

A new approach for providing occupational health services in developing countries

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KHOGALI M. A new approach for providing occupational health services in developing countries. *Scand j work environ health* 8 (1982): suppl 1, 152–156. A comprehensive approach to the health problems of workers and the gainfully employed should be adopted when occupational health services are planned in developing countries. The system developed in industrialized countries cannot be applied to new industrializing countries. The definition of what constitutes a developing country is not yet agreed upon. They share many of the criteria which create a vicious cycle of poverty and disease. This cycle can only be broken by industrialization and economic progress. The maintenance of health in industrial communities in the developing countries entails the treatment and prevention of epidemic and endemic communicable diseases, the prevention of occupational injuries and diseases, the planning and organization of medical care, training, the introduction and enforcement of standards of health, and safety and medical care in industry. To achieve this a new approach is advocated. The total health services are visualized as a spectrum, while occupational health services are used as a springboard and a point of entry. The health personnel who provide services to workers in factories, agricultural projects, and mines can carry out a comprehensive preventive program for the workers and their families.

Key terms: comprehensive program, primary health care, vertical integration.

This is not a theoretical paper on the practice of occupational health in developing countries. It is in essence a discussion of the subject based on certain questions of practical experience.

The developing countries share the following criteria: low standard of living; low food and energy consumption; low literacy level; poor health standards and services; limited capital equipment; rapid population growth with a preponderance of young age groups; high proportion engaged in agriculture; and a high incidence and prevalence of communicable and endemic diseases. This vicious cycle of poverty and disease (fig 1) can only be broken by industrialization and economic progress (4).

Among the health problems of the developing countries, occupation remains

one of the main hazards to health. The working population of these countries comprises more than one-third of the total population, eg, in Africa, Asia, Latin America, and Oceania (2). As workers are the main support of economic and social progress, their health is an essential factor in development and represents an important human goal (1). The occupational health situation in developing countries cannot wait until these countries achieve a rising gross national product. It is already evident that the health component is one of the elements in any developmental process.

Rationale for occupational health services

The priority health problems of working populations in developing countries are closely related to the standard of health prevailing in the community, to the prevailing health resources, and to the specific characteristics of the socioeconomic

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environment. In fact the changing industrial pattern of development responsible for specific diseases is superimposed on the well-known burden of poverty, malnutrition, overcrowding, inadequate sanitation and water supplies, meager health resources, etc. The problems associated with industrial progress may be summarized under five major headings: (i) the high prevalence of epidemic and endemic communicable diseases, (ii) the high prevalence of occupational disease and injury because of inadequate identification and control, (iii) introduction of the hazards of modern agriculture, (iv) public health and social problems which arise from industrialization, (v) problems of providing medical care, especially for small and widely scattered groups of workers.

The range of occupational health activities envisaged in developing countries is neither confined to the prevention of work hazards only nor to the treatment of definite conditions; instead it includes all aspects of the health of workers. It is therefore not possible to maintain, much less to promote, the separation of workers into an industrial component and a domestic component so far as their health is concerned. Thus it is essential to coordinate occupational health activities with the prevailing community health programs in developing countries.

Occupational medicine is an aspect of community medicine, but with specific responsibilities which relate to a vulnerable community. To study all different possible case histories is impossible. But we can assist greatly by providing well-planned occupational health programs which pay due attention to local situations. Unless this is the case, it will lose its value, be unacceptable, and become an ad-

ditional source of friction among employers, workers, and administrators.

New approaches to the problem

A comprehensive approach to the health problems of workers and the gainfully employed should be adopted when occupational health services are planned in developing countries. Three approaches are advocated in this paper: (i) the vertical integration approach; (ii) the primary health care approach, and (iii) the vertically integrated primary health care approach.

