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**JOINT ILO/WHO COMMITTEE
ON OCCUPATIONAL HEALTH**

Third Report

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WORLD HEALTH ORGANIZATION

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Third Session

Geneva, 18-23 March 1957

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JOINT ILO/WHO COMMITTEE ON OCCUPATIONAL HEALTH

Third Report *

The third session of the Joint ILO/WHO Committee on Occupational Health was held at the International Labour Office, Geneva, from 18 to 23 March 1957.

Professor E. C. Vigliani was unanimously elected Chairman of the Committee ; Professors L. J. Goldwater and R. E. Lane were appointed Rapporteurs.

The agenda of the Committee, as approved by the two organizations, was as follows :

1. Training of physicians in the field of occupational health :
 - A. Special knowledge required for occupational health practice
 - B. Teaching of occupational health
2. Scope and organization of occupational health institutes
3. Criteria for the recording of medical causes of absenteeism by occupational health services.

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

The Executive Board

1. NOTES the third report of the Joint ILO/WHO Committee on Occupational Health ;
2. THANKS the members of the Committee for their work ;
3. EXPRESSES its appreciation to the International Labour Organisation for its collaboration ; and
4. AUTHORIZES publication of the report.

(Resolution EB20.R11, *Off. Rec. Wld Hlth Org.*, 1957, 80, 4)

1. TRAINING OF PHYSICIANS IN THE FIELD OF OCCUPATIONAL HEALTH

A. Special Knowledge Required for Occupational Health Practice

Introduction

In the course of its first session, held in 1950, the Joint ILO/WHO Committee on Occupational Health adopted the following definition :

“ ‘ Occupational health ’ should aim at : the promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations ; the prevention among workers of departures from health caused by their working conditions ; the protection of workers in their employment from risks resulting from factors adverse to health ; the placing and maintenance of the worker in an occupational environment adapted to his physiological and psychological equipment, and, to summarize, the adaptation of work to man and of each man to his job.”¹

With this definition in mind, the Committee outlined the general knowledge every physician requires to take account in his general practice of the ever-increasing problems of modern industrial society and also indicated the particular knowledge required for specialization in occupational health.

The idea of considering a man in relation to his environment is not a new one to medicine. It follows the highest biological principles and is in the Hippocratic tradition which enjoins us to seek “ the relationship of man with his way of life and the influence of every thing on every man ”.

The industrial society of the present day imposes its own pattern of stress and introduces new medical problems directly or indirectly associated with the industrial environment. Medicine has, therefore, been obliged to widen its scope in order to take into consideration the complex problems which link the health and welfare of man with his surroundings.

It is for this reason that some knowledge of occupational medicine should be a part of the equipment of every physician so that in his practice he will not fail to appreciate the possible influence of occupation on the health status of those who seek his professional services.

Some physicians, moreover, may have direct responsibility for the protection of the health of employed groups, either by providing a part-

¹ Unpublished document WHO/Occ.Health/2, p. 3

time service in industrial undertakings, or by performing these duties on a full-time basis.

The part-time industrial physician requires more extensive knowledge than does the general practitioner of the problems met with in the working environment, particularly of those problems arising in the branch of industrial activity with which he is or will be connected.

The full-time industrial physician should be a specialist and therefore have a comprehensive grasp of all occupational health problems. The whole of his work is devoted to promoting and maintaining the health of the workers in industry; thus he should know in detail the mechanism of the inter-relations between work and man, and the means of controlling and combating the diseases and accidents arising in or influenced by occupation.

To achieve this end he should be able to assess the influence of the working environment on common diseases, absenteeism, labour turnover, and also occupational factors leading to fatigue, accidents, failure of adaptation, psychoneurosis and occupational diseases. He should realize that the worker is at the same time a wage earner and a member of a social group, and he should understand the relation of these factors to the physical and mental health of the people for whom he is responsible.

Even if he is not generally expected to deal personally with technical matters, the full-time industrial physician should nevertheless have enough knowledge of them in order to estimate correctly the job requirements in relation to physiological and psychological capacities of the worker, and also to collaborate with the management in improving working environment and working conditions.

Moreover, the specialist in occupational medicine should have a clear idea how occupational medicine is integrated with other branches of medicine and technology if he is to benefit from the experience and opportunities offered and make an effective contribution to the total health of the community.

