 twice a week) is assured, with plenty of personnel to fight the disease and with a large allocation of money, malaria is eradicated in many places and in others brought under control, so that malaria is no longer a national economic problem.

The once marshy, malarial Uzbekistan was said to have only fifty-six healthy carriers per million of the population in 1953.

Malaria: miscellaneous items of information

People employed on anti-malarial campaigns are given 15% extra pay for the duration of the campaign. This is apart from other special allowances granted for other "discomforts" - far off lands, other health hazards, extremes of temperature, etc.

Larvivorous Gambusia affinis fish is used in paddy fields and other stationary water collections (a new resistant species developed in Samarkand). Treatment for relapsed cases are given at regular intervals and if necessary, are hospitalized "till proved clear".

"Voluntary" drug distributors are paid for their labor.

Cattle are sprayed with DDT as are their sheds.

DDT is made locally in many collective farms and cities.

2. CHOLERA: In 1921, 204,000 cases of Cholera occurred with about 40% mortality. Controlled by innoculations, environmental sanitation and phage: no epidemic during recent years.

3. SMALLPOX: In 1919, vaccination was made compulsory. In 1939, a law was passed making it compulsory for parents to have their children vaccinated in infancy, at 5 years, 10 years, and again between 18 and 20 years. In 1920, more than 150,000 cases were reported with a mortality rate of 35%. It is said to be less than 0.1 per 10,000 of the population of case incidence of 0.001% (in some areas only).

4. PLAGUE: Frequent epidemics, controlled with DDT anti-rodent measures and innoculations, but mainly by quarantine of infected areas.

5. TYPHUS: In 1920, 3.3 million cases with a mortality rate of 10%; controlled with soap and disinfectants: now reduced to almost nil.
6. **Typhoid & Dysentery:** still present a large problem. Experimental inoculations and phages are being tried. Three per 10,000 of the population suffer from the disease. Cause: flies and dirt, and insufficient sanitary control of foodstuffs in rural (agricultural) areas. Eradication possible only with isolation of carriers, and proper environmental sanitation and food control which are being attempted through the department of Food and Sanitation.
The Child

Institution caring for the mother from the time of conception until after childbirth, and for the child until of the age of three years, are controlled by the Ministry of Public Health.

Birth notification

When a child is born, usually in one of the Maternity homes or hospitals, a notice is sent to the Children's Consultation Bureau attached to the mother's place of work and/or to her residence. Ten to fourteen days after discharge from hospital the mother takes the child to the Bureau the visit is repeated every fortnight until the child is six months old and thereafter once a month, unless the child is not well, when the visit is made more often.

The child is vaccinated before leaving hospital and in some cases given oral BCG and dysentery bacteriophage; all particulars are entered on a card; this health record accompanies the child at all times of visiting institutions for health purposes. The Bureau has many departments -

1. for infants below 1 year.
2. for infants from one to four years
3. for infants from four to seven years
4. Educational
5. Recreational
6. Health inspection and maintenance.

As far as possible, mothers nurse their babies themselves, but should the milk be insufficient or fail, either milk from a Breast Milk station, or powdered milk, is supplied for the baby as prescribed by a pediatrician. Mothers with surplus milk, supply the milk-breast bank and are suitably remunerated with money and extra food.

When the working woman returns to her place of work after maternity leave, she may take the baby to the nursery there, or if her work is within easy reach of her house and she has anyone at home with whom to leave the child, she returns home to feed it during working hours without loss of pay.

The idea of the nursery is to help mothers and infants to get the maximum benefit by close contact without reducing the mothers capacity of work. Before 1917 infant mortality was about 250 per 1,000 births. This has been reduced to between 10 and 20 per 1,000 births.

There is a network of nurseries all over the country; some are seasonal and some permanent, and are so arranged to meet the specific needs of the local workers. There are more seasonal nurseries, as these are only small units. In the whole country there is accommodation for more than 5.5 million children in the nurseries.

The nursery therefore - 1 - enables working mother to carry on her job at work; 2 - cares for the child, and 3 - educates the child and mother.
Nurseries have, in the smallest unit, a nurse and female feldsher; and in the medium sized one (of 25 to 50 infants) a woman physician, pediatrician, nurses and nurse assistants. Some nurseries run day and night (for workers employed in shift duties), the mother brings her children below seven years of age to the nursery; she undresses them, puts their clothes in individual lockers and hands the naked child to the nurse in charge. The temperature and weight are taken and if ill, both child and mother are sent to the polyclinic, unless it is a minor ailment. Dirty children are sent back home with the mothers, and the home-visiting nurse from the Children's Consultation Bureau sees to the necessary education and work in that household. If the child is well, it is dressed in nursery clothing and is put along with its age group.

Small infants are kept in cribs and at regular periods, the mother visits the nurseries, removes her working apron, puts on a clean gown with special slits for the breasts, and feeds the infant. This putting on of clean caps and gowns/overalls is a great Russian custom and may appear exaggerated ritual, but it forms a part of a great educational programme in cleanliness. The mother receives, if needed, her own lunch or some free milk and bread, after having fed the child and before she goes back to her work. There is thus maintained a close cooperation between the mother the nursery personnel and the child, for the mutual benefit of mother and child.

Once the child learns to crawl he is put into a pen to play with toys. As he grows older, hygienic habits are inculcated into him and he is taught cooperation and orderliness. By the age of two years, he is taught to undress himself and at 2½ to dress, undress, make his bed and to feed at table.