The vertical integration approach

With the vertical integration approach total health services are visualized as a spectrum ranging from basic environmental sanitation at the lower end of the scale to comprehensive health care at the top (fig 2). This system evolves over a considerable period and over a certain base, which is termed the "point of entry" into the system. With economic development underway in developing countries, occupational health could be the point of entry into the spectrum. In many of the great economic, agricultural, and industrial projects in developing countries occupational health may be the only service available. Additional services are added both up and down the spectrum as required or as opportunity and resources permit. The medical center can act as a base for the service, and then other services are added as needed. The fascinating thing about this method is its flexibility and the chance it creates for innovation. This chance obviously varies from country

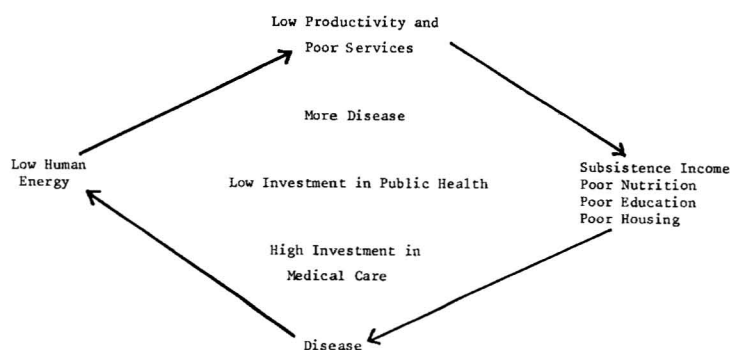


Fig 1. Vicious economic cycle of disease in developing countries.

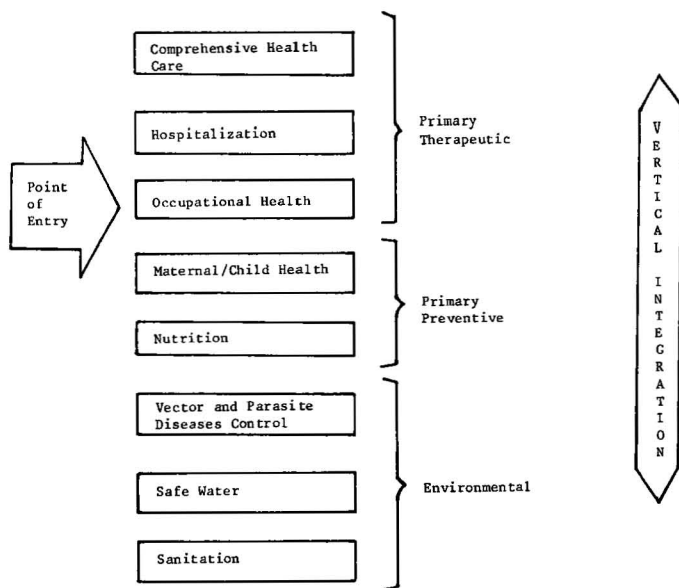


Fig 2. A spectrum of health services.

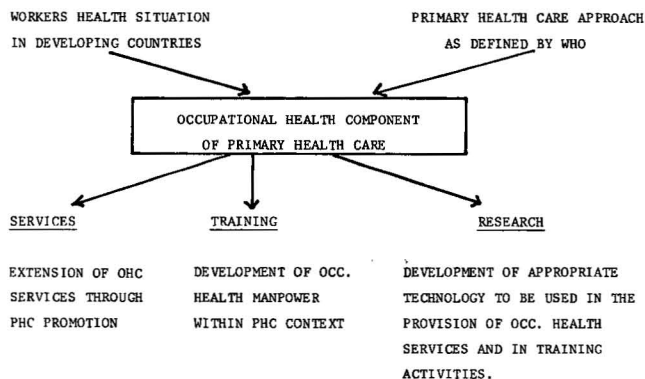


Fig 3. Primary health care (PHC) approach. (WHO = World Health Organization, OHC = occupational health care, OCC = occupational) [Source: P Rojas 1980]

