

This report contains the collective views of an international group of experts and does not necessarily represent the decisions or the stated policy of the World Health Organization.

WORLD HEALTH ORGANIZATION

TECHNICAL REPORT SERIES

No. 92

JOINT ILO/WHO COMMITTEE ON THE HYGIENE OF SEAFARERS

Second Report

	Page
Introduction	3
1. Medical advice by radio to ships at sea	3
2. Examination of seafarers to detect tuberculosis	4
3. Medicine chests on board ship	6
4. Maritime aspects of the prevention and treatment of venereal diseases	10
5. Future programme	11
Annex. Maritime aspects of venereal-disease control	12

WORLD HEALTH ORGANIZATION

PALAIS DES NATIONS

GENEVA

JULY 1955

JOINT ILO/WHO COMMITTEE ON THE HYGIENE OF SEAFARERS

Second Session

Geneva, 9-12 April 1954

Members :

ILO :

- Captain O. I. Loennechen, Shipowner ; Vice-President International Shipping Federation, Tønsberg, Norway (*Chairman*)
Sir Richard Snedden, General Manager, International Shipping Federation, London, England (*Rapporteur*)
Captain D. S. Tennant, General Secretary, Navigators and Engineer Officers Union, London, England
Mr. Tom Yates, General Secretary, National Union of Seamen, London, England

Advisers :

- Dr. E. L. Caldwell-Smith, Chief Medical Officer, British Shipping Federation, London, England
Professor G. Guida, Director, International Radio-Medical Centre, Rome, Italy

WHO :

- Dr. P. R. Dutt, Deputy Assistant Director-General of Health Services, New Delhi, India
Dr. K. Evang, Director-General of Health Services, Oslo, Norway
Professor W. M. Frazer, Emeritus Professor of Public Health, University of Liverpool, England (*Vice-Chairman*)
Dr. G. H. Hunt, Assistant Surgeon General ; Associate Chief, Bureau of Medical Services, Public Health Service, Department of Health, Education, and Welfare, Washington, D.C., USA
Dr. J. Lembrez, Médecin Inspecteur divisionnaire de la Santé, Directeur du Service de Contrôle sanitaire, Marseilles, France (*Rapporteur*)

Representatives of the International Telecommunication Union :

- Mr. J. Kunz, Radio Division, ITU
Mr. C. Stead, Radio Division, ITU

Joint Secretaries :

- Mr. T. Bratt, Chief, Maritime Division, ILO
Dr. A. L. Bravo, Chief, Social and Occupational Health Section, WHO

This report was originally issued in mimeographed form as document WHO/Hyg.Sea./8, 11 October 1954.

PRINTED IN SWITZERLAND

JOINT ILO/WHO COMMITTEE ON THE HYGIENE OF SEAFARERS

Second Report *

Introduction

The Committee held its second session in the Palais des Nations, Geneva, from 9 to 12 April 1954.

The session was opened by Dr. P. Dorolle, Deputy Director-General of the World Health Organization. The Committee appointed officers as follows : Chairman, Captain O. I. Loennechen ; Vice-Chairman, Professor W. M. Frazer ; Rapporteurs, Dr. J. Lembrez and Sir Richard Snedden.

The agenda for the session was as follows :

1. Medical advice by radio to ships at sea
2. Examination of seafarers to detect tuberculosis
3. Medicine chests on board ship
4. Maritime aspects of the prevention and treatment of venereal diseases.

1. Medical Advice by Radio to Ships at Sea

1. On this item of the agenda the Committee considered a comprehensive report prepared by the International Labour Office setting out the practice and experience in this matter of various maritime countries. The Committee also had the advantage of (a) information from the International Telecommunication Union, in particular a map showing the number and geographical situation of radio stations providing medical service, and

* The Executive Board, at its fifteenth session, adopted the following resolution :
The Executive Board

1. NOTES the second report of the Joint ILO/WHO Committee on the Hygiene of Seafarers ;
2. THANKS the members of the Committee for their work ;
3. EXPRESSES its appreciation to the International Labour Organisation for its excellent co-operation ; and
4. AUTHORIZES publication of the report.

(Resolution EB15.R14, *Off. Rec. Wld Hlth Org.* 1955, 60, 5)

(b) a series of reports, provided to ILO, on the work of the International Radio-Medical Centre, Rome.

2. It was clear, (a) from the report of ILO, (b) from information supplied on behalf of seafarers by the International Transport Workers' Federation, and (c) from statements on behalf of shipowners made at the meeting, that the consensus of informed opinion is that, in general, the facilities which already exist for medical advice by radio to ships at sea are satisfactory.