Immunisations -

The children are immunised against - tuberculosis, diphtheria, whooping cough, and tetanus during the first nine months, and revaccinated against smallpox before the fourth year. Bacteriophage against enteritis is occasionally given during the first week after birth.

During the summer, many nurseries are moved into the country and the older children learn nature study, elementary physical work, collective games, swimming etc. Throughout their stay in the nurseries, education in hygiene, personal and general, ethics and sociology, etc. are taught by every possible means.

Medical supervision is fairly continuous so that any cause for physical retardation is immediately investigated and rectified. The medical card previously referred to indicating details of immunisation, sickness, accident, etc. accompanies the child till he is seventeen years old.

There are nurseries for children whose parents have to go away from home for reasons of health, work, or pleasure.

The state looks after orphan children in nursery institutions during their tender years, unless suitable private homes can be found for them.
Care during travel

Special accommodation in railway-stations and aerodromes is allotted for nursing mothers and young children. Facilities to mothers to rest, or feed their babies, arrangements for washing of infants' clothing, children's toys, etc. are provided. Graduate nurses and occasionally a woman physician are in attendance, night and day at important railway stations.

Kindergartens

Between the ages of four to seven, the child joins one of the kindergarten school cum nursery under the Ministry of Education. These institutions, like the nurseries, are attached to industrial concerns, working places, residential districts, collective farms, etc.

There are more than 30,000 such institutions in the country while about ten to twelve million children are taken care of during the pre-school age.

The work in the kindergarten schools consists of physical, intellectual and politico-social subjects. The children get accustomed to manual labour and observance of personal and preventive hygiene. Their concepts broaden with visits to farms and the countryside. Simple arithmetic with practical objects, pronounciation and vocabulary are gradually instilled into them. Music, rhythm, games, drama and drawing etc. form part of their cultural education. National history, development of national hero-worship, and participation in working corners for contribution to national festivals are also taught. Coordinated effort is encouraged in all activities.

The health of the child is still controlled by the Ministry of Health, through the medical units attached to these institutions.

Schools

The child enters school at the age of seven years. Seven years education is compulsory throughout the Union and it is free. It is likely that this period may be raised to ten academic years. It is considered that there is not sufficient need for ten years' academic education for most workmen, in the initial period. If after the seventh grade, after working in any capacity for a minimum of three years a worker feels capable and willing to further his education, facilities are granted, while he continues to work.

The school children study in two shifts to most of the schools owing to lack of accommodation and staff. The rest of the working hours are taken up by club activities of any type that the individual student wishes. Up to the age of sixteen years they belong to non-party organizations. Their extra-curricular activity is mainly carried out in the Palace of Young Pioneers, they themselves being called Young Pioneers, and in camps during the summer holidays.
School Health Services

The school health is supervised by School Physician. Every child is given an examination on entrance and thereafter re-examined twice a year. One physician with staff for every 2,500 students is authorized.

Weak and sub-clinically sick children are segregated in health groups and are educated under more favourable and less strenuous conditions, such as in open air schools, or in forest schools where extra care and nourishment are allotted to the children, under medical supervision.

Nearly 40% of the children leave school at the seventh grade. A physical and mental (psychiatric) examination is given on entering the higher school.

Rest, recreation and extra curricular activity is carried out in the various youth organisations provided with reading and recreation rooms, special teachers, camps in the country or at the sea-side, etc. The children spend one to one and a half months every year in these vacation camps. Weak children spend their vacation in children's sanatoria.

Venereal Diseases.

Venereal diseases are said to have been "practically wiped out". Prostitution, though "regulated" in the early socialist state, has been abolished officially. With compulsory notification, by physicians, of all cases of venereal diseases that came to their notice, with the follow-up and compulsory examination of contacts (with treatment if needed) the incidence of venereal diseases rapidly declined.

Psychopaths and feeble minded girls were segregated or treated by psychotherapy.

Socio-economic causes leading to prostitution were removed by the control of girls migrating to cities without proper reason; by giving them suitable employment and, therefore, economic security; by keeping their minds occupied and their bodies tired by constructive work, giving gradually increasing freedom in social life until they had adjusted themselves to their new environment.

In some cases, during the early stage of rehabilitation, the day-time was devoted to recreation and culture and they were made to work during the evening and early part of the night (5 p.m. to 12 midnight), a period during which they would normally have wanted to go into the streets.

All cases attending maternity centres are given blood tests for Kahn and VDRL.
It was stated that no active case of syphilis or gonorrhoea was detected in a whole year in a hospital of 500 maternity beds with a turnover of 12,000 patients except three cases of serologically positive cases - (serologically fixed)

The Russians proudly state that though incidence was high prior to 1947 and during enemy occupation, the incidence is now so low, that it can be considered as an extinct disease.

**Collective Farms**

We had the opportunity of seeing many collective farms in Tashkent, Samarkand and Fargana.

A collective farm is an amalgamation of farms numbering between thirty and 800 and in which all basic means of production—land, livestock; implements, farm buildings; amenities, etc are the common property of farmers that constitute the collective farms. The total acreage of a large collective farm is about 6,000. In the initial stages, a few farms work co-operatively and develop a small area. As more workers join, more land is brought under control.

The Central USSR, through the Agricultural Ministry, issues directives about the crops to be grown depending on the national needs and nature of the soil, etc.

The population of a collective farm is composed of male and female workers (land and machine workers); their families of minors and people working in nearby factories and institutions.

The population of a collective farm (comprising some seven hundred farms and about 2,500 hectares of land (one hectares – 2.2 acres) would be about 2,000 workers.

