

TRENDS IN OCCUPATIONAL HEALTH TRAINING

R. SCHILLING and S. GAUVAIN

*University of London and Employment Medical Advisory Service,
Health and Safety Executive, London, United Kingdom*

ABSTRACT

In the United Kingdom, North America and Europe there is a new awareness of the need for well trained professionals in occupational health in government, military and civilian services. Priority is now being given to training programmes. The standard and type of training offered to physicians, nurses, hygienists and engineers is influenced by legal requirements and a general awareness of the need to provide competent occupational health services.

Those who work in this field realise that training, experience and appropriate qualifications are essential for the proper performance of their various tasks and for obtaining professional recognition; and through their appropriate organizations, they are striving to set standards to achieve these aims. Governments, universities and the large firms are responding to this need by providing and supporting training programmes.

The aims of such programmes are first to ensure that all medical and nursing students are aware of the influence of work on health and health on work, in order to enable them to deal more effectively with patients in hospitals, clinics or health centres. Similar awareness could be of value to students of physics, chemistry and engineering and to others who fill posts which entail a responsibility for the health and safety of people at work. Inspired teaching at this early stage will also attract students to follow a career in occupational health. The second aim is to promote higher standards of occupational health practice by offering training programmes at three different levels for physicians, nurses, hygienists and engineers. Both the content of programmes and methods of training are outlined.

There are enormous differences between countries in what is recognised as the need for professionally trained experts in occupational health. Nevertheless, most nations are either providing training themselves or sending their physicians, nurses, hygienists and labour inspectors to be trained in other countries. Training together with practical experience and appropriate qualifications are widely accepted as essential for those who practice occupational health. The differences which exist between countries on the requirements for training and qualifications are influenced by several factors such as the degree of industrialisation; the standard of health care provided for the population at large; health and safety legislation; the attitudes to work, health and safety by employing organisations, including the government; the extent to which professional bodies representing physicians and others recognise the need for

experts in the field and the demands made by trade-unions for higher standards of occupational health and safety.

Occupational health requires a team approach with two main disciplines required for the purpose of identifying and evaluating occupational hazards and for providing the necessary guidance for their prevention and control. First, medicine and nursing which are concerned primarily with the influence of physical and psychosocial factors on health, especially the identification of such factors in groups and individuals and the influence of health on work – fitness for work. Secondly, hygiene, engineering and ergonomics which are primarily concerned with the evaluation, control and improvement of the physical environment and the design and adaptation of machines, equipment and buildings to be compatible with health. Those professionals who participate in health surveillance and care are physicians, nurses and medical and technical assistants. Those who participate in the field of environmental health and safety are occupational hygienists, health physicists, engineers, ergonomists, health and safety advisers and labour inspectors. No sharp dividing line exists between the functions of the health and environmental experts. All have a part to play in identifying, assessing and controlling hazards to health. To understand their respective roles and to work together as a team, there are obvious advantages in having some of their training together. Each professional group should have some training in and knowledge of the work of the other professional groups and recognise their complementary functions. Academic training has to meet the aspirations and abilities of the trainee and the requirements of the sponsoring body or organisation. Categories of training may be considered under three headings:

1. A Master's or similar higher degree or specialist training programme for those who are eventually to fill leading posts in industry, commerce, government or universities.
2. Courses leading to a diploma or some form of certificate of competence for both full and part-time workers, who are not filling senior posts.
3. Continuing education to keep those practising occupational health abreast of new techniques and concepts.

Academic training is insufficient by itself unless it is backed up by practical experience which must be gained, before, during or after such courses. Because work has such a wide range of problems, the professional in occupational health requires training by and access after training to experts in disciplines such as: epidemiology and statistics, general medicine, engineering and ergonomics, toxicology, social anthropology and psychology.

The breadth of the subject and the limited time available only allows a brief analysis of the present situation with regard to the training of physicians and possible future trends in the EEC countries, Yugoslavia and the USA. Two important omissions are training programmes for occupational health nurses, who are playing an increasingly important role in some of the highly industrialised countries, and training programmes for medical assistants who are the mainstay of occupational health services in developing countries.