3. However, the Committee unanimously desired that the attention of governments should be drawn to the following points.

(a) The desirability of ensuring that medical advice by radio should be available at any hour of the day or night.

(b) The importance of ensuring, through a pre-arranged system of consultants, that the medical advice available should, where necessary, include specialist advice.

(c) The importance of adequate use being made of the radio advice facilities available. This entails that the person on board ship who seeks the advice should understand what sort of information is required by the doctor giving the advice. This can be ensured in various ways, for example, by instruction of sea-going persons and/or by medical guides which indicate clearly and concisely the type of information which will help the doctor in giving his advice).

(d) The importance of having on board, preferably in the custody of the radio officer, an up-to-date and complete list of the radio stations through which medical advice can be given.

2. Examination of Seafarers to Detect Tuberculosis

1. The Committee had before it a report prepared by WHO on this subject which summarized the practices in force in a number of maritime countries and set out a series of proposals for discussion.

2. It was generally agreed that statistical data available do not permit any reliable conclusions regarding the incidence of tuberculosis among seafarers as compared with the rest of the population or—and this was even more important—as compared with those engaged in other industries.

It was, however, also agreed that there are certain features of a seafarer's life which, irrespective of the statistics of tuberculosis, justify a special consideration of the position of seafarers. There is, for example, the fact that seafarers are often cut off for long periods from any possibility of adequate specialist treatment, and that, no matter how good crew accom-

modation on more modern ships might be, ships' crews remain together in comparatively confined spaces whether on or off duty. There is also the fact that in the course of his profession the seafarer may visit ports in countries where the incidence of tuberculosis is well above average.

3. The Committee considered at length the questions of initial examination and periodic re-examination of seafarers for tuberculosis. Without periodic re-examination, effective and timely treatment of the seafarers directly affected and the full protection of other seafarers who might come into contact with them cannot be secured. But not all countries have the same views on compulsory examination. The question is not exclusively a medical one, and there are also psychological objections to treating seafarers as a special class in respect of compulsion where compulsion is not general or usual for other classes of employment.

There was general agreement that, so far as practicable, all new entrants to the shipping industry should be medically examined with special reference to tuberculosis. To achieve this in tuberculosis examination, as in so many other health matters, each country would have to have regard to its own methods and circumstances.

The Committee also agreed that all seafarers should be encouraged, by a continuing campaign of health education, to have periodic X-ray examination of the chest, and such additional health examination as might be available in the country concerned.

4. The Committee therefore considered that governments should be asked to consider the following points :

- (a) It is desirable, where a system does not already exist, for all new entrants to the Merchant Navy to be examined for tuberculosis.
- (b) This examination should cover all ranks and all departments in ships.
- (c) The examination should be carried out by physicians authorized to do so by the authority or organization responsible for operating the scheme of examination.
- (d) Everything possible should be done to prevent new entrants going to sea until the results of the examination for possible tuberculosis are proved to be negative.
- (e) Periodic re-examination should be encouraged by a continuing campaign of health education.
- (f) It is desirable that careful attention should be given to the rehabilitation of seafarers suffering from tuberculosis, so as to enable them, in suitable cases, to return to the sea and, in other cases, to be fitted for other suitable employment.

3. Medicine Chests on Board Ship

1. The Committee had before it a report prepared by WHO on this subject. The report consisted of (a) a summary of the present factual position as regards medicine chests in a number of maritime countries based on information prepared by ILO, and (b) a series of recommendations which had been prepared by WHO.

2. The Committee was especially concerned with this latter section of the report, which it adopted with some amendments. It was decided to recommend that this section should be submitted to governments for their guidance in instituting or revising regulations with regard to medicine chests on their national ships. This section in its final form is as follows :

1. *Contents of medicine chests at sea*

The contents of a medicine chest for use at sea will depend in the first place on whether the ship carries a qualified medical practitioner or not. If a doctor is carried, the need for consideration of minimal requirements is less, since he will presumably know what he requires before the voyage begins and ask for any preparations or equipment which are lacking. Apart from the standard basic preparations like morphine or penicillin, which every practitioner needs, there will be some variation in individual choice, since in many instances a variety of medicaments will serve the same purpose and the practitioner will prefer to use the ones with which he is best acquainted. This does not mean that there is no need for laying down a scale of medicines for ships carrying a doctor, such as the United Kingdom Scale I, but rather that there is less need for international guidance in this matter. In countries where the contents of medicine chests for ships carrying a doctor are not laid down, it is desirable that their contents should be reviewed from time to time and the medicaments and equipment kept up to date.