Therefore, specialization in occupational medicine is at the same time a specialization of knowledge and a specialization of aims, objectives and interest. It is essentially a question of a method of approach to the investigation of the medical problems of individuals or groups at work and to their solution from the social and preventive point of view.

Inside and outside the factory, the industrial physician should cooperate with all persons who play a part in the protection of the health of workers. He should be prepared to seek advice from occupational health institutes or centres and from any other individual or organization which may be able to provide him with help. Above all, he should never forget

that he is a physician, and as such his primary concern is the welfare of those for whose health he is responsible.

Although each trade has its own problems of health and welfare, it is in the on-the-spot investigation of the special problems of the working population that the most effective medical, technical and social solutions can be found.

The Committee recognized that all physicians should have a certain knowledge of occupational health, the degree depending on the extent to which they are engaged in these activities. Three categories may be distinguished :

- (a) general knowledge of occupational health required by *every physician* ;
- (b) knowledge required by the *part-time industrial physician* ;
- (c) knowledge required by the *specialist in occupational health*.

(a) General knowledge required by every physician

Every physician should :

- (1) be aware of the physical and mental stresses of modern industry ;
- (2) be acquainted with the common occupational diseases ;
- (3) understand the possible effects of employment on the natural history of the common non-occupational diseases ;
- (4) be familiar with the organization of occupational health in his own country and with his legal obligations.

This knowledge can be acquired through undergraduate teaching as indicated below under the heading " Undergraduate education " (page 10).

(b) Knowledge required by the part-time industrial physician

For the purpose of this report the expression " part-time industrial physician " concerns those physicians whose activity in the field of occupational health is of a subsidiary character. The knowledge required by these physicians should include the following :

- (1) orientation and aim of an occupational health service and its relationship to general medical services ;
- (2) the organization and function of industry and the role of the physician ;
- (3) treatment at the place of work ; problems of organization and training ;

- (4) the place of the nurse in industry ;
- (5) the purpose and extent of medical examinations ;
- (6) principles of industrial hygiene and toxicology ;
- (7) diagnosis, prevention and treatment of common occupational diseases ;
- (8) records and reports in industry ; methods and uses ;
- (9) accidents and their prevention :
- (10) the care of special working groups (young workers, old workers, women and handicapped workers) ;
- (11) relationship between employment and common non-occupational diseases ;
- (12) sources of assistance and information : specialists, organizations, literature.

This knowledge can be given through post-graduate teaching as indicated below under the heading " Postgraduate education " (page 12).

(c) Knowledge required by the specialist in occupational health

This knowledge should as far as practicable include the following :

(1) *Principles of occupational medicine* : (a) historical background ; (b) scope and aims ; (c) general resources for occupational medicine, public health and medical care ; (d) structure and function of industry ; (e) industrial and labour policies and relations.

(2) *Industrial physiology* : (a) muscular and mental work ; energy expenditure ; (b) fatigue, monotony, rhythm of work and rest pauses ; (c) physiological organization of work, human engineering ; (d) nutritional problems.

(3) *Industrial hygiene* : (a) environmental hygiene ; (b) hygiene of premises : temperature and humidity, ventilation, lighting, noise ; (c) air pollution and harmful types of exposure : gases, vapours, fumes, dusts and their control ; maximum allowable concentrations ; (d) personal hygiene and personal protective equipment ; (e) sanitary facilities.

(4) *Occupational pathology and toxicology* : (a) general principles of industrial toxicology ; (b) diseases due to : chemical agents, physical agents, dusts, biological agents ; (c) occupational cancers ; (d) occupational skin diseases ; (e) occupational allergies.

(5) *Special medical problems* : (a) specific pathology by trade or branch of industry ; (b) relationship between employment and non-occupational

disease ; (c) methods for assessment of disability ; (d) **medical aspects** of vocational rehabilitation ; (e) psychoneurosis related to work or injury.

(6) *Accidents at work* : (a) causes of accidents ; (b) principles of **accident** prevention ; (c) first aid and treatment ; (d) rehabilitation of the **injured** worker.

(7) *Occupational psychology* : (a) psychological appraisal, and assessment of aptitudes ; (b) mental health and human relations.

