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Information Report

MEDICAL SUPPLY SITUATION IN THE USSR  
FROM EVIDENCE CONTAINED IN HICOG REPORTS

APPROVED FOR RELEASE  
DATE: DEC 2007

CIA/SI 34-51

20 December 1951

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MEDICAL SUPPLY SITUATION IN THE USSR  
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I. PROBLEM

To estimate the medical supply situation in the USSR from evidence contained in HICOG Reports.

II. CONCLUSIONS

1. The Soviet Union is poorly supplied with medical textbooks and literature.
2. The Soviets have an ample supply of top-notch bandage materials for first aid or hospital treatment. Plaster for protection of fractures is scarce and of inferior quality.
  - a. The Soviet Union is probably able to supply sufficient penicillin to meet the needs of its critical personnel (military and factory workers).
  - b. Soviet country-wide requirements for sulfa drugs are met by its producing chemical pharmaceutical factories.
  - c. The Soviet Union has difficulty in supplying its population with common pharmaceutical products other than penicillin or sulfa drugs.
  - d. The Soviets can produce enough biologicals to take care of the needs of critical personnel only. The nation will experience difficulty in halting widespread epidemics of uncommon diseases.
  - e. A system of blood banks may be under consideration throughout the Soviet Union, and blood banks do exist in the larger cities.
3. The Soviet Union suffers from a nation-wide infestation with certain disease vectors, such as fleas and localized infestations of mosquitoes.
4. The Soviet Union does not have the current capacity to supply medical personnel with suitable diagnostic equipment.
5. The Soviets still have difficulty in supplying the nation's needs for medical instruments but this supply problem is probably decreasing.

### III. DISCUSSION

#### A. General Comments.

1. An examination of HICOG reports which deal with the medical supply situation in the Soviet Union, as reported by German POW medical observers, justifies the general conclusion that medical supply was in very poor condition up to the year 1949. By United States standards, and by Western standards perhaps not as high as those of the United States, the Soviet Union was enduring appalling shortages of pharmaceuticals, biologicals, diagnostic equipment, instruments, and medical literature. The Soviets were certainly aware of their shortcomings. Nevertheless, the Soviet Union was in an increasingly better position in 1949 than it had been ever before.
2. There is a very strong possibility the Soviet Union in 1949 was able to supply its own needs for sulfa drugs, since it furnished these items even to prisoners of war. In the penicillin field, the Soviets were distributing more and more penicillin to widely scattered areas, and had mastered the industrial production of this antibiotic.

#### B. Medical Literature.

1. There is probably a serious shortage of up-to-date textbooks and literature in the medical field throughout the Soviet Union today. Instructions for the use of modern effective therapy based on most recent advances in the field of medicine are denied the average Soviet practitioner, and this is probably reflected in the medical practices of the armed forces.
2. Several HICOG reports make reference to medical textbooks and publications which lead to the conclusion either nothing original is being published in Soviet medical educational material or literature distribution is inoperative. At a medical school in the Ukraine, very few texts were available to students. At Gomel and Minsk in White Russia, texts were cheap and easily obtainable but were mostly German translations. A textbook for feldshers was inadequate, and the pictures were considered primitive. In Dviri (Georgia), it is claimed medical literature antedates 1918 and is primitive in print and in illustration. Reports state even in Moscow medical literature is almost impossible to obtain. Soviet therapeutic measures up to 1949 are reported to be stereotyped and outdated.

C. Dressings and Splints.

1. In this field the Soviets are apparently unusually competent. German physicians volunteer unlimited praise of the quality of Soviet bandages. These are described as very good, very effective, and well-packed. Adequate quantities of cloth and gauze bandages of Soviet manufacture were available even to POW doctors. One German POW states the Soviet bandages are of superior quality, well-sterilized, and well-packed. On the other hand, he adds that adhesive tape and elastic bands were unknown (at least until 1947). Adhesive bandages were prepared using Soviet-made KLEOL which resembled German masticol. The bandages are reportedly made in Moscow.
2. In the treatment of fractures, Soviet splints were poor and bent easily. Gypsum bandages for this purpose were apparently not well-known in the USSR. Gypsum is said to be very rare even at a medical supply depot in Gomel.