It is felt that there is much greater scope for international guidance in the matter of medicine chests to be used by unqualified personnel. Here the user is often incapable of drawing up unaided a list of requirements, and the responsibility for providing a suitable list must rest elsewhere — either with the shipowners through their medical adviser, or with the government.

2. *Purposes of the medicine chest*

On ships on which qualified medical aid is not available, the medicine chest will have two purposes. It will contain medicaments that the master (or his designated representative) may use on his own initiative to treat minor illnesses. In addition, it will contain medicaments that are normally administered only by physicians for administration by the master after receiving medical advice and instructions by radio.

3. *Pharmacopoeial standards for contents*

It seems logical in framing a list of medicaments for international purposes to employ the International Pharmacopoeia as a basis. Volume I has been published¹

¹ World Health Organization (1951) *Pharmacopoea Internationalis*, Geneva, vol. I

and it is expected that Volume II, which is to contain monographs on a considerable number of preparations ready for use, will be published in 1955. (It should be made quite clear, of course, that the International Pharmacopoeia is not intended as a substitute for a national pharmacopoeia.)

It cannot be too strongly emphasized that the medicaments which should be carried in the medicine chest depend very largely upon the contents of the medical guide, to which full reference is made in section 8.¹ In the absence of a medical guide, some of the medicaments suggested in the list below might be dangerous.

It should be understood that the suggestions are only for a list of essential medicaments, instruments, etc. which should be carried in ships of all nationalities not having a doctor on board. Those that have been marked with an asterisk should be regarded as optional and not essential.

Any recommendations for contents of medicine chests should also include recommendations as to storage of medicines, separation of dangerous medicaments, and revision of the list from time to time.

4. Suggested minimal list of medicaments

A. Medicaments corresponding to the following preparations described in the International Pharmacopoeia

(a) in Volume I :

- * Antidiphtheria serum
- Antitetanus serum (small quantities)
- Ethanollic solution of iodine
- Tincture of opium (and/or equivalent)

(b) in Volume II :

- * Injection of adrenaline
- * ,, ,, atropine sulfate
- ,, ,, morphine
- * ,, ,, nikethamide
- * ,, ,, procaine hydrochloride
- Tablets of acetylsalicylic acid
- * ,, ,, ascorbic acid
- ,, ,, amphetamine sulfate
- ,, ,, codeine phosphate
- ,, ,, ephedrine hydrochloride
- * ,, ,, glyceryl trinitrate
- * ,, ,, mercurous chloride (calomel)
- ,, ,, proguanil hydrochloride (and/or other anti-malarial drug)
- ,, ,, succinylsulfathiazole (or equivalent)
- ,, ,, sulfadiazine (or equivalent)
- Tincture of belladonna
- Water for injection

¹ See page 10.

* Optional

B. Other medicaments

(a) Preparations for external application :

- An antiseptic for use in wounds
- A disinfectant
- An insecticide
- A liniment
- A lotion for acute dermatitis
- An ointment for haemorrhoids
- An ointment for ringworm, such as compound ointment of benzoic and salicylic acid
- A paste for chronic skin inflammations, e.g., compound zinc oxide paste
- A preparation for burns
- An application of benzyl benzoate for scabies
- * A venereal disease prophylactic package

(b) Preparations for use in the eye :

- An anaesthetic
- An antiseptic
- * Yellow mercury oxide eye-ointment

(c) A preparation for toothache

(d) Preparations for internal use :

- Tablets of barbituric acid derivatives : (a) short-acting and hypnotic ;
(b) long-acting and sedative
- Tablets of hyoscine hydrobromide (scopolamine hydrobromide) or equivalent sea-sickness remedy
- Tablets of sodium chloride (for heat cramp)
- An injection of a repository form of penicillin : procaine penicillin G fortified (procaine penicillin G with crystalline penicillin), or PAM (procaine penicillin G in oil with aluminium monostearate), or benzathine penicillin G
- * An antihistamine preparation
- Medicine to control gastric acidity
- Laxatives

(e) Others

- Olive oil (or equivalent)
- A copy of the *International List of Venereal-Disease Treatment Centres at Ports*¹
- Personal booklets for venereal-disease treatment²

Of the above list, the tablets of barbituric acid derivatives and of codeine phosphate, the injection of morphine, and the tinctures of opium and of belladonna should be kept under lock and key by the master of the vessel, who should also be responsible for the procaine and penicillin.

* Optional

¹ World Health Organization (1951) *International list of venereal-disease treatment centres at ports*, Geneva

² See World Health Organization (1951) *International list of venereal-disease treatment centres at ports*, Geneva, p. 199.