The farms that we saw were mainly concerned with cotton growing and subsidiary fruit cultivation, silkworm rearing and bee-keeping.

The Government takes over the whole of the cotton crop and pays mainly in cash (according to fixed rate) but parity in kind by such commodities as cereals, oil, cloth, etc, which the Government obtains from other collective farms.

Fruit produce and the fruits of the silkworm, etc., may be disposed of by the collective farm in any market within Russia, the proceeds being distributed according to the working day units standing to the credit of each individual worker.

Of the income derived by the sale of produce to the state, 65% is distributed to the workers according to their working-day units; 35% goes towards the development of the farm and the ancillary facilities provided for the benefit of the workers. Income tax of the rate of 6% goes to the State paid by each individual worker.
Working day units are certain norms which have been established as "the amount of work that a normal healthy labourer can carry out without undue strain in a working day period." e.g. (a) the maintenance of ten cows would earn a credit of 1.25 units; the maintenance of twenty-five cows 3.125 units; (b) field work on one hundred square metres of cultivated land would be about two units. These units would differ according to the nature of the soil, etc.

Besides this income, each farmer is entitled to one third of an acre of private land; he may own one cow, two calves, ten sheep, any number of bee-hives and poultry of all kinds; and he can dispose of the produce from these as he wishes.

A private individual can save up Rbs 50,000 in the bank and can keep Rbs 1,200 in his possession. If he has much money, he can buy possessions such as a car, radio set, piano or any other item that he fancies.

A farm labourer in a collective farm gets about twenty roubles per day after paying all dues to the state and the collective farm fund.

The administration of the collective farm is carried out by the manager who is elected for four years by members who have themselves been elected by the farmers as their representatives.

Though tractors and mechanised agricultural implements can be borrowed from the state on payment of certain fees many farms own their own stock.

Collective farms have creches, kindergartens schools, schools, maternity shelters and small hospital units, and in some cases hospitals with thirty to fifty beds staffed by a full quota of medical personnel.

The staffing and maintenance of these social amenities are the duty of the state, and the cost is met from the state budget.

The problem of organising rural medical services in USSR has been one of developing medical units of farms; and developing centres with specialists; hospital beds and special therapy at strategic points, to serve a group unit. The District Health department is in charge of all health units, preventive curative and diagnostic - and it is the duty of the District Health Officer to visit all health institutions in his district several times every year.

Director of Rural Medical Service is directly under and attached to the District Health department - see chart-page 30.
A Tast Sanatorium

Pavilion style of multiple one-storey building except for one main many
storey building which contains operation theatre, etc.

The site of the building is situated at a high level surrounded by
orchards and pastures.

The number of beds is 300 at which non pulmonary is 250 and 50 is for
pulmonary (non infective) cases.

Number of nurses to patients one to five: nurses work in six-hourly
shifts. Average stay of patients three years. Criterion for dis-
charge is until cured or until sufficiently rehabilitated to fit into
general life. On admission, the children are kept for one month in an
observation block while extent of disease and any other intercurrent
diseases are checked up.

Conservative treatment with or without anti-tubercular drugs like
P.A.S., Streptomycin, Hydrazid are given. Extra food, U.V.L., breathing
exercises, etc. are routine. Their plaster immobilization technique is
good.

Children receive regular tuition and appear for scholastic examination.
Teachers are employed at the rate of one per twenty patients along with
assistant teachers, each of whom takes care of two or three students.

The children looked healthy apart from their disability and were
cheerful. Good, individual nursing care had been given as evidenced
by no pressure on irritation pressure points.

The hospital was relatively empty but the spacing of beds was close
(eighteen inches apart).

Recreational facilities were provided in an ample measure.

Health lectures were given according to the absorptive powers of the
group.

Medical senior and middle personnel were available in proportions.

Tuberculosis

Although the sanatoria are under the administrative control of the
Minister of Health, USSR, and then the Constituent Republic, treatment
and subsidiary activities are organised by the Tuberculosis Research
Institute under the Academy of Medical Sciences. The Tuberculosis
Research Institute prescribes the chemotherapeutic and surgical and
rehabilitation procedures to be adopted by the different sanatoria,
for different types of cases.
It has been stated already that BCG vaccine has been in use since 1929, and both oral and intradermal therapy are used. The Agricultural department is taking all measures to employ only healthy cattle for milk production (though cattle are not tuberculin-tested). All pulmonary ailments being considered as probable infective diseases, get prompt attention. All measures for the eradication of tuberculosis e.g., good standard of nutrition, proper housing, health education and physical culture are said to be taken on a national scale. Yet, the number of children with non-pulmonary tuberculosis in sanatoria was relatively large. At the sanatoria, milk as a source of tuberculosis was denied. If BCG is efficacious, if it is compulsory and if it is given to all children within the first four months, tuberculosis should not be existent to this extent amongst children.

If all mothers undergo thorough physical examinations during their pregnancy, tuberculosis amongst them would be detected and either the pregnancy terminated for the sake of the safety of the mother, or, if a child is born of a tuberculous mother, it would be segregated in a state nursery.

Evidently there is a breakdown in the system, although the reduction of the incidence of tuberculosis is said to be marked.
Sanitary Research Institute of Uzbekistan

This institute was founded in 1946 and has the following four main sections:

Activities of Sections:

1. (a) Examination of water for potability chemical and bacteriological.
   (b) Study of life and health of workers in villages with reference to their environment.
   (c) Study of industrial wastes and their effect on people and their proper disposal.
   (d) Advisor for town and villages planning; school and factory hygiene; environmental sanitation to farmers and other working groups.

