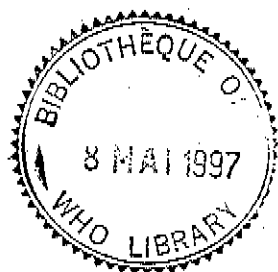




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ENVIRONMENTAL HEALTH AND THE ROLE OF MEDICAL PROFESSIONALS

Report on a WHO Consultation

Berlin, Germany
16-18 January 1996

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POLICY ON ENVIRONMENT AND HEALTH

By the year 2000, all Member States should have developed, and be implementing, policies on the environment and health that ensure ecologically sustainable development, effective prevention and control of environmental health risks and equitable access to healthy environments.

ABSTRACT

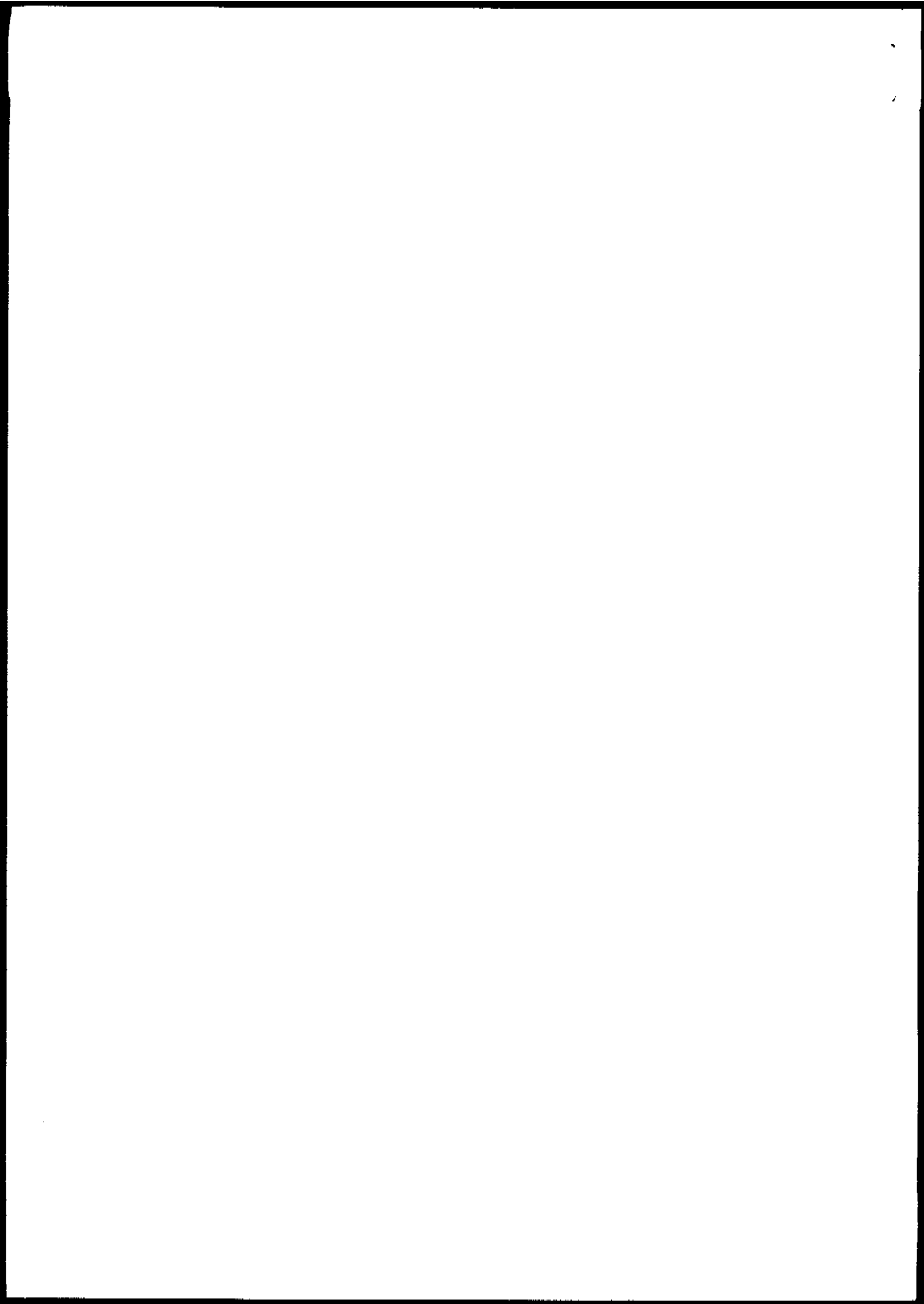
The WHO Consultation on Development of National Environmental Health Action Plans – Environmental Health and the Role of Medical Professionals was attended by experts from seven countries and WHO staff. The aim was to evaluate physicians' current role in environmental health, and the specific needs for and benefits of their involvement. The participants paid special attention to questions about environmental medicine as a separate discipline and the effects of its further development, if any, on clinical practice, health care systems, and medical education and training. The participants described physicians' role in environmental health: to assess, investigate, diagnose, monitor and treat environmentally related disorders, and to help to prevent, control or correct environmental hazards that lead to them. The participants also drew conclusions and made recommendations on the definition of and training in environmental medicine, the need to include environmental health in medical education, and research.