5. *Quantities*

It would be difficult to lay down a minimal scale of quantities which would satisfy a ship's master on all types of voyage. Quite a brief experience of any particular run should enable the man in charge of the medicine chest to give a reasonable forecast of what may be required.

There are three main factors which determine the scale of quantities to be provided :

- (a) length of voyage ;
- (b) number of persons usually carried ;
- (c) areas included in voyage, e.g., malaria-endemic areas.

It will be noted that these are taken into account in many of the national scales laid down.

6. *Surgical instruments, appliances, and equipment*

It is more difficult to draw up a detailed minimal list of surgical stock than to construct one for medicines, because of the wide variation from nation to nation in pattern of instruments and appliances. The list must, therefore, be kept general, without specification of the type of instrument or appliance needed. The following is a suggested list :

- Thermometer
- Hypodermic syringe and needles (suitable both for serums and for other injections)
- Sutures and ligatures (catgut, silkworm gut)
- Suture needles (and possibly a needle holder)
- Haemostatic forceps
- Splinter forceps
- Dissecting forceps
- Scalpel (stainless)
- Surgical scissors
- Tourniquet
- Eye spud
- Eye cup
- Droppers
- Soft-rubber catheters of various sizes
- Splints (wooden, wire)
- Bedpan
- Urine bottle
- Kidney dish
- Feeding cup
- Hot-water bottle
- Stretcher (a type suitable for transferring patients from one part of the ship to another, such as the Neil-Robertson stretcher)
- Bandage scissors
- Wooden applicators
- Bandages
- Gauze
- Cotton wool
- Adhesive tape
- Elastic adhesive bandages
- * Plaster of Paris bandages

* Optional

7. Arrangements for inspection

The question of regular and efficient inspection of medicine chests is important. The arrangements for inspection will vary with national circumstances, but normally the inspection will be carried out either by a pharmacist or by some government-authorized inspector or doctor.

8. Medical guide

The following countries appear to possess an authorized medical guide for the use of the medicine chest by personnel : Belgium, Denmark, Finland, France, Iceland, Netherlands, Norway, Sweden, United Kingdom of Great Britain and Northern Ireland, United States of America. Of these the United Kingdom guide¹ is the most widely used, since it is employed by shipping of Australia, Canada, Ceylon, India, Iraq, Ireland, New Zealand, Pakistan, and the Union of South Africa, in addition to its country of origin.

There are two types of guide which may be envisaged : (1) the comprehensive work, such as the United Kingdom book mentioned above, or the Norwegian or United States volumes ; (2) the brief guide to the use of the medicine chest, such as the one used in Belgium.

The brief guide will require to be supplemented by reference to textbooks of first-aid, nursing and hygiene, if the ship's master is to be able to give the necessary care to his crew. Since ordinary textbooks suitable for nurses and auxiliaries ashore take no account of the unique conditions aboard ship, it is highly desirable that all countries with more than coastal shipping trade should possess a comprehensive standard guide in the language of the country.

It should be borne in mind that the English-speaking maritime world is already sufficiently equipped with admirable guides which, in the opinion of the Committee, merit close consideration by other countries in preparing or revising their own medical guides.

4. Maritime Aspects of the Prevention and Treatment of Venereal Diseases

1. The Committee had before it a report prepared by WHO on this subject.² The report, inter alia, gave up-to-date information about the Brussels Agreement, the International Anti-Venereal-Disease Commission of the Rhine, and the Rotterdam Port Demonstration and Training Centre.

After discussing many aspects of this problem the Committee recommended that the attention of governments might be drawn to the following points :

(a) One of the methods which will contribute to the control of venereal disease is epidemiological contact tracing and treatment of infected contacts. It is appreciated that national practices in this regard vary, and that it is particularly difficult to obtain reliable information among seafarers after calls in foreign ports. However, whatever their short-

¹ Great Britain, Ministry of Transport (1952) *The ship captain's medical guide*, 19th ed., London

² Summarized in the Annex (see page 12).

comings, attempts at contact finding and reporting internationally are better than none.

(b) It appeared from the report submitted to the Committee that there are many port clinics in which the latest treatments for venereal disease are not applied. This should be taken up vigorously and the latest methods introduced.

2. From the report presented by WHO, the Committee noted that the WHO Expert Committee on Venereal Infections and Treponematoses had recommended, as a collateral to the revision of the *International List of Venereal-Disease Treatment Centres at Ports*, that "a report on the epidemiology, therapy, laboratory, and other aspects of venereal-disease control among seafarers be prepared for consideration by ... a special study-group called by WHO ... and by the Joint ILO/WHO Committee on the Hygiene of Seafarers".¹

3. The Committee expressed the hope that the proposed report would also, in co-operation with ILO, deal with the employability of a seafarer during and after treatment.