OCCUPATIONAL PHYSICIANS

In three of the nine EEC countries, Denmark, Ireland and Luxembourg, no training in occupational medicine is provided. Both Italy and the United Kingdom have between them 17 university departments of occupational health providing training courses in occupational medicine, but there is no statutory requirement. Belgium, France, the Netherlands and the Federal Republic of Germany, however, have a statutory requirement for training occupational physicians and altogether 28 university departments to promote training courses.

The duration of training varies from a few months to 1, 2 or 4 years^{2,3,4}. In most cases both academic and practical experience are required. Five countries have examinations on the completion of studies (Table 1).

TABLE 1
Post graduate training of occupational physicians in Europe.

Country	Duration	Examination
Belgium	1 to 2 years	Yes
France	2 years	Yes
The Netherlands	2½-3 years	Thesis only
F.R. Germany	4 years	Declaration of Institute only
Italy	1 year (spread over 3 years)	Yes
United Kingdom	M.Sc. 1 year D.I.H. 1 year or 3 months full-time or 18 months part-time both with practical experience	Yes Yes

In the United Kingdom there are now plans to provide a much more rigorous higher specialist training in occupational medicine. We shall compare this with specialist training requirements in two other countries, the USA and Yugoslavia, in order to demonstrate their similarities rather than their differences (see Table 2). All these training programmes require about four years of training which include an academic course and appointments to approved posts which give a wide experience of occupational medical practice.

The main objective is to up-grade the professional status and the professional standards of occupational physicians who have to achieve comparability with their clinical colleagues. By raising standards and career prospects it is hoped to attract young, able physicians into the specialty.

The contents of the training programmes vary, but it is generally accepted that there should be academic training in epidemiology and statistics, toxicology, organisation of occupational health services and clinical occupational medicine. They are also encouraged to undertake research projects which may arise from their practical experience, and which complement their academic training.

TABLE 2
Specialist training programmes in occupational medicine^{1,2,3}

Country*	Pre-requisites	Training requirements	Examinations
USA	Graduate in Medicine of approved school	4 years 1 year in each of these approved posts: residency academic course occupational medicine post research/special training	Parts I and II by American Board of Preventive Medicine
Yugoslavia	Graduate in Medicine from recognised medical school	3-4 years in approved posts and an academic course in occupational health institutions	State specialist examination at end of training
United Kingdom	Graduate in Medicine and 3 years in general medicine with MRCP or alternative exam	4 years in approved posts - occupational medical services and research; academic course; experience in occupational chest disease; occupational diseases and rehabilitation	No further examination Accreditation as specialist is granted on completing training programme

*Federal Republic of Germany also requires 4 years training, 2 years in internal medicine and 2 years in occupational medicine practice to be a specialist in occupational medicine.

THE TEAM APPROACH

A most interesting development in training has been launched by the National Institute in Occupational Safety and Health (NIOSH). NIOSH has implemented a new national competition for training grants to support at least ten Occupational Safety and Health Educational Resource Centers in the USA. The criteria for making grants are strict and demand that there are resources for training occupational physicians and nurses, industrial hygienists, engineers and safety personnel.

Occupational Safety and Health Educational Resource Centers must have:

1. A Medical School with a programme in preventive or occupational medicine: a School of Nursing, a School of Public Health, a School of Engineering and also resources in Toxicology, Biostatistics, Environmental Health, Law, Business Administration and Education.
2. Training programmes for: occupational physicians, occupational health nurses, industrial hygienists engineers and for safety personnel.
3. A Board of Advisers or Consultants with representatives of: user and affected population including employers and employees.

The center has to be based on existing schools of medicine, nursing, public health and engineering and must have a broad base of advisers with employer and employee representatives. This is one of the first training programmes which emphasizes the importance of the team approach.

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