

GREECE

Medical Intelligence



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Greece

POST EMERGENCY PERIOD OF ORGANIZED RELIEF

Crete - C. Bureau Study

GENERAL PLAN

It is assumed that the relief officer will be responsible for carrying out an organized relief program, with or without the aid of private groups as may be determined, so long as the military occupation lasts.

Therefore as soon as stabilization of the military situation is completed and there is a reasonable assurance of relief supplies, the relief officer will need the assistance of a consulting and advisory staff in determining:

- (a) the full extent and probable duration of various types of relief needs;
- (b) the possibility of reestablishing those local services essential to the relief program and determining what supplies will be necessary for this;
- (c) the additional personnel necessary and whence it is to come, and (d) ultimately, if not at first, a review of the necessary steps toward more permanent rehabilitation.

The relief officer in Crete in this stage of the relief program will bear some administrative relationship to the wider program for the whole of Greece. Just how this will be developed depends on the circumstances of the occupation. It may be that the central headquarters for the allocation of supplies and advisory personnel will be already operating on the Greek mainland (presumably in Athens) by the time that Crete will be ready to request additional staff and supplies. On the other hand, Crete may be ready for such services sometime ahead of the mainland, in which case the coordinating and consulting staff may come to Crete first and subsequently move elsewhere. In either case, there will be new problems growing out of the relative needs of Crete and the demands of Greece as a whole with regard to the total available supply.

FIRST STEPS

Consulting Personnel

At the earliest moment, if possible during the period of emergency relief, an additional staff with special skills should be available to come into the area to assist the relief officer in determining the needs, and to help him carry out the program. Specifically, in work with children, it is urged that a pediatrician be available to supervise the health program for children, and that a welfare worker and a nurse experienced in the children's field be similarly available. A nutritionist familiar with the foods and food habits of Crete would be very valuable. An epidemiologist and sanitary engineer would be essential.

Such consulting personnel should have the opportunity to see at once what the problems of the area are as the relief officer understands them, to consult operating personnel, to review quickly existing services, and to help in the estimate of further needs. They will also need to have the opportunity to inform themselves quickly about significant local customs, habits, and prejudices.

The functions of consulting personnel should be: (1) to catch oversights in selecting special needs for special services; (2) to supervise and instruct, or to arrange for the supervision and instruction of local personnel where necessary; (3) to help determine allocation of effort and supplies; (4) to work out improved services in the light of the existing program and resources, and local attitudes and standards; (5) to suggest directions for longer range planning, and (6) to carry some responsibility on the operating level for a time at least, since all available personnel will be needed on the operating level, and since in any case suitable long-range planning in a foreign setting will only be sound if some operating experience, however brief, can be drawn upon.

If the Army has physicians with appropriate pediatric and/or public-health experience who have been available for the relief program during the emergency period, and these physicians continue in the organized relief program, it will be important to clarify their relationship to any incoming professional staff.

Extension of Program of Feeding, Health, and Welfare

In anticipation of the first relief ships the relief officer, in consultation with his advisory staff if already present, will wish to enumerate the places not yet reached by the relief program. He will need to make a preliminary rough estimate of the need in each of these places, using local and military sources of information. There may need to be some consideration of the priority with which relief should be sent to new places. A vital group in the population (such as children, farmers, or teachers), the urgent request of a particular community, the threat of epidemics, the relative accessibility of the location, the presence of large numbers of refugees, might all be factors in determining the order in which communities might be included in the existing program. The relief officer will need to request supplies to cover his estimates and will need also to arrange for the storage of new incoming supplies, and for their transportation to places of distribution.

Appraisal of Need for Supplementary Services Where Emergency Program is Already Functioning

Special groups of the population, such as children, nursing mothers, pregnant women, the handicapped, etc., will need special consideration. Here the advisory and consulting medical and welfare staff will be essential in determining needs and appropriate ways of meeting them.

Establishment of Improved Central Headquarters

As soon as the relief program is extended beyond the principal cities it will be important to separate administratively the local program and the program for the entire island. There should be a central office where requests from other communities can be received. As quickly as possible a master file of requests for dislocated persons should be established for the entire island.

Relationships to Private Groups

Some private groups, Greek, and international, have been active in welfare work in Crete before the occupation, and some may have continued limited activity during the occupation. These naturally will wish to function again. The relief officer will need to determine what kinds of tasks they can do most effectively, and work out cooperative relationships with them. The activity of non-Greek organizations may be limited by a covering OFR policy, and the relief officer will need to be clear about this. It is suggested that organizations which have had experience in Greece take up such of their former activities as are appropriate to the total program and perhaps accept new responsibilities.

Study of Special Needs

Specific problems will need more accurate study than the preliminary rough estimates of the relief officer. He will need to think which special problems these are in the total program of reestablishing agriculture, safeguarding general health, rehousing and reemploying those who have been dislocated by war. The consulting staff can be of help to him in determining problems and in finding appropriate persons to make the studies he needs.

Local Advisory Body

As early as possible it will be helpful to have a local advisory body made up of leading citizens who can make suggestions and who can help in interpreting the program.

Reestablishment of Public Health and Welfare Services

There will perhaps be a wish on the part of local authorities, or the Army, or both, to put in operation again quickly whatever civil administration there was in the field of health and welfare. A description of the public health and welfare structure as defined by the 1939 law is appended. Although this looked very complete on paper, it is doubtful how well and how extensively it functioned. However, the legal framework and some precedent is there for public services if they can be reconstituted with appropriate personnel.

FEEDING

Introduction: Appraisal of the Situation

As a first step in organizing for a more extended period of relief feeding the relief worker will need to have a general idea of the food needs of the whole Island of Crete. He will want to appraise the effectiveness of his emergency program, and to estimate the needs for the ensuing period. He will want the most accurate available answers to the following questions:

What is the state of nutrition in the immediate area in which he has been operating? In the surrounding suburban and rural areas? In more distant and inaccessible rural areas? What have been the outstanding dietary deficiencies in the various areas during enemy occupation? What are the special dietary needs of children and pregnant and nursing mothers?

What are the available local food resources? Abandoned enemy stores? Hoarded stocks in rural areas? Black market stocks?

What are the chances of augmenting local supplies in the near future? Immediate institution of agricultural rehabilitation programs in the fertile areas of Crete? Reestablishment of fishing?

What are the needs in the way of imports of relief foods? For the urban areas? For the rural areas?

How successful is the present method of distribution? For the population as a whole? For mothers and children?

How popular is the type of food being distributed? How suitable for infants and children? Does it satisfy the nutritional requirements of pregnant and nursing women?

How experienced and competent in administering of food distribution is the local personnel assisting in the present program?

What sort of relief program, if any, existed during enemy occupation? Can it be utilized in developing an extended feeding program?

Has any private foreign agency conducted a feeding program in this area at any time in the past? Could its experience be used in any way in the present situation?

The answers to some of these questions the relief worker will be able to obtain himself or through reports from the Army and the advices of local authorities, especially any local advisory committee he has been able to organize. But he will need the assistance of a consulting and advisory relief staff to obtain accurate answers to many of them.

Distribution

In the light of the experiences of the Joint Relief Commission in the feeding of Athens during the past year, the distribution of relief foods through the grocers, under the close supervision of the relief agency, is likely to prove the most successful method of distribution after the first emergency period is over. If the experiences in Athens can be taken as typical for all of Greece, although there may be some waste involved, hoarded food will reappear, prices of

foodstuffs in the markets will drop, and a larger volume of food will thus be available to the population. Those who can afford to do so will be able to pay for what they receive, and a more normal self-respecting family life will be more quickly reestablished. Even if this is the method of choice in Crete during the period of organized relief, other methods may also continue to be necessary for special reasons in certain areas, and supplementation for special groups of the population will probably be needed. It is impossible to suggest in advance the preferred method for any given area; however, the following outline suggests several different methods which may be considered:

1. Supervised distribution through the grocers. Food issued or sold to holders of ration cards, if that method is already in operation; or to holders of special tickets issued by the relief agency. Prices of all foods must be kept low, by subsidy if necessary, particularly where black markets have been operating.
2. Communal kitchens for distribution of cooked foods, for home consumption. If there has been great destruction of dwellings, or there is an acute shortage of fuel or of kitchen equipment, this method may have to be continued into the organized relief period. It may continue to be the most economical and satisfactory method of supplying food to emergency shelters and hospitals.
3. Canteens where food is eaten on the premises. Although, in general, this is probably the least satisfactory method during an extended period it may still be needed for special groups, i.e., children, pregnant and nursing mothers, in association with work projects, etc. (see below under special groups).