The Committee approved the suggestion that the proposed report should include recommendations for a model scheme of diagnostic, treatment, and other control practices in syphilis and other venereal infections, and concerning the place of special examinations in a programme of routine periodical health examinations for the detection of those infections.

5. Future Programme

The Committee considered various subjects which might be discussed at its next session.

There was general agreement that one of the main objects of the Committee was to enable all seafarers in every port of the world to secure proper and adequate medical services at moderate charges. With this in mind the Committee adopted the following items for its agenda at the next session :

- (1) Medical services for foreign seafarers
 - (a) Hospitalization (medical and economic aspects)
 - (b) Medical clinics in ports (including the training of medical and allied personnel for the clinics)
- (2) Medical records and reporting

WHO was asked to prepare reports for both items, in consultation, where appropriate, with the ILO.

¹ *Wld Hlth Org. techn. Rep. Ser.* 1953, 63, 37 (section 6)

MARITIME ASPECTS OF VENEREAL-DISEASE CONTROL *

Venereal infections among seafarers

The definition of venereal infections previously included syphilis, gonorrhoea, chancroid, lymphogranuloma venereum (Nicolas-Favre disease) and granuloma inguinale (donovanosis). Recently, however, an increasing incidence of non-gonococcal urethritis has been observed in maritime¹ and other countries, and the WHO Expert Committee on Venereal Infections and Treponematoses, meeting in 1952, included this condition among the venereal infections of importance from an international viewpoint.² Since this development may be of consequence in some countries where venereal infections require definition in maritime health legislation, the Joint Committee may wish to consider this aspect.

An appraisal of the problem of venereal infections during the last few years indicates that in certain parts of the world—Europe, Australia, and the Americas—there has been a general decline since the Second World War. This decline has in many instances been more marked in inland areas than in ports; and in large port cities it has been more marked in the stationary civilian population than among seafarers. Furthermore, venereal infections remain a health hazard in many ports in less highly developed areas at a time when crews and tonnage afloat have increased about 10% since 1946 and when shipping activities in general have increased as a consequence of national economic and industrial development programmes, often assisted by international organizations.

Data on venereal-disease cases diagnosed among seafarers in some European and non-European ports during recent years are given in table I.

International activities by WHO

Since 1949, WHO has been associated with the following maritime venereal-disease projects:

1. *The Social Hygiene Clinic, Karachi, Pakistan.* Technical assistance has been rendered to this clinic for the establishment of a venereal-disease centre and a laboratory to serve the city and the port of Karachi.

* Summary of working paper prepared by WHO

¹ See *Brit. J. vener. Dis.* 1952, **28**, 105.

² *Wld Hlth Org. techn. Rep. Ser.* 1953, **63**, 37

**TABLE I. CASES OF VENEREAL DISEASES DIAGNOSED AMONG SEAMEN
IN CERTAIN PORTS, 1946-52**

	1946	1947	1948	1949	1950	1951	1952 *
Hong Kong							
Cases of venereal diseases :							
Gonorrhoea			108	101	72	67	
Early syphilis			65	91	52	10	
Syphilis, other forms			72	59	80	39	
Other venereal diseases			124	250	142	52	
Total			369	501	346	168	
Osaka, Japan							
Cases of venereal diseases :							
Gonorrhoea						2 196	
Early syphilis						1 912	
Other venereal diseases						496	
Total						4 604	
Port Adelaide, Australia							
Number of seamen examined	131	240	198	164	175	302	125
Cases of venereal diseases :							
Gonorrhoea	17	42	36	14	13	23	9
Early syphilis	19	20	21	13	15	18	14
Syphilis, other forms	4	6	5	8	14	15	3
Other venereal diseases	4	6	5	8	14	15	3
Total	40	68	62	35	42	56	26
Port-of-Spain, Trinidad							
Number of seamen examined	25 762	32 005	31 450	28 865	17 854	21 667	13 367
Cases of venereal diseases :							
Gonorrhoea	2 827	6 238	7 244	4 290	3 446	3 740	1 849
Early syphilis	222	277	270	211	183	113	101
Syphilis, other forms	2 654	2 348	2 382	2 460	1 296	1 287	468
Chancroid	290	363	324	282	95	192	54
Other venereal diseases	341	390	284	196	103	151	119
Total	6 334	9 616	10 504	7 439	5 123	5 483	2 591
Aberdeen, Scotland							
Number of seamen examined	161	186	281	210	129	135	34
Cases of venereal diseases :							
Gonorrhoea	54	69	96	66	37	38	8
Early syphilis	20	33	51	24	9	10	1
Syphilis, other forms	3	6	8	11	5	7	1
Other venereal diseases	4	7	13	12	6	—	—
Total	81	115	168	113	57	55	10
Helsinki, Finland							
Cases of venereal diseases :							
Gonorrhoea		159	234	195	238	145	62
Early syphilis	2	22	23	11	10	4	1
Total		181	257	206	248	149	63
Marseilles, France							
Number of seamen examined	11 754	11 818	11 228	10 488	9 073	7 266	7 788
Cases of venereal diseases :							
Gonorrhoea	260	188	136	167	194	163	158
Early syphilis	106	75	59	24	25	17	16
Syphilis, other forms	162	99	72	30	24	42	36
Other venereal diseases	45	38	26	19	16	11	13
Total	573	400	293	240	259	233	223