2. Analysis of food: nutritional assay and advise on suitability as food. Standardisation and maintenance of standard and purity of all food material (raw and cooked) that may be sold to public. Advisory on food storage and seed grain improvement and soil nutrition and hygiene.

3. Industrial hygiene: Study of industrial fatigue; effect of light smoke, dust; altitudes, etc. Industrial health hazards etc. Physiology of human system while at work in hot or cold climates; types of clothing suitable to different work according to heat and humidity; water and salt intake for different types of workers under different condition, etc. are studied with hospital facilities for trying out the experiments. This institute is a powerful locally constituted body and has power to check any food or drink served to the public for purity and fitness. It can close down a firm, if conditions are not up to prescribed standard. Studies like (1) the most economic method of disposal of human excreta; (2) minimum disinfectant to be used to prevent faecal matter being a source of danger to health without losing its utility as a fertilizer; (3) specially treated waters for use of men working in hot places like boiler rooms - going on long marches without having to consume large quantities of water etc. - for mart of the activity of this section.

4. Teaching and training of industrial chemists, - assistants, technicians, post-graduate physicians for sanitary work, etc. also undertaken.

The Minister of Health, USSR is the Chief Inspector of Sanitation; but the Deputy Minister of Health is the Chief Sanitation Inspector in each republic. Inspectors of sanitation are attached to the health department of every subdivision of government down to the collective farm unit. It is the duty of the sanitary inspectors to see that sanitary standards set by the Ministry are maintained, particularly in the following fields:

(1) food - food industry retail stores; and eating places; hotels.
(2) Industry - hygiene and sanitation
(3) Housing - sanitation
(4) Schools - ventilation; lights and sanitation
(5) Water transportation - epidemiology
(6) Health resorts - all aspects of health
(7) Health sanitation education.

It is also the duty of the Sanitary institutes to set minimum standards for purity, composition, etc. and to advise measures to be adopted for improvement.

School at Tashkent

The school has 800 students in two shifts. Science laboratory equipment was noted to be scanty, Classrooms congested and not very well illuminated. All subjects taught. Nature study prominent. Recreational quadrangle small - games mainly basket and volley ball (due to lack of space). Students fairly bright. Nutritional appearance of students was satisfactory. Wearing apparel warm though in many cases torn, but well mended; children well shod. Teachers mainly from same locality.

Some student teachers were gaining practical training in teaching in the school. Health Education in the schools is under the guidance of medical officers.

For the very young, special instruction was given on care of the body on cleanliness in eating, sleeping and of the hands and feet; methods of brushing the teeth and head; use of towels and handkerchiefs; correct sitting and walking postures; cooperative games, etc.

The school libraries and reading rooms are supplied with books on health and hygiene supplied by the Health Education Centre, and also with posters for the walls.

A sick child is seen by the school nurse, referred to the school medical officer and then through the parent to the Mother and Children's Consultation Bureau or the nearest polyclinic.

In the 2nd standard, children are taught for thirty-two hours about (1) the special senses (eyes and ears) (2) accident prevention (3) road safety measures (4) necessity of clean water for drinking (5) nutrition (6) sleep and its importance.

In the 6th standard, natural science is compulsory with thirty-four hours and devoted to lectures and practical work. The children study biology, harmful effects of insects, etc.

In the 7th and 8th standard - twenty hours are devoted to human anatomy, physiology and general hygiene.

Extra curricular lectures, health films, visits to health museums, etc. are part of the educational programme.

Guidance is given by the institute of sanitary enlightenment to school children and teachers, on books to study and methods to adopt.
Institute of Vaccine and Sera

This institute produces all the biological products for Uzbekistan. The only significant variation from other institutes in manufacture was in the preparation of the skin of the calf prior to pulping by using 10% Phenol for 40 mins. (as recommended by Prof Carliss) and general issue of dry vaccine lymph.

The processing could not be seen as the places of manufacture were undergoing repair and production was kept pending.

The vesication after vaccination appeared angrier than with local vaccine. The insertion success rate is said to be about 93% for primary and 30% for revaccination which is a very high standard. The equipment appeared somewhat antiquated and staff, medical and middle personnel in abundance.

The routine work was carried out with efficiency and without fuss, and a congenial atmosphere prevailed in the whole institute.

The many claims of the New-world scientists, to have been the first to have discovered a certain theory, drug or idea, in advance or contemporaneously with English or continental workers, have their counterparts in USSR and is taken in good part by all, as outbursts of adolescent national fervour.
Expanding as a unit from a clinic in 1934 with one hundred beds, it now has three hundred beds, five operation theatres and a good physiological laboratory. New buildings are put up to meet increasing needs.

Patients from all over the country needing special neuro-surgical care are brought here while surgeons and physicians and various other medical personnel from this institute so to other hospitals and institutions to conduct operations.

Laboratory facilities are ample. The work at the N.S. Unit can be divided into (1) treatment of cases after investigation, (2) research, (3) training of students of neuro-surgery, (4) cooperation with other N.S. units in the country through discussions and work, and (5) publishing of findings of scientific interest. During my one visit I saw the following cases being operated on:

Removal of tempo-parietal tumours. (2)
Removal of tumour in cerebello-pontine angle
Neurectomy for Menier's disease
Ventriculography
Special studies are conducted in: localization of brain tumours
Diagnosis of organic visceral diseases by alterations of nerve conductivity and reflexes; traumatic neuro-surgery; studies in anaesthesia; prefrontal leucotomy is condemned for schizophrenia; this institute would be a good centre for training for our surgeons interested in neuro-surgery.