(8) *Preventive medicine* : (a) pre-employment and periodic medical examinations ; (b) health counselling ; (c) vaccinations and immunizations ; (d) the care of special working groups (young workers, old workers, women and handicapped workers) ; (e) leisure, sports, addictions (alcohol, tobacco, etc.) ; (f) education and propaganda.

(9) *Industrial technology* : (a) work organization ; (b) industrial processes ; (c) job analysis.

(10) *Medico-legal problems, social security* : (a) labour legislation ; (b) social insurance ; (c) workmen's compensation ; (d) reporting and notification ; (e) medical ethics ; (f) liaison with other physicians and with health organizations.

(11) *Organization and administration* : (a) organization of occupational health services ; (b) nursing services in industry ; (c) administrative and economic problems ; (d) medical records and reports.

(12) *Statistical methods*.

This knowledge can be acquired through graduate education as indicated under this heading below (page 11).

B. Teaching of Occupational Health

Introduction

To an ever-increasing extent, the practice of any branch of medicine is becoming a matter of team work rather than of individual responsibility. Nowhere is this more true than in the field of occupational health.

This concept is clearly brought out in the preceding section. It is evident that the physician alone cannot be expert in all phases of **occupational** health. Among the other professions which play an **important part** are engineers and chemists, as well as nurses, psychologists, **physiologists**, social scientists, vocational counsellors, administrators and **public health** officers. In this report, however, no attempt is made to discuss **the training** of occupational health personnel other than physicians.

Since it is logical to look to the physician for leadership in all matters relating to health, it is proper to expect the occupational health physician to be adequately trained to assume this role. This does not imply that he must master all the technical knowledge required in the various aspects of occupational health. It does mean, however, that the specialist in occupational medicine must be sufficiently familiar with the place and the potential contribution of his co-professionals to permit him to serve as the leader of the occupational health team. In addition, he must be a competent physician, unless his position is purely one of administration. In any event, he must have mastered the principles of diagnosis, treatment and prevention, particularly as applied to occupational illness among individuals or groups.

He must also be thoroughly conversant with methods of assessing the ability of workers to do various jobs, he must understand the basic principles of public health as they apply to groups of employed persons, and he must know how to make the most effective use of medical resources by maintaining close liaison with hospitals, private physicians and medical and health organizations. Furthermore, he must understand this application of medicine to other working groups as well as those engaged in factories and mines. He must understand the occupational health problems of commercial establishments, public utility undertakings, educational institutions and even of the self-employed person. He must appreciate the importance of a co-ordinated approach to the health care of individuals and of family units, and of achieving liaison between the medical services of industry and those provided elsewhere in the community.

Levels of education

Consideration of the subject of education of physicians in occupational medicine logically divides itself into three parts : undergraduate, graduate and post-graduate.

Undergraduate education is that of the medical student in preparation for the medical qualification (doctor of medicine, bachelor of medicine or the equivalent).

Graduate education may be defined as organized training, usually of one year or more, given at or under the direction of a recognized institution and leading to an advanced academic degree or some other special diploma. It presupposes the possession of a medical qualification.

Post-graduate education is usually less formal than graduate education and of shorter duration. It is not necessarily obtained through a recognized institution and is commonly provided through short, intensive courses, part-time courses, seminars, "refresher" or review courses and in other

more or less informal ways. It does not lead to an academic qualification but may secure the award of some form of certificate.

General principles

Before discussing education at the various levels in any detail, it seems desirable to state several general principles :

(a) The purpose of undergraduate education is not to produce specialists.

(b) The specialist in occupational medicine may have different duties and different responsibilities depending on where he practises, the nature of industrial development in his area, the availability of other medical resources, and other factors.

(c) No single method or type of instruction can be expected to be suitable for all parts of the world and at all times.

(d) If occupational medicine is to develop successfully as a specialty, it must offer a career as attractive as that of other branches of medical practice in terms of professional standing, conditions of work, and rewards.

Undergraduate education

Anyone familiar with medical education is aware of the crowded nature of the curriculum and of the competition between medical school departments for teaching time. The major objective of undergraduate education is to establish a firm foundation upon which the physician can build his future development. Over-emphasis of any specialty is undesirable since it may be at the expense of time which should more properly be devoted to basic principles. This applies to occupational medicine as well as to other subjects.