* All figures are incomplete.

2. *The further study of the projected revision of the Brussels Agreement for the treatment of seafarers in ports*
3. *The International Anti-Venereal-Disease Commission of the Rhine*
4. *The Rotterdam Port Demonstration and Training Centre*
(These projects have been discussed in the document from which this summary is taken.)
5. *Diagnostic and treatment methods*

- (1) *Port clinics*

The first session of the Joint ILO/WHO Committee on the Hygiene of Seafarers recommended that at the time the "International list of venereal-disease treatment centres" was revised actual diagnostic and treatment methods applied in different ports of the world should be studied.¹ It is intended that the list published by WHO in 1951 shall be revised in 1954/55 and that the study shall go forward.

However, in order to explore preliminarily the best way in which such information might be collected and in order to obtain data which might already illustrate present practices in this field, the Rotterdam Demonstration Centre sent questionnaires on various maritime venereal-disease problems to a series of port clinics and venereologists in various parts of the world. From a study of 182 replies, representing a 30% sample, from 52 countries, the following observations are made in regard to syphilis:

(a) Darkfield microscopy facilities were not available in 20% of the port clinics; a variety of laboratory methods (a total of 23) were being used in the serodiagnosis of syphilis. In 65% of the clinics, more than 48 hours was required to obtain the results of serological tests.

(b) Penicillin was used exclusively in the treatment of early syphilis in 16% of the port clinics; in 5% arsenicals and bismuth were used exclusively. Combined penicillin-metalchemotherapy was used in many clinics with treatment lasting over long periods of time; repository penicillin preparations (PAM) were used only in few clinics and the rapid intensive course with a large initial epidemiological "insurance dose" was infrequently applied.

The laboratory data will not be discussed in the present document, but the observations on therapy practices in ports are of great interest since they are in sharp contrast to the results of a recently concluded (1953) WHO survey of treatment practices among a representative selection of

¹ *Wld Hlth Org. techn. Rep. Ser.* 1950, 20, 6

leading venereologists in 294 central university and other venereal-disease clinics throughout the world. More than 70% of the participants in this survey used penicillin alone in the form of repository PAM preparations in early syphilis, and many were adopting the use of an initial large epidemiological penicillin dose, thus taking full advantage of the particular quality and curative powers of PAM preparations. This survey confirmed the trend recorded by the WHO Expert Committee on Venereal Infections already at its third session in 1949,¹ and on which the following recommendation was made by the Expert Committee on Venereal Infections and Treponematoses in 1952: "For the individual clinic-patient with early infectious venereal syphilis, a large initial dose of PAM ('insurance dose') should be given on the day of diagnosis to assure reasonably effective therapy should the patient not reappear for further treatment."²

If the sample study of treatment procedures in ports referred to above is representative of a wider general picture, the following consideration might be justified:

- (a) that there is often a significant discrepancy between medical practices in peripheral venereal-disease clinics in ports on the one hand and university clinics and other central venereal-disease clinics on the other hand;
- (b) that many port clinics are not as yet taking advantage of available intensive modern methods of syphilis treatment based on non-toxic repository preparations (PAM), which are particularly suitable for seafarers in view of the inherent itinerant nature of their profession.

The new outlook in syphilotherapy has had important direct and indirect consequences, since the actual drug-cost per patient completing penicillin treatment of syphilis is 15-20% lower than metalchemotherapy, in addition to permitting the patient to complete the treatment on an ambulant basis within the span of days rather than weeks or months as was previously the case. The total case-cost to clinics has therefore also been reduced, since fewer visits are now required. Practices vary, but in the merchant marines and navies of some maritime countries cases of early syphilis are now treated on an out-patient basis, the patient being retained aboard ship on the sick list for a few days only, since infectiousness will be suppressed effectively within 24 to 48 hours and since by-effects of penicillin are rare and much less serious than those of metalchemotherapy. Absenteeism and man-days lost in port have thereby been significantly reduced and rehabilitation and the return to ship of seafarers will in any case be accelerated as a consequence of the introduction of foreshortened

¹ *Wld Hlth Org. techn. Rep. Ser.* 1950, **13**, 19

² *Wld Hlth Org. techn. Rep. Ser.* 1953, **63**, 39

penicillin treatment with repository preparations. These developments have been summarized as follows by the WHO Expert Committee on Venereal Infections and Treponematoses: "As a result of investigations carried out on foreshortened treatment schedules with penicillin in syphilis... the treatment of seafarers with penicillin has reduced the period of disability ashore and has increased employability in an important manner. The introduction of PAM represents, therefore, a direct economic gain for seafarers, shipowners, and governments."¹

Considering the preliminary findings of the survey at the Rotterdam Demonstration Centre, it would appear that from the point of view of maritime public health the wider use in the future of modern methods of syphilotherapy in ports would be highly desirable, and that further national and international efforts and a more rational and uniform practice in ports might be fostered.

(2) *Aboard ship*

The simplification of treatment of venereal diseases has on the other hand led to an increasing tendency for emergency treatment to be undertaken aboard ship by lay personnel without verification of diagnosis when symptoms appear at sea. This practice is being facilitated by the carrying of penicillin supplies for many medical purposes aboard. In some nations treatment of urethral discharge (gonorrhoea) is authorized in the ship's medical handbook, while in most instances penile sores should await diagnosis and treatment when arriving in port, unless a ship's surgeon or trained medical personnel is available aboard. Recommended procedures vary, however, among different maritime nations, and the WHO Expert Committee considered that patients having penile sores or gonorrhoea while at sea should under any circumstances be instructed to consult a venereal-disease treatment centre or a qualified physician at the next port of call, in view of the importance to the health of seafarers of medical control examinations and follow-up.

6. *Prophylaxis*

There appear to be differences in the definition of the terms "prophylaxis", "prevention", etc. in English-speaking countries; this problem is rendered more difficult by the different and broader meaning usually attached to the corresponding term in French. In the present document the terms are used in the following sense:

Prophylaxis: measures prior to exposure, intended to prevent possible transfer of venereal contagion by subsequent sexual contact.

¹ *Wld Hlth Org. techn. Rep. Ser.* 1953, 63, 36

Prevention : measures following sexual contact, intended to prevent a possibly transmitted venereal infection from establishing itself in the individual.

These measures would include chemical, mechanical and other procedures.

Prophylactic treatment consists of administration of tablets or injections prior to exposure, in order to protect the individual should he be exposed to venereal contagion ("pre-exposure treatment").

Abortive treatment is used for the same purpose after exposure, presumably in the incubation period of the disease.

The Committee recommended at its first session that WHO should study the type and availability of "individual kits" and other types of prophylaxis in the light of recent developments and should present information on these questions at a subsequent meeting of the Committee.¹ The survey carried out by WHO on the contents of medical chests aboard ship did not give any information of consequence on this point, nor does the study by the Rotterdam Demonstration Centre permit any conclusions in regard to availability of prophylactic or preventive facilities in major ports, although it is undoubtedly in the field of prophylactic and preventive treatment that "recent developments" have taken place.

Several antibiotics have been demonstrated to be effective in the protection of the individual and the prevention of outbreak of disease as well as in the treatment of the venereal infections. Thus aureomycin is effective to a greater or lesser extent in all the usual venereal infections, but is prohibitively expensive for general use. Penicillin, which is effective in syphilis and gonorrhoea, remains the most inexpensive and effective of the antibiotics; its degree of prophylactic, abortive, and curative usefulness when administered in tablet form and by intramuscular injection in these two infections is indicated in table II.

TABLE II. PROPHYLACTIC, ABORTIVE, AND CURATIVE EFFICACY OF REPOSITORY PENICILLIN (PAM) IN SYPHILIS AND GONORRHOEA

Form in which administered	Prophylactic treatment Pre-exposure		Abortive treatment Post-exposure (incubation)		Curative treatment Manifest disease	
	Syphilis	Gonor- rhoea	Syphilis	Gonor- rhoea	Syphilis	Gonor- rhoea
Long-acting tablets	Uncertain	Effective	Uncertain	Effective	Uncertain	Effective
Intramuscular injections	Uncertain	Effective	Effective	Effective	Effective	Effective

¹ *Wld Hlth Org. techn Rep. Ser.* 1950, 20, 8 (section 1.2)

In 1948, it was shown by Eagle et al.¹ that the incidence of gonorrhoea was significantly reduced from 508 to 105 cases per 1000 men per year, or—as better expressed—from 11.9 to 1.8 cases per 1000 shore liberties in sizable navy groups, by using penicillin tablets preventively a few hours after exposure. Campbell et al.² subsequently showed that this procedure was effective even if applied as long as 15 hours after exposure. Babione et al.³ in 1952 recommended, following large-scale trials over three years in the United States Navy, that this procedure be used as a matter of routine in areas of high gonorrhoea incidence, but only with proper indoctrination as to the limitations of the procedure. This reservation was undoubtedly based on the need for cautious long-term observations under medical supervision, since the possibility that the penicillin dosage used might alter the course of simultaneously acquired syphilis, the question of possible by-reactions from frequent peroral use of the antibiotic, and the potential development of penicillin resistance in the gonococcus required investigations. So far, the procedure has shown no indication of altering or masking the evolution of primary or secondary syphilis in those it failed to protect, no increase has been observed in the frequency of latent syphilis, less than one penicillin reaction per 1000 treatments was found⁴ in a series (23 544 instances) of United States Navy men given 500 000 units by mouth, and no evidence of penicillin resistance developing in the gonococcus was observed.³

No information on the actual prophylactic effect of the use of penicillin tablets in syphilis (prior to exposure) has been published. It is, however, clear that the degree of protection both in syphilis and gonorrhoea is dependent on the penicillin concentration in the blood and tissues at the time of exposure as well as on the subsequent duration of the penicillinaemia, factors which for various reasons are considerably more variable under pre-exposure conditions than under post-exposure conditions. Similar considerations also apply to injections of penicillin prior to exposure. In addition to being impractical, the latter procedure would usually have to be carried out under medical supervision.

The WHO Expert Committee on Venereal Infections and Treponematoses in studying this question indicated that it did not favour indiscriminate use of penicillin for prophylactic or preventive purposes—either peroral or by injection—among seafarers.⁵ In view of the extremely

¹ Eagle, H. et al. (1948) *Publ. Hlth Rep. (Wash.)*, **63**, 1411

² Campbell, V. W. H., Dougherty, W. J. & Curtis, C. E. (1949) *Amer. J. Syph.* **33**, 437

³ Babione, R. W., Hedgecock, L. E. & Ray, J. P. (1952) *U.S. armed Forces med. J.* **3**, 973

⁴ White, C. B. (1953) *U.S. armed Forces med. J.* **4**, 1606

⁵ *Wld Hlth Org. techn. Rep. Ser.* 1953, **63**, 36

high cost of routine use of penicillin tablets for preventive purposes in relation to the number of cases actually prevented, it would appear that these should at the present time be confined to special groups under medical supervision in areas of high prevalence of venereal infections.

Appendix

**SIGNATORIES TO THE BRUSSELS AGREEMENT OF 1924
AND AUTHORITIES HAVING NOTIFIED WHO OF AVAILABILITY
OF FREE VENEREAL-DISEASE TREATMENT**

Ratifications and accessions	Countries or territories which have notified WHO that free treatment is provided in certain port clinics
Algeria	Argentina (out-patients)
Australia	Barbados
Bahamas	Bermuda (out-patients)
Belgian Congo	Brazil
Belgium	Brunei
British Guiana	Bulgaria
British Honduras	Burma (out-patients)
British Solomon Islands	Dominican Republic (restricted to syphilis and gonorrhoea)
Cameroons	Ecuador (out-patients)
Canada	Egypt
Ceylon	Gold Coast
Chile	Guatemala
Cyprus	India
Denmark	Iran
Falkland Islands	Lebanon
Fiji	Malaya, Federation of
Finland	Malta
France	Nigeria (out-patients)
French Equatorial Africa	Pakistan (out-patients)
French Guiana	Panama
French Settlements in India	Paraguay
French West Africa	Philippines
Gambia	Portugal (out-patients)
Germany (certain ports)	Sarawak
Gibraltar	Tanganyika
Gilbert and Ellice Islands	Thailand
Greece	Tonga
Grenada	Uganda
Guadeloupe	Union of South Africa (out-patients)
Hong Kong	United States of America
	Uruguay
	Venezuela
	Zanzibar (out-patients)
	Total : 33
Total : 59	