Vishnewsky Institute of Surgery

This is the centre where the founder (the father of the present director) started local infiltration anaesthesia which is being very extensively used all over the USSR.

This institute gets its general surgery from polyclinics, and its cardiac and lung cases from many distant areas. It is also postgraduate teaching centre.

The space allotted for research laboratories, connected with anesthesia and nerve regeneration, etc. are almost as large as for the hospital proper. I visited this institute on various mornings and saw many types of cases being operated under local anaesthesia. I witnessed, amongst other operations, lobectomy; removal of desmoid cyst of lung; excision of cesophageal carcinoma (trans pleural); nephrectomy; hydrocele; gastrectomy (partial, etc)

The patients had had no premedication with morphine or similar drugs but had been prepared psychologically by an explanation of pain reflexes. A running conversation between the patient and patient's doctor was maintained. Blood transfusion was not greatly used. The operations are slower than when done under general anaesthesia and pre-operative mental preparation is essential. The technique can be easily mastered by anyone with a surgical background, and eliminates the need for a trained
anaesthetist. The patients appeared in good condition, without post-operative shock and anaesthetic vomiting.

It was an education to see patients, after lobectomy and nephrectomy, get up from the operating table and help themselves on to the trolley, and to watch them drink orange juice during the course of the operations. It would be worthwhile for Burma surgeons with surgical experience to go and study for three to six months under the Director and return to teach future students the technique of local anaesthesia.

Dr. Vishnewsky is a good general surgeon and a very good teacher, as one of the post-graduate students, informed me. I agree with him after having attended a few sessions at the hospital.

It may be worth our while to request the surgeon and his team to visit our country to demonstrate the technique of operation under local anaesthesia a technique of which they are justly proud and one that would be of immense benefit to this country.

Institute of Micro-Biology and Virology (Moscow)

The Institute maintains different departments which in turn have many sections.

The department of micro-biology has sections studying chemical composition of bacteria and their toxins, etc. Virology is a separate department with sub sections. The actual manufacture of vaccines and sera are carried out elsewhere, in the outskirts of Moscow where land is plentiful; but the institute carried out all the purity and potency tests; concentration of sera, final ampouling, storage and ultimate despatch for field use.

The processing during manufacture was on the same lines as elsewhere some of the media and stains that were used had Russian names; details were not obtained owing to lack of time and because of the language barrier.

Prophylaxis against influenza by insufflation of dry virus and immune serum on to nasel mucosa are being tried; statistical data of the prophylactic efficacy was not available. Great faith is placed on the efficacy of bacteriophages for cholera, dysentery (bacillary) and infantile enteritis.

BCG vaccine is produced in large quantities and is said to have been in use since 1929. Oral BCG vaccine is given to an infant mixed with mother's milk on the second, fourth and fifth day of its life, and intradermal inoculation to fortify (enhance) further the protective value against tuberculosis.

The institute was well equipped. The majority of its apparatus and equipment was made locally and appeared heavy and somewhat crude, but some English and American equipment was also utilised.
Precautions against sepsis and contamination were strict. Simple measures were adopted, e.g. a wet sheet at the entrance; installation of UV Light from the roof, etc.

The research department occupies nearly a third of the building and deals with the effective concentration of products, standardisation and immunology.
News, Views and Impressions

Basic education:

Soviet Russia lays great stress on the health services. Preventive medicine has a high priority. Curative medicine, especially in the fields of neuro-surgery, cardiac surgery and anaesthesia has advanced far.

The Pavlovian concept of "conditioned reflexes" predominate all basic medical ideas, and infiltrate into all scientific conversation. It is a heritage of which the nation is justly proud, but which palls on listeners by frequent repetition.

Every doctor is trained in public health during his six years of training, with practical work in the field (lasting from three to four months) during his fifth year.

Post-graduate work

Except for a very few candidates selected for pure research and advanced specialisation, all physicians have to work in rural areas for a minimum period of three years. During the refresher course at the end of the three years, he is fitted to specialise in any branch that appeals to him but most physicians stick to general practice.

After the first three years of rural work every facility is offered for further study to enable the physician to obtain higher degrees and thus better emoluments.

Homeopathy

Homeopathic and herbal medications are count remanced but can be dispensed only by a qualified registered physician (all physicians must be registered).

General standard

The standard of doctors passed out twenty to thirty years ago appears to be low; they seem to be without a broad medical knowledge and to know only their own limited fields of specialisation such as pediatrics, VD, etc. The much older and the much younger groups have a comparatively good medical standard.

Recruitment

Ministries and institutions requiring medical personnel often address final year medical students, explaining to them their needs and the scope and prospects for medical personnel under them. Students can register their names according to their liking. Since all services belong to the state there is no harm to the state by this method of drafting.
Advance planning

During the five year plan the output required of medical personnel of the different grades is worked out in consultation with different ministries. With this as the guiding factor the Minister of Health USSR advises the Ministry of Health of each Republic of the number of personnel they are required to train with a view to meeting demands as they arise.

Central control

The demands and needs of the masses (village soviets) proceed step by step to the highest central authority; if, after due consideration and with the aid of advisory boards the demands are approved a detailed working plan is laid out by the methodological department for final approval and implementation by the centre. Central control is accepted as an absolute necessity for the success and quick implementation of any social service.

Connection with clinical work

Medical personnel, when seconded or posted to administrative posts, do not sever their connection with their usual academic or clinical work; this continued connection helps to keep the administrators well informed regarding recent advances in medicine and surgery.

Except in certain fields of specialisation such as neuro- or cardiac surgery, surgeons do general surgery along with their specialisation.

Private practice

There is no private practice, not because it is prohibited, but because none is likely to pay money for a service which he can get free with better facilities and to which he is entitled under the Constitution.

Wages of scientific and medical workers

Academicians, scientific workers, artists, etc. are paid high salaries. A famous tenor was said to draw between 20 to 25,000 roubles, and a minister about 10 to 16,000 roubles per month.

The pay of a research worker is higher than that of a physician and directors of research institutes are also paid relatively higher pay than most other institutes.

Physical fitness

All aspects of training are adopted to make children both physically and mentally fit. Children have priority in everything. The worker's physical fitness and the allocation to him of a suitable job where he is likely to be most productive and useful to the state appear to be the main purpose of the state.
Literacy

Illiteracy has been banished. Compulsory and free education up to the seventh grade throughout the union is likely to be raised to the tenth grade in the near future. Facilities for higher university education are given, and most of the students are subsidised by the state or by firms.

Culture

National cultural integrity is maintained inside the union. Every child has to learn three languages - Russian, the language of the republic (or his own mother tongue) and one foreign language, usually English.

A love of national music, folk and ballet dancing, art and architecture is being inculcated. Statues of people prominent in the political, social, literature, artistic and scientific fields, both past and present, are seen in parks and public places.

Cleanliness

Gardens and parks are kept attractive. The cleanliness and attractiveness of the neighbourhood is the duty of the people that live there. It is common to see early in the morning, housewives sweeping the area of pavement in front of their houses and sprinkling water to settle the dust.

Teaching of sciences

In schools science is a compulsory subject. Biology between the sixth and eighth grades prepares the students for the physiological changes that take place in the human body.

Nutrition

Problems of overcrowding and undernourishment need not exist in Russia for very many decades inspite of the rapidly increasing population.

General health

Many workers, though well nourished, appeared pale and tired; this was more noticeable among young women workers. Enquiry as to the possible cause elicited the reply that they were normal and those that did not feel well had all the health services at their disposal. The above was a clinical observation without any detailed data. Compared to the Dutch working class, the people looked less physically fit.
Size of families

Every woman has a right to be and usually is, a wage earner; family ties appear to be as close as elsewhere in the world. The size of an average family is increasing (urban five - rural eight).

Sex equality

The equality of the sexes is taken for granted with the scale in favour of women, as they are the only providers of an important commodity greatly required by the state - viz children.

Maternity abortions

In maternity centres, family planning and birth control are taught to both husbands and wives. Contraceptives are not supplied by the State, though their use is not prohibited. A certain small portion of therapeutic abortions are conducted in hospitals - the reasons for such procedure being the health of the mother on account of heart disease, high BP - eclampsia, transmittable disease, malformation of pelvis, etc.

Caesarian section delivery is not common. Heroic measures are not adopted to turn breech presentations in multigravidas. Episiotomy is done occasionally.

Maternity benefits.

A working-class mother receives 120 roubles at the birth of each child for the purchase of clothing and may also be given 90 roubles per month for nine months for incidentals towards baby feeding. For the birth of third child, a mother receives 400 roubles and for the fourth child 1300 roubles; this rate gradually increases until for the tenth child and above she gets 8000 roubles each along with monthly allowances of 300 roubles until the youngest child attains the age of five years. Honorary title of "Mother Heroine" is conferred on women with ten or more children.

Expectant mothers get maternity leave with full pay for seventy-two days or more if medically certified that the cause of illness is due to confinement.

Crying babies

Crying babies were noticeable by their absence when remarked upon this, I was informed that there should exist no reason for babies to cry if their needs are attended to properly. "Conditioned-reflex" again!

Health units

Health units and schools existed in all the villages that were visited by us, and were said to exist also in all remote villages.
Handicrafts

Non-utilitarian handicrafts are not encouraged except as souvenirs, toys and decorations. The prices of these goods are high.

Holidays

All workers get three or more weeks holidays per year depending on the hazard to health in their occupation.

Health resorts

Much use is made of the spas, health resorts, hill stations and seascapes. Hydrotherapy and various other methods of physical therapy are highly developed and freely used. Physical culture is almost a craze.

Housing

Building of houses and flats is in progress everywhere, yet there is still a great shortage. Old houses and most houses in rural areas have little in the way of sanitary conveniences of the modern type. House rent on the average is about 5% of the worker's salary.

An advance of money, equivalent to one and a half times a year's pay is given to those who wish to build their own homes. This advance is repayable in five years; and no interest on the sum is charged.

Wages

The earning capacity of workers varies widely, depending on the skill and educational standards required along with industrial hazards.

There is a basic wage minimum of 500 roubles (equivalent at the international exchange rate to Kyat 500, and in bazaar value to Kyat 150). But the lowest paid workers usually belong to cooperatives where they get their food and other necessities relatively cheaply. The driver of an ordinary car gets about 800 roubles if he has a certificate of qualifications in mechanics if he is considered a careful driver; and if he is entrusted with driving the car of important persons such as health minister, foreign visitors, etc. his pay would be about 1300 roubles. In addition to this he can earn nearly a third more by working overtime.

Commodity prices

General commodities are very expensive. Neckties vary from 25 to 65 roubles; shoes from 150 to 500 roubles; linen handkerchiefs from 2.75 to 4 roubles each. A dinner with a few drinks in a restaurant for one person will cost as much as 100 roubles. But travelling and public utility services such as water, lighting, etc. are very cheap.
Pensions

Every man at the age of 60 and every woman at the age of 55 gets a monthly pension of 40% of the average pay per month of his or her working year. If an individual is willing and able, he may take on any other work, and earn a full salary, in addition to his pension.

Causes of death

The chief causes of death are said to be old age, neoplasm, heart diseases and influenza. Though we did not visit any homes for the old people, the number of aged people that one met on the roads and in the parks appeared abnormally low. Enquiry as to the whereabouts of the old people always brought the reply, "probably by the fire-side" or "at homes for the aged". I was told that expectation of life was greatly increased but no definite age was stated; it was difficult to judge how this conclusion was drawn in the absence of any census or other statistical data.

Code of morals

Dresses and the mode of behaviour (in public places) tend towards puritanism. Polygamy even in the old muslim areas, e.g. Usbek and Kazaks S.S.R. is non-existent.

Atheism

Belief in God is denied by most of the younger generations rather too vehemently for belief. Religious tolerance exists without encouragement. According to the Constitution, a person who believes in God cannot hold an administrative post in the Soviet, but trade union benefits are not denied to him.

Statistics

Medical education: - course of study 6 years; basic education - high school
Total number of doctors trained - 24,000 per annum
Total number of doctors in the USSR - 200,000
Cost of education for 6 years - 80 to 100,000 roubles
Number of training centres - 75
Number of hospital beds in the USSR - more than 1.2 million
Number of felloshers - 0.5 million
Percentage of students that complete the training - 80 to 85%

All the workers that we met appeared to be very proud of their country and their individual and collective works - and kept asking how we liked Russia, compared to the other countries that we had visited. They talked enthusiastically about working for the betterment of the Nation, and about peaceful living in order to keep up a steady progress towards health and enjoyment.
We found the Russians to be artistic and musical, friendly and generous hearted, and very companionable while the children seem healthy, free and easy, and loveable.

There is not a great deal of difference between the health administration setup of Burma and Russia. The different departments that exist in Russia are in existence in Burma also: but there are some fundamental differences in concepts.

In Russia stress is laid on preventive medicine; health education of the masses; social and economic security, for the patient; mass (combined) attack on a health problem simultaneously on all sides, by an overwhelming number of personnel and methods; the abolition of the necessity for the existence of "private practitioners"; attractive monetary remuneration for hardships and hazards of medical personnel.

Recognition of the higher status of the scientist, research worker and laboratory workers; ancillary health services, e.g. physical fitness; nutrition; rest; sanitary -

The necessity for numerically very large numbers of health workers - the base to be very broad for the carrying out of the central directive and decentralised execution.

Middle medical personnel (Burmese equivalents are health assistants, public health nurses, nurses, midwives, technicians, etc.) who make up the staff of the health department that comes into intimate contact with the rural population and who are the only people who can really influence the rural population in health and hygiene.

The importance of the selection, education, training and disposal of medical personnel, coming under the health department and not under the education department.

Close cooperation between the different ministries.

A generous budget allotment

The maintenance of scientific advisory bodies to inform on the best methodological process for the implementation of projects and programmes.

Making the man in the street realize that to keep his body healthy and fit his bounden duty towards the State.

Public appreciation and approbation (in the form of medals and certificates) along with material tokens or payments as being more satisfying and better appreciated by the common man.
1. Implementation of the above ideas as best suited to conditions in Burma.

2. The sending of competent men (a) to study individual problems such as health education, rural health, preventive medicine, etc. with special instruction to study common difficulties; (b) to study local anaesthesia, Bogomolet's experiment with anti-recidivo cytotoxic serum (for retarding the process of senility); neuro-physiology; oral BCG and bacteriophage for tuberculosis and infantile diarrhoeas and dysenteries; (c) studying of Russian by science students to enable translation from scientific journals and books to be made available to the local people; (d) close liaison with Russia by mutual interchange of scientific data.

One month is a very short period to visit a large country like Russia and gain much detailed information. Ignorance of the language was a great handicap, though our hosts kindly allocated very capable interpreters. Factual data quoted was taken from information given by the Soviet health officers and the literature that I had a chance of going through.

Very early in my visit, I had intimated to the authorities that I was interested only in their best exhibits and most successful ventures. What I saw was highly satisfactory and without doubt the USSR has done much for the health and welfare of all its workers, especially the rural population. The health system theoretically is good, and as far as I could observe, successful in practice.

I am grateful to the Ministry of Health of the Government of Union of Burma for having selected me as a delegate to study health measures in the USSR and I am thankful to the Soviet authorities who proved themselves to be very generous and considerate hosts.
Scientific session held jointly by the Academy of Medical Science of the USSR and the Ministry of Public Health of the Uzbek SSR.

Programme of the Scientific session of problems of Regional Pathology

Monday - 20th September 1954 - 5 pm

Opening Session

1. Opening address - F. G. Krotkov, Vice President USSR Academy of Medical Science, Chairman, Organising Committee.

2. Natural Nidi of Transmissible and Parasitic Diseases in Relation to Landscape Epidemiology - Acad. Y.N. Pavlovsky

3. Natural Nidi of Human Diseases in the Kara-Kum Desert - Prof. P.A. Patrishcheva, Corresponding Member, USSR Academy of Medical Science.

4. Rickettsioses - Prof. P. F. Zdrodovsky, Member USSR Academy of Medical Science

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Tuesday - 21st September 1954 - 9 am

Second Sitting

1. The problem of Leishmaniases in the USSR - Prof. N. I. Khodukin, Corresponding Member, USSR Academy of Medical Science.

2. The treatment of Visceral Leishmaniasis - N. A. Mirzoyan

3. Activities of the Academy of Science of the Kazakh SSR in relation to Natural Nidi of Infectious Human Diseases in Kazakhstan - Prof. I. G. Galuzo and Docent M.M. Rementsov

Discussion of papers.

Third Sitting  3 pm

Discussion of papers

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Wednesday - 22nd September 1954 - 9 am

Fourth Sitting

1. The Scientific Bases of the Eradication of Malaria in USSR - P.G. Sergiyev, Member, USSR Academy of Medical Science

2. Control of Malaria in the Uzbek SSR - Prof. L.M. Isayev

3. Successful control of malaria in the Kirgiz SSR - H.H. Rusiyev

SECRET
4. The Biology of Pupulations as a theoretical basis for the control of mosquitoes - Prof. V.N. Beklemishev

5. Use of Aerosols for the control of blood sucking arthropoda in the open - Prof. V. A. Nabokov

6. Malaria infection of internal organs - Prof. E. I. Atakhanov.

Discussion of papers

Fifth Sitting - 3 pm

Discussion of papers

Thursday - 23rd September 1954 - 9 am

Sixth Sitting

1. The Problem of the Devastation of Helminthiases common to man and animals - Acad. K.I. Skryabin

2. Helminthiases and infections - Prof. V.P. Podyapolskaya corresponding member, USSR Academy of Medical Science

3. Chemotherapy of Parasitic diseases - Prof. S. D. Moshkovsky, Corresponding member USSR Academy of medical science.

4. The experimental method in the chemotherapy of certain helminthiases - Prof. N. N. Plotnikov

5. The control of ankylostomiasis in the USSR - Prof. N.G. Kamalov

6. A contribution to the history of the extermination of Dracunculosis (Rishta) in the Uzbek SSR - A. A. Kadyrov

Discussion of papers

Seventh Sitting - 3 pm

Discussion of papers

Friday - 24th September 1954 - 9 am

Eighth Sitting

1. Pathogenesis, clinical picture and treatment of Brucellosis - Prof. G. P. Rudnev, Member, USSR Academy of Medical Science.

2. Epidemiology and Prophylaxis of Brucellosis - Prof. I.K. Karakulov, corresponding member, Academy of Science of the Kazakh SSR

3. Physiological bases of Brucellosis treatment by intravenous injections of vaccines - H. A. Yunusova

4. Complex method of treating human Brucellosis according to the phase of the disease - Prof. T. H. Najmaddinov, merited scientific worker of the Uzbek, SSR
Tenth sitting

1. Health protection in the Uzbek SSR - R. S. Bagatov

2. Theoretical principles of the health services in the Soviet Union - Y. D. Ashurkov

3. Theoretical principles of prevention of infectious diseases in the USSR - V. M. Zhdanov, corresponding member USSR Academy of Medical science.

4. Mother and child care in the Uzbek SSR - Z. M. Jamalova

5. Medical aid to the Rural population of Kazakhstan - S R Karinbayev

Eleventh Sitting - 3 pm

Discussion of papers

Closing of Session

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## Curriculum for Medical Graduates since 1946

- **Subjects**
- **Hours**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Hours</th>
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<tbody>
<tr>
<td>Languages</td>
<td>300</td>
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<tr>
<td>Political science</td>
<td>250</td>
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<tr>
<td>Chemistry and physics</td>
<td>500</td>
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<tr>
<td>Biology</td>
<td>220</td>
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<tr>
<td>Anatomy</td>
<td>400</td>
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<tr>
<td>Physiology</td>
<td>400</td>
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<td>Bacteriology</td>
<td>250</td>
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<tr>
<td>Pharmacology</td>
<td>200</td>
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<tr>
<td>Pathology</td>
<td>750</td>
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<tr>
<td>Surgery (including orthopaedics)</td>
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<tr>
<td>Hygiene</td>
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<tr>
<td>Internal medicine</td>
<td>270</td>
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<tr>
<td>Clinical surgery</td>
<td>250</td>
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<tr>
<td>Infectious diseases</td>
<td>200</td>
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<tr>
<td>Special (1) senses-eyes, nose and throat, skin</td>
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<td>(2) VD</td>
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<td>(3) TB</td>
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<td>(4) Psychiatry</td>
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<tr>
<td>Pediatrics</td>
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<tr>
<td>Gynaecology and obstetrics</td>
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<tr>
<td>Training in military surgery &amp; Medicine</td>
<td>150</td>
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<tr>
<td>Hospital and health organization</td>
<td>100</td>
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</tbody>
</table>

Four months in preventive work in fields; final year spent as an intern or assistant in a polyclinic.

It was stated that a knowledge of Marxism and political science were as essential to the medical personnel as to the politician; since without such a knowledge, a physician would not be able to give the maximum benefit to a patient during his convalescent rehabilitation period.

In the medical training of students all the possible audio visual aids are utilized. Museum, specimens and models (in plastics and china), are kept in good condition, and are handled freely by the students.

Since all cases that die in hospitals can and are usually submitted to post mortem examination, the students get much practical experience in macro-pathology.
Bibliography

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by Sir Arthur Newsholme and Dr. John A. Kingsbury

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by Na Semasko - 1934
Milbauk Memorial Fund Lancaster Penn. 1936

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by Prof. Z. S. Bogolepova

Protection of Women & Children in Soviet Russia
by Alice W. Field New York 1932

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by H. E. Siegriest 1947

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American Review of Soviet Med. 1949

Health Work in Soviet Russia
by Anna J. Haines New York 1921

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