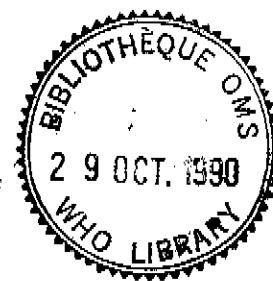


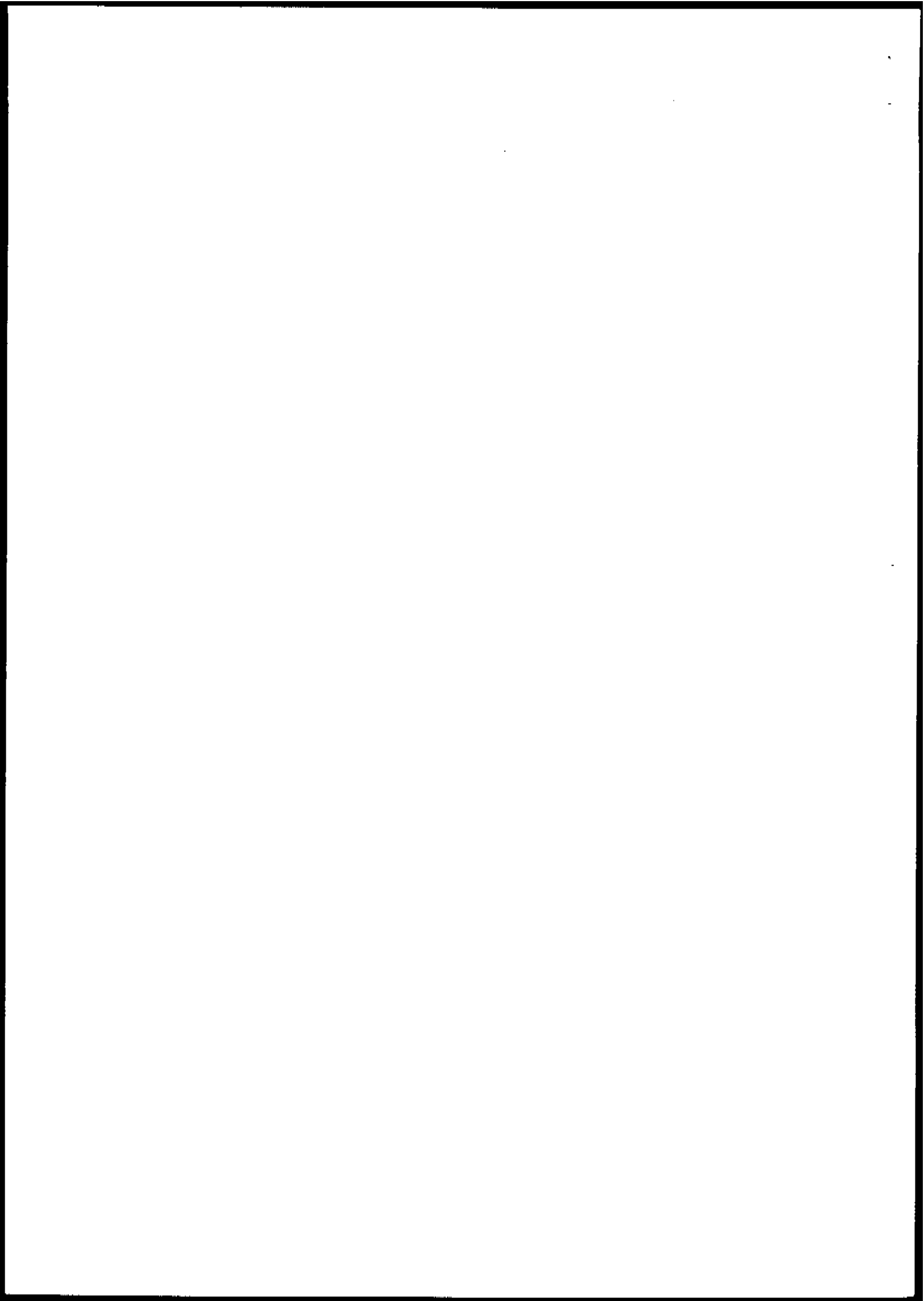
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*Effectiveness of
postgraduate training
in the field of epidemiology
and health statistics*



WORLD HEALTH ORGANIZATION
REGIONAL OFFICE FOR EUROPE
COPENHAGEN



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WELTGESUNDHEITSORGANISATION
REGIONALBÜRO FÜR EUROPA



ORGANISATION MONDIALE DE LA SANTÉ
BUREAU RÉGIONAL DE L'EUROPE

ВСЕМИРНАЯ ОРГАНИЗАЦИЯ ЗДРАВООХРАНЕНИЯ
ЕВРОПЕЙСКОЕ РЕГИОНАЛЬНОЕ БЮРО

EFFECTIVENESS OF POSTGRADUATE TRAINING
IN THE FIELD OF EPIDEMIOLOGY AND HEALTH STATISTICS

Report on a WHO meeting

Moscow,
20-24 August 1984

Note

The issue of this document does not constitute formal publication. It should not be reviewed, abstracted, quoted or translated without the agreement of the World Health Organization Regional Office for Europe. Authors alone are responsible for views expressed in signed articles.

