CIVIL AFFAIRS HANDBOOK ON ITALY

SECTION THIRTEEN PUBLIC HEALTH + SANITATION

ON ITALY

PUBLIC HEALTH & SANITATION

Copy 163

Preliminary Draft

CIVIL AFFAIRS HANDBOOK

on

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Section Thirteen

on

293.

PUBLIC HEALTH AND SANITATION

CIVIL AFFAIRS HANDBOOKS

TOPICAL OUTLINE

1. Geographical and Social Background
2. Government and Administration
3. Legal Affairs
4. Government Finance
5. Money and Banking
6. Natural Resources
7. Agriculture
8. Industry and Commerce
9. Labor
10. Public Works and Utilities
11. Transportation systems
12. Communications
13. Public Health and Sanitation *
14. Public Safety
15. Education
16. Public Welfare

* This study on Italian Public Health and Sanitation was prepared for the Military Government Division of the Office of the Provost Marshal General by the Office of Strategic Services, with the assistance of the Medical Intelligence Branch, Office of the Surgeon General.

INTRODUCTION

Purposes of the Civil Affairs Handbook.

International Law places upon an occupying power the obligation and responsibility for establishing government and maintaining civil order in the areas occupied.

The basic purposes of civil affairs officers are thus (1) to assist the Commanding General of the combat units by quickly establishing those orderly conditions which will contribute most effectively to the conduct of military operations, (2) to reduce to a minimum the human suffering and the material damage resulting from disorder and (3) to create the conditions which will make it possible for civilian agencies to function effectively.

The preparation of Civil Affairs Handbooks is a part of the effort of the War Department to carry out this obligation as efficiently and humanely as is possible. The Handbooks do not deal with planning or policy. They are rather ready reference source books of the basic factual information needed for planning and policy making.

Revision for Final Publication.

Significant area information is immediately needed (a) for civil affairs officers charged with policy making and planning, (b) for the use of civil affairs officers-in-training and (c) to make certain that organized data is in hand, whenever events require it.

Arrangements were therefore made with the cooperating agencies to organize all immediately available material in accordance with a prepared outline. This section on Public Health and Sanitation is therefore a preliminary draft only and is being revised (preparatory to the final publication of the handbook as a whole) with special emphasis upon administration.

COMMENTS AND CRITICISMS BY OFFICERS USING THIS MATERIAL ARE REQUESTED. THEY SHOULD BE SENT TO LT. COLONEL JAMES H. SHOEMAKER, MILITARY GOVERNMENT DIVISION, P.M.G.O., 2805 MUNITIONS BUILDING, WASHINGTON, D.C. (OR PHONE WAR DEPARTMENT EXTENSION 76370).

CONFIDENTIAL
PRELIMINARY DRAFT

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CONFIDENTIAL
PRELIMINARY DRAFT

PUBLIC HEALTH AND SANITATION --- ITALY

a. Public health organization and services.

The Italian health services are well organized and contain many well qualified men, but because of the limited means at their disposal, because of the immensity of the public health problem in Italy and its dependents, and because the people are frequently ignorant, superstitutious and satisfied to live as their forefathers did, sanitation is not good, and transmissible diseases are a serious problem, especially in southern Italy, Sicily, and Sardinia.

Government agencies provide a comprehensive health service. They effect the control of epidemic disease, the prevention of disease, the operation of clinics, dipensaries, hospitals, and home services. Pre-natal and post-natal care is dispensed through the Opera Nazionale Maternita e Infanzia, a government sponsored organization. The larger cities maintain public psychiatric hospitals, chemical and bacteriological laboratories, tuberculosis and venereal disease clinics and dispensaries. Nearly all health services are governed by, and operate under, national laws and regulations. The national government exercises central control and supervision. Both governmental and private institutions promote an anti-tuberculosis campaign, and they care for tuberculous patients. These and other health services are promoted, fostered, and partially financed by the national government operating through local administrative units. The Ministry of the Interior devoted L40,621,000 in 1939-40 to public health service.

Welfare and Health Services not provided by the national or provincial governments are the Commune's responsibility; hence they vary according to the size and wealth of the locality. In 1939, 23 communes with over 100,000 inhabitants spent L434,778 thousands for police, health, and hygiene. The organizations for public health in smaller communities are less elaborate, perhaps less efficient, for want of funds, but they, too, are controlled and supervised by the national government

(1) The National Government.

The Ministry of the Interior is responsible for the Public Health Services and controls their operation. This control is effected by the appointment (and removal) of Prefects and Podestà who, in turn, appoint (and remove) the subordinate officials. The Minister of the Interior and the Prefects issue orders and regulations to local health officers. All public administrative agencies (health sections of the Ministries of War, Marine, Communications, etc.) coordinate their efforts in matters of public health and execute the Minister of the Interior's instructions. Health services and laws are based upon the Nuovo Testo Unico delle Legge Sanitarie of 27 July 1934.

The Directorate-General of Public Health (Direzione Generale della Sanita Pubblica), a division under the Minister of the Interior, is directly responsible for public health. A Director General and a Vice-director, the Chief Inspector-General of Public Health, head this department. The Superior Council of Public Health (Consiglio Superiore di Sanita) and the Institute of Public Health (Istituto di Sanita Pubblica) at Rome, for research and training medical personnel, collaborate

TABLE I

Organization for supervision of hygiene and public health
December 31,1927

Territorial	Government Organization Health Authorities	Health Offices	Laboratories, etc.	Advisory Bodies
Central Government	Minister of the Interior	General Administration of Public Health Director General Inspector General Chief Physician Offices of General Affairs Division of General Hygienic Service Office for Anti-tuberculosis Inspection Division of Administrative Services Division of Veterinary Services Office of Special Sources Technical Office Inspectorate Service	State Bacteriological Laboratory (also Nettuno Anti-malarial School) Chemical Laboratory Physics Laboratory Royal Physiotherapeutical Institute (Rome) Anti-malarial Institute (Rome), (Rockefeller Foundation) Central Storehouse of prophylactical materials	Superior Health Council Central Advisory Commission for Nursing Schools Visiting Nurses Commission on Poison Gases Commission on Medical Specialty Permanent Central Commission for Health Insurance
The Province	The Prefects. (The High Commissioner for the City and Province of Naples)	Provincial Sanitary Office Provincial Physician Provincial Veterinarian Inter-provincial Inspector for Anti-Venereal Services Visiting doctors in localities of Prostitution Local Sanitation Offices Provincial Maritime Administration Provincial Anti-tubercular Union	Provincial Laboratories for hygienic and prophylactic Vigilance Sanitary Station Seamen's Anti-Venereal Clinics Specialized dispensaries for relief and prophylaxis Anti-tuberculosis dispensaries Storehouses for prophylaxis	Provincial Council of Health Permanent Commission on Drugs Commission for supervision of Insane Hospitals Permanent Commission on Alcoholism

CONFIDENTIAL

TABLE I

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...Prefects. ...High Commissioner for the City ...Province of ...bles)	Provincial Sanitary Office Provincial Physician Provincial Veterinarian Inter-provincial Inspector for Anti-Venereal Services Visiting doctors in localities of Prostitution Local Sanitation Offices Provincial Maritime Administration Provincial Anti-tubercular Union	Provincial Laboratories for hygienic and prophylactic Vigilance Sanitary Station Seamen's Anti-Venereal Clinics Specialized dispensaries for relief and prophylaxis Anti-tuberculosis dispensaries Storehouses for prophylaxis	Provincial Council of Health Permanent Commission on Drugs Commission for supervision of insane Hospitals Permanent Commission on Alcoholism

TABLE I (contd)

Communes	The Podestà (The Governor of Rome)	Communal Health Office The Health Officer Physicians attached to Health Office Commission on Hygiene Internes Health Inspectors Staff doctors Staff midwives Communal veterinarians Staff pharmacist	Communal Laboratory (over 150,000 inhabitants) Communal Isolation Hospitals Venereal Wards Specialized Prophylaxis Dispensaries Public Slaughter Houses

From Chart in: Ministry of Interior, L'Organizzazione per la Tutela dell' Igiene e della Sanita Pubblica nel Regus d'Italia. Rome, 1928 . (after p.24) -

TABLE I (contd)

Communal Health Office	Communal Laboratory (over 150,000 inhabitants)
The Health Officer	Communal Isolation Hospitals
Physicians attached to Health Office	Venereal Wards
Commission on Hygiene	Specialized Prophylaxis Dispensaries
Interns	Public Slaughter Houses
Health Inspectors	
Staff doctors	
Staff midwives	
Communal veterinarians	
Staff pharmacist	

From Chart in: Ministry of Interior, L'Organizzazione per la Tutela dell' Igiene e della Sanita Pubblica nel Regus d'Italia. Rome, 1928. (after p.214)

TABLE IA (Same as Table I)

L'Organizzazione per la Tutela dell'Igiene e della Sanita Pubblica
31 Dicembre 1927

Sedi	Organi di Azione Autorita Sanitarie	Uffici Sanitari	Laboratori, etc.	Organi di Consulenza
Il Governo Centrale	Il Ministro dell'Interno	Direzione Generale Sanita della Pubblica Direttore Generale Ispettore General Medico Capo Uffici Affari Generale Divisione per il Servizio Igienico Generale Ufficio di Ispezione Anti-tubercolari Divisione per i Servizi Amministrativi Divisione per il Servizio Zooiatrico Ufficio dei Servizi Speciali Ufficio tecnico Servizio Ispettivo	Laboratorio Batteriologica con annessa scuola antimalarica di Nettuno Lab. Chimica Lab. fisico R.Istituto Fisioterapico Ospedaliera di S. Maria ee Gallicano in Roma Stazione sperimentale per la lotta antimalarica in Roma (Rockefeller Found'n.) Magazzino centrale del materiale profilattico	Consiglio Superiore di Sanita Commissione Centrale Consultiva per l'igiene scolastica Commissione Centrale Consultiva per Scuole Convitto per Infermiere ---eAssistent i Sanitarie Visitatrici Commissione per i gas tossici Commissione specialita medicinali Commissione Centrale Permanente per le recompense di carattere Sanitario
Province	I Prefetti. L'Alto Commissario per la Citta e per la Provincia di Napoli)	Ufficio Sanitario Provinciale Medico Provinciale Veterinario Provinciale Ispettore in ter provinciale per il Servizio Antivenereo Medici visitatori dei locali di meretricio di meretricio Uffici di Sanita Marittima Amministrazione Provinciale Consorzio Prov.Anti-tubercolare	Lab.Provinciali di Vigilanza igienica e Profilassi Stazione Sanitarie Dispensari antivenerei per la gente di mare Dispensari specializzati per l'assistenza e la profillasi Dispensari...anti-tubercolare Magazzini-del materiale profilattico	Consiglio Provinciale di Sanita Commissione permanente per la Farmacie Commissione di vigilanza sui Manicomi Commissione permanente per i Provvedimenti per combattere l'accolismo.