Keywords

ENVIRONMENTAL HEALTH
PHYSICIAN'S ROLE
HEALTH PERSONNEL – education
EUROPE

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INTRODUCTION

1. The ministers of environment and health committed their respective countries at the Helsinki Conference to give high priority to the development of national environmental health action plans (NEHAPs) within the framework of the adopted Environmental Health Action Plan for Europe (EHAPE) and collectively agreed to the target date of 1997. Based on the decisions of the Helsinki Conference, it is strongly recommended that NEHAPs should be developed in close partnership with the health and environment sectors. Based on the adopted EHAPE, the main objective of national action plans is to set up the framework for priority action that will be taken by each government and all relevant sectors, as well as at different levels of government according to the principles of subsidiarity.
2. The health sector has an important role in improving the health of the population including the promotion of an environment supportive to health. Recently, the health sector has shown a renewed interest in environmental health issues and it is noteworthy that in some countries medical professionals¹ are increasingly becoming professionally interested in environmental health issues in the course of their medical practice, and have even created movements to achieve the formal recognition of "environmental medicine" as one of the medical disciplines.
3. The purpose of this Consultation was to evaluate the situation concerning the role of medical professionals in environmental health, and the specific needs and benefits of their involvement in environmental health. Special attention was given to questions related to environmental medicine as a separate medical discipline, and its further development, if any, in particular in respect of clinical practice, the implications on the health care systems, and the relevant changes and/or improvements in the education and training of medical professionals.
4. The meeting was opened by Dr Rudolf Grupp, Director-General in the Federal Ministry of Health, Germany. In his welcoming speech, Dr Grupp emphasised that the issue of the meeting was especially suitable for international cooperation. All countries are facing similar questions in relation to environmental impact on human health. In view of the public needs being articulated there is a need to decide on the future role and development of environmental medicine. Professor Hans Hoffmeister, Director of the Robert Koch Institute, Berlin, which hosted the meeting, in his opening remarks referred delegates to the importance of risk assessment and the strengthening of cause/effect relationship assessment methodologies.
5. The consultation was attended by experts from Germany, Latvia, the Netherlands, Poland, Romania, Switzerland, the United Kingdom, and representatives from WHO (see Annex 1 for the list of participants). Dr Reiner Türeck (Germany) was elected Chairperson, Dr Norman King (United Kingdom) Vice-Chairperson, and Dr Signe Velina (Latvia) Rapporteur. The participants adopted the provisional agenda and programme with minor modifications (Annexes 2 and 3).