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1. Introduction

The WHO Workshop for Teachers in Epidemiology and Health Statistics from countries of the European Region was held at the Central Institute for Advanced Medical Studies, Moscow, from 20 to 24 August 1984.

The Workshop was opened by Dr G.F. Cerkovnij, Head of the Department of Medical Statistics and Computing Equipment of the USSR Ministry of Public Health, and Dr J.P. Jardel, Regional Officer for Epidemiology and Information Support at WHO's Regional Office for Europe.

Temporary advisers and representatives of seven European countries, teachers, research workers, medical personnel and health service managers, physicians, engineers and economists participated in the Workshop, thereby ensuring a multisectoral and interdisciplinary approach to tackling the issues raised.

The purpose of the Workshop was to improve the teaching of epidemiology and health statistics in the countries of the European Region. To that end, the following objectives were laid down:

- to define the role of epidemiology and health statistics in the process of health service management at the present stage of development;
- to coordinate the goals and contents of curricula;
- to increase the effectiveness of the teaching process;
- to develop mutual understanding and cooperation between teachers and health service managers.

In order to facilitate discussion, all the papers prepared by the WHO temporary advisers were sent to the participants in advance. In the course of the Workshop, they were also provided with learning materials for identification of health problems, with information support for the analysis and solution of problems, and with teaching programmes for epidemiologists, statisticians and health service managers.

The Workshop was conducted using the technique of group dynamics. Three interdisciplinary groups were formed, and the subjects on the programme were actively discussed both in those groups and in plenary sessions.

2. Discussion

In order to solve complex health service management problems and in particular to implement WHO's global strategy for health for all by the year 2000, extensive use had to be made of the interdisciplinary approach and of methods designed to solve practical problems. Adequate information support was also necessary and the training of medical personnel, health service managers and teachers had to be improved. The countries of the European Region had accumulated extensive experience in the use of epidemiological and statistical methods for analysing the health status of populations and solving managerial problems, and a considerable amount of progress had been made in developing teaching technologies. The present Workshop afforded an opportunity for creative discussion of the results achieved and an occasion to define the directions for further development of teaching of epidemiology and health statistics.

2.1 The role of epidemiology and health statistics in health service management

At the present stage of scientific and technical progress, mathematical techniques and computers were widely used in scientific studies, and health service managers were showing increasing interest in the practical results of research work. Epidemiological and statistical research therefore had a growing role to play in making a comprehensive multisectoral study of factors affecting the health status of populations and the work of the health services, in analysing the interaction of such factors and evaluating the extent to which they could be controlled, and in designing and implementing comprehensive goal-oriented programmes for solving current problems in health service management.

At the same time, not enough attention was being paid to the development of interdisciplinary cooperation, to participation by health service managers in studies of complex public health problems, to the design and application of computerized systems for monitoring the health status of the population and risk factors, or to the methods that health service managers could use to analyse and assess epidemiological and statistical information. Another unsolved problem was to define the contents of the epidemiological and statistical information required to manage the health system at different hierarchical levels.

2.2 Matching the goals and contents of curricula

During the discussions on this agenda item and in the working papers prepared by temporary advisers, attention was drawn to the need to match the goals of training to the specific functional and professional duties discharged or to be discharged by the physician or student. It was also emphasized that the goals of training would differ, depending on the range of duties carried out by clinical physicians, epidemiologists, statisticians, health service managers and other specialists.

When drawing up curricula, one had to start from the professional or functional responsibilities of specialists and pay attention to recent advances in epidemiology, health statistics, the organization and management of health services, etc. Physicians from practical health care establishments, research workers and teachers all had to be actively involved in defining training goals and drawing up curricula.