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Azione Sanitarie	Uffici Sanitari	Laboratori, etc.	Organi di Consulenza
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ti. zio per la per la a di Napoli)	Ufficio Sanitario Provinciale Medico Provinciale Veterinario Provinciale Ispettore in ter provinciale per il Servizio Antivenereo Medici visitatori dei locali di meretricio di meretricio Uffici di Sanita Marittima Amministrazione Provinciale Consorzio Prov.Anti-tubercolare	Lab.Provinciali di Vigilanza igienica e Profilassi Stazione Sanitarie Dispensari antivenerei per la gente di mare Dispensari specializzati per l'assistonza e la profillasi Dispensari...anti-tubercolare Magazzini-del materiale profilattico	Consiglio Provinciale di Sanita Commissione permanente per la Farmacie Commissione di vigilanza sui Manicomi Commissione permanente per i Provvedimenti per combattere l'accolismo.

TABLE IA (Cont'd)

Comuni	Il Podesta, (Il Governatore du Roma)	Ufficio Sanitario Comunale L'Ufficiale Sanitario I Medici addetti all'Ufficio Com. d'Igiene I Medici Scolastici Vigili Sanitari Medici Condotti Levatrici Condotte Veterinari Comunali Farmacista Condotti	Lab. Comunale (150,000 abitanti) Locali di isolamento Comunali Sale per la ospedalizzazione dei venerei Dispensari specializzati per la profilassi e la cura Pubblici mattatoi	From chart in Ministero Dell'Interno L'Organizzazione per la Tutela dell' e della Sanita Pubblica nel Regno D. Rome, 192[illegible]. (after p. 24.)

TABLE IA (Cont'd)

...sta.	Ufficio Sanitario Comunale	Lab. Comunale (150,000 abitanti)
...vernatore	l'Ufficiale Sanitario	Locali di isolamento Comunali
...na)	I Medici addetti all'Ufficio Com. d'Igiene	Sale per la ospedalizzazione dei venerei
	I Medici Scolastici	Dispensari specializzati per la profilassi e la cura
	Vigili Sanitari	Pubblici mattatoi
	Medici Condotti	
	Levatrici Condotte	
	Veterinari Comunali	
	Farmacista Condotti	

From chart in Ministero Dell'Interno, L'Organizzazione per la Tutela dell'Igiene e della Sanita Pubblica nel Regno d'Italia Rome, 192[illegible]. (after p. 24.)

with the Directorate-General, which is divided into administrative and technical offices. The Directorate also maintains advisory bodies such as the Central Advisory Board for School Hygiene and the Patent Medicine Board.

The work of the Directorate-General of Public Health includes the drafting of food laws; the supervision of food-stuffs; supervision of hygienic conditions in schools; measures against malaria (including the free distribution of quinine to workers in malarious districts), trachoma, venereal diseases and pellagra; a campaign against tuberculosis, cancer and leprosy; supervision of water and sewage services; disinfection services; veterinary services; maritime and air sanitary services; and the issue of regulations connected with the medical profession.

Local Public Health agencies are under direct central control (appointments by the Minister of the Interior or by Prefects or Podesta), and the local officials must coordinate their efforts within commune and province.

(2) The Provincial Governments. The Prefect presides over the Provincial Council of Health. This body includes the President of the Civil and Criminal Courts of the provincial capital, the medico provinciale (Health officer), the veterinary, and the Federal Secretary of the Fascist Party as ex officio members. The national administration also appoints doctors and technicians. The provincial Health Staff may include the medico-provinciale (under the Prefect's immediate authority), one or more medical officers, veterinary, sanitary officers, an inter-provincial inspector of

venereal disease, a maritime health officer, a port health staff, and a director of the provincial anti-tuberculosis association. The Provincial Council recommends to the Prefect necessary sanitary investigations and measures and advises on the adequacy of existing regulations. National laws require the province to maintain laboratories (clinical, chemical, bacteriological), prophylactic stations, dispensaries, and insane asylums, and to provide for the blind, deaf-mutes, and abandoned children. The province shares in the expenses of the national Public Health Services, but the burden of local expense falls on the communes which, in 1936, spent six times as much as the provinces.

The medico provinciale is the active administrator, and he advises the Prefect to act. Health measures emanate from him, and the reports of sanitary officials go to him.

(3) The Communal Governments. The Communal Public Health Services are conducted by a varying number of officials. The Podesta (appointed by Minister of the Interior in cities, by Prefects in small towns) serves as liaison between national and local governments. He is assisted in the larger Communes by a communal council (strictly advisory) ranging from ten to forty members. The Podesta or the Prefect appoints public health personnel. An ufficiale sanitario (health officer) is assigned to each Commune (one officer may control more than one small commune) and sometimes there is also an ispettore d'igiene (sanitary inspector). Medici condotti provide public medical aid. Large communes and cities maintain more elaborate Health Departments. In Genoa, for example, the Ufficio amministrativo Lavori Pubblici

includes both Health and Sanitary Services which the Ufficiale Sanitario del Comune directs. The Servizio di Assistenza Sanitaria includes the Medico Capo Servizio, Farmacista, Segretario, Applicati (1,2, and 3 classes) and Medici Condotti, of whom one is assigned to each of the 51 zones in Genoa. The services are divided into Medico-Scolastici, Profilassi (Vaccination and Disinfection) Igiene annonario (Foods and Beverages), Igiene del Suolo, dell'abitato etc., and Veterinari (who inspects slaughter-houses). Cities also maintain a Laboratorio di Batteriologia, an Istituto Antirabbico, and medicinal as well as public baths. The health staff controls epidemic diseases, inspects schools and laboratories, and supervises veterinary work, midwifery and the medical care of the poor. The usual city services -- fire department, sewers, water, garbage -- are under a Capo Servizio and a dozen or more assistants who operate the Servizio Nettezza Urbana. The Servizio Mortuario or Funebri, regulates interment and funerals. The prices for the use of hearse, church, and cemetery are fixed according to the class and grade (fourth class to first grade first class) of the equipment, and full rates are printed in the municipal Guide and Annuarii.

The Municipal Government of Rome (Il Governatorato di Roma) maintains an elaborate Public Health Organization. A Medico Direttore, Ufficiale Sanitario del Governatorato is the head officer whose colleagues are the Medico Segretario, the Vice Direttore, the Capo Divisione di I Classe, and the Segretario di II Classe. The administration is organized in four divisions:

I. Divisione. Assistenza Sanitaria.
Provides Assistenza medico-chirurgica for the poor through Medici Condotti, and also out-patient dispensaries and anti-malarial prophylaxis.

II. Divisione. Profilassi.
Operates Anti-Tubercular, Venereal, and Isolation, Hospitals; a children's Anti-Malarial Hospital, 3 Anti-Venereal Dispensaries, Chemical and Bacteriological Laboratories. Provides Vaccination Service and Supervises School Hygiene.

III. Divisione. Vigilanza sugli alimenti e bevande, suolo ed abitato.

IV. Divisione. Servizio Veterinario.
Supervises Meat, Animals, Dogs, and Zoological Gardens.

b. Private Agencies

Private agencies to promote Public Health existed in number before the advent of Fascism. The government has brought many of them under varying degrees of regulation and control. La Croce Rossa Italiana underwent statutory regulation 1928-30, and the Ministers of the Interior and of War enjoy a real control. They nominate by royal decree the President, Vice-President and six of the twelve councillors who head La Croce Rossa. Already, in 1926, Il Governatorato di Roma had made a convention with La Croce Rossa to place their ambulances at the disposition of the municipality. La Croce Rossa Italiana performs the services common to other national branches of the international organization. It also maintains stations, staffed with a doctor and nurses and equipped with infirmary and laboratory in some remote parts of Italy.

Several similar organizations, private in origin, continue in the status of moral corporations (Ente Morale). These, too, have received government sanction implying supervision if not control. Several function

on a local, urban, rather than national basis. Such are La Misericordia at Florence, La Croce Azzurra (founded 1883 at Naples as Italy's first school of nursing) which existed in some cities such as Genoa (1934) ; La Croce Bianca Genovese, which assists at all public and private catastrophies; La Croce d'Oro which renders first aid and transports injured and sick to hospitals; La Croce Verde Genovese and La Pubblica Assistenza, which supply aid in calamities (La Croce Verde as a national agency seems to have been absorbed into La Croce Rossa, as have the Voluntari del Soccorso.) La Lega di Igiene Sociale Provincia di Genova della Associazione Italiana a Fascista per l'Igiene acts to develop hygiene by education and propaganda.

The role of the church and ecclesiastical societies (for the poor, for orphans, etc.) remains obscure and has not been publicized by the Fascist regime.

"Private munificence", contributions by industrial companies, and fees, as well as taxes and government subsidies, finance these quasi-private agencies. Various industrial companies, under government stimulus, maintain welfare departments to provide medical care and physical education for their employees' children. Employers financed the Labor Polyclinic (Rome) for the prevention and cure of vocational diseases, and the Milanese manufacturers supported the "vigile" health service.

Anti-tuberculosis campaign. La Croce Rossa and several "voluntary associations" pioneered this campaign before 1922. An act of 1923 enabled Prefects to create

Anti-tuberculosis Provincial Associations (obligatory 1927). These controlled dispensaries, hospitals, preventive institutes, and sanatoria for tuberculous patients. The Social Insurance Institute had opened (1936) 37 sanatoria (11,099 beds) and were building 22 more (10,000 beds). Industrial companies (Fiat) have organized Anti-Tuberculosis "efforts"; the Opera Nazionale Maternita Ed Infanzia, has also, through its care of mothers and children, implemented the campaign. The General Confederation of Industries financed the Benito Mussolini Institute (Rome) to train tuberculosis specialists and to promote research in respiratory diseases. The National Fascist Federation for the campaign against tuberculosis has united various private societies into "a definite system." How deep into the antonomy of such private agencies government control has penetrated is difficult to judge.

Summer camps were organized by the Fascist Party, but employers' organizations financed them, and to this extent they were quasi-private agencies for Public Health. In 1938, 772,000 children (1932 - 300,000 in 1312 health camps) received a month's holiday at the sea or in the mountains.

New Housing developments were promoted for aesthetic, social, and health reasons. The National Association of Autonomous Institutes for the Housing of People included 73 Building Societies (1935). They had provided new homes for 530,500 people by 1939. To them the government granted (1936-39) over seven million lire. A special institute builds houses for government employees, and the larger industries, through the Confederation of Industrialists, built homes for their employees. The Italian Coal Company maintained a "model town" at

Carbonia, Sardinia.

c. Medical and Related Care.

(1) Personnel.

The Medical Personnel of the Kingdom, 1939.

Doctors: 40,294

Dentists: 1,686 (Division of Medical Intelligence, U.S.A. April 15, 1942, estimated 6,000)

Veterinarians: 3,957

Pharmacists: 13,880 (1938-14,016)

Diplomaed Nurses: 8,565

Opticians: 843 (1938-865)

Midwives: 16,723
(obstetriche)

Infirmieri generici: 21,998

Qualifications. Before entering the State Service all medical officers have to pass a competitive examination. The government supports nineteen medical schools, each with an affiliated dental school. The faculties of the larger medical schools had excellent international reputations; however, physicians in the smaller towns were said to have been poorly trained. During the academic year 1940-41 the numbers of enrolled medical students were:

Medicine and Surgery: 13,781, of whom 573 were women.

Veterinarians: 1242, of whom 3 were women.

Pharmacists: 2,567, of whom 1,016 were women.

For the year 1939-40 there were graduated

Medicine and Surgery: 2,076, of whom 62 were women.

Veterinarians: 267, of whom 0 were women.

Pharmacists: 19, of whom 1 was a woman.

The numbers taking the State Examinations in 1940 were:

	Candidates	Admitted
Medicine-Surgery:	2090	1911
Veterinarians:	218	200
Pharmacists:	499 (1939-667)	471 (1939-649)

The distribution of medical personnel by territorial departments varies greatly.

At the end of 1937 there were 36,279 doctors to serve a population of 43 million, one doctor for 1,185 persons. The number of inhabitants per doctor varies much in the different compartimenti or departments. It was: Latium, 647; Liguria, 802; Campania, 901; Piedmont, 1,148; and Emilia, 1,167 in the compartimenti in which doctors were most numerous. At the other end of the scale were Veneto, 1,739; The Marches, 1,647; Umbria, 1,496; Abruzzi and Molise, 1,434; and Lucania, 1,427. Sicily and Sardinia had one doctor for 1,295 and 1,226 inhabitants, respectively. The distribution of doctors and ancillary personnel at the end of 1937 was:

TABLE I
MEDICAL PERSONNEL, BY DEPARTMENT

Departments	Population	Doctors	Pharmacists	Midwives	Diplomaed Nurses	Dentists	Veterinary Surgeons
Piedmont	3,506,134	3,053	1,468	1,570	1,020	291	436
Lombardy	5,836,342	4,876	2,069	2,632	892	223	514
Venezia Tridentina	669,029	543	178	580	205	39	93
Venezia Giulia and Zara	977,257	718	288	511	284	102	63
Liguria	1,466,915	1,829	672	605	206	135	69
Veneto	4,287,806	2,465	1,310	1,736	708	71	301
Emilia	3,339,058	2,859	1,218	1,253	1,405	104	514
Tuscany	2,974,439	2,420	983	1,033	561	122	340
The Marches	1,278,071	776	341	450	158	32	219
Umbria	725,918	467	196	244	117	16	199
Latium	2,647,088	3,614	913	867	579	93	213
Abruzzi and Molise	1,600,631	1,116	407	572	52	15	176
Campania	3,698,695	3,895	1,261	1,211	71	116	251
Apulia	2,637,022	1,962	776	618	125	61	170
Lucania	543,262	360	131	149	11	4	77
Calabria	1,771,651	1,435	555	550	49	6	98
Sicily	4,000,078	3,089	1,289	1,243	685	69	240
Sardinia	1,034,206	802	284	272	115	17	136
ITALY	42,993,602	36,279	14,339	16,096	7,243	1,516	4,109

TABLE I
MEDICAL PERSONNEL, BY DEPARTMENT

tion	Doctors	Pharmacists	Midwives	Diplomaed Nurses	Dentists	Veterinary Surgeons
134	3,053	1,468	1,570	1,020	291	436
342	4,876	2,069	2,632	892	223	514
029	543	178	580	205	39	93
257	710	288	511	284	102	63
915	1,829	672	605	206	135	69
806	2,465	1,310	1,736	708	71	301
058	2,859	1,218	1,253	1,405	104	514
439	2,420	983	1,033	561	122	340
071	776	341	450	158	32	219
218	467	196	244	117	16	199
088	3,614	913	867	579	93	213
331	1,116	407	572	52	15	176
895	3,895	1,261	1,211	71	116	251
022	1,962	776	618	125	61	170
262	360	131	149	11	4	77
651	1,435	555	550	49	6	98
778	3,089	1,289	1,243	685	69	240
206	802	284	272	115	17	136
802	36,279	14,339	16,096	7,243	1,516	4,109

TABLE II

For purposes of comparison, it may be noted that, according to the 1931 census, the medical personnel in England, Wales and Scotland, was made up as follows:-

	ENGLAND AND WALES		SCOTLAND	
	Male	Female	Male	Female
Physicians, Surgeons, Registered Medical Practitioners	26,490	2,810	3,567	521
Dental Practitioners	11,092	394	1,342	75
Veterinary Surgeons and Practitioners . . .	2,190	84	30	2
Midwives	-	6,547	-	517
Sick Nurses	3,867	118,909	223	15,508
Mental Attendants	11,306	13,214	1,276	1,907
Subordinate Medical Services, personnel . . .	18,196	11,989	2,429	1,230
TOTAL POPULATION	19,133,010	20,819,367	2,325,523	2,517,457

TABLE II

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	ENGLAND AND WALES		SCOTLAND	
	Male	Female	Male	Female
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. . . . .	11,092	394	1,342	75
Practitioners . . .	2,190	84	30	2
. . . . .	-	6,547	-	517
. . . . .	3,867	118,909	223	15,508
. . . . .	11,306	13,214	1,276	1,907
vices, personnel . . .	18,196	11,989	2,129	1,230
. . . . .	19,133,010	20,819,367	2,325,523	2,517,457

Nurses are mostly Catholic sisters. General nursing standards are among the poorest of Europe. In 1925 a decreto-legge stipulated that after a ten year period all hospital nursing should be done by only diplomaed-nurses. An act of 1926 provided that nursing schools to train both lay and religious should be established. More recently (30 September 1938) a detailed program of instruction and examination was designed for the schools preparing nurses and sanitary assistants. The curriculum prescribed a preliminary course and then 3 yearly courses for nurses and a shorter one for sanitary assistants. It may be assumed that the quality of nursing has been somewhat improved.

Skilled auxiliaries (men and women who are "qualified" or "authorized" as nurses) are also used. Nuns work in military hospitals where there are also male nurses who have taken a "student nurses' course" and soldiers who have received "instructions for nurses". La Croce Rossa Italiana trains its own nurses.

Socialization of medicine is based on insurance. The institutional machinery had been set up before 1939, but statistics suggest that only minorities of the population (25-50%) enjoyed certain of the benefits. However, Maternity, Tuberculosis, Industrial and Agricultural Accidents, Seamen's Disability, and Disability and Old Age Insurances are obligatory. Costs are generally paid two-thirds by the employer, one-third by the worker. The National Social Insurance Fund and the National Accident Insurance Fund (under state control 1926) manage such insurance, and the latter has organized a corps of 600 medical men, six hospitals (the best at Bologna), 16 first-aid surgeries and 100 out-patient

surgeries. It provides free medical treatment for 800,000 persons a year.

Each commune is compelled to defray the cost of the medical treatment of indigent persons, and this includes the provision of a midwife's services. There is a communal register of poor persons eligible for such free treatment.

The two best developed services concern tuberculosis and maternal and infant care. To effect Mussolini's "propulsive" population policy to create more and better people, The Opera Nazionale Maternita ed Infanzia spent 132,735 millions of lire in 1940. It maintained 9,813 institutions and assisted 240,061 expectants, 144,000 nursing mothers, and 834,839 children under three years. Infant mortality has declined from 130 (1922) to 97 (Legitimate 95, Illegitimate 139 in 1939) per thousand (U.S.A. 56). In 1939 marriage and maternity benefits supplanted the system of maternity insurance. The benefits were: Marriage: Man under 26: L. 700; wife L. 500; wife's parents L. 500. Maternity: Industrial women: First child L. 300 to L. 400 for third. Agricultural woman: First child L. 150; second L 175; third L 200. In 1940, 24,854 marriage premiums worth L. 53,462 millions and 94,587 nativity premiums worth L. 124,838 millions unpaid but 1,046,479 children were born. Nearly L. 750,000 millions were spent for assistance in hospitals and public institutions to nearly two million people in 1940. The ONMI maintains dispensaries, clinics, lying-in hospitals, and nurseries. It cares for curable (able to attain 50% normal working efficiency) cases of abnormal, corrupted, and abandoned

children, and it finds or creates homes for them. ONMI extends medical and dental care to school children. It also implements the campaign against tuberculosis. The act (1923) enabling Prefects to create Provincial Anti-tuberculosis Associations became obligatory in 1927. In 1939 agencies devoted exclusively to the prevention and cure of tuberculosis (pulmonary) included:

Sanatoria:	47.	Beds - 11,538
Hospitals:	82.	" 30,428
Private Institutions:	51.	" 5,332
Convalescent Workers' Colonies:	2.	" 328
Preventoria:	155.	" 22,739
Dispensaries:	483.	

For non-pulmonary tuberculosis there were 46 institutions with 8,114 beds. Large Industrial companies (Fiat) have organized anti-tuberculosis "efforts", and the General Confederation of Industries financed the Benito Mussolini Institute (Rome). The "National Fascist Federation for the campaign against Tuberculosis" attempts to integrate private enterprises with government agencies. Insurance against tuberculosis has been obligatory since 1928.

The Opera Nazionale Dopolavoro (over three million members) promotes hygiene, through its local units, by lectures and pamphlets. It constructs and operates bathing establishments, including therapeutic baths (Viterbo Springs, thermal and mud baths, under O.N.D. since 1930). Members enjoy priority and free or half-cost cures. OND operates Alpine Climatic Stations (Trento), Infirmaries (Turin, Bologna). Its members enjoy reduced prices through the National Fascist

Federation for Private Hospitals. In 1930, 53,000 members enjoyed free medical service, and others received 20-70% reductions in fees. OND and some industrial factories maintain swimming pools and promote health through athleticism. The Gioventu Italiana del Littorio (formerly Ballila, 7½ million boys and girls 1937) had organized 650 surgeries, 73 with dental sections, 11 with X-ray apparatus. It also operates summer camps to which the "more promising and efficient boys" of the avanguardista (14-18 years) are sent for a month's holiday, In 1940, 623,518 (1939-806,694) children attended camps.

(2) Facilities

Hospitals. Hospital facilities in the larger cities are comparable to those found in cities of the United States. However, in considering total rural and urban population, there were approximately 43 beds per 10,000 inhabitants (1937), as compared to an average of 97 hospital beds per 10,000 inhabitants for the entire United States. There are very few hospital beds in Sardinia and Sicily. Adequate X-ray and operating room facilities are found only in the larger cities. There is a dearth of medical and hospital supplies. Prior to the war, medical practitioners were concentrated in the towns and cities, and Army demands have probably reduced this number. In 1936 State hospitals in Italy numbered 2,090, with 239,009 beds; psychiatric hospitals and institutions 154, with 78,043 beds. In 1937 it was estimated that there were approximately 200,000 hospital beds, 166,784 of these beds being in the 1,486 public hospitals, and 25,261 in the 596 private nursing homes and clinics. This is a rate of approximately 43 beds per 10,000 inhabitants (97 hospital beds per 10,000 inhabitants for the United States, where the larger cities have as high as 190 or more beds per 10,000 inhabitants.)

Information is lacking concerning the hospital equipment in Italy, other than that prior to the war the equipment of the larger hospitals was comparable to that of northern European countries. In the rural areas there was insufficient x-ray and operating room equipment, so that most surgery had to be done in the large clinics. In 1938 the greater part of electro-medical instruments, surgical instruments and medical apparatus was imported.

In 1940 Public Hospitals and Institutions cared for 1,906,258 patients at a cost of L743,498 millions. The same year L40,628 millions were allocated for 42 new hospitals under construction. Public hospitals are maintained and operated by Provincial and Communal governments, and a goodly number by the Congregazione di Carita, which was established in 1890 to supplement private and governmental organizations. It administers all charitable and welfare works not specifically provided for, and it was reorganized under royal decrees in 1923 and 1926. A President and a Committee of patrons (4 in communes of 20,000, 8 in those of 100,000 or more) are nominated by the Provincial Prefect.

(3) Supplies: Information is wanted concerning the availability of hospital supplies in Italy, Sicily, and Sardinia. It is believed that they are insufficient to meet the needs of the native people.

(4) Vaccination against smallpox has been compulsory; against diptheria compulsory since 1939; and in certain areas, the government has practiced compulsory typhoid fever innoculation to control the disease. The government controls the processing and distribution of quinine for use against malaria. The manufacture and sale of narcotics is regulated. Notification of infectious diseases is compulsory, and prostitutes are examined weekly.

d. Birth, Death, and Disease.

(1) Births and Deaths from 1935 to 1940.

	Births	Deaths	Excess of Births
1939	1,040,213	590,530	449,683
1940	1,046,479	606,911	439,568

1939 Infant Death Rate per 1,000 Live Births: First Year: Legitimate: 95

Illegitimate: 139

Total per 1,000: 97

TABLE IV
TEN PRINCIPLE CAUSES OF DEATH

Cause of Death	1935	1936	1937	1938	1939	1940
Respiratory Diseases	108,393	113,512	115,920	124,304	114,666	107,945
Heart Diseases	81,336	86,349	88,751	88,996	90,673	99,674
Nervous System (Paralysis etc.)	73,144	73,358	73,922	75,638	73,332	77,991
Digestive System	78,649	70,736	82,337	71,592	67,565	68,546
Infectious Diseases*	75,686	70,833	74,240	68,678	63,767	59,519
Senility	40,726	41,059	42,092	40,115	40,657	46,291
Tumors (Cancer and others)	36,429	37,699	38,941	39,928	40,025	41,486
Infantile Diseases	27,878	26,166	28,449	30,056	32,335	35,308
Genito-Urinary	23,269	23,551	25,029	24,390	23,385	22,830
Violent Deaths	19,159	17,983	18,581	18,121	17,608	18,340

*Includes Tuberculosis, all forms.

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TABLE IV
TEN PRINCIPLE CAUSES OF DEATH

	1935	1936	1937	1938	1939	1940
	108,393	113,512	115,920	124,304	114,666	107,945
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etc.)	73,144	73,358	73,922	75,638	73,332	77,991
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l forms.

TABLE V

BIRTH AND DEATH RATES, INFANT MORTALITY, ETC., BY DEPARTMENT

Departments	Population	Density of Population per sq.km.	Death-rate per 1,000 population	Birth-rate per 1,000 population	Excess births over deaths per 1,000 population	Infant Mortality rate per 1,000 live births (1937)	% of population over 10 years of age engaged in agriculture, fishing, etc.
Piedmont	3,506,134	119	13.9	15.8	1.9	82	42.6
Lombardy	5,836,342	245	14.1	21.7	7.6	124	28.6
Venezia Tridentina	669,029	49	14.7	22.2	7.4	106	50.3
Venezia Giulia and Zara	977,257	109	13.9	20.3	6.4	102	38.1
Liguria	1,466,915	270	12.7	15.3	2.6	67	25.4
Veneto	4,287,806	168	12.2	24.7	12.5	81	53.2
Emilia	3,339,058	151	12.0	20.3	8.3	83	58.7
Tuscany	2,974,439	130	12.5	18.7	6.2	65	47.6
The Marches	1,278,071	132	12.4	23.9	11.5	85	66.7
Umbria	725,918	85	12.9	23.2	10.3	83	64.7
Latium	2,647,088	154	12.4	24.5	12.1	93	41.8
Abruzzi and Molise	1,600,631	104	15.9	25.1	9.2	125	74.5
Campania	3,698,695	274	16.7	28.9	12.2	116	48.3
Apulia	2,637,022	137	15.8	31.1	15.3	143	53.1
Lucania	543,262	54	16.7	31.7	15.0	148	75.4
Calabria	1,771,651	117	15.0	30.1	15.1	130	67.9
Sicily	4,000,078	156	15.3	27.0	11.6	138	51.4
Sardinia	1,034,206	43	11.0	25.3	14.3	122	56.7
ITALY	42,993,602	139	14.2	23.7	9.7	109	

TABLE V

BIRTH AND LEATH RATES, INFANT MORTALITY, ETC., BY DEPARTMENT

Population	Density of Population per sq.km.	Death-rate per 1,000 population	Birth-rate per 1,000 population	Excess births over deaths per 1,000 population	Infant Mortality rate per 1,000 live births (1937)	% of population over 10 years of age engaged in agriculture, fishing, etc.
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42,993,602	139	14.2	23.7	9.7	109	

TABLE VI

VITAL STATISTICS AND DISEASE RATES FOR ITALY, COMPARED WITH AMERICAN FIGURES FOR THE SAME PERIOD OF TIME

	Italy	U.S.A.
Birth rate per 1,000	23.1	17.10
National increase per 1,000	9.3	6.10
Death rate per 1,000	13.8	11.00
Infant death rate per 1,000 births	102.0	56.00
Morbidity rates: (Cases per 10,000)		
Measles	24.30	63.00
Typhoid and paratyphoid fever	9.04	1.60
Diphtheria	6.09	2.34
Whooping cough	5.12	14.90
Scarlet fever	4.50	16.60
Chickenpox	3.73	20.00
Dysentery, Amoebic	2.80	.26
Dysentery, Bacillary		2.00
Cerebrospinal meningitis	.15	.80
Undulant fever	.64	.03
Mortality rates: (deaths per 10,000)		
Measles	8.20	.25
Typhoid and paratyphoid fever	1.31	.18
Diphtheria	.61	.20
Whooping cough	.50	.36
Scarlet fever	.05	.09
Dysentery, Amoebic		.02
Dysentery, Bacillary	.07	.10
Typhus fever	.02	.00001
Influenza	1.95	1.29
Tuberculosis, all forms	7.97	4.85
Syphilis	.49	-
Malaria	.17	.18
Encephalitis lethargica	.09	.06
Undulant fever	.04	.0012

Certain diseases are not reportable in all parts of Italy, so these statistics for the total number of cases and of deaths are not accurate in every instance.

Table V illustrates the marked differences in public health standards prevailing in different parts of Italy. The southern half of the peninsula comprising Campania, the Southern Highlands, the Apulian Region, Calabria, and Sicily, which include the compartimenti of Abruzzi and Molise, Campania, Apulia, Lucania, Calabria and Sicily, was characterized in 1938 by the highest deathrates, the highest infant mortality rates, the highest birth-rates, and an excess of births over deaths amounting to 13 per thousand of population. The combined population of these compartimenti was 14,251,339, with a death-rate of 16.18 per thousand, a birth-rate of 29.2 per thousand, and infant mortality rates ranging from 116 to 148 per thousand live births. The population of this area is predominantly agricultural.

Much higher health standards prevail in the Northern and Central Highlands, the Riviera, the sub-Apennine Region, the Venetian plain, and along the northern part of the Adriatic coast. The compartimenti in these areas, Emilia, Veneto, the Marches, Latium, Tuscany, Liguria and Umbria, with a combined population of 16,719,295, had a death-rate of 12.5 per thousand, a birth-rate of 22 per thousand, an excess of births over deaths of 9.6 per thousand, and infant mortality rates ranging from 65 (Tuscany) to 93 (Latium) per thousand live births.

The remaining compartimenti in the west of the Northern plain, in the Alpine region, and in Istria (Piedmont, Lombardy, Venezia Tridentina, and Venezia Giulia and Zara) had mortality rates intermediate between those of the two large groups already considered. The combined population of these compartimenti was 10,988,762; the death-rate was 14.3 per thousand, the birth-rate 20 per

thousand. The infant mortality rates ranged from 82 in Piedmont to 124 in Lombardy, per thousand live births.

Sardinia occupied a somewhat special position in 1937. Its death-rate was that of Italy as a whole, but with respect to its large natural increase of population and its infant mortality rate it fell into line with the backward compartimenti of South Italy.

The size of the commune does not appear to exercise a very marked influence on the general death rate, but infant mortality rates are appreciably higher in rural areas than in large towns in northern and central Italy. Of the 23 communes with populations over 100,000, nine had death rates in 1937 in excess of Italy's rate, 14.2 per 1,000. The highest rates were Brescia 20.0, Catania 17.5, Naples 16.9, Palermo 16.9, Cagliari 15.6, Taranto 15.0, Reggio di Calabria 15.0. With theexception of Brescia, where typhoid, measles, tuberculosis, influensa, and pulmonary diseases were all unduly prevalent, all these towns are in the Islands or South Italy. The lowest death rates reported were La Spezia 11.6, Ferrara 11.9, Milan 12.0, Rome 11.9, Venice 12.5, Genoa 12.9, Trieste 13.5, and Leghorn 13.5 per thousand.

The infant mortality rates in Italian towns with populations in excess of 100,000, vary very widely, and probably reflect with fair accuracy the very different public health standards achieved. In 1937 these rates per thousand live births were:

Leghorn	46	Florence	49
La Spezia	53	Bologna	68
Turin	72	Genoa	72
Ferrara	73	Venice	78
Padua	78	Rome	83

Trieste	89	Milan	90
Verona	91	Naples	101
Cagliari	109	Messina	116
Reggio Cal.	116	Brescia	121
Palermo	122	Bari	122
Taranto	148	Catania	164
		ITALY	109

To that rate of 109 for Italy as a whole, diseases of the digestive system (infantile diarrhoea) contributed 37, diseases of the respiratory system (bronchitis and pneumonia) 25, and all other causes 47. Communes that have made most progress in reducing infant mortality rates have done so in large measure by reducing the incidence of the two specific causes mentioned.

The Status of Birth Control.

Fascist Policy has been to prevent "voluntary abstinence from the duty of procreation" and to promote the "massimo di natalita; minimo di mortalita"(maximum birth-rate, minimum death-rate). Legislation authorized pre-natal and post-natal care and assistance for mothers -- both married and unmarried. The rates of illegitimacy per 1,000 births were:

1882:	26.6
1922:	13.0
1937:	9.9

Marriage and Birth Awards (1940) were:

	Number	Value in Millions of Lira
Marriage	24,854	53,462
Birth	94,587	124,838

Loans to get young couples started exceeded 13 million lire in five months of 1937. Employers give a cash bonus to workers on 1) marriage, 2) birth of each child,

and both employers and workers contribute to child subsidies ranging from L. 3.5 for one child to L. 6 per child for four or more. Of the marriages in 1939, 99.98% were classified as Catholic. Birth-control would seem to have no status -- in theory.

(2) Diseases and Deaths from Diseases.

Malaria and the following enteric diseases --- typhoid fever, paratyphoid fever, bacillary dysentary, and amoebic dysentery--are the most important transmissible diseases that may be encountered by troops entering the areas under discussion. Other diseases that will be of importance to these troops include the following: the acute infectious and respiratory diseases, i.e., upper respiratory infections, pneumonia, influenza, measles, diphtheria, whooping cough, scarlet fever, encephalitis lethargica, acute anterior poliomyelitis, meningoccus meningitis, and smallpox; the venereal diseases, including syphillis, gonorrhea, chancroid, lymphogranuloma inguinale, and granuloma venereum; undulant fever; typhus fever, i.e., epidemic louse-borne typhus fever, boutonneuse fever, a tick typhus, and in a few instances, murine or endemic typhus fever; relapsing fever; various forms of leptospirosis; dengue fever; sandfly fever; hydatid disease; helminthiasis, especially ankylostomiasis and ascariasis; tetanus; anthrax, rabies; and possibly leishmaniasis.

Diseases that are common among the native people, but would probably not constitute health problems for well-disciplined troops, are tuberculosis, trachoma, leprosy, and the deficiency diseases, especially pellagra.

Cholera has not been reported from Italy since 1920. Although sylvatic plague occurs among rodents, there have been no human cases reported in recent years. The Aedes aegypti mosquito is found throughout the coastal areas, but yellow fever has not occurred in many years.

(3) Diseases of Special Importance.

(a) Malaria: Adequate, recent statistical data pretaining to malaria in Italy and Sardinia are difficult to obtain and to evaluate. The reliability of statistics coming from Italy since the Ethiopian War (1935) is questionable, and there have been no reports since the beginning of the present war.

Malaria is endemic in most of Italy and in all of Sardinia. Malaria is not a reportable disease in all parts of Italy, so the statistics for the total number of cases are not reliable. The susceptibility of the population to malaria and apparently the individual response to treatment varies in different parts of Italy, so that the death rate is not a true indication of the prevalence of the disease in the different sections of the country.

Chart A. indicates the number of deaths from malaria and the death rate per 100,000 people for the period of years between 1914 and 1926. There was a steady decline in the mortality rate until 1915, then it remained unusually high until 1919, when it began to fall again. The number of deaths from malaria in 1935, 1936, 1937 and 1938 (Chart B.) indicates that there has been a decrease in the number of malarial deaths. This probably results, in part, from the draining of the Pontine Marshes and the extensive educational program carried out by the Rockefeller Foundation and Malarial Commission of the League of Nations. Because of the present political situation in Italy, the more recent figures may not stand too close scrutiny.

The Malarial Commission of the League of Nations reported the treatment with quinine of an average of 213,652 cases of malaria per year from 1926 to 1930. Italy had a population of 41,506,000 at that time.

Chart C., compiled by the League of Nations, demonstrates that while malaria is present during the entire year in Italy, there is a marked increase in the number of cases during the period May to October, inclusive.

Economic and public health standards have fallen during the present war and many soldiers returned from the Ethiopian campaign with malaria. This suggests that malaria is more prevalent now than during the 1920's and early '30's.

Available information indicates that the estivo-autumnal type of malaria is the most common. At the Rockefeller Foundation field station at Portatories, Sardinia, it was found that 34.2% of 802 children had positive parasitic indices; of these 51.4% were estivo-autumnal, 43.1% were tertian and the remaining 5.5% were quarten. A splenic index of 46.8% was found among 312 children examined in Sardinia.

Italy's malaria rate is among the highest of the Mediterranean countries, and that of Sardinia is said to be the third highest in the world. The importance of this disease to military forces cannot be over-estimated.

Italian Methods of Combatting Malaria.

The Government has sought to check malaria by control of potential breeding places, (e.g. the draining of the Pontine Marshes) and by quinine distribution.

The control of the importation, processing and distribution of quinine and all products of the bark or alkaloids extracted from it belongs to the Automonous Administration of State Monopolies. The AASM sells directly to pharmacies, to provincial governments, and to various anti-malarial organizations. Recently the Italians have experimented with other drugs - "Italchena" (corresponding to atebrin) and plasmochin or and iodomercurate and manganese for both cure and prevention. Large cities maintain Anti-Malarial Dispensaries, and Rome supports and Anti-Malarial Children's Hospital.

(b) Enteric Diseases: The following enteric diseases --- typhoid fever, paratyphoid fever, bacillary dysentery and amoebia dysentery --- are found in Italy and Sardinia. Chart D. indicates the morbidity and mortality rates of typhoid fever and paratyphoid fever. These diseases are usually water-borne in Italy and most commonly occur as sporadic cases or in small epidemic outbreaks. The prevalence of these diseases indicates that water supplies are not always safe and that sewage disposal facilities are inadequate. In Sicily and in parts of Sardinia and southern Italy, human excrement is used as a crop fertilizer. This custom is dangerous, for vegetables so fertilized are frequently contaminated with the causative organisms of these enteric diseases.

Amoebic dysentery is very common in Sicily and Sardinia, and it is also found in Nella Campania and Lombardia. In some parts of Sicily, 18 percent of the people have been found to harbor E. histolytica. Bacillary dysentery occurs most frequently in small

epidemic outbreaks, or in sporadic cases in Venice, Abruzzi, Lombardia, Calabria, Sardinia and Sicily.

(c) Venereal Diseases: Syphilis, gonorrhea, chancroid, lymphogranuloma inguinale, and granuloma venereum are all found in Italy. Recent statistics are unreliable.

(d) Acute Respiratory and Infectious Diseases: (Upper respiratory infections, pneumonia, influenza, measles, diphtheria, whooping cough, scarlet fever, encephalitis lethargica, acute anterior poliomyelitis, meningococcus meningitis, and smallpox). See Chart D.

(e) Undulant Fever: Bang's disease is found in a large percentage of the dairy herds of Italy, Sicily, and Sardinia, and undulant fever, or brucellosis, is a common disease in man. In 1935, there were 6.4 cases per 10,000 inhabitants, with a 4% death rate. This disease is most common in Sicily, Toscana, and Emilia. The presence of this disease indicates that dairy products are not safe for human use, and pasteurization or simple boiling of milk is not practiced.

(f) Typhus Fever: Epidemic, louse-borne typhus fever had not been reported from Italy (since 1928) until the early Spring of 1942, when the presence of "a few imported cases" was admitted; however, due to the fact that many of the people are louse-infested and that cases of typhus fever have occurred in areas abroad occupied by Italian troops, this disease is likely to become of great importance under war conditions. It is probable that typhus fever occurs in greater numbers than acknowledged by the Italian authorities.

(g) Boutonneuse Fever: This rickettsial disease is transmitted by the dog tick Rhipicephalus sanguineus,

and is present throughout Italy and Sardinia. The disease is unreported in western Sicily, but is probably endemic throughout the Island.

(h) Murine Typhus Fever: Endemic murine typhus fever has been recognized in rats throughout Italy, especially in the port cities. It is occasionally conveyed to man by rat-fleas. It is possible that a breakdown of rat-control measures will make this disease of greater importance to man.

(i) Plague: Although sylvatic plague (plague in rats) is found in sporadic cases in the larger port cities, there have been no reports since 1927 of human cases of plague in Italy or Sardinia. However, during war time, with the consequent decrease in public health supervision, this disease may become of importance.

(j) Cholera: The last reported case of cholera in Italy was in 1920. Although this disease is not present now, the inadequate water and sewage facilities will make cholera an important disease to troops if it ever spreads beyond the Orient. (Unconfirmed reports state that there have been cases of cholera in Greece in 1942.)

(k) Yellow fever: Yellow fever has not been found in Italy in many years; however, the Aedes aegypti mosquito, the vector of the urban type of yellow fever, is found throughout the country at lower altitudes. The return of infected individuals, or the transmission of an infected mosquito by plane or ship from an endemic yellow fever area could cause the spread of this disease.

(l) Relapsing fever; a disease caused by the spirochete, Borrelia recurrentis, and carried by the body-louse, Pediculus humanus corporis, is found in all parts of Italy and Sardinia. It has never been reported in appreciable numbers during peace time, but there are cases of the disease reported each year, so it is likely to become important under war conditions.

(m) Leptospirosis: Various forms of leptospirosis, especially Weil's disease, are reported from all parts of Italy. These diseases are spread in food or water spoiled by the excrement of infected rats. Man contracts the disease by eating or drinking contaminated food or water and by swimming or wading in the water contaminated by rat excreta.

(n) Dengue fever: Dengue, or breakbone fever, is a disease transmitted, in Italy, by the Aedes aegypti mosquito, and is most prevalent in the coastal areas. Although the disease is rarely fatal, it frequently appears in epidemic proportions and may be the cause of considerable morbidity in troops.

(o) Sandfly fever: The sandfly, Phlebotomus papatasii, is plentiful in Sicily and Southern Italy, especially about ruined buildings and accumulations of rubble. Large epidemics have occurred after earthquakes. The disease usually occurs during the summer months. Like dengue fever, it is rarely fatal, but is capable of causing much morbidity among troops.

(p) Leishmaniasis: Both the dermal (Oriental sore) and the visceral (kala-azar) types of leishmaniasis occur. They are most common in Sicily and in the southern part of Italy. Numerous cases of both kala-azar and Oriental sore have been reported.

Kala-azar is endemic in Sicily, especially in the vicinity of Catania and Palermo, and in Sardinia; and cases are reported from Abruzzi, Puglie, Liguria, Lombardia, and Lazio. Although the disease in Italy is usually in children, a few cases are reported in adults each year. It is most common on the coastal plains, being rare in the interior, and absent at high altitudes (this corresponds to the distribution of Phlebotomus perniciosus). Control measures, aimed at the destruction of infected dogs, have not been successful.

(q) Tuberculosis: Both the bovine and the human types of tuberculosis are found. The greater number of cases occur in northern Italy, Sardinia, and about Rome.

(r) Helminthiasis: Helminthiasis, especially ascarid and hookworm infestation, is common in Sicily, Sardinia, Abruzzi, Lombardy, Tuscany, and Calabrie.

(s) Echinococcosis: Human cases of echinococcosis (hydatid disease) are sporadic. Dog control measures have been only partially successful; diseased meats are frequently used for human consumption.

(t) Trachoma: Trachoma is extremely prevalent in the regions of Puglie, Sicily, and Sardinia. From seven per cent to ten per cent of the people in Sardinia are said to have trachoma.

(u) Leprosy: The Italians report a few cases of leprosy each year (11 deaths in 1935). It is most common in Sardinia.

(v) Deficiency diseases: The deficiency diseases, especially pellagra, occur in small numbers throughout Italy.

(w) Rabies: There are six laboratories in Italy that prepare antirabic vaccines. Sporadic cases are found.

(x) Anthrax: Anthrax is endemic throughout Italy, the greater number of cases being reported from southern Italy and Sardinia.

(y) Tetanus: Tetanus if found sporadically.

Chart A.

MORTALITY FROM MALARIA

Year	Number of deaths	Deaths per 100,000 population	Population
1914	2,065	5.7	—
1915	3,835	10.5*	—
1916	5,060	13.8*	—
1917	8,407	23.7*	—
1918	11,477	32.4*	—
1919	6,760	18.7	—
1920	4,223	11.6	—
1921	4,848	13.2	38,800,000
1922	4,085	10.9	39,100,000
1923	3,307	8.8	39,800,000
1924	4,036	10.2	39,700,000
1925	3,588	9.0	40,100,000
1926	2,683	6.7	40,400,000

* Increase during World War

Chart B.

DEATHS FROM MALARIA IN VARIOUS PROVINCES OF ITALY INDICATING DISTRIBUTION

	1937	1938
Total cases, male and female ...	1,032	750
Total cases, male	636	478
Piemonte	9	8
Liguria	8	3
Lombardia	18	12
Venezia Tri-dentina	1	0
Veneto	25	23
Venezia GIULIA e Zara	2	3
Emilia	9	5
Toscana	12	11
Marche	1	2
Umbria	2	1
Lazio	39	25
Abruzzi e Molise	23	9
Campagnia	64	35
Puglie	143	105
Lucania	58	44
Calabrie	191	135
Sicilia	214	170
Sardegna	213	159

MORTALITY FROM MALARIA IN ITALY

	1935	1936	1937	1938
Total no. of Cases	163,668	135,340	108,480	
Deaths	1,693	1,291	1,032	750

Chart C.
CASES OF MALARIA IN ITALY BY MONTHS - 1937

Month	Cases	Deaths
January	2,107	57
February	2,093	43
March	2,694	47
April	3,977	48
May	6,567	61
June	10,454	64
July	18,345	125
August	23,338	165
September	19,896	141
October	11,490	135
November	4,931	88
December	2,588	64

CHART D

Notifiable Diseases. The following table gives the number of cases and deaths of notifiable disease reported during three recent years:-

*Persons bitten by animal suffering, or suspected to be suffering, from rabies.

	1936		1937		1938	
	Cases	Deaths	Cases	Deaths	Cases	Deaths
Smallpox	-	-	-	1	-	-
Typhus fever	-	3	-	2	-	-
Typhoid fever	24,000	3,839	32,131	4,762	37,414	5,717
Paratyphoid fever	3,751		5,458	349	5,606	
Relapsing fever	-	-	-	1	-	-
Undulant fever	3,116	186	3,984	220	4,615	-
Measles	72,629	1,966	70,412	2,137	107,945	2,861
Scarlet fever	14,969	571	16,302	289	13,861	226
Whooping cough	30,229	2,372	30,014	2,740	19,003	2,168
Diphtheria	25,571	2,571	28,596	2,784	27,583	2,691
Chicken-pox	15,955	-	16,548	46	15,282	-
Mumps	9,967	-	14,878	23	10,196	-
Influenza	47,661	10,675	132,868	12,110	-	8,531
Dysentery (amoebic)	509	-	1,259	65)		
(bacillary)	415	-	1,302	87)	1,197	-
(unspecified)	-	-	-	246)		
Erysipelas	-	-	1,415	-	-	-
Acute poliomyelitis	2,360	439	2,740	337	2,225	-
Encephalitis lethargica	-	363	104	322	86	-
Cerebro-spinal meningitis	847	193	1,062	215	1,276	-
Anthrax (malignant pustule)	1,058	136	1,135	140	1,188	-
Rabies	*4,862	1	*4,849	4	-	-
Tetanus	-	-	-	641	-	-
Leprosy	54	30	21	23	-	-
Malaria	135,340	1291	108,480	1,032	738	-
Puerperal fever	1,847	1183	1,833	865	1,711	-
Pellegra	-	-	930	-	716	-

CHART D

...iseases. The following table gives the number of cases and deaths of notifiable disease reported ... recent years:-

...itten by animal suffering, or suspected to be suffering, from rabies.

	1936		1937		1938	
	Cases	Deaths	Cases	Deaths	Cases	Deaths
.....	-	-	-	1	-	-
.....	-	3	-	2	-	-
.....	-	-	-	1	-	-
.....	24,000 / 3,751	3,839	32,131 / 5,458	4,762 / 349	37,414 / 5,606	5,717
.....	-	-	-	1	-	-
.....	3,116	186	3,948	220	4,615	-
.....	72,629	1,966	70,412	2,137	107,945	2,861
.....	14,969	571	16,302	289	13,861	226
.....	30,229	2,372	30,014	2,740	19,003	2,168
.....	25,571	2,571	28,596	2,748	27,583	2,691
.....	15,955	-	16,548	46	15,282	-
.....	9,967	-	14,878	23	10,196	-
.....	47,661	10,675	132,868	12,110	-	8,531
...amoebic)	509	-	1,259	65)		
...bacillary)	415	-	1,302	87)	1,197	-
...unspecified)	-	-	-	246)		
.....	-	-	1,415	-	-	-
...myelitis	2,360	439	2,740	337	2,225	-
...a lethargica	-	363	104	322	86	-
...nal meningitis	847	193	1,062	215	1,276	-
...lignant pustule)	1,058	136	1,135	140	1,188	-
.....	*4,862	1	*4,849	4	-	-
.....	-	-	-	641	-	-
.....	54	30	21	23	-	-
.....	135,340	1291	108,480	1,032	738	-
...ever	1,847	1183	1,833	865	1,711	-
.....	-	-	930	-	716	-

It will be noted that the serious quarantine diseases, the control of which is subject to the International Sanitary Convention (plague, cholera, smallpox, yellow fever and typhus fever) are either absent or figure insignificantly in the above table.

e. Sanitation

(For (1) see above, a. (1))

(2) Sanitary Problems and Control Measures.

(a) Water. Water for domestic use comes from wells, streams, and collections of surface water. In general, ground water levels vary, but a large part of the country is well supplied. Many of the larger towns and cities obtain water from lakes and reservoirs in the hills and mountains, and transport it from these collections of surface water by means of aqueducts. Between 1922-32, aqueducts were completed to serve 2,200 inhabited places (10,000,000 people). The Apulian aqueduct supplies 250 municipalities (2,500,000 persons) in the Apulian provinces. In rural areas shallow wells, springs, and streams are used.

The larger Italian cities have modern water purification facilities, but they are lacking in smaller towns and villages. Even when water has passed through a treatment plant, it is frequently not potable at the tap, either because of inadequate treatment, or because it has passed through a water main which is subject to contamination. Many water supply systems are ancient, and are subject to cross-connection with sewers. Water is frequently not piped to the entire city, and community taps are used in the poorer sections. In rural areas, community wells and springs are used. The high incidence of typhoid fever and paratyphoid fever (especially in the vicinity of Rome) indicates that water is frequently not potable.

PIEDMONT. Subterranean waters are found in important amounts only in the level parts and in terrain bordering streams. The plain of Alexandria has the greatest amount of subterranean water, which is tapped by numerous wells. The first artesian fold is found at the depth of 20 meters from the surface, and the second at a depth of 40 meters. Water is taken from this latter level in large quantities for irrigation. Throughout Piedmont there are over 700 irrigation plants taking water from the subsoil by means of electric pumps (12 to 32 million cubic meters of water a year).

LOMBARDY. Water for the city of Milano is taken from 460 deep wells grouped in 32 "centrales" of supply. Water can be obtained at various levels between 20 and 120 meters from the surface, the largest amount at approximately 40 meters. At Amantova, 14 artesian wells are found which reach depths of 120 meters. There are about one thousand deep wells in Lombardy.

EMILIA. Quantities of surface water are found between 3 and 12 meters, and there are many deep artesian wells.

VENEZIA. The entire Venetian plain is rich in subterranean waters, as well as streams. Both deep and shallow wells are utilized.

VENICE JULIA. There are many subterranean streams in this area, and water is usually obtained from deep wells.

ROMAGNA. Artesian wells reach depths varying between 28 and 120 meters. At depths of over 100 meters, the water usually contains large amounts of salt.

LIGURIA. Water is taken from shallow wells, deep wells, and frequently from springs.

TOSCANA. Water is taken from shallow and deep wells, especially in the coastal zone, and frequently from

artesian wells. The maximum depth of water-bearing strata is about 70 meters. On the Pisan plain, water is frequently taken from shallow wells to the depth of 4 meters, as well as from artesian wells sometimes as deep as 85 meters. In the Firenze area, there are several wells of 300 meters. On the plain of Cicina, dependent upon the locality, water may be taken from wells between 6 meters and 40 meters. In the area of Campiglia Marittima, there are numerous wells with a depth of about 50 meters. This is also found on the Grossetama plain. There are many springs in Toscana.

UMBRIA and LAZIO. In the region of the city of Castello, water is found at a depth varying between 2 and 5 meters.

UMBRIAN PLAIN. Water is taken from wells at a depth of from 2 to 5 meters in the central zone. In the Pontino field on the slopes of the Lepin Mountains, there are many springs, and water is also taken from shallow wells. Many small springs are found in the vicinity of Rome.

MARCHE. In the vicinity of Pesaro, water for drinking purposes is taken from artesian wells at the depth of 25 meters. The city of Fano draws its drinking water from artesian wells.

ABRUZZI and MOLISE. The coastal zone is rich in subterranean waters. In the vicinity of the city of Pescaria the large artesian fold is at the depth of 40 meters.

CAMPANIA. Artesian waters are found at various depths. There are many isolated wells found throughout

the area. In the mountains, wells are found only in the river valleys. In the vicinity of Naples, wells at the depth of 120 meters are used. In Puglie there is a deficiency in the amount of subterranean water, although there are 600 mm. of average annual rainfall. Some 700 springs are found along the coast, but are usually quite brackish.

CALABRIA-LUCANIA. Deep artesian wells are brackish. However, in the plains of Siberi, there is an artesian level at about 30 meters. There are numerous springs throughout this region.

SARDINIA. Although there are heavy rains during the winter (720mm) there is practically no rain during the summer. The runoff of water is rapid because there are many impermeable rock formations. Subterranean waters are found in only a few areas and are of little practical value. In the Campidano di Cagliari, an abundant supply of water is found at 8 meters and 20 meters, but at San Gavino, some wells reach a depth of 120 meters. In the hills there are small springs, frequently used for domestic purposes.

SICILY. In the region of Messina shallow wells are used. In the zone of Palermitano, wells reach a dpeth of 70 meters. In the Gold Basins there are 612 deep wells. Near Scicli and Speccaforno, water is taken from a depth of about 40 meters below the sea level. In these areas are many springs and shallow wells.

Recommendation: All water should be considered as not safe. Municipal water supplies should be subjected to periodic bacteriological examinations and all other water should be filtered and chlorinated or boiled prior to use.

(b and c) Sewage and Waste Disposal. Sewage treatment facilities are found only in a few of the larger towns and cities. Sewage is usually emptied as raw sewage into streams or the sea. In rural areas, and in many of the slum sections of the larger towns, pit privies are used. In some areas the pan system of night soil collection is utilized, and the human excrement is used as a crop fertilizer. In the north, especially in the vicinity of Venice, septic tanks are employed. Pollution of the soil is common.

Recommendation: Plans should be made for the local unit disposal of all human wastes; for, except in the larger cities, there are no existing sanitary arrangements available, and it is probable that the municipal sewerage systems are not capable of handling much, if any, overload.

(d) Food and Dairy Products. It is reported (April 1942) that there is strict rationing of foodstuffs, especially meats and bread, and that surplus stores are low. Staple articles of the ration, other than fruits, vegetables and small quantities of meat and fish, do not exceed the need of the Italian people. Even prior to the war, they depended upon imports from abroad for the greater part of food supplies. Dairy products are not subject to close inspection as in the United States, and there are few facilities for pasteurization of milk. Bovine tuberculosis and Bang's disease (undulant fever) are common in dairy herds. Milk is frequently distributed by driving the herds through the streets and milking either the cow or the goat at the door. Milk is said to be frequently adulterated and watered when so distributed. Abattoirs are under government inspection, but there are insufficient refrigerating facilities in the smaller towns. In

many areas, especially Sicily, night soil is used as a crop fertilizer, giving rise to the danger of contaminating fruits and vegetables with the causative organisms of the enteric diseases.

Recommendation: All local eating establishments should be viewed with suspicion and should not be authorized for use by Army personnel until a thorough inspection by the Surgeon of the Forces can be made. Organizational commanders and surgeons should institute comprehensive educational programs as to the dangers of eating in other than approved establishments. Because of the high incidence of intestinal infections, unusual care should be taken in the selection, storage, and preparation of food in Army messes, post exchanges, and other Army controlled eating establishments. Food handlers, especially natives, should be carefully examined at regular intervals in order to eliminate carriers of the various intestinal diseases.

(e). Insects and Animals of Importance to Man.

Disease Carriers:

(a) Mosquitoes: Malaria is a major health problem. The marshy nature of the coastline, the collection of water in reservoirs, and the presence of many ponds and small lakes breed mosquitoes. Anopheles maculipennis is the most important vector of malaria, and a number of sub-species of the maculipennis complex are found, namely, A. maculipennis elutus, A. maculipennis labranchiae, A. maculipennis messeae, A. maculipennis atroparvus and A. maculipennis melanoon. A. pseudopictus, A. sacharovi, A. bifurcatus, A. superpictus and A. algeriensis are also found throughout Italy and Sardinia. A. maculipennis elutus (in the

north), and A. maculipennis labranchiae (in the south) are the most dangerous vectors and prefer brackish water. In southern Europe, anophelines are usually found indoors or close to the habitations of man. The Aedes aegypti are also found throughout Italy and Sardinia and are responsible for the spread of dengue fever. (Aedes aegypti also carry urban yellow fever; however, this disease has not been found in Italy in recent years.)

(b) Flies:

1. The common house fly, Musca domestica, by mechanical means carries the causative organisms of the intestinal diseases (typhoid fever, paratyphoid fever, amoebic dysentery and bacillary dysentery) from filth and fecal matter to the food of man. Flies are extremely common throughout Italy.

2. The sandfly, Phlebotomus papatasii, transmits a virus disease known as pappataci or sandfly fever. This disease is prevalent over practically all of Italy and Sardinia. Evidence indicates that sand-flies are capable of transmitting the organism causing dermal leishmaniasis, a disease that is found in Sicily. P. perniciosus is probably responsible for the spread of Kala-azar.

3. Other Flies: In southern Italy the bot fly may cause deep-seated abscesses or boils. In the process of biting or alighting, these flies deposit their eggs in or around the skin, open wounds, and in the nostrils and ear canals. The development of the maggots in these locations is accompanied by bacterial infection with subsequent boil formation.

The eggs may be carried by other insects, e.g., mosquitoes.

(c) Fleas: The rat flea (X. cheopis) is the vector of at least two serious diseases affecting man, namely, plague and the murine (rat) type of typhus fever. The finding of dead rats or other rodents, frequently indicates that these diseases, especially plague, are prevalent among local animals. This is of importance because the fleas leave the dying rodent and seek new animal hosts, including man.

(d) Lice: The body louse, Pediculus Humanus corporis, carries the epidemic form of typhus fever. Lice also carry the spirochete (Borrelia recurrentis) causing louse-borne relapsing fever, which is found throughout Italy and Sardinia. They also carry the micro-organism Rickettsia quintana, the causative organisms of trench fever.

(e) Ticks: The dog tick Rhipicephalus sanguineus is responsible for the spread of "Boutonneuse" fever, a rickettsial disease that occurs during the summer, and that is found throughout Italy.

(f) Rats: Rats are important in the spread of typhus fever and of plague; they are hosts to fleas infected with these diseases. Their excreta may also contain the spirochete of leptospirosis. The most frequently encountered rats are the sewer rat, Rattus norvegicus, and less commonly, the black house rat, Rattus rattus.

(g) Arachnida: The black scorpions, Euscorpius italicus and Buthus maurus; "the malmignatte", i. e., the spider Latrodectes tredecimguttatus; and the tarantula, Lycosa tarentula; may produce severe toxemia when they bite or sting man.

Poisonous Snakes: The only poisonous snakes found in Italy and Sardinia are said to be members of the viper family. Vipera berus (the common adder), V. aspie (the asp or red viper), and V. ursinii (a small viper found in the mountainous regions) are the indigenous species.

Pests: Bedbugs, mites, non-malarious mosquitoes, gnats, various itch mites, ants, bees, wasps and hornets, are found.

Diseases of Domestic Animals That May Be Transmitted to Man: Certain diseases of domestic animals are endemic in Italy. Three human cases were reported in 1938, and there were over 1,500 horses destroyed because they had the disease. Cattle are subject to bovine tuberculosis, Bang's disease (undulant fever), anthrax, and infestation with tenia saginata. Practically all of the sheep and goats are said to have undulant fever (B. melitonse), and a great number of them have echinococcosis, especially in Albania, where as many as 80 percent of a herd has been found to be infested. Swine are infested with tenia solium, and many of them have trichinosis. The swine variety of undulant fever is common. Dogs, besides harboring many intestinal parasites, are directly responsible for the spread of echinococcosis, and are thought to constitute an important reservoir of leishmaniasis. They also transport the tick vector of fievre boutonneuse.

Control Measures Recommended:

Mosquito Control. Because of the prevalence of malaria, and because of the possibility of epidemics of dengue fever and the introduction of yellow fever, the following mosquito control measures should be instituted immediately upon arrival:

(a) Thorough screening of buildings, such as barracks, mess halls, post exchanges, offices, theatres,

and other buildings occupied at night. Entrance vestibules with a screen door at each end (mosquito lock) will prove valuable in excluding mosquitoes.

(b) The routine administration of suppressive antimalarial drugs will be necessary in the hyper-endemic malarious areas. Supervision by an officer to guard against surreptitious extra-oral disposal should be a routine procedure.

(c) Bed nets (sand fly mesh) should be issued as a part of each man's individual pack so that they will be available immediately upon disembarkation.

(d) The use of head nets, gloves, and other protective clothing.

(e) The use of insect repellents.

(f) Spray-killing of adult mosquitoes with pyrethrum in surrounding habitations, houses and quarters, and in tents, mess halls, barracks, post exchanges, theatres, offices,and other buildings. The Freon aerosol insectitude cylinder with pyrethrum should be used.

(g) Clearing, draining, and filling where possible, and oiling and the application of Paris green wherever indicated.

(h) An educational program inculcating in troops the extreme importance of malaria and the complexity of the many difficult problems involved in its control should be put into effect before troops arrive and should be continued after their disembarkation.

(i) To help prevent the occurrence of either dengue fever or yellow fever, strict anti-aedes policing of buildings and grounds should be carried out, and thorough inspection should be made of all water containers regardless of size or nature.

Sandfly Control. Because of the prevalence of sandflies and sandfly fever, and because of the occurrence of both cutaneous leishmaniasis and kala azar, bed nets should be of sandfly mesh. Troops should not be quartered in the vicinity of ruined or bombed buildings or accumulations of rubble.

Venereal Disease Control. Because of the presence of venereal disease and the many opportunities for sexual contact, an active anti-venereal disease program should be instituted immediately. A sufficient supply of approved prophylactic materials should be provided, and adequately staffed and equipped and easily accessible prophylactic stations should be maintained. The dissemination of educational propaganda and adequate facilities for recreation are of utmost importance.

Louse Control. Because of the presence of louse-borne relapsing fever and the possibility of louse-borne typhus fever, the following precautions are advised:

(a) All personnel should be vaccinated against typhus fever prior to departure. Adequate supplies of vaccine must accompany the force to provide for booster doses at the end of six months or at the end of four months in the event of a severe epidemic.

(b) Complete equipment for delousing clothing and bedding, and facilities for the disinfection of all personnel should be available to all troops in this area.

(c) Troops should be thoroughly instructed as to the urgent necessity for strict personal hygiene and cleanliness whenever and wherever safe water for bathing is available.

Tick Control. Because of the presence of tick-borne typhus fever (boutonneuse fever), troops should be instructed as to the means of protecting themselves against ticks and as to the methods of removing ticks. The danger of becoming infested should be stressed.

Rodent Control. Because of the presence of Weil's disease and flea-borne typhus fever and because of the possibility of plague, all temporary, semi-permanent, and permanent buildings should be of rat-proof construction. Rodent control programs should be carried out. Equipment to eradicate rats is available in all of the port quarantine stations of Italy and Sardinia. Anti-rat campaigns are carried out in the larger cities.

Because of the endemicity of rabies and the occurrence of kala-azar, the keeping of pets, particularly dogs and cats, should be strictly prohibited.

(f) General Sanitation. General sanitary conditions vary markedly throughout Italy. Social Organizations (OND, ONMI, and GIL) and industrial companies are said to have promoted education in hygiene and sanitation. Fascist regime has sponsored housing projects, and the National Association of Autonomous Institutes for the Housing of the People comprised seventy-three building societies in 1935. In 1939 the government claimed that new homes for 530,500 people had been built, and it granted over seven million lire from 1936 to 1939. A special institute built houses for government employees; and the larger industries, through the Confederation of Industrialists, built homes for their employees. The Italian Coal Company erected a "model town" at Carbonia, Sardinia. Factories sometimes maintain baths and

swimming pools.

In small or rural communities, and in the poorer parts of cities, houses lack piped-water and community taps, wells, or streams are used. Raw sewage is emptied into the sea or into streams, and the common method of excreta disposal in small towns is the pit privy; in some areas pan collection of night soil is used. Pollution of the soil is common, as human excrement is sometimes used as a crop fertilizer.

f. Animal Diseases.

Dairy animals frequently have tuberculosis and undulant fever. Animals with trichinosis, echinococcosis, Taenia saginata and Taenia solium infestation, as well as tuberculosis, anthrax, and various forms of Brucellosis, are slaughtered in some areas and are sold for human consumption. The six most widespread animal diseases in 1938-1939 were: afta epizootica, peste e setticemia dei suini, malrossino dei suini, aborto epizootico, colera dei polli, and farcino cripto coccio. Rabbia and tuberculosi bovina were regularly reported in small numbers. Seasonal variations in numbers occurred.

g. Laws.

The laws concerning public health and sanitation procedure are primarily national. Extensive and detailed legislation has been enacted or decreed since 1922. The earliest Fascist laws laid down principles governing the creation and organization of health and sanitation agencies. In 1934 health and sanitation regulations were enacted as Nuovo Testo Unico delle Legge Sanitarie, and more recent laws prescribe, with meticulous detail, procedure, tests, and standards. The evolution of the code regulating nursing and the education of nurses was

mentioned above. New regulations for the pharmaceutical services were decreed in 1938, and on 20 July 1939 an elaborate code prescribed the specifications for new hospital buildings. The preceding year general rules were laid down for the sanitary service and hospital personnel.

A law of 1938 set up "centrali del lette", to be organized under Prefects and Podesta, for the treatment and sanitary distribution of milk. As early as 1927 the national government decreed regulations governing the methods of slaughtering animals and of the refrigeration and transportation of meat. Certificates were necessary to transport either fresh or frozen meat out of the commune. The communal or municipal veterinary was to inspect all slaughter houses and it was ordered that where none existed, one was to be built.

The manufacture and distribution of narcotics, drugs, medicine, and liquor are regulated by national laws. In fact, all of the major requirements for the maintenance of a healthy community are prescribed by international laws. Police laws control prostitution and require segregation and medical examination at weekly intervals. The degree of law enforcement is not known and may well be another matter; at best it depended largely upon the central government and Fascist Party morale. The impact of war may have impaired administrative efficiency.

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