¹ The term "medical professionals" covers all those professionals who are qualified doctors working in clinical medicine, public health care, or medical health care services, including those engaged in research and managerial roles.

DISCUSSION

Review of the current situation of "environmental medicine"

6. Reports based on a pre-circulated questionnaire were presented by experts from seven Member States of the WHO European Region (Germany, Latvia, Netherlands, Poland, Romania, Switzerland and the United Kingdom). In addition, a paper from Sweden was tabled and a WHO temporary adviser presented an account of the situation and the currently developing unified national environmental health framework in Vietnam.
7. The term environmental medicine was known or recognized in four of the countries reviewed, but no single definition covered the interpretation of the term in all these countries. Most interpretations included prevention, health promotion and investigation of environmental exposure, which might lead to adverse health effects and some included health care (diagnosis and treatment). Not all the countries which recognized "environmental medicine" had, however, included it in legal or regulatory provisions or established it as a separate medical discipline. Some experts foresaw difficulties in creating a separate medical discipline and one took the view that all medical practice needed to take environmental factors into account and that a creation of a separate discipline would be very detrimental.
8. The term "environmental disease" was not used in all the countries reviewed but a definition which might be acceptable in most countries is: *any disease arising directly or indirectly, wholly or in a substantial part from exposure to environmental factors*. Although environmental disease is not a term in general use in legal or regulatory provisions, the existing health care systems in countries would be expected to deal with problems of this kind on the basis of the definitions given above. The funding of health care differs in countries and no general conclusions can be drawn on the attitude of the funding agencies towards environmental medicine.
9. One country has developed a profile and designed a training programme for doctors and has employed a limited number of them as environmental medicine specialists. A second country has adopted the same profile and training programme to meet its own needs. Other countries have linked aspects of environmental medicine to profiles and training programmes in occupational health and safety.
10. All the countries had some provision for carrying out research on aspects of environmental medicine and environment-related diseases and disorders but shortages of financial and human resources were limiting factors.
11. All countries recognized the importance of providing information to the public on the real or perceived effects on health from exposure to environmental factors. Some emphasized the need to provide timely information and authoritative advice to counter the anxiety caused by excessive claims about risks often reported in the media. Countries used various mechanisms for generating and disseminating such information. Several experts stressed the value of working through local medical professionals, local authorities and other local sources of expertise.
12. Participants agreed that medical professionals had a role and responsibilities as regards environmental health. However, these responsibilities, and the legal bases for them, varied

from country to country. In general, there are links between doctors in health care and services such as public health services and environmental health services. However, most participants recognized that such links could and should be strengthened and that awareness of environmental factors among medical professionals at all levels should be raised. This would promote closer working relationships and sharing of information and expertise with those services. In some countries the need was seen to develop economic incentives to encourage medical professionals to play a greater role in environmental health.

13. The role of medical professionals in preventive services varies between countries. In some countries they have a legal or contractual obligation for some aspects of preventive medicine.
14. Medical professionals have an important role to play in identifying research needs, carrying out research and in interpreting the results, in terms of the impact on health in particular.
15. Medical professionals have considerable influence when communicating information on risks and impact on health to the general public. They have a high degree of public trust. Most countries already make use of this to some extent, but most participants believed that there was considerable scope to develop it further.

Review of key issues

"Environmental medicine"