Supplementation for Special Groups

If the basic relief diet is limited in amount there will be certain groups who by reason of age, physical condition, or because of the importance to the community of the type of work they must do, will require additions to the basic diet received by all. The following methods of distribution of any such supplementary rations are suggested:

1. Pregnant and nursing mothers and infants

- a. Extra purchases from the grocer by means of tickets issued by maternity and child-welfare centers or clinics.
- b. Direct distribution by such centers to mothers and infants.
- c. Special canteens for extra meals to be eaten on premises. Admission to these on recommendation of clinics.

2. Preschool child

Either as for infants and mothers above, or through expansion of school lunch system to include this age group.

3. School children

- a. Extra purchases from grocer as above.
- b. Distribution through child-welfare clinics as above.
- c. Expansion of, or establishment of, school lunchrooms for extra meal a day for all school children, or for those medically certified as needing extra feeding.
- d. Special canteens for the serving of at least one meal a day to groups of children in special need.

4. Special groups of adults

- a. Special issues of rations or special meals in canteens on recommendation of clinics for adults suffering from severe degree of malnutrition, chronic disease, such as tuberculosis, etc.
- b. Supplementary meals served at work relief workrooms and projects.

In any program of supplementary feeding of special groups close cooperation with the medical program will be essential, to insure proper selection of those to be fed, and adequate evaluation of the results of such feeding. Careful supervision will be necessary to see that extra supplies are used in the most economical way and for the benefit of the person for whom they were intended. Supplementary meals must not become the only meals.

Wherever pregnant and nursing mothers and young children must be fed at general soup kitchens or canteens, a special line should be reserved for them and, if possible, provision for rest, etc.

Food

In the feeding of Crete during the period of organized relief it is important that the relief worker have knowledge of the previous food habits of the people as well as their nutritional needs. Very little relief food has reached Crete since the occupation, and undernutrition to an extreme degree will probably exist there at the time of liberation. Therefore, a diet which is more than adequate would be desirable. However, it is recognized that the foods available for relief feeding may be limited both as to variety and as to amount. It will therefore be important that foods not be wasted in a misguided effort to educate a peasant population to eat according to the American pattern.

The basic diet of the Greek peasant has been whole wheat bread, goat's milk, cheese, and olives. Sufficient amounts of this (about $1\frac{1}{2}$ lbs. of bread, $\frac{1}{2}$ lb. of cheese, and one dozen olives per day for an average woman) provides a diet adequate in all nutritional elements except vitamin C, which is entirely lacking. It would probably be wise to have relief feeding conform as closely as possible to this familiar diet. Citrus fruits are raised in Crete and it would seem, therefore, that an adequate intake of vitamin C could be accomplished with a minimum of education.

Milk has never been widely used, except for the feeding of infants and young children, when it was usually sweetened. Adults never drink milk. However cheese provides the same nutritive elements, and where it can be substituted for milk in the relief feeding of older children and adults, it will probably be better received. When, however, dried milk is used in relief feeding it is

suggested that it be added to soups, flour, and other foods rather than served as a drink.

For the entire population the greatest nutritional need apart from calories will probably be for protein foods (animal products and vegetables of high protein content, such as beans, wheat, etc.), followed by fats and vitamins. It is, therefore, suggested that dairy products, with emphasis on cheese for the adult population, wheat, and probably the dehydrated soup mix of the emergency period, be the chief relief foods sent to Greece. The relief worker will probably be confronted with a request for condensed milk, popular in Greece before the war, because of its sweetness and keeping qualities without refrigeration. This form of milk is 50 percent sugar and, therefore, a poor source of protein. Shipping space should therefore probably not be allotted to it unless other alternative sources of protein are available.

There are certain groups of the population which have special nutritional needs. These are pregnant and nursing mothers, infants, children, and rapidly growing adolescents, and adults engaged in heavy manual labor. To these groups additional milk, cheese, reinforced cereal products and vitamins should be given if possible. (For a list of desirable supplements to a basic diet for pregnant and nursing mothers, infants, children, and adolescents, see appendix page .)

It is hoped that a pediatrician and a medical nutritionist will have an early opportunity to review the total situation and to make recommendations as to the most effective use of available relief foods.

MEDICAL CARE

Introduction Appraisal of the situation

As in the case of feeding the relief worker will need the assistance of a consulting medical relief staff as well as of army personnel in evaluating the medical needs of the entire island of Crete, and in obtaining so far as possible the answers to the following questions.

What are the prevalent diseases of urgent public-health importance?
Malaria? Typhus? Typhoid fever? Trachoma? Tuberculosis? Diphtheria?
Measles? Scarlet fever? etc?

What facilities if any exist for coping with them?
What additional facilities and personnel are needed?

What is the medical condition of children? What type of maternity care is being provided? Is the customary type of care in effect or has it been disrupted by the war situation?

How adequate to meet the present situation would be local prewar facilities, could they be reconstituted? Hospitals? Child welfare clinics? Special clinics for tuberculosis, trachoma, venereal diseases? Public health administration?

What supplies and personnel would be needed to reconstitute them? What is the number and state of health of local medical and nursing personnel?

What new emergency hospital and clinic facilities are needed? General, childrens, maternity, tuberculosis, communicable disease, etc?

What available rural buildings and plants could be converted for this use? Vacation homes, camps, monasteries, etc?

What medical and welfare services are needed in conjunction with other services? With general feeding centers? with special feeding centers for children and pregnant and nursing mothers?

What type of medical service is needed and would be practicable in rural areas? If by mobile clinics, how many would be needed?

What additional medical relief personnel is needed? On administrative level? On functioning level? How many specialists would be helpful in organizing programs for children, a maternity program, care of persons with communicable disease?

Is there any private agency equipped to give needed service?

What medical supplies and drugs are needed?

Control of diseases of public-health importance

One of the most important medical undertakings of organized relief will be the continuation and expansion of the Army programs for the control of communicable and other diseases of public-health importance. The incidence of certain of these diseases has always been high in Greece, and may have increased enormously under the conditions of the last few years. The Army Sanitary Corps will have instituted programs for control of the most urgent of these diseases, but these programs will need expansion and probably modification of some procedures to reach the population of the whole of Crete. Arrangements will need to be made for transferring Army equipment to the relief agency. Additional equipment and special personnel may be needed.

Among the diseases which may produce problems of public-health importance in Crete may be found the following:

Typhus and other louse-borne diseases. Although no epidemic of typhus has been reported as yet, there have been references to a number of cases, and a serious epidemic is always a possibility as long as the population is louse infected. The provision of delousing facilities for the entire population, adequate quarantine of those ill with the disease, and laboratories for accurate diagnosis would be necessary were typhus widespread.

Malaria has always been one of the leading causes of death and disability in Greece. Reports indicate that the malaria control program, initiated in Greece after the last war, has been allowed by the occupying forces to lapse. As well as the development of an intensive mosquito control program, special laboratories for accurate diagnosis of the disease and special clinics for the administration of supervised treatment may be needed.

Trachoma was very prevalent in Crete before the war. A survey made some years ago showed 60 percent of the primary school children in Canea to be infected and 30 percent in Hagios Nikolaos. Special children's clinics for diagnosis and treatment existed in Canea and Heraklion under the auspices of the Patriotic Society. It may be possible to revive these, but more will undoubtedly be needed. Segregation of those with the disease in special shelters or special schools may be needed.

Typhoid fever and dysentery were common in Greece, and with the disruption of public health and sanitary services under the occupation, have undoubtedly increased. As well as establishing a clean water supply and proper sewage disposal, early prophylactic immunization of special sections of the population may need to be considered.

Diphtheria is reported to have existed during the past winter in epidemic proportions in many parts of occupied Europe. Although there have been no specific reports of its incidence in Greece or Crete, the possibility of its occurrence in large numbers should be considered. If such an epidemic is present, antitoxin for treatment will be needed in large amounts, and an immunization campaign with toxoid may be advisable.

Tuberculosis, prevalent in prewar Greece, will have increased tremendously in amount as a result of malnutrition. One tuberculosis sanatorium of 120 beds existed in Canea, but more facilities for care will be needed. If the spread of the disease is to be checked, early diagnosis by means of the X-ray will be necessary. Reestablishment of previously existing local facilities will probably be one of the earliest steps of the relief medical care program, begun if possible during the period of emergency relief.

Hospitals: Before the war there were in Canea a general municipal hospital of 56 beds, and state tuberculosis (120 beds), mental disease (300beds),

and venereal disease (20 beds) hospitals. In Heraklion there were a general municipal hospital (75-80 beds), a general children's hospital, supported by private funds (70 beds) and a state venereal disease hospital (25 beds). There was a general municipal hospital of 40 beds in Rethymno, and a leper colony near Hagios Nikolaos. Some of these may have been used as hospitals by the enemy or converted to other uses. Some or all of them may have been destroyed. Efforts should be made to recondition and supply the buildings where possible and to round up any of the former medical and nursing staffs. (For names of hospitals and list of welfare services in Crete see Appendix)

Clinics: Before the occupation there were under the auspices of the Patriotic Foundation infant welfare clinics and school trachoma clinics in Canea and Heraklion, and a children's medical clinic in Canea. These and any other clinics which may have been associated with any of the special disease hospitals should be revived if possible.