2.3 Increasing the effectiveness of the teaching process

The development of teaching technology and techniques was advancing on several fronts in the countries of the European Region. In particular, students were doing more individual work, while a greater role was assigned to active forms and methods of teaching: individual and group seminars, game playing, systems for facilitating man/machine dialogue, etc. More attention was being paid to the use of problem-solving methods, to planning ways of identifying and analysing problems, to simulated decision-making and to evaluating effectiveness of the teaching process. The participants approved of the material and the teaching modules drawn up by the organizers of the Workshop. They also noted the improvements that had been made in methods to evaluate the effectiveness of teaching epidemiology and health statistics to students and physicians. Many participants stressed the need to use a systems approach to developing and coordinating the various ways in which teaching technology was being improved, thereby ensuring an optimum combination of independent work, group discussions, analysis of standard and non-standard situations and tasks, qualitative and quantitative methods, conventional teaching techniques and procedures for man/machine dialogue.

It was emphasized that the active teaching process required appropriate teaching materials such as textbooks, reference books, tests, standard and situation exercises, scenarios, programmes for computerized processing of the results of group and individual analyses, etc. The participants pointed out that using modern teaching methods and technologies imposed a number of additional requirements: a wider range of supporting material had to be prepared for both students and teachers, lecture theatres and classrooms had to be made available for group work and seminars, and technical equipment was needed to demonstrate the results of analysis of epidemiological and statistical data.

In the view of many speakers, teacher training itself played a significant role in the successful development of active teaching techniques. However, improving the teaching process by including in the arsenal of teaching techniques not only conventional methods but also procedures for man/machine dialogue was a time-consuming task, and one which called for psychological reorientation and the organization of refresher courses and seminars for teachers. When drawing up curricula for training teachers in epidemiology and health statistics, particular attention had to be paid to comparative analysis and evaluation of the effectiveness of various teaching techniques, forms and methods.

2.4 Developing mutual understanding and cooperation between teachers and health service managers

The development of interaction between teachers of epidemiology and health statistics and health service managers was felt to be of particular importance. During the discussion, several speakers stressed the need for more active involvement of health service managers in drawing up teaching goals and programmes, and in planning and carrying out practical work in health care establishments. It was also pointed out that teachers, too, had to focus more closely on problems of practical health care. In order to develop mutual understanding and cooperation, it was essential to hold joint meetings, seminars and courses, to increase the teaching of epidemiology and health statistics in the training programmes of health service managers and, conversely, to give more instruction in health service management in teacher training programmes, as well as to ensure joint participation in applying research findings to practical health care.

3. Conclusion and recommendations

As a result of active discussion of all items on the agenda, the participants came to a general conclusion and drew up a number of recommendations which, in their view, would promote successful implementation of WHO's global programme for health for all by the year 2000 in the countries of the European Region.

The present stage of development of epidemiology and health statistics, together with active use of mathematical methods and computing equipment, affords great possibilities for studying complex problems of health service management, eliciting risk factors and their interactions, and taking scientifically substantiated decisions. By further improving the forms and methods of interdisciplinary cooperation between epidemiologists, statisticians and health service managers on such tasks as developing information support or designing automated systems for monitoring health status and risk factors, it will be possible to solve managerial problems at the various hierarchical levels of the system and to draw up and implement national and regional health care programmes.

The effectiveness with which current problems of health service management are solved will depend to a large extent on the standard of training of epidemiologists, statisticians and health service managers. In order to increase the knowledge and experience of specialists, greater attention will have to be paid to studying the range of problems being tackled by them as part of their specific duties, and to developing the corresponding teaching goals and curricula. When laying down these goals and drawing up specialist training curricula, it is essential to involve health service managers and personnel from health care establishments and scientific institutes.

In order to make the training of specialists more effective, the teaching process must be improved. By finding the optimum combination of traditional teaching methods, simulated decision-making in real and artificial situations, group dynamics, expert procedures and man/machine systems, it will be possible to use a variety of teaching techniques to attain the practical goals involved in the undergraduate and postgraduate training of specialists. The participants recommended that WHO-sponsored international courses should be organized to train teachers in the field of epidemiology and health statistics working at national centres in the European Region.

The effectiveness of training in the field of epidemiology and health statistics will depend to a large extent on mutual understanding and cooperation between teachers and health service managers. Ways have to be found of involving the latter in drawing up and implementing training programmes, organizing seminars and conferences, stepping up motivation and developing methods for evaluating how effectively specialists and teachers are trained to solve practical managerial problems at various hierarchical levels of the health care system. The participants recommended that national training centres in the countries of the European Region should periodically conduct multidisciplinary workshops to discuss national experience and to identify the most promising lines for development of multidisciplinary cooperation. The World Health Organization and its network of collaborating centres have an important role to play in improving the forms and methods of multidisciplinary cooperation between teachers of epidemiology and health statistics and health service managers.

Annex 1

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^a Participation expenses not paid by WHO.