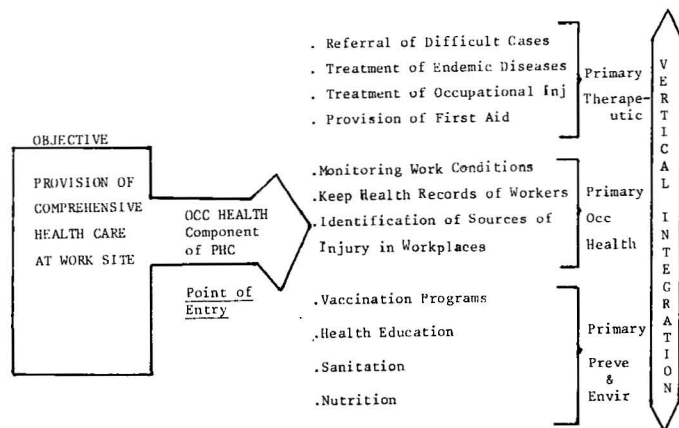


Fig 4. The vertically integrated primary health care (PHC) approach. (Occ = occupational, Inj = injuries, Preve = prevention, Envir = environment)

to country, from situation to situation, and from industry to industry.

The primary health care approach

Primary health care, as defined by the World Health Organization and stated in the Declaration of Alma Ata (5), seems to provide the only possible alternative in the near future for attaining an acceptable level of health and quality of life for a vast sector of working populations. There is a great need for the main components of primary health care to reach them, and providing this health care has to be done in coordination with activities directed towards other areas of the health sector. In a personal communication from P Rojas there is agreement that the recognition of the occupational health care component of primary health care is a prerequisite for a rapid improvement in worker's health conditions (fig 3).

The objectives of the occupational health care component of primary health care would be threefold, ie, services, training, and research. Services would provide basic health care for workers, especially the vulnerable and high risk groups. It would also provide for monitoring work conditions and workers' health. Training aims to achieve the development of appropriate health personnel for the provision of the occupational health component. Research is to identify and develop appropriate occupational health technology at basic and applied levels. (Rojas 1980, personal communication).

"Whoever first sees a sick or injured person, makes a diagnosis and offers treatment, is giving primary medical care [p 383]" (3). In developing countries there are many persons other than physicians who give this care. They include medical assistants (Sudan), rural medical aids (Tanzania), rural nurses (Malaysia), voluntary part-time primary health care workers (Thailand), and traditional doctors (Sri Lanka). These personnel could be trained with the aim of raising their ability to carry out the following tasks: (i) to survey workplaces with simple methods, (ii) to collect biological or environmental samples for despatch to appropriate laboratories, (iii) to identify sources of injury in the workplace, (iv) to recognize general health

problems of workers and whether or not they are work-related, (v) to educate and advise workers about health and safety problems, (vi) to give first aid, and (vii) to keep simple health records of individual workers and records of surveys and work groups.

Such a program; if fulfilled, would create the urgently needed occupational health manpower within the different primary health care services, and at the same time it would extend the coverage of occupational health services to great sectors of the working population through the promotion of primary health care services. — Models for its application could be easily developed and adapted to the different health systems.

The vertically integrated primary health care approach

Occupational health practice is the result of the interaction between scientific, technical, legal, and institutional aspects which involve different sectors. A model combining the two previously discussed approaches would be a substantial contribution to the improvement of the health situation of workers in developing countries, particularly of the underserved sectors (rural and industrial workers in small undertakings) (fig 4).

Developing countries are faced with two confounding problems in the field of occupational health. On one hand the health manpower situation in terms of quality, numbers, distribution, and utilization is critical. On the other the level of health education and information within the labor structure is extremely low. Thus the occupational health component within the primary health care system could be a point of entry for providing comprehensive service at the worksite. Because of the low level of health education and awareness, the success of any health program carried out at the worksite is greater than that carried out at the health center. Programs involving the control of communicable and endemic diseases can achieve a greater success through occupational health services. Other parameters of the health services viewed vertically can be covered at different levels through the

occupational health component of primary health care (fig 4).

Conclusion

The maintenance of health of a working population in developing countries entails (besides the identification, treatment, and prevention of occupational diseases and injuries) the treatment and prevention of epidemic and endemic communicable diseases, as well as environmental and sanitary roles. To achieve all of these aspects under the conditions prevailing, a new approach is advocated based on an occupational health component of primary health care providing services in a vertically integrated system. This is a practical approach which can achieve great success if models are developed in relation to the existing health services of the

country concerned. Each case should be considered separately although the principle applied would be the same.

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