Provision of additional medical services will probably need to be made, especially for the care of special groups of the population and for the treatment of specific diseases.

Hospitals: Temporary hospitals set up under the emergency period may need to be continued and expanded in a more permanent program. Special hospital facilities for infants and children can be developed at this time, either as separate hospitals, or as special sections of general hospitals. (See appendix for specifications.) Maternity shelters, with provision of facilities for care during the last few weeks of pregnancy and for delivery may be needed. (See appendix for specifications.) Temporary communicable disease hospitals and facilities for the care of the insane may be needed in large numbers.

Clinics: A practical method of extension of medical service to a large porportion of the population would be the establishment of medical clinics in association with other needed services. Regular medical inspection and supervision of shelters, soup kitchens or canteens, work rooms, etc., should have been instituted by this time. Expansion of this type of service to include medical supervision of individuals employed in or receiving care from these centers should prove relatively easy. Special clinics may be needed for the diagnosis and treatment of chronic diseases, such as tuberculosis, and trachoma, and for the supervision of special groups of handicapped individuals, as the blind, the crippled, etc. Dental service may be needed.

Maternity and child-welfare programs may be developed at this stage of medical relief, with the establishment of clinics or welfare centers in conjunction with the supplementary feeding program for these groups. Medical and dietary supervision, the dispensing of supplementary foods, instruction in the use and preparation of unfamiliar foods, and follow-up health supervision in the homes can all be coordinated in one program from such centers. An improved midwife service may be developed in conjunction with such a program.

Permanent centers of this sort might be set up in Canea and Heraklion and perhaps also in Hieropetras, Hagios Nikolaos, and Rethymo, although mobile clinics will probably be more economical and practical for the many small rural villages. (See appendix for details of organization of child welfare and maternity centers, and appendix for supplies necessary.)

Personnel

Maximum use of available local medical and nursing personnel should be made during this period. However it cannot be predicted how much conditions of enemy

occupation may have affected their numbers and their ability to carry on full-time activities.

Medical service in the rural areas of Greece has always been poor, so available physicians may be expected to be found concentrated in Heraklion and Canea. Physicians who have obtained post-graduate training in Germany or France will probably be better equipped to cooperate with the relief program than those whose entire education was at the University of Athens. The name of one physician only, a pediatrician, has been located. He is Dr. George Souridachis of Heraklion, presumably in charge of the Children's Hospital in that area.

Greek dentistry is said to have been good.

In the use of local nurses it should be remembered that the standard of nursing in Greece is low compared to that of Western Europe and the United States. Nursing education is in its infancy and there may be few, if any, graduate nurses in Crete. The bulk of hospital nursing is done by ignorant and untrained peasant women. In the cities there may be found a few Visiting Aids (Aides Visiteurs) - several hundred were trained in Athens previous to the war and some may have found their way to Crete. These were young women of quite good educational background who were trained to assist the public-health nurses in the development of rural health programs. In addition, after the beginning of the war with Italy, a large number of women of all classes were trained by the Greek R. d Cross as Volunteer War Nurses' Aids. It is not known whether any of these were trained in Heraklion or Canea. Besides the above two groups of partially trained nurses, and possibly a few graduate nurses, all of whom may prove helpful if they can be found, there were in Athens before the war Nurse Aids who were young women of few educational qualifications who had received a brief and inadequate course of training, and who not infrequently tried to pass themselves off as graduate nurses.

The standard of midwifery was even lower than that of nursing. Although there were two schools for the training of midwives in Athens, it is not known whether any of their graduates will be found in Crete. Most home deliveries are supervised by village women with no training and limited experience.

Therefore, additional medical, nursing, and midwifery relief personnel may be needed in Crete in addition to the consulting and advisory medical relief team.

ANNEX

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SUGGESTED LIST OF SUPPLIES AND EQUIPMENT FOR SANITATION ACTIVITIES

IN GREECE - 1 YEAR'S REQUIREMENTS

A. Malaria Control Units

20 units at \$6,550 - \$131,000

A "malaria control unit" as referred to here means the "unit" described in our report of January 26, 1943* to Surgeon James A. Crabtree. Thirty-five items of equipment and supplies were included at a total estimated cost of \$7,134.00. It is noted that item 17, a wide field binocular microscope, should be deleted from the list and items 31 to 35, drugs, should be supplied along with the general medical and drug supplies; each "malaria unit" is therefore estimated to cost \$6,550.00. Oil supplies for oiling work will be required in addition to the supplies listed. Oil should be available from local sources or Army supplies.

The twenty units have been recommended for use in Greece as follows:

<u>Location of Unit</u> <u>(Department)</u>	<u>No. of Units</u> <u>Proposed</u>	<u>Population of</u> <u>Area (1938)</u>	<u>Malaria Deaths per 100</u> <u>Deaths from all causes,</u> <u>1930-1935</u>
Thessaloniki	3	539,697	8 - 9
Rhodope	1	203,629	over 10
Serres	1	216,569	over 10
Pella	1	117,990	over 10
Kilkis	1	95,593	8 - 9
Prevezza	1	77,368	8 - 9
Chalcidice	1	77,222	over 10
Arta	1	62,462	over 10
Other areas of Greece	10	5,718,284	7 or less
TOTAL	20	7,108,814	

B. Refugee Camps

It is suggested that pending receipt of information as to the extent of need for such camps, which will probably not be available until after actual entry of the country, that supplies for two camps of 5,000 persons and supplies for three camps of 1,000 persons be procured. The larger camps could be located near Athens and Thessaloniki, the larger centers of population, and the three smaller camps would be available for location elsewhere.

For list of items required for these camps, see pp. 3-5 of report to Dr. Crabtree dated January 26, 1943.

* See pp. 21-22 of this report for list of items.

It is understood that Dr. Crabtree is preparing a list of items for delousing requirements, hence the items on pp. 3-5 should be reviewed in order to avoid duplication of such units. Including delousing and shower equipment, the supplies for refugee camps are estimated to cost:

2 camps for 5,000 persons	-	\$44,850.00
3 camps for 1,000 persons	-	<u>18,525.00</u>
TOTAL	-	\$63,375.00

Note: Chlorine, alum, and methyl bromide supplies for use in these camps are for 6 months' requirements. The quantities of these items required at refugee camps should be added to those set up for the three proposed "sanitation units" in the preparation of any over-all list of supplies to be procured for use in Greece. The same comment as to the over-all list holds with respect to chlorinators and water purification equipment proposed for the refugee camps.

C. Sanitation Units

For sanitation activities involving water supplies, sewage disposal, etc., it is proposed that equipment and supplies be set up for three "sanitation units". These units would have the supplies and equipment available to dispatch to communities and areas where rehabilitation work was necessary. The two principal population centers of Greece are the Athens-Piraeus area and the Thessaloniki area located respectively in the Southeast and Northeast portions of Greece. One sanitation unit could be set up at each of these two places and a third in Western Greece, thus providing three depots or headquarters from which sanitation activities could be carried on in the surrounding areas.

It is suggested that each unit be provided with the following equipment and supplies:

<u>Item No.</u>	<u>Description and Reference</u>	<u>Estimated Cost</u>
1.	3 W & T Hypochlorinators (see p.6, Jan.26 rpt.)	\$ 2,025.00
2.	3 Proportioners Hypochlorinators (see p.6, Jan. 26 rpt.)	1,065.00
3.*	2 W & T Portable Chlorinators (see p.6, Jan.26 rpt.)	4,200.00
4.*	Trailer Chlorinator (see item 20)	-----
5.	12 Residual Chlorine Comparators simplified type made by W & T Co., cost less than \$1.00 each	12.00
6.*	6 Portable water filtration units, 25 gpm. capacity, (see p.8, Jan.26 rpt.)	6,600.00
7.*	1 Mobile Water Purification Unit 90 gpm. capacity, U.S.Army type (see p.8, Jan.26.rpt.)	5,300.00
8.	3 Semi-Portable Knockdown Water Purification units, 40 gpm.capacity, W & T type (see p.9, Jan.26 rpt.)	18,600.00
9.	6 10,000-gal.wooden water storage tanks	1,500.00

* Or substitute in case liquid chlorine is not available.