16. The appropriateness of the development of a separate discipline of "environmental medicine" was discussed. Some countries had found such a development positive, whereas others had found it wholly inappropriate.
17. There was consensus that the development of environmental medicine as a discipline was dependent on the current and future needs for national health care infrastructures to provide services in this field. The meeting agreed that using the term environmental medicine to mean a tool or an approach that could be utilized in specific situations was acceptable.
18. The development of a common understanding of a variety of concepts such as environmental medicine, or environmental and environmentally-related disease is being explored in debate at international level. This is, however, being compounded by the difficulty of translating these concepts into some European languages. This issue needs to be addressed.
19. Participants discussed various definitions of environmental medicine, recognizing the problems in settling on one agreed definition. One suggestion was to define it in terms of the medical care of individuals with complaints which they or their physicians relate to environmental factors, but participants foresaw difficulty in working with such a definition. Another definition assigned to environmental medicine the task of assessing health risks for the population and of averting these by giving practical and specialized advice. This definition regarded environmental medicine as part of preventive medicine aimed at a population or a group of people.
20. In some countries occupational medicine has developed to the point where it takes on many of the elements covered by environmental medicine, albeit in a closed environment.

Regulatory instruments

21. The consultation had difficulty in working within the definition of environmental health recommended by the WHO Consultations in Sofia in 1993 and in Vilnius in 1994, which defined environmental health in terms of a wide range of factors in the environment capable of affecting health. Participants therefore limited their consideration to the physical environment, recognizing that the abovementioned definition of environmental health comprises the theory and practice of assessing, correcting, controlling and preventing those factors in the environment that can potentially affect adversely the health of present and future generations.
22. One country had found it difficult to define environmental health in legislation because of translation difficulties. As a result, some legislation on the development of environmental health as a discipline has been delayed. Translation is also a problem in a number of other countries in the European Region.
23. The Consultation discussed legal issues in two areas: public information and environmental health information systems. The right of the public to information is acknowledged and is the subject of legislation in many countries. However, participants were concerned that factors such as copyright and commercially sensitive information could limit access to relevant information. In the second area, legal liability for wrongly interpreting information is of concern. Medical staff need to be competent not only in interpreting information but also to be aware that misinterpretation has the potential to lead to litigation. They need to know how to deal with such situations.

Health care services

24. Medical professionals in the health care services frequently have to deal with aspects of environmental medicine in the course of their work, despite the fact that their abilities to respond to these demands are not always reflected in their training. The framework within which medical professionals are involved in aspects of environmental medicine (in some countries) includes:
 - individual physicians in private practice
 - clinics
 - laboratories
 - research institutes and universities
 - hospitals
 - public health services.
25. The Consultation emphasized the clear need for the health care system to be able to call on high level expertise in the investigation and management of environmentally-related disorders when these are beyond the capability of the primary care practitioner. The nature of the response might vary from country to country, depending on the current levels of knowledge, interest and motivation of primary care practitioners to undertake this type of work. Where medical practitioners are clearly and specifically involved there may simply be a need for a national reference centre to investigate specific environmental problems. Where they are less involved it may be necessary either to develop local or regional environmental medicine services or to upgrade other existing infrastructures (occupational health services for example) to meet local needs. The latter would combine public health and clinical medicine functions.

26. Participants perceived the need to improve the level of collaboration between medical professionals in the health care service and medical and nonmedical professionals engaged in environmental risk assessment. Both sets of professionals have developed highly sophisticated skills in their respective areas but the methodologies for interrelating their findings are not developed to the same degree.
27. Medical professionals have an important role in dealing with the misconceptions that arise in the media on environmentally-related diseases and disorders. This is an area where interdisciplinary collaboration should also be developed. Future demands on medical professionals will call on them to play a more proactive role in dealing with environmental medicine.

Public health service

28. A view of environmental medicine as neither discipline nor a branch of curative medicine was presented. It was shown as a part of preventive medicine aimed at the population. The main tasks of public health services included observation of health, judgement, assessment, counselling and information (including on environmental impact assessment (EIA)), individual problems and the development of legislation and regulations. In some countries the public health services are responsible for exposure assessment and in others it is the task of environmental protection services.
29. Physicians in private practice and/or hospitals need to cooperate with the public health service in order to solve the problems which are the subject of environmental medicine.