The most appropriate time to present the major part of instruction in occupational medicine is probably during the penultimate or final year of the medical course. Although in many schools the material is included as part of the teaching in public health, forensic medicine, internal medicine, preventive medicine or social medicine, the most satisfactory arrangement is to have the teaching done by a qualified professor of occupational medicine. Unfortunately there are still many medical schools, even in highly industrialized countries, which have no institute or department of occupational health or preventive medicine or where teaching of occupational health is not provided in the orthodox hygiene department.

The content of the teaching should be such as to provide the knowledge outlined above under paragraph (a) of section 1 A (page 6). The following points might be covered :

- (a) definitions, concepts and scope of occupational health, industrial medicine and industrial hygiene ;
- (b) historical background, both global and local ;
- (c) important legislation relating to occupational health, labour laws, workmen's compensation laws ;
- (d) governmental and other administrative patterns and activities in occupational health ;
- (e) professional practice of occupational medicine in government, private industry, consultation, teaching and research ;
- (f) relationship of occupational health to general public health ;
- (g) the common occupational diseases ;
- (h) basic principles of industrial hygiene and toxicology ;
- (i) applied physiology and psychology ;
- (j) special problems, stressing those of greatest local importance.

Although it is not necessary to present the material in great detail, at least 12 hours of formal instruction should be given. An effective approach may be made through the clinical teachers by holding joint clinical conferences with the departments of medicine, surgery and pathology. Additional instruction may be provided by clinical and pre-clinical teachers on the occupational health aspects of their specialties.

Graduate education

The major objective of graduate education is to train specialists. The nature of specialist practice will vary from place to place. Generally speaking, however, training in internal medicine and public health is essential as a background.

Internal medicine is important since it emphasizes the principles of diagnosis, which is necessary if occupational diseases are to be recognized and differentiated from those of non-occupational origin. This must be a first step in any preventive programme.

Public health training is important because it orients the physician to think in terms of group phenomena of health and disease.

The subject matter of any graduate course should be as outlined above in paragraph (c) of section 1 A (page 7). Appropriate emphasis must be given to the particular problems the newly-trained physician will encounter. Industrial toxicology and the diagnosis, treatment and prevention of occupational disease call for particularly intensive study. A useful training

technique is the use of actual cases or case records, as is done in the clinico-pathological conference.

Field observation is of great value to the graduate student. Since it may be misleading and frustrating for him to see only the best industrial health programmes, he should have an opportunity to observe the more common and less perfect examples. Actual participation in some form of occupational health activity is a valuable teaching experience. This may be a survey, a small research problem, or active work with a physician in an industrial establishment.

A one-year course in occupational health, preferably in an occupational health institute where this is affiliated to a university, will usually allow sufficient time for the plan described. The addition of a period of six months to a year of practice in an active occupational health programme is very desirable.

A further important method of graduate education is the provision of "fellowships" extending over two or three years in teaching or research institutions of occupational health.

Post-graduate education

Despite the fact that post-graduate education is less formal than graduate education, it is nevertheless extremely important. The teaching should aim at providing some or all of the knowledge outlined above in paragraph (b) of section 1 A (page 6). Its principal purpose is to improve and maintain the competence of the practising physician. Organized post-graduate education is of two main types :

- (a) courses to introduce doctors to medical work in industry so that they may use the time they devote to this work to the best advantage ;
- (b) refresher courses, seminars, lecture series, clinical instruction, or correspondence courses, directed to the practising industrial physician.

For some physicians the only possibility for post-graduate education is to read current medical publications ; others may have opportunities to attend medical meetings or lectures.

The continuing education of the general practitioner is a special problem. Most of these physicians, at least in some countries, work long hours daily and often seven days a week. Often there is no other doctor to care for their patients if they should be away. Unless subsidies and substitutes are provided, they cannot reasonably be expected to take time away from their work to participate in post-graduate education. In large cities, however, general practitioners may be able to spend an hour or two a week for several

weeks receiving formal instruction at a university or institute. In certain circumstances it may be more practicable to send teachers to the students. This, also, obviously requires some form of subsidy. Regardless of the method used, success is unlikely unless there is sufficient professional or economic incentive.

In concluding its examination of this item on the agenda, the Committee drew attention to the increasing needs and demands of industry for education in occupational health of doctors at all stages. It therefore decided to invite the World Health Organization to seize every opportunity of promoting, in close collaboration with the International Labour Organisation, the development of the educational facilities described in this report.

2. SCOPE AND ORGANIZATION OF OCCUPATIONAL HEALTH INSTITUTES

Introduction

The increasing complexity of modern industry, involving the use of new materials, processes and production methods, has given rise to countless new problems. Industry has reacted to the problems of production by creating technological research organizations where day-to-day problems as well as fundamental research can be dealt with by means of collaboration between technical and scientific experts.

Occupational health problems, on the other hand, have generally been dealt with by a variety of uncoordinated services. There is, however, a growing appreciation of the need for a scientific approach involving the co-operation of physicians, engineers, chemists, physicists and other related professions.

As it is rare to find an organization which has on its staff a sufficient number of specialists competent to deal with all the problems arising, institutes have been established whose members, trained to appreciate each other's problems, work as a team with the common purpose of safeguarding the health of workers.

Even in highly industrialized countries this development is comparatively recent, as the first institute of this type, the Clinica del Lavoro in Milan, was founded in 1904. It would be wise for the countries which only recently have begun to industrialize to take advantage of the experience of others and consider the establishment of institutes of occupational health in the initial stages of their industrialization. The Committee noted in this connection that both WHO and ILO had promoted the establishment of regional and national institutes providing amongst other things teaching

and services in the field of occupational health. It considered that this action was extremely useful and should be encouraged.

Definition

For the purpose of this report, an occupational health institute is defined as "any organization in which specialists in the various aspects of occupational health act as a team to conduct research and teaching and to provide service in this field".

Functions

The main functions of an institute of occupational health should be research, teaching and service.

Research

The research work performed by an institute may be divided into two groups: (a) basic research; and (b) applied research.

Basic research is already being carried out in many countries. Unfortunately, international exchange of information is not easy, due to language and other barriers, but with some effort this situation could be improved.

Applied research should concern itself with problems of local importance selected by the staff of the institute in collaboration with advisory committees. Research projects may be referred to the institute directly by industry, health authorities, labour inspection departments, trade unions, social security institutions and other agencies.

Teaching

The institute should serve as a centre for teaching occupational health; it should also assist and promote teaching outside the institute in technical and vocational schools.

This function can be divided into the following sections: (a) graduate teaching; (b) undergraduate teaching; (c) post-graduate teaching; (d) education of the public.

(a) *Graduate teaching.* This includes training of specialists for all aspects of occupational health work. The training should be given mainly in the institute, with sufficient field experience, and should be directed at the following groups: industrial physicians; industrial nurses; industrial hygiene and safety engineers, chemists and physicists; occupational psychologists and physiologists; social workers.

In order to engender the team spirit there is advantage in holding joint sessions for members of different disciplines. Thus each professional group

may become aware of the problems and potential contributions of the others.

(b) *Undergraduate teaching.* This will consist in providing *basic knowledge* in occupational health to undergraduates, not only in the medical faculty, but also in departments of chemistry, physics, engineering, nursing and social sciences.

(c) *Post-graduate teaching.* This will include *refresher* or *special courses* for the groups mentioned in (a) above and perhaps others connected with occupational or public health work. The institute should have close links with associations of industrial physicians, nurses, hygienists and safety officers. These links may be strengthened by the publication of a professional journal in collaboration with these associations. A good library, which also serves individuals and organizations outside the institute, is an additional important instrument in educational work.

(d) *Education of the public.* The task in this field is to distribute general information by giving lectures, showing films, disseminating educational material, and by organizing meetings and courses for interested groups. This purpose may also be served by articles in popular journals, broadcast talks and television appearances, where possible.

Service

It is important that the institute should keep in touch with the health problems of the various occupational groups. For this reason it is undesirable for it to concentrate solely on academic activities to the exclusion of practical service. The contacts thus made disclose new problems for research and keep the staff in close touch with current occupational health needs.

An institute of occupational health should be prepared to make available its facilities, equipment, personnel and skills, upon request, to government authorities, employers and trade unions in order to investigate specific occupational health problems and give advice for their solution. The institute can help government authorities in developing standards to be incorporated in legislation.

Affiliation

The institute may be affiliated to one of a number of centres, each of which has its advantages and disadvantages.

Institute associated with a university or medical centre

The advantages of this type of affiliation are that there exists a firmly established tradition of teaching and research and the staff has easy access

to experts in other professional fields. A student body is already available for instruction, and inter-faculty co-ordination can readily be arranged. Financial support may be available from the university and grants from other sources may be more readily obtained. Interference from external interests can be avoided and freedom of thought and publication is assured. Finally, the institute will enjoy the prestige of the parent organization and will benefit from its capacity to grant degrees.

The disadvantages of this system are that there may be competition with other university departments for funds, prestige and recognition, and university policies may place undesirable restrictions on activities, particularly as regards the function of service.

Institute formed as part of a government department

The major advantage of this affiliation is that this may be the only means of obtaining financial support. Official status is conferred and effective inter-agency co-operation can be developed.

The disadvantages are that there may be undesirable political interference and inter-agency jealousies. Government regulations may impose limitations on the field of action and there may be a fear on the part of industry that the institute might act as an enforcement agency. Financial arrangements are not likely to permit of the necessary flexibility.

Institute sponsored by other types of organizations (industrial firms, insurance companies, private foundations, etc.)

The advantages of this type of organization are that the institute can easily remain free of disturbing outside influences and can plan and carry out its own activities according to its principles, wishes and abilities. It can emphasize the importance of occupational health as a special field of activity and concentrate on these problems.

The disadvantages are that it may become isolated from the community and its needs, it may become preoccupied with securing financial support, and, in order to obtain funds for operation, it may be obliged to undertake activities not entirely related to its basic functions. In addition, it may in some cases be diverted to commercial ends and may have restrictions placed on its freedom to publish the results of its studies.

Policy

Freedom of action

In order to fulfil its functions adequately, the institute must enjoy complete professional freedom.

Representation of local interests

Because problems of occupational health interest authorities, associations and organizations of many different kinds, it is generally felt that these groups should have a voice in establishing the policy of the institute. This will foster collaboration between groups holding perhaps different opinions, such as employers' and employees' organizations, or health and labour authorities.

Advisory councils or committees, composed of members with expert practical knowledge, form an important link between the various departments of the institute and outside specialists in that particular field.

Administration

Details of administration will depend largely on local conditions.

Directorate

The institute should be under the direction of a physician specially trained and experienced in occupational health.

Staff

The needs of the institute in this respect vary from place to place according to local conditions, but the director should have available a team capable of fulfilling the basic functions of the institute. Although the Committee does not recommend any particular structure, examples of different team organizations are given in the Annex (page 20).

Finance

The institute must have adequate financial support to provide the necessary staff and equipment. The desirable flexibility can be best achieved if the institute is financed from a number of different sources. These may include governments, universities, employers, trade unions, insurance companies and international organizations. Arrangements will vary considerably from one country to another, but it is important that the major part of the income should be regular and reliable.

Units required and their tasks

The structure of the institute is bound to vary according to local needs and resources. A fully developed institute might comprise the following units, which can be combined or adapted according to the facilities available.

Medical unit

This is of primary importance. Its tasks include : (a) diagnosis and treatment of occupational disease ; (b) promotion of occupational health services ; (c) provision of pathological and clinical laboratory facilities ; (d) investigation and epidemiological studies of occupational disease ; (e) supervision over the application of results of experimental investigations ; (f) consultative services.

Industrial health engineering unit

The tasks of this unit include the following : (a) measurement of occupational health hazards such as noxious gases, dust and vapours ; (b) measurements of temperature, humidity, noise, illumination, radiation, etc. ; (c) analysis of toxic or dangerous raw materials used in industry ; (d) design of schemes for ventilation, lighting, noise control and radiation protection ; (e) consultative services.

The unit may include a safety section where this service is not otherwise available.

Physiology unit

This unit may undertake research concerning : (a) the effects of different methods of work on the human organism ; (b) the physiological stresses imposed by various jobs and the energy required in their performance ; (c) nutrition problems of workers ; (d) influence of working methods in different jobs, suitable working hours and breaks, working posture and other human engineering problems ; (e) physical fitness and cardiorespiratory function tests.

Toxicology unit

The tasks of this unit are as follows ; (a) study of the action of toxic substances ; (b) conduct of animal experiments ; (c) determination of maximum allowable concentrations.

Psychology unit

This unit should concern itself with the problems of occupational psychology, and particularly provide advice on : (a) job analysis ; (b) vocational guidance ; (c) job placement and selection of workers ; (d) psychological factors in accidents and absenteeism ; (e) human relations.

Rehabilitation unit

Normally, medical rehabilitation is the concern of the general medical services. Nevertheless, cases needing further medical treatment may be

referred to the institute for advice on rehabilitative measures. This unit of the institute should have competent staff or a consultant to advise on medical rehabilitation, as well as vocational guidance, training or retraining, and the selective placement of handicapped persons.

Statistical unit

This unit should assist all others in the institute with statistical advice, particularly in the planning of research. In addition, it may : (a) carry out statistical surveys and research into occupational health problems ; (b) provide statistical advice to industry, for instance in devising methods of recording sickness absence.

Educational unit

This unit should : (a) prepare safety and health educational material, provide teaching and propaganda in schools, factories, etc. ; (b) provide safety and health films, slides, posters, booklets, exhibits and other educational material.

Collaboration with other agencies

In order to achieve its objectives, the institute should collaborate closely with health and labour departments, departments of social medicine and social insurance organizations. Where the institute is not equipped for the medical care of in-patients suffering from occupational disease, collaboration with hospitals is essential.

3. CRITERIA FOR THE RECORDING OF MEDICAL CAUSES OF ABSENTEEISM BY OCCUPATIONAL HEALTH SERVICES

The Committee was unable in the time available to deal comprehensively with this complex subject.

In the general discussion the importance of statistical research on sickness absence and the technical difficulties encountered in the collection of precise data and their correct interpretation were underlined.

The Committee expressed the wish that the question be studied by a group of experts consisting mainly of physicians engaged in full-time industrial medical practice and of statisticians fully informed on the object and value of collecting these statistics. These experts should define the criteria for assembling data on sickness absence and their utilization by the industrial physician, taking into account the needs and practical possibilities.

Annex

**PERSONNEL PROPOSED FOR THREE DIFFERENT TYPES
OF OCCUPATIONAL HEALTH INSTITUTE**

<i>Minimum establishment</i>	<i>Average establishment</i>	<i>Complete establishment</i>
Medical unit		
Physician(s) (trained in occupational and public health)	Industrial physicians	Industrial physicians
Consultants in roentgenology and dermatology	Industrial nurses	Whole- or part-time specialists in roentgenology, dermatology, otology, ophthalmology, psychiatry, internal medicine, orthopaedics and surgery
Nurse(s)	Consultants in roentgenology, dermatology, otology, ophthalmology and psychiatry	Consultants in other special branches of medicine
	Secretaries	Nurses (industrial, polyclinic, laboratory, X-ray, visiting and other)
		Social workers
		X-ray and other technicians
		Office and service personnel (secretaries, typists, assistant nurses, cleaners, etc.)
Industrial health engineering unit		
Engineer and chemist (both trained in occupational health)	Industrial hygiene engineer(s)	Industrial hygiene engineers
Laboratory technicians	Industrial hygiene chemist(s)	Industrial hygiene chemists
	Laboratory technicians	Industrial hygiene physicists
	Secretary(ies)	Laboratory technicians and helpers
		Secretaries and other office personnel

Minimum establishment

Average establishment

Complete establishment

Physiology unit

— Consultant in occupational physiology

Occupational physiologist(s)
Laboratory technicians
Secretary

Occupational physiologists (physicians and others)
Laboratory technicians
Office personnel

Toxicology unit

—

Toxicologist(s)
Laboratory technicians
Secretary

Toxicologists
Laboratory technicians
Office personnel

Psychology unit

—

Occupational psychologist(s)
Assistant(s)

Psychologists
Assistant personnel
Office personnel

Rehabilitation unit

—

Consultant in rehabilitation

Medical rehabilitation officer
Vocational counsellor
Social worker
Assistant and office personnel

Statistical unit

—

Consultant statistician

Statisticians
Assistant and office personnel

Educational unit

—

Part-time health educator

Health educators

*Minimum establishment**Average establishment**Complete establishment***Administration**

Secretary

Secretary and clerical
staffChief of the institute
(physician)

Secretaries

Financial director

Librarian and assistant

Photographers

Technicians for technical
workshopGeneral service person-
nel, etc.

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