D. Pharmaceuticals and Biologicals.

Sources overwhelmingly report a shortage of drugs in the Soviet Union. Those drugs which were available were frequently distributed by manufacturing plants in poorly prepared packing or in bulk form. Ampules were often labelled so illegibly that it was necessary to open the container to find what was present. Among the more important drugs which were successfully produced by the Soviets, the availability of penicillin and several sulfa preparations indicates a strong and increasingly more successful effort to achieve self-sufficiency in these products.

1. Penicillin.

References to penicillin are numerous. The earliest year it was encountered, as reported by one source, was 1947, in Gomel (White Russia). Beginning in 1948, many sources observed Soviet penicillin in various areas throughout the western part of the USSR. At Stavropol, in 1948, Russian antibiotics replaced American-manufactured material. In Bobruisk, penicillin in liquid and in tablet form manufactured at Minsk was available. Another source reports penicillin production in Minsk was going on early in 1949, but the product was judged not too dependable. At Stalingrad, penicillin, made in Moscow, appeared in 1948 in adequate quantities. It cost 25 rubles for 200,000 units and was sold on the open market, but none was available in the normal supply channels of a Stalingrad hospital. In Moscow, after 1948, penicillin was readily obtainable and not expensive but was scarce in the outlying districts. Soviet penicillin was employed frequently and effectively. In Riga, penicillin of Soviet manufacture was described by one source as effective and by another source as undependable. In Rostov, in 1949, the penicillin was rumored to be effective. In Gorki, one

source observed Soviet penicillin for the first time. It was in powder form and supplied in a rubber, sealed ampule (possibly a vial) containing 150,000 - 200,000 - 250,000 and 300,000 units per ampule. The material was judged very good. However, in Azerbaijan, in 1949, penicillin was still of U. S. manufacture. In Molotov, in 1950, penicillin was of Soviet and U. S. make, the latter being very scarce. In 1949, a source reports penicillin production was started at a new Moscow plant and had been previously produced at an older plant in that city before 1949. For the same period, another source identifies the Karpov factory as a penicillin manufacturing plant. In the Kemerovo area, a source reports he used Soviet penicillin in 1949. This was presumably made in Moscow, but it was in very short supply and required special permission for its use. It was effective. At a large chemical pharmaceutical plant outside the city, it is definitely stated, no penicillin is produced, and it is apparent the Soviets faced a considerable supply and distribution problem which must still exist. In the Crimea in 1949, Soviet penicillin available was darker than the U. S. product. Physicians did not consider the material equivalent to or interchangeable with American manufactured penicillin. It was sold on the black market and was not in adequate supply. Finally a report states penicillin of Soviet manufacture was available only on rare occasions in civilian hospitals in the Zaporozhe vicinity (Ukraine).

2. Sulfa Drugs.

Reports on the effectiveness of sulfa drugs generally agree Soviet sulfa products were quite suitable for therapeutic use and were equivalent to sulfa drugs produced in Germany. The various kinds of sulfa drugs were not always available in quantities needed, but this situation became less evident as time went on and it is probable at least the Soviet Union is adequately supplied with these materials. Sulfadine, sulfathiazole, disulfan, and sulfanilamide (streptocide) were accepted by German POW physicians. These were the most widely used medicines, perhaps because few other drugs were available. Complaints were registered by several sources because of Soviet medical industry policy in supplying drugs in loose, individual form; this, of course, made it necessary to weigh each individual dose. Sulfadine was used for diarrhea, pneumonia, and meningitis and was usually combined with sodium bicarbonate. Disulfan was employed (since 1946) in the treatment of bacillary dysentery. In Karaganda, in 1949, sulfadine was the only sulfa drug available and was used for gonorrhea therapy among other indications. The chemical plant at Kemerovo was reported to manufacture sulfonamides. At Stalingrad, a combination of sulfonamide, heavy metal therapy, and possibly penicillin was employed at the venereal disease clinic in 1949. A dosage schedule for sulfadine treatment of gonorrhea is described by one source.

Streptocide rubrum was used by veterinarians at Krasnogorsk after the drug had been condemned for use in humans. These men were also employing sulfanilamide for treatment of pneumonia. In connection with misuse of sulfonamides, one source observed the Soviets used these drugs unwarrantably and in unreasonably high dosage.

3. Biologicals.

- a. Conflicting reports on adequacy of supply of vaccines are given by German medical POW sources. The Soviets are said to possess considerable competence in the field of hygiene and sanitation, especially as they apply to control of infectious diseases and epidemics. But they do lack facilities for such control. When an epidemic occurs the entire population of a town is inoculated and quarantined; outgoing traffic is stopped, and incoming traffic is restricted. Special commissions are sent to the town. One source relates the incidence of all diseases in Leningrad was higher during the period between 1945-47 than it was during 1948-49. The Soviets were apparently making vigorous and successful attempts to prevent development of epidemics. Nevertheless, even with an optimum supply of vaccines and serums, one weak link is present. There is a predominance of fieldshers, men of sub-professional medical knowledge on whom the Soviets must depend to utilize their biological supplies properly to ward off epidemics. One responsible Soviet female doctor is reported to have been unable to recognize contaminated pentavaccine.
- b. Mass immunizations were performed periodically in the Soviet Union. Yet some sources report these attempts at health protection were not systematized, nor had they ever seen evidence of a determined effort to treat a large segment of the population. Children, when they enter school are apparently vaccinated against smallpox. Certain factory workers and POWs are immunized against typhus. Army personnel received pentavaccine inoculations against typhoid, dysentery, cholera, and paratyphoid A & B. This pentavaccine frequently caused reactions for several days, and these reactions were attributed by several sources to improperly prepared vaccine. One Crimean source reports use of tularemia vaccine once a year on POWs and civilians. Similar use of tularemia vaccine is reported in Zaporozhe (Eastern Ukraine). Immunization of children against diphtheria is reported by one source. At Turinsk, in the summer, the entire population is vaccinated against spotted fever. One source states that of an entire group designated to receive pentavaccine, only a small part actually does receive the vaccine. One source

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reported an improved situation in the USSR in 1949 in that frequent inoculations of the population were undertaken. In Minsk, compulsory smallpox vaccination is reported.

- c. From this poorly organized system of immunological control, it would appear the Soviets do not have adequate supplies of all essential biological materials to take care of all of the population and would experience considerable difficulty in preparing to immunize all the citizens against many of the infectious diseases.

4. Blood Banks.

Only brief references are made to blood banks or to use of blood products. A blood bank is reported at Novosibirsk. Municipal blood banks are being established in Kemerovo Oblast in order to have a large supply available. Individuals are reported required to donate blood regularly. No blood banks are reported in two cities of Estonia; but in Latvia, a hospital in Duenaburg is said to have excellent equipment for transfusions. At Stalino, there is no blood bank known to source. At Segezha and Petrozavodsk (Karelo-Finnish Republic) blood banks were not common, nor was plasma regularly used. Either direct transfusion or saline injections were employed. No blood bank is reported at Stalingrad. At a hospital in Luberzy (30 km E of Moscow) blood transfusion apparatus was available. At a small hospital in Moscow itself, no blood bank was observed.

5. Other Pharmaceuticals.

- a. German medical POW sources refer to other drugs in use in the Soviet Union. They speak disparagingly of these products. Most available medicines were of the simplest, old-fashioned type, and there was an acute shortage of these. Even in Moscow, it is reported, little use was made of special drugs, and such as were used were of German, British, or American origin. Potassium permanganate was used as a cure, a common disinfectant, internal laxative, and even for venereal disease therapy. Vitamin preparations were generally scarce, and many of the population suffered from avitaminoses (A, C). As a source of Vitamin C, Soviet physicians prescribed pine needles. Among the Soviet drugs available are mentioned akrikhin (similar to atebirin for malaria), plasmocid, aspirin, pyramidon, quinine, urotropin, novocaine, ether, and ethyl chloride. In general, the supply of drugs improved after 1946. Temporary shortages could be attributed to poor distribution. However, the USSR has remained incompletely supplied. As with the sulfonamides, packaging of other Soviet pharmaceuticals was inferior. Powders had to be individually weighed, and sources reported this practice

produced many inaccuracies. Soviets are said to dislike injections, but this cannot be considered peculiar. Soviet veterinary medicines were reported to be largely imported from captured German stocks. Soviet use of bacteriophage is reported occasionally, but no evaluation of it is given. Reference is made to the crudeness of ampules of epinephrine prepared at Novosibirsk.

- b. It is reported by two sources that akrikhin is ineffective against a local form of tertian malaria occurring around Stalingrad. The suggestion is made the parasites are akrikhin resistant, since the disease responds to quinine.

#### E. Disease Vector Control.

1. The very existence of active State organizations to control vermin such as lice is a clear admission of the low level of personal cleanliness in the Soviet Union. Innumerable references are made to the activities of the delousing stations which exist in every important locality. Materials used to control lice apparently have not included DDT. In general, public health officers are expected to enforce a vigorous delousing program. To effect lice control, sanitarians utilize special basins and steaming (for clothing and personal effects). A soap known as "K-Soap" is described by a German POW physician (Leningrad area) as being very effective in delousing human bodies and infested clothing. In other areas only hot water or hot air prophylaxis was used. No chemical means, with the exception of cresol soap, were employed for destruction or control of lice. In one area (Kizel in the Urals), delousing installations were non-existent. In Orsk, the stations were ineffective, although the opposite is stated concerning other areas of European and Asiatic RSFSR. In the Ukraine and in Georgia, the entire system was considered faulty, ineffectual, or inoperative. The general impression received from POW reports is that attempts to control lice are vitiated by the absence of a real chemical destructive control agent and the situation which permits immediate recontact of a deloused individual with sources of these vermin.
2. Control of other disease vectors is spotty. Reference is made to inadequate but effective fly control in the Stalino area. Attempts to control mosquitoes along the Dnepr have not been observed. In the Moscow area, air-dusting was used to eradicate mosquitoes, but the agent employed was not described or was it known. DDT (or pyrethrum) has been reported to be used monthly in military barracks and living quarters of official personnel, such as Army or MVD officers. The homes of the average Soviet citizens are not disinfected. No systematized attempts to prevent disease by the control of vectors in the Stalingrad area were ever observed by one source, although another source reports existence of an

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2. In the years after the war, according to HICOG reports, medical instruments of good quality except of foreign manufacture were not available. In Leningrad, in 1949, German instruments were in short supply. Russian instruments, to replace foreign items, were made of poor steel or other materials and were badly plated and rusted easily. Thermometers were poorly calibrated. A general shortage of even Russian medical instruments is indicated by a report describing the reaction of a Soviet physician when receiving a piece of equipment. In the veterinary field, it was stated all instruments encountered by a POW were manufactured in Germany. Modern, complicated instruments were so strange to the Soviet veterinarians that they did not know how to use them.
  
3. In contradiction to reports of poor Soviet-made instruments, the general statement is made that really good and fine medical equipment is manufactured in Moscow and Leningrad. It is suggested the Soviets are engaged in an effort to decentralize the industry and create factories throughout the Soviet Union. Surgery rooms of certain hospitals (Kizel, Gomel, Novosibirsk, Segezha) were reported reasonably well equipped (except, of course, for anesthetics). In Latvia, good laboratory equipment was available. Certain polyclinics were reasonably well-equipped. In Moscow hospitals, the instruments are said to be adequate by Western standards, although in the smaller hospitals this was not always true.