10.	25 Lyster Bags (see p.8, Jan.26 rpt.)	500.00
11.	5,000 ampoules for above (see p.8, Jan.26.rpt.)	40.00
12.	Alum (1 yr.) (see p.7, Jan.26 rpt.) 34 tons (Assuming an average dose of 3 gr./gal. for equip- ment listed in items 6, 7, and 8, having a total output of 300 gpm., or 432,000 gals. daily, or 158 m.g. per yr.)	782.00
13.	Soda ash (for 1 yr.) (see p.7, Jan.26 rpt.) 10 tons	230.00
14.	High test hypochlorite HTH or Perchloron (20,600 lbs.) (Assuming an average dose of 10 lbs. chlorine per m.g. (a) For use with items 6 & 8 (210 gpm.), or 111 m.g./yr. = 1,600 # HTH per yr. (b) For use with items 1-2, assuming avg. install- ation at 200 gpm. = 6 x 200 = 1,200 gpm., or 630 m.g. per year HTH = $\frac{630 \times 10}{0.7} = 9,000 \#$ per yr. (c) For disinfection of 10,000 private wells at 1 lb. per well = 10,000 # HTH.	5,768.00
15.	Liquid chlorine in 100-lb. cylinders - 53 cyl. (a) For use with item 7, plus 1/3 of chlorine supply required for emergency trailer unit (see item 20) 90 gpm. = 47 m.g. per year x 10# = 470# Emergency unit; assume average installation 1 m.g.d. = 365 m.g. per year $\frac{365 \times 10}{3} =$ 1,220 # chlorine. (b) For use with item 3, Assume 1 m.g.d. = 365 m.g./yr. $365 \times 10 = 3,650 \#$ Total of (a) plus (b) = 470 plus 1,220 plus 3,650 = 5,340#.	265.00
16.	Chloride of lime for disinfection of privies and general sanitation work, 200 lbs./day = 73,000 lbs./yr.	2,190.00
17.	Materials for construction and reconstruction of sanitary privies (5,000) (see p.33 of Jan.26 rpt.)	5,460.00
18.	Small tools for each sanitation unit (see p.35 of Jan.26 rpt.)	6,320.00
19.	Delousing equipment for each sanitation unit. (See Dr. Crabtree to check whether his estimates provide for these items) (see pp.4-5, Jan.26 rpt.)	
	50 neoprene bags	300.00
	5,000 ampoules methyl bromide	1,000.00
	1 methyl bromide fumigation chamber	300.00
	5,000 lbs. methyl bromide in 1-lb. cans	3,000.00
	TOTAL	<u>\$65,957.00</u>

20. To this should be added 1 W & T Emergency
Trailer Chlorinator unit for use in Greece
at large = \$2,500.00

Total for Sanitation Units

3 at \$65,957.00

197,871.00

1 Emergency Trailer Chlorinator Unit

2,500.00

TOTAL

\$200,371.00

SUMMARY

<u>Item</u>	<u>No.</u>	<u>Total Cost</u>
Malaria Control Units	20	\$ 131,000
Refugee Camp Units for 5,000 persons	2	44,850
Refugee Camp Units for 1,000 persons	3	18,525
Sanitation Units	3	<u>200,371</u>
TOTAL		\$ 394,746

5/10/43

REPORT ON SOME ASPECTS OF HEALTH CONDITIONS IN GREECE BEFORE
AND AFTER THE ENEMY OCCUPATION

8. Local production of medical supplies; local raw materials
for this.

The development of chemical and pharmaceutical industry
had made considerable progress in the last few years. There
were four factories in the whole country, of which "Spes" was
the largest. In 1937 the production of pharmaceutical products
was estimated to be 780,000 kg. Other chemical and pharmaceutical
laboratories were "Sanitas", "Pasteur" and "Dambergi". Part of
the raw materials used in these industries was imported from
abroad.

Cotton wool. The production of cotton wool (3 factories) was
estimated in 1937 to be 171,000 kg. the import being 4,590 kg.

Castor oil. Production of castor oil (1 factory) mainly for
pharmaceutical use was estimated to be 103,000 kg. in 1936 and
120,000 kg. in 1937. The total imports of the main chemical and
pharmaceutical products were:

1936	-	40,755,880 kg.
1937	-	53,120,000 kg.

The quantities of patent medicines imported from abroad were:

1936	-	56,057 kg.
1937	-	68,104 kg.

There were also the following imports of various capsules, pills,
tablets, ampoules, etc.:

1936	-	56,773 kg.
1937	-	70,183 kg.

As regards the medical instruments and other medical supplies
as syringes, needles, rubber goods, etc., these were all imported
mainly from Germany or Switzerland.

MALARIA AND ITS TREATMENT IN OCCUPIED EUROPE

Greece: It was understood from the International Red Cross that there are at present 1,500,000 malarial subjects in Greece.

At the time of the German invasion of Greece there were 32 tons of quinine in stock, of which the Germans are reported to have taken 10 and left 22. This generosity on the part of the Germans is extremely improbable but one thing is certain, and that is that whatever quinine was left by the Germans has long since either been consumed or has disappeared on to the Black Market. Meanwhile, the Germans have made extensive propaganda out of the fact that they have donated quinine to the Greeks. We sent half a ton in June/July 1942 through the International Red Cross and negotiations are in progress to send more. At the present time in Greece it is reported that there is no quinine to be had except at thoroughly exorbitant prices on the Black Market, and then in completely insufficient quantities.

Yugoslavia: It was reported in the Zagreb Press in March 1942 that there was severe malaria in the district of Posavine, in Bosnia. There was reported to be 150,000 cases. These are the only figures which we possess.

Yugoslavia has received no relief from Allied sources, but it is believed that some quinine has been received from Switzerland.

Poland: It has been reported in the Stockholm Press, dated 27.5.42 that in Warsaw there were 1949 cases in 1940 and 17,800 cases in 1941.

Bulgaria: It has been reported on several occasions that malaria is getting a very severe grip. Extra quinine has been distributed to all pharmacies. It has been stated in the Bulgarian Press that 1,250 grains to each pharmacy will be sufficient for requirements. (It is clear that if an estimate of the number of pharmacies in Bulgaria could be made, a rough idea of the number of malarial cases could be arrived at). In actual fact it is believed that what the Press calls quinine is cinchona, alkaloids, since it is not believed that there is any stock of quinine in Bulgaria, the only report of Bulgaria's receiving any quinine is of one ton from Switzerland, whereas it is known that Germany has been supplying Bulgaria with cinchona alkaloids.

Germany: According to the Reichsgesundheitsblatt there were 1606 cases of malaria in 1941 and 709 in 1942.

Stocks of Quinine in Europe: It was estimated that stocks as at June 1940 in what was then German-Europe were 275 tons (Germany 100, Holland 100, France 75, Italy nil). In addition there were, we know, at least 30 tons in Greece and unspecified amounts in the Balkan countries. Consumption in these countries is, however, heavy and in the absence of replacement stocks dwindled quickly. Although Germany is, of course, a large manufacturer and user of synthetic anti-malarials, it is impossible to dispense altogether with the use of quinine, especially where mobile warfare in heavily affected malarial districts is necessary. It has been estimated that with the possible exception of a small emergency reserve, stocks in Europe of quinine are to all intents and purposes long since consumed, the only exception being Switzerland which at July 1942 had 11,092 kgs. in stock.

As regards the German synthetic anti-malarials, atebrin and plasmoquin, there have been some instances of short supply, but it is notable that whenever any particular advantage is to be gained by doing so Germany is always able to export these products. It is believed, therefore, that sufficient is being manufactured in Germany to provide for military requirements and exports where substantial advantage accrues. There is, however, no record of Germany's supplying the occupied countries with synthetic anti-malarials. (This does not of course apply to the synthetic anti-malarials for the use of the Occupying Authorities.) France and Italy are also manufacturers of synthetic anti-malarials.

SOURCE: M.E.W. PROGRESS REPORT OF ENEMY BRANCH FOR FORTNIGHT
ENDING MARCH 6, 1943.

February 10, 1943

Outstanding Factors Relating to Disease Incidence and Public Health in Greece

1. Background:

Greece (Kingdom of Hellos) covers an area of 50,147 square miles, of which the mainland accounts for 41,328 square miles. The population numbered 6,204,684 in 1928. By geographical divisions the population, as revised at the end of 1938, was as follows:

Geographical Divisions with number of Depts.	Population 1938	Area sq. miles	Large City	Population 1928
Central Greece and				
Euboea 4	1,799,149	9,704	Athens	392,781
Thessaly 2	562,020	5,208	Larisse	23,899
Ionian Islands 3	231,510	752	Corfu	32,221
Cyclades Islands 1	146,987	1,023	Hermoupolis	21,150
Peloponnese 6	1,185,046	8,356	Patras	61,278
Macedonia 10	1,686,479	13,360	(1) Thessaloniki	236,524
Epirus 4	363,041	3,688	Yanina	20,485
Aegean Islands 3	337,986	1,506	Mytilene	27,870
Crete 4	441,687	3,235	Heraklion	33,404
Thrace 2	354,689	3,315	Komotene	30,136
Total-10 Div. 39 Depts	7,108,814	50,147		

2. Public Health Organization

Prior to the German invasion in 1941, health and sanitary measures for the country as a whole were carried out under the Ministry of Hygiene and Public Welfare, the head being a member of the Cabinet. Municipal, community, charity and university hospitals and institutions were under its control, and military hospitals and private clinics were subject to its inspection and recommendations. Programs were conducted with regard to: (a) malaria control; (b) improvement of water supplies, sewage disposal, and rural housing; (c) to control of communicable diseases, and (d) to registration of physicians and nurses. Departments and cities employed health officers

and

- (1) In 1937, this was the Greek name into which the department and town formerly known as Salonika was changed. Piraeus, the second city in Greece, had a population of 284,070. In 1927, a total of 183,862 births, 45,785 marriages, and 105,762 deaths were recorded.

and sanitary brigades to care for local health and sanitary services.

See chart attached on the "Organization of Public Health before the Occupation of Greece." See page 2-a

There was a School of Hygiene in Athens, with advisers from the Rockefeller Foundation, for some ten years on Malaria and on sanitary engineering. The Near East Foundation has been active in working toward better health in Greece. Greek private agencies engaged in public health work included: the Hellenic Red Cross, the Patriotic Foundation for the Protection of the Child, the Anti-Tuberculosis Association, and the Day Nursery Association.

After German occupation, a Greek obstetrician, whose wife was German, became the head of the Ministry of Hygiene, and the organization was made a branch of the Ministry of the Interior (Police). Public health personnel left the service and health activities, especially anti-malaria work, were abandoned.

3. Medical Facilities

In 1937 there were reported 301 hospitals with 18,319 beds. However, nine months before occupation, the situation was reported as follows:

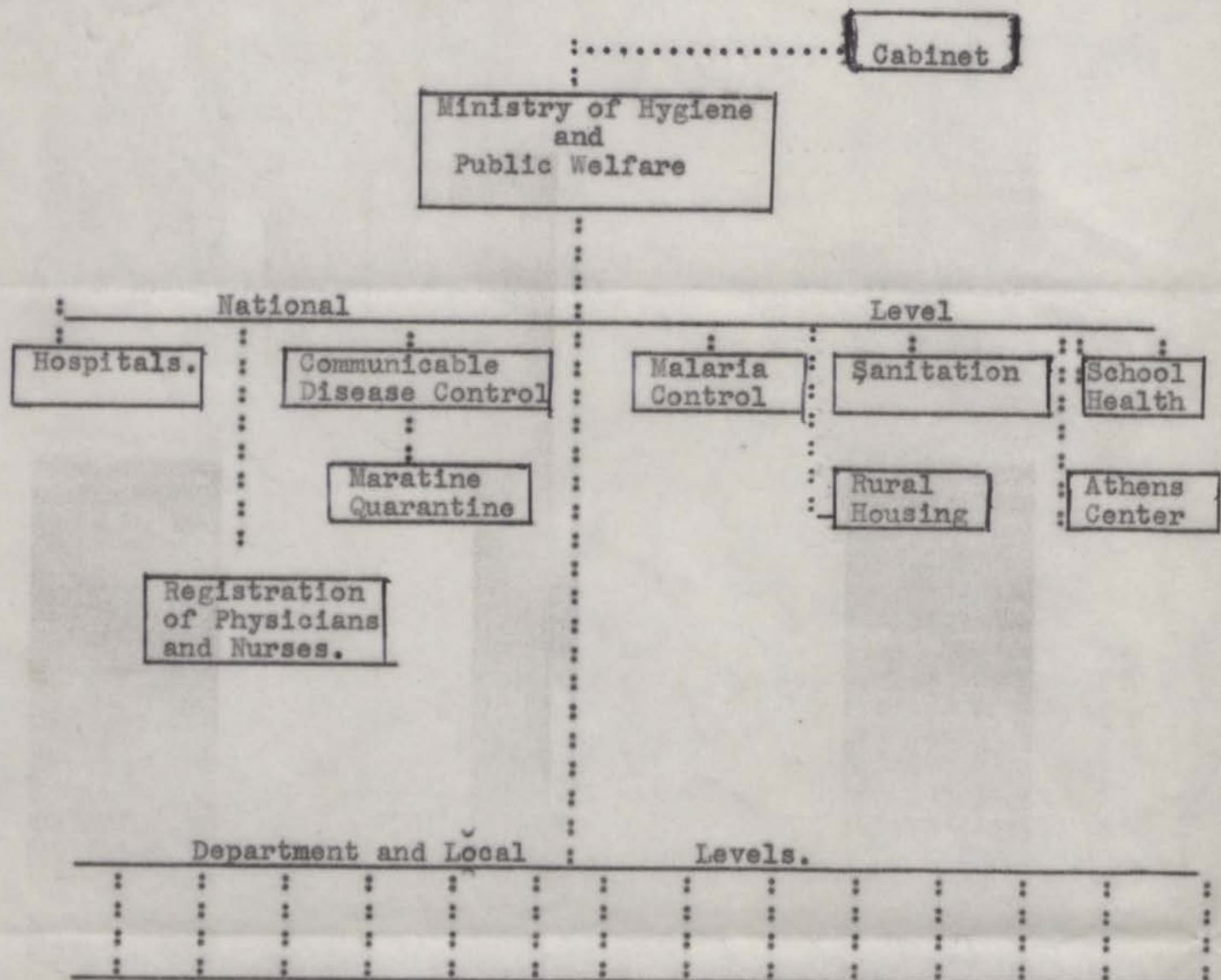
<u>Type</u>	<u>Number</u>	<u>(Number) (in 1937)</u>	<u>Number of beds</u>
1. General	71	(162)	5,833
2. Children's	3	(1)	565
3. Tuberculosis	12	(19)	3,380
4. Mental	9	(30)	3,975
5. Venereal and Dermatological	6	(10)	598
6. Communicable	6	(2)	773
7. Women's	6	(65)	494
8. Eye	2	(8)	59
9. Other	2	(4 leprosaria)	345
TOTAL	117	(301)*	16,022

Most Grecian hospitals had reasonably adequate operating room facilities and x-ray apparatus, usually of German make. Hospitals were turned over to Germans and Italians for the care of battle casualties, nursing staffs usually being retained in the hospitals. It is reported that there are no hospital

equipment

*Exclusive of military installation

Organization of Public Health Before Occupation in Greece



Health Officers and Sanitary Brigades for Departments and Cities.

equipment and medical supplies for use of the Greeks, and that all stocks were confiscated.

In 1937, there were some 6,000 doctors in active practice. After graduating from the National University of Athens, many Greek physicians took post-graduate training in either Germany or France. The majority of physicians practiced in urban communities, many rural areas, especially in the North of Greece and in Macedonia, being without adequate medical aid.

The nursing profession, in general, was poorly developed, although a few nurses, carefully selected and trained, were well equipped. Red cross nurses were recruited from various walks of life during the war with Italy and are said to have rendered valuable service.

There were about 1200 dentists, many of whom were trained by dentists educated in the United States. Greek dentists were considered among the best in continental Europe.

4. Environmental Factors

(a) The water supply for Athens was from the new water works at Marathon, five miles away, taken from two streams, filtered and chlorinated. This was apparently not damaged, but a shortage of chlorine was reported. Besides this water, piped to approximately three-fourths of the city and to most suburbs, shallow wells were used by many people, and were obviously contaminated. Water for Salonika was chlorinated. In rural areas, water supplies were considered unsafe and the enteric disease rate was high.

(b) A water carriage system is provided for about three-fourths of the city of Athens, but the effluent is untreated. There are small water-borne systems in several larger towns; but the majority of people in all parts of Greece use pit privies.

(c) Under normal conditions, sanitation was somewhat comparable to that of poorer rural sections of the United States, and has regressed alarmingly since the war - no soap, little fuel, no extra clothing, and no supplies of insecticides.

(d) All stores of foods and dairy products were utilized or removed by the Axis armies, and the few cattle left were slaughtered by the Greeks. There were public abattoirs in Athens and Salonika; There was a milk pasteurization plant of questionable effectiveness in Athens. It was the custom to boil milk. Leafy vegetables in Greece are a health hazard unless cooked. Greece is mainly an

agricultural

alarmingly since the war

agricultural country; of the total area, only one-fifth is cultivable. A large forest area is state owned. By draining of Lake Copais, an area of about 53,000 acres was acquired for agricultural purposes. Irrigation and drainage canals, farm roads and buildings were being constructed, free planting was undertaken, and the breed of cattle was being improved before the war. Greece has probably suffered more from lack of food than any other country.

(e) There is apparently no area of Greece free of Anopheles and Aedes mosquitoes, and her malaria problem is second to none in Europe. The greatest mosquito problems are in Thrace, Macedonia and Epirus. Reports indicate increased louse infestation as a result of general uncleanness due to lack of soap, fuel, clothing, and even initiative to bathe. Many cities have large rat populations. Sandflies cause most trouble (Kala-azar) in the vicinity of Athens, in hill villages near Argos, in Messena and Canea (Crete), and in the Aegean Islands.

5. Disease Information

The malaria problem in Greece is second to none in Europe*, the inroads of deficiency diseases threatens alarmingly, and reports of outbreaks of typhus in recent months have been more frequent than from any other European area. Dengue has occurred in several large epidemics in recent years. Both the tick - and the louse-borne types of relapsing fever occur, the latter being more common. Statistics on venereal diseases and information regarding prostitution are quite incomplete, trachoma and other ophthalmological disorders are very common. The usual acute communicable diseases are reported. Addictions to hashish and morphine were excessive, and over a thousand hospital beds were provided for the treatment of drug addicts. The tuberculosis death rate has been high, with a rate of 117 per 100,000 population in 1938. This will doubtless be one of the major long-term disease problems to combat.

*Thrace, Macedonia and Epirus have the highest mortality rates of any sections of the country; Salonika has one of the highest mortality rates of any European city.

6. General Estimate of the Situation

Classification of Diseases as Related to Emergency Action

<u>++++</u>	<u>+++</u>	<u>++</u>	<u>+</u>	<u>0</u>
Deficiency Diseases (mass feeding)	Dengue	Drug Addiction	Anthrax	Plague**
<i>Malaria</i> Typhus	Diphtheria	Pneumonia	Kala-azar	Yellow
Intestinal Diseases	Smallpox	Tuberculosis	Undulant fever	Fever***
	Relapsing fever	Sandfly fever		
	Trachoma			
	Veneral disease			

Both disease and sanitary problems are acute and of great magnitude. While there are hospitals and other buildings for health purposes intact, they must be equipped, stocked and manned, and experienced field and able administrative personnel will be necessary to plan and execute a public health program for a considerable period of time. More than supervisory personnel will doubtless be needed in some areas, for even many well trained persons among the Greeks who may be in the country are likely to need considerable time for mental and physical recuperation before they are able to participate actively and constructively in planning and executing the program.

(Most of the basic data obtained from Medical Intelligence Branch, Division of Preventive Medicine, Office of the Surgeon General, U. S. Army, which receives reports from many sources).

** Rats numerous
 *** Aedes aegypti mosquitoes present; precautions necessary

GREECE

Medical and Sanitary Supply Requirements, ~~Europe~~,
for Second and Third Semesters

<u>Commodity</u>	<u>G R E E C E</u>			
	<u>2nd 6 months</u>		<u>3rd 6 months</u>	
	<u>No. Units</u>	<u>Weight</u>	<u>No. Units</u>	<u>Weight</u>
Emergency Unit, Medical	250	250	36	36
Standard Unit, Medical	4	160	6	240
Laboratory Unit				
Unit No. 1	95	10	12	1
Unit No. 2	5	-	1	-
Unit No. 3	85	25	15	5
Unit No. 4	10	2	2	-
Unit No. 5	2	-	0	0
Unit No. 6	3	-	0	0
Hospital Unit				
Unit A, 50-bed	40	400	10	100
Unit B, 150-bed	10	210	0	0
Epidemic Control Unit	6	24	0	0
Special Drugs, Atabrine, etc.	7000	11	7000	11
Sanitation Unit, Camp, 1000	3	51	0	-
Expendable Supplies	3	48	3	48
Sanitation Unit, Camp, 5000	3	135	0	-
Expendable Supplies	3	120	3	120
Malaria Control Unit	20	20	0	-
Expendable Supplies	20	400	20	400
General Sanitation:				
Lyster Bags	1700	21.3	0	-
Calcium Hypochlorite amps. (1000)	350	2.3	90	0.6
Hypochlorinators	17	1.7	0	-
H.T.H. or Perchloron	22	24.2	11	12.1
Portable Gas Chlorinators	4	0.4	0	-
Liquid Chlorine, Cylinder	240	24	120	12
Chlorine Compound	70	77	18	19.8
Portable 15 gpm Filters	17	8.5	0	-
Alum	20	22	7	7.7
Soda Ash	10	11	3	3.3
Knockdown Filters	2	14	0	-
Emergency Chlorinators	3	3	0	-

Delousing Equipment & Supplies:

Methyl Bromide Chambers

Methyl Bromide

Louse Powder

3	3	0	-
1	1.1	0.5	0.55
<u>400</u>	<u>28</u>	<u>100</u>	<u>7</u>

Tonnage Subtotals

2107

1024

TOTALS

3131

H - return
7/12
M E D I C A L S U P P L I E S F O R G R E E C E
=====

Suggested basic list of Medicaments for 100,000 persons for one month
for the " extreme emergency " period.

=====

The estimates are based on the method of estimation adopted by the Medical Requirements Sub-Committee of the Technical Advisory Committee on Medical Supplies and Services of the Allied Post- War Requirements Bureau.

These estimates have been ^cincreased in quantities and numbers of drugs according to the latest official information (Swiss-Swedish and International Red Cross Commissions and other sources) received in M.E.

The quantities constitute the minimum drug requirements for Greece under existing conditions.

Greece is completely denuded of medical supplies, and therefore this list should be taken as a basis for Medical Relief Supplies under the occupation as the case might be.

Only the estimate for antimalaria drugs was worked out for the whole population of Greece and for a period of six months according to the same calculations of the Malaria Sub-Committee London.

Cairo 20th of October 1943

Dr N.C.Constantoulis
M.D. - D.Bact. - D.P.H. -
D.T.M & H. (England)

D R U G	P A C K	Number in unit	Total quantity of drug in unit
<u>M A L A R I A</u>			
Quinine hydrochloride	tabs plain of 0,12 gm (2 gr) in bott. of 1000	6733 bott	807 Kg
	tabs plain of 0,30 gm (5 gr) in bott of 1000	2000 bott	600 Kg
	amp. of 2cc. containing 6½ gr (0,40 gm) in box of 100	15000 box	600 Kg
Mepacrin	0,10 gm tab in bott of 1000	76000 bott	7600 Kg
Pamaquin	0,01 gm tab in bott of 1000	2700 bott	27 Kg
N.B. The above estimate of anti-malaria drugs is for the whole of Greece and for a period of six months.			
=====			
<u>V I T A M I N S</u>			
Vitamin A (concentrated)	Capsules of 3000 U.S.P. units in bott of 1000 caps.	100 bott	100,000 cap.
Vitamin A + D (concentrated)	Capsules of 3140 U.S.P. units of Vit.A and 314 U.S.P. units of Vit.D in bott of 1000 cap.	100 bott	100,000 caps.
Vitamin B 1	Tabs of 1 mgm containing 300 I.U. in bott. of 1000	100 bott	100,000 tab.
Vitamin B 2	Tab. of 0,15 mgm or 150 gamma corresponding to 60 Bourquin- Sherman units in bott of 1000	150 bott	150,000 tab.
Vitamin B 1	Injectable solution in Vials of 5cc. containing 50 mgm per 1cc.	1000 vial	5,000 cc.
Vitamin C (oral)	Tabs of 50 mgm of 1000 I.U. each in bott. of 1000	100 bott	100,000 tab
Vitamin C (injectable) Ascorbin	Amp. of 2 cc. containing 500 mgm or 10000 I.U. in box of 10	500 box	5,000 amp
Vitamin D	Dropper bott. of 5 cc. Each gm corresponds to 10000 U.S.P. Vit D units. Each drop is equivalent to 350 units.	1000 bott	5,000 cc.
Vitamin E	Capsules of 3 minin. each in bott. of 1000	30 bott	30,000 cap.
Vitamin K	1 cc. amp. of 2 mgm of Vit. K in box of 10	50 box	500 amp
=====			
<u>Opotheargy (suppl.)</u>			
Corpus lutem	Tab. of 1 gr (0,06 oga) equivalent to 5 gr of fresh substance in bott of 250	30 bott	7500 tab.
	Tab. of 2 gr (0,13 oga) equivalent to 10 gr of fresh substance in bott of 250	50 bott	12500 tab.
	0,02 sol. extract in 1 cc. injectable solution in boxes of 6 ampoules	100 boxes	600 amp.

DRUG	PACK	Number in unit	Total quantity of drug in unit
<u>Absorbents :</u>			
Talcum B.P.	0,5 Kg pkt	300 pkt	150 Kg
Kaolin B.P.	0,25 Kg pkt	252 pkt	63 Kg
Starch B.P.	0,5 Kg pkt	200 pkt	100 Kg
Bismuth sub-nitrate B.P.	0,25 Kg pkt	100 pkt	25 Kg
<u>Anaesthetics:</u>			
Chloroform p.a. B.P.	0,5 Kg bott.	30 bott.	15 Kg
Ether p.a. B.P.	0,5 Kg bott.	240 bott.	120 Kg
Hexobarbitone sol. B.P.	I gm amp. c. A u. dest. ster. in box of 25	20 box.	0,5 Kg
Procaine hydrochl. B.P.	0,1 gm tab. in tube of 25 (sol. chlor. 0,0265 gm c. Adren. 0,0001 gm.)	400 tubes	1 Kg
Ethyl chloride B.P.	15 cc. ampoules	1000 ampoules	15 Kg
<u>Analgesics:</u>			
Acetylsalicylic acid	0,3 gm tab. in bott. of 1000	720 bott.	216 Kg
Sodium salicylate B.P.	0,3 gm tab. in bott. of 500	480 bott.	72 Kg
Morphine hydrochl. or sulphate B.P.	{ 0,016 gm amp. in box of 12 0,016 gm tab. in tubes of 25 0,06 gm tab. Pulv. Opii in bott. of 100	{ 600 boxes 900 tubes 48 bott.	475 gm.
Opium B.P.	{ 0,5 litre Extr. Opii Liq.	{ 12 bott.	
<u>Anticholentics:</u>			
Santonin B.P.	0,06 gm tab. in bott. of 100	36 bott.	216 gm.
Extract of Nale Fern B.P.	2 cc. capsules in bott. of 10	300 bott.	6000 cc.
Tigral B.P.	10 gm vial	100 vials	1 Kg
<u>Anti-acids:</u>			
Dextrose (Glucose) B.P.	0,5 Kg pkt	60 pkt	30 Kg
Sodium Bicarbonate B.P.	3 Kg pkt	420	1260 Kg
Sodium citrate B.P.	{ 0,12 gm tab in bott of 1000 0,5 Kg bott	{ 80 bott 80 bott	50 Kg
<u>Antigraotics:</u>			
Phenacoline B.P.	0,3 gm tab in bott of 500	60 bott	0 Kg
<u>Antiseptics or chemotherapeutics:</u>			
Chlorinated Lime B.P.	2 Kg pkt	90 pkt	180 Kg
Argenti proteinas nite B.P.	30 gm bott	36 bott	1 Kg
Neocarsphenamine B.P.	{ 0,15 gm amp c. Agu. dest. ster. in box of 12 0,45 gm amp. c. Agu. dest. ster. in box of 12 15 gm bott	{ 720 box 360 box 12 bott	3 Kg 240 gm.
Chromid triox B.P.	3 gm tube of 2 1/2	2880 tub.	460 gm
Ung. Hydr. Ox. Flav. B.P.C.	0,25 litre bott	720 bott	180 Kg
Iyrol B.P.	60 gm bott	168 bott	10 Kg 000 gm
Proflavine B.P.C.	0,055 gm c. Sol. Chlor. 0,55 gm tab. in bott of 100	360 bott	1,98 Kg
Sulphonilamide B.P.C.	{ 0,5 gm tab in bott of 100 10 gm sprindler tin	{ 1290 bott 304 tin	100 Kg
Sulphapyridine	{ 0,5 gm tab in bott of 100 0,5 gm amp. in box of 6	{ 2880 bott 1800 box	150 Kg
Sulphathiazol	0,5 gm tab in bott of 100	1920 bott	96 Kg

D R U G	P A C K	Number in unit	Total quantity of drug in unit
<u>Antiseptic or chemotherapeutics</u> (continued)			
Inj. Bismuthi B.P.	10 cc. rubber capped bott	4800 bott	48 Kg
Sodium Iodide B.P.	120 gm bott.	200 bott	24 Kg
Acide boric B.P.	0,5 Kg pkt	200 pkt	100 Kg
Acid Lactic B.P.	60 cc. bott,	160 bott	10 Kg
Solut. Hydr. Perox. 100 vol.	10 oz. (340 cc. appr.) bott.	880 bott	300 litr.
Potassium Permanganate	(0,5 gm tab. in bott. of 500	48 bott)	
Hexamine B.P.	(0,25 Kg bott of crystals	48 bott)	24 Kg
Methylene Blue B.P.C.	0,3 gm tab. in bott. of 1000	100 bott	30 kg
Borax B.P.	0,12 gm tab in bott of 250	48 bott	1 kg 500
Ichthanol B.P.	0,125 kg pkt	400 pkt	50 kg
Crystal violet B.P.C.	15 gm tubes	320 tubes	4 kg 800
Acetarsone (Stovarsol)	30 gm bott.	50 bott	1 kg 500
Emetine Bismuth Iodide	0,25 gm tab. in bott. of 25	500 bott	3 kg 125
Diiodoquin	0,20 gm slipules in bott of 30	200 bott	1 kg 200
Neo-Stibosan or Neo-Stam	0,25 gm tab in bott of 18	250 bott	1 kg 025
Emetine Hydrochloride	(0,05 gm amp in box of 20	50 box	1000 amp
	(0,10 gm amp in box of 20	50 box	1000 amp
	(0,02 gm amp in box of 10	50 box	500 amp
	(0,06 gm amp in box of 10	50 box	500 amp
Salol B.P.	0,25 kg pkt	10 pkt	2 kg 500
Potassium Iodide B.P.	0,25 kg bott	40 bott	10 kg
Salicylic acid	0,25 kg pkt	5 pkt	1 kg 250
<u>Antispasmodics:</u>			
Atropine sulphate B.P.	(0,001 gm tab in bott of 25	900 bott	} 72,9 gm 180 gm
	(60 cc. 1% sol. in bott.	84 bott	
Papaverine	0,12 gm tab. in bott of 25	60 bott	
<u>Astringents:</u>			
Tannic acid B.P.	60 gm pkt	54 pkt	3 kg 240
Silver nitrate pencils	pencil	100 pen.	100 pencils
Bismuth subgallate B.P.C.	0,125 gm pkt	16 pkt	2 kg
Copper Sulphate B.P.	0,100 kg bott.	5 bott	500 gm
Lead Sub-Acetate strong B.P.	500 cc. bott	20 bott	10 litr.
<u>Cardiotonics:</u>			
Digitalis B.P.	0,06 gm tab in bott of 100	100 bott	600 gm
Leptazol group (Cardiazol)	(10cc. bott. of 10% solution	500 bott)	
	(10cc. of rubber capped bott.		
	(of 10% solution	500 bott)	2 kg
Strophanthin B.P.	(1 cc amp 10% sol. in box of 100	100 box.)	
Sodium camphosulphonate	0,00025 gm amp in box of 100	500 box.	12,5 gm
	(1 cc amp 0,15 gm c. 1 cc Aqu.		
	dest. ster. in box of 25)	1000 boxes	3 kg 750
Camphor	0,25 kg in tin boxes	10 box.	2 kg 500
<u>Cathartics:</u>			
Calomel B.P.	0,03 gm tab in bott of 500	120 bott	1 kg 800
Cator Oil B.P.	1 Litre tin	144 tins	144 kg
Sodium Sulphate B.P.	2 kg pkt	150 pkt	300 kg
Liq. Paraffin B.P.	1 litre tin	90 tins	90 kg
<u>Counter Irritants:</u>			
Oil of Turpentine Rectif. B.P.	0,25 litre bott.	28 bott	7 kg
Methyl Salicylate B.P.	0,25 litre bott.	112 bott	28 litr.

D R U G	P A C K	Number in unit	Total quant. of drug in unit
<u>Digestives:</u>			
Pepsine B.P.	100 gm sealed bott	36 bott	3 Kg 600 gm
Pangreatine	100 gm sealed bott	36 bott	3 Kg 600 gm
<u>Diuretics:</u>			
Theophylline or			
Theobromine B.P.C.	0,3 gm tab in bott of 100	300 bott	90 Kg
Powdered Squill B.P.	0,1 gm tab in bott of 250	40 bott	1 Kg
<u>Emetics:</u>			
Powdered Ipecachuana	0,06 gm tab in bott of 250	100 bott	3 Kg
Aponorphine hydrochloride	0,01 gm amp in box of 6	10 box	60 amp
<u>Emmenagogues:</u>			
Ergometrine B.P.	0,00027 gm tab in tube of 25	2000 tubes	13,5 gm
<u>Emmollients:</u>			
Soft Paraffin(yellow) B.P.	1 Kg tin	200 tins	200 Kg
Adeps Lanae B.P.	1 Kg tin	160 tins	160 Kg
Glycerine B.P.	0,5 Kg bott	90 bott	45 Kg
Oil of Theobroma B.P.	0,25 Kg slab in carton	200 carton	50 Kg
<u>Expectorants:</u>			
Liq. Ammon. Arom. B.P.	0,5 Kg bott	600 bott	300 Kg
Benzoin B.P.	60 gm bott.	120 bott.	7.20 Kg
Balsam of Tolu B.P.	200 gm bott.	240. bott.	48 Kg
Terpin hydrate B.P.	0,25 Kg pkt	5 pkt	1 Kg 250 gm
Potassium Galacool Sulphonate	0,5 gm tab. in bott of 50	100 bott	1 Kg 500 gm
<u>Haematinics:</u>			
Ext. Hepat. (Pro inj.)	10 doses in box	480 box	4800 doses
Ferrous sulphate B.P.	0,2 gm tab. (exssioe.) in bott of 1000	1500 bott	300 Kg
<u>Hypnotics:</u>			
Chlorale Hydrate B.P.	30 gm bott.	54 bott.	1 Kg 620 gm
<u>Ophthalmology:</u>			
Cocaine hydrochl. B.P.	(0,0013 gm lamellae in tub. of 25	240 tubes)	
	(30 cc. 5% sol. in bott.	30 bott.)	52,8 gm
Pilocarpine nitrate B.P.	0,016 gm tab. in tube of 25	96 tubes	38,4 gm
Physostigmine sulphate drops	30 cc. 1% sol. in bott.	10 bott.	300 cc. 1%
Lamella of Homatropine B.P.	0,0006 gm lamellae in tub. of 50	100 tub.	3 gm
Mercury oxyxyanide powder B.P.	10 gm bott.	10 bott.	100 gm
Zinc sulphate B.P.	125 gm bott.	10 bott.	1,25 Kg
Atropine Methyl Nitrate	30 cc. 1% sol. in bott	10 bott.	300 cc. 1%
Silver Nitrate drops	30 cc. 1% sol. in bott.	10 bott.	300 cc. 1%
<u>Opotharmacy:</u>			
Insulin B.P.	5 cc. bott. (80 I.U. per cc)	750 bott.	300,000 I.U.
Pituitary (Poster.lobe) extract B.P.	(0,5 cc amp containing 5 units)		
	(Pituitary extr. (post.lobe) B.P. in box of 5	100 box.	250 cc.
Thyroid extract B.P.	0,06 gm tab in bott of 250	40 bott.	600 gm
Ephedrine hydrochl. B.P.	0,03 gm tab in bott of 500	20 bott.	300 gm
Stilboestrol	0,001 gm tab in bott. of 100	50 bott	5 gm
Stilboestrol Dipropionate	0,001 amp. in box of 25	80 box.	2 gm
Destrone	(0,001 gm tab (10,000 I.U.) in bott. of 25	100 bott.	2,5 gm
	(0,005 gm tab. (50,000 I.U.) in bott. of 25	100 bott.	12,5 gm
Ovarian substance extract	0,10 gm tab of dess. substance in bott. of 25	200 bott.	500 gm

D R U G	P A C K	Number in unit	Total quantity of drug in unit
<u>Ophthalmology (continued)</u> Pluriglandular extract	(2,2 cc. amp. containing Anterior Pituitary 18 gr Ovarian substance 40 gr Thyroid U.S.P. e gr)	1000 amp.	1000 amp.
<u>Parasitiocides:</u>			
Sulphur ointment B.P.	0,5 Kg tin	960 tins	480 Kg
Solution of Formaldehyde B.P.	0,5 Kg bott.	200 bott.	100 Kg
Ammoniated Hg ointment B.P.	0,5 Kg jar	60 jars	30 Kg
<u>Recalcifiants:</u>			
Calcium gluconate	(1 gm amp. in box of 20 0,25 Kg pkt	500 box.) 200 pkt	70 Kg
<u>Sedatives:</u>			
Bismuth carbonate B.P.	0,5 Kg bott.	84 bott	42 Kg
Codeine B.P.	0,02 gm tab. in bott. of 1000	72 bott	1,44 Kg
Phenobarbitone B.P.	0,06 gm tab. in bott. of 1000	240 bott.	14,4 Kg
Sodium Bromide B.P.	0,25 Kg bott.	108 bott	27 Kg
Dry extract of Belladonna B.P.	50 gm jars	5 jars	250 gm
Concentrated extract of Bell. for tincture B.P.	50 gm jars	5 jars	250 gm
Dover powder	0,20 gm tab. in bott. of 1000	20 bott.	4 Kg
<u>Tonics:</u>			
Strychnine hydrochloride B.P.	0,002 gm tab. un tub. of 25	3600 tubes	180 gm
<u>Vasocostrictors:</u>			
Liq. Adrenaline Hydr. B.P.	30 cc. bott. 1/1000 sol.	2400 bott	72 gm
<u>Vasodilators:</u>			
Glyceryl trinitrate	0,0006 gm tab. in bott. of 500	144 bott.	43,2 gm
Acetylcholine (Roche)	2 cc. Aq. dest. ster. and 0,1 gm dry crystals of Acetylchol. in box of 6 pairs.)	420 box	250 gm
<u>Dentistry:</u>			
Solution of Hydrogen Peroxide 100 volumes	120 cc. bott.	10 bott.	1200 cc.
Oil of Cloves B.P.	30 cc. bott.	20 bott	600 cc.
Oil of Turbentine Rectif. B.P.	30 cc. bott.	10 bott	300 cc.
Zinc oxide B.P.	30 gm packs	10 packs	300 gm
Powdered French Chalk	500 gm pack	10 packs	5 Kg
Devitalising fibre	15 gm jar	10 jars	150 gm
Mercury B.P.	30 gm bott.	40 bott.	1,2 liter.
Oxpara	15 gm pack	10 packs	150 gm
Phenol	60 cc. bott.	10 bott.	600 cc.
<u>Miscellaneous:</u>			
Sodium chloride B.P.	0,9 gm tab. in bott. of 50	240 bott	10,80 Kg
Alcohol rect. B.P.	5 liter. tin	60 tins	300 Kg
Spirit Methyl. miner. for burning	5 liter. tin	38 tins	190 Kg
" " indusrt. for surg. use	5 liter. tin	10 tins	50 Kg
Fehling's solution I	250 cc. bott.	10 bott	
	125 cc. bott.	32 bott	6,5 liter.
Fehling's solution II	250 cc. bott.	10 bott	
	125 cc. bott.	32 bott	6,5 liter.
Acetic acid	155 cc. bott.	10 bott	
	60 cc. bott.	32 bott	3,17 liter.
Zinc oxide B.P.	0,25 Kg pkt	50 pkt	12,5 Kg
Concentrated extract for liquid extract Hydrastis B.P.	25 jars	10 jars	250 gm

D R U G	P A C K	Number in unit	Total quantity of drug in unit
<u>Maternity and child welfare:</u>			
Biniiodide of Mercury B.P.	0,5 gm tab. in bott of 100 (1 tab in 2500 cc. of water gives a 1 in 5000 solution)	40 bott	2 Kg
Liq. Chleroxylanolis N.W.F.	240 cc. bott. 5 liter. tin	20 bott. 2 tins	14,8 liter.
Boric acid solvellae B.P.C.	1 gm tab in bott of 100 (1 tab to 30 cc of water)	40 bott	4 Kg
Silver nitrate drops	30 cc. 1% sol. in bott.	10 bott	300 cc. 1%
Sodium bromide B.P.	0,3 gm tab in bott of 100	10 bott	300 gm
Chlorale hydrate B.P.	0,3 gm tab in tube of 10	20 tubes	60 gm
Cord powder (1 part Alum 2 parts Zinc 2 parts Starch)	125 gm pkt	16 pkt	2 Kg
Esbach solution	200 cc. bott.	20 bott	4 liter.
Zinc and Castor oil ointment	120 gm pot	24 pots	2,88 liter.
Dettol obstetric cream 30%	90 gm tube	10 tub.	900 gm
Lysol B.P.	5 liter. tin	2 tins	10 liter.
Tab.Cascara Sagrada gr.N.W.F.	2 gr (0,12 gm) tab. in bott of 100	2 bott	200 tabs
Tab.Cascara Sagrada Co N.W.F.	Tab in bott of 100	2 bott	200 tabs
Tab Hydrarg.cum Crota gr ¹ / ₂ N.W.F.	0,5 gr(0,03 gm) tab in bott of 100	2 bott	200 tabs
<u>Radiology:</u>			
Barium sulphate B.P.	1 Kg pack	6 packs	6 Kg
Hydroquinone B.P.C.	200 gm bott.	5 bott.	1 Kg
Iodophthalcine B.P.	12,5 gm bott.	3 bott.	37,5 gm
Citric acid B.P.	15 gm jar	3 jars	45 gm
Iodised oil B.P.	bott. of 20 gms	3 bott.	60 gm
Motol B.P.C.	60 gm bott	5 bott.	300 gm
Sodium metabisulphite B.P.C.	250 gm pack	5 packs	1,25 kg
Sodium Thiosulphate (Hyposulp.) B.P.C.	3 Kg pack	5 packs	15 Kg
Sodium sulphite B.P.C.	1 Kg pack	6 packs	6 Kg
Sodium carbonate B.P.	1,5 Kg pack	6 packs	9 Kg
Sodium Bromide B.P.	25 gm pack	6 packs	150 gm
IodoxyI(Uroselectan B) or Diodono B.P.	20 cc. amp.	24 amp.	480 cc.