Economic incentives

30. Health insurance schemes have not so far made any specific provision for the development of environmental medicine as a separate discipline. From the insurers' point of view there are economic advantages in supporting initiatives that promote a change of emphasis from curative to preventive action by medical professionals, but at present there are generally no financial incentives for medical practitioners to take on a greater role in this way. Many specialists in the health care system are involved almost exclusively in curative medicine.

Professional profiles, education and training

31. Some medical professionals have it as an integral component of their normal duties to deal with aspects of environmental medicine. The Consultation recognized the need for more medical professionals at all levels of the health care system to become involved to some degree in environmental health issues. In order for this aspiration to be realized many such professionals require support in developing new competences.
32. These new competences might be developed through a variety of approaches, such as the design of relevant undergraduate and postgraduate courses to include innovative teaching methodologies. Among the professional capacities being identified as particularly important by employers are risk communication and problem-solving skills. Linking training programmes in environmental health to accreditation or professional registration requirements was also considered.

Environmental health information systems.

33. The diversity of information available in the health and environmental exposure assessment areas was recognized, but the quality of this information is variable. Four types of category for which information should be collected were: body of knowledge, space-time related data, legislative issues and resources (funding, experts, institutions). The growing body of information and the technology for handling it needs to be managed carefully. The main task is to combine the existing information and to use it efficiently for analyses, decision-making and improvement of environmental health. In this respect, linking existing data with geographical location or place could be considered useful as a descriptive tool which will show the way for further scientific investigations. Health and environment geographical information systems could be also useful as a feedback for the efficiency of monitoring.
34. Modern technology offers an opportunity to improve environmental health practice but it does not solve the problems themselves. A warning was also expressed on possible data overloading and information glut, as well as on the consequences of distributing unprocessed data. A need for better quality control of the environmental health information systems was underlined.
35. The choice of how to proceed greatly depends on the current situation in a country, in particular on available financial and scientific resources as well as technical possibilities. An example of some of the applications becoming available for information exchange between environmental health professionals in Germany was demonstrated.

Research

36. Research into the impact of the environment on health must always include good epidemiology, since the effects are often small, indirect or subject to confounding factors. Research is needed in a range of areas including fundamental work on mechanisms and of toxicity, applied research to link exposure and effect and also on specific problem investigations, and on improving clinical practice. Although clinical treatment is primarily the task of clinicians, research into new or improved clinical practice is a valid subject for universities and clinical research establishments. Neither of these roles should be considered mutually exclusive.
37. An important field for research is the integration of medicine and science in partnership. This will necessitate professionals from both fields being prepared to work with and learn from each other.

Public information

38. Public information and participation was recognized as an important element of a NEHAP. It promotes better understanding, and explains prevention, care and rehabilitation. Public information was also recognized as an incentive for collaboration
39. Communicators with a key role to play in the provision of relevant and accurate information to the public include general practitioners, public health and environmental health specialists, NGOs and the media. General public and special interest groups were recognized as the target audience for information. It was stressed that a two-way communication process should be involved in interaction between experts and the community.

40. Honesty in communication was considered crucial and should include the need to acknowledge where no answers currently exist. Risk comparison can be an important element of communication. The distinction between voluntary and imposed risks needs to be recognized in communicating information on risks to the public since the public is less tolerant of imposed risks. The Consultation acknowledged the important role of the mass media and emphasized the need for practitioners becoming more involved with journalists.
41. An important issue was how to decide what information is relevant for public access. There is an ethical dimension to public information and risk communication on environmental health and it may require the development of a code of practice.

CONCLUSIONS AND RECOMMENDATIONS

Environmental health and the role of medical professionals

42. Medical professionals have an important role in environmental health, namely to assess, investigate, diagnose, monitor and treat (including to counsel) environmentally-related disorders and diseases, and to contribute as appropriate in the control, correction or prevention (including health promotion) of environmental hazards which lead to such disorders or diseases. All physicians should be fully aware of the impact of environment on health and the environmental correlates of disorders and diseases likely to be presented to them.
43. WHO should initiate further debate among Member States on the involvement of the health care system in the investigation and management of environmentally-related disorders, so that the various options available can be judged on their merits, taking into account the particular needs of individual countries.
44. There is a need to develop incentives to encourage greater participation by medical professionals in environmental health. Countries should undertake appropriate action in this respect. WHO should review the progress in Member States and promote knowledge of measures which have been shown to be effective.
45. Member States should review the scope for improving working relationships and data flow at the local level between physicians concerned with public health, occupational health and environmental health. WHO should review progress in countries on the linking of environmental and individual health data.

"Environmental medicine"

46. Recently, the term "environmental medicine" has been applied in some European countries to cover activities of medical professionals related to environmental health. The Consultation concluded that, as such, it is both individual-oriented (clinical medicine) and population-oriented (public health medicine) and can be undertaken either by a clinician and public health physician working in collaboration or by a practitioner trained and accredited in both.

47. The essence of environmental medicine is:
- proactive (e.g. environmental epidemiology, health risk assessment, setting up surveillance systems, and health education);
 - responsive (e.g. management of patients referred for assessment of possible environmental causality, or assessment of the health status of patients exposed to an environmental hazard).
48. The different opinions on the need for a separate and independent specialty of environmental medicine do not allow a definite statement on this issue. WHO should therefore evaluate the development of any such specialty in the countries with this experience.
49. The Consultation did, however, agree that any doctor seeking recognition as an environmental specialist must, just as in any other subject, be able to demonstrate higher level training, experience and accreditation in that subject as well as a continued exposure to the work of such specialists at a level which permits the effective maintenance of skills and knowledge.
50. The full assessment and subsequent management of environmental hazards and their effects on health requires the collaboration of a wide range of medical and nonmedical professionals. The latter might include scientists and technicians from other disciplines or other professions charged with inspection, prevention and enforcement responsibilities and with supporting doctors in cluster or outbreak control. The participants acknowledged WHO's current activities and encouraged the Regional Office for Europe to expand them further and to promote special training programmes in environmental health for such nonmedical professionals.

Language and definitions

51. Clarification of definitions and elaboration of relationships between terms such as environmental health, environmental medicine, environmental diseases, and environmental-related disorders is needed. The Consultation developed ideas on such relations. In some countries, the lack of clarity is inhibiting the development of legislation and the environmental health discipline. A glossary of terms should be prepared.
52. It is not easy to translate the term *environmental health* into some European languages. This situation needs to be resolved so that conceptualization is not inhibited by language.

Education and training

53. Existing and future undergraduate and postgraduate programmes of medical education should include a study of relevant environmental health issues. Physicians wishing to demonstrate a special interest in environmental medicine should be able to participate in an approved postgraduate training programme. WHO should consider developing guidelines for such programmes.
54. WHO should convene an international working group to improve the definition of the content of training programmes for medical professionals wishing to specialize in environmental health. Training programmes should take account of the need to improve the information available to and the communication skills of environmental health specialists.

55. There is a need to ensure that appropriate methods of exchanging information are developed between international agencies so that maximum use can be made of the available information, e.g. for decision-making and research. WHO should seek agreements in this field with other relevant international agencies and should investigate the potential to involve the WHO collaborating centres in the management of information management systems.

Research

56. The WHO health for all strategy and Helsinki process have provided a multidisciplinary framework within which national research priorities may be identified and developed as an element in NEHAPs. In addressing their priorities, countries should seek to involve and make best use of the full range of skills available to them including those of medical professionals. In developing their national programmes, countries should seek added value by linking them to relevant multinational programmes (e.g. ESF environmental health initiative) and those funded by agencies such as the World Bank and the EU.
57. Research into new syndromes possibly related to environmental factors is often inhibited by a lack of consistency between studies. WHO should consider the feasibility of developing standard case definitions for research purposes.

Annex I

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Annex 2

AGENDA

A. ENVIRONMENTAL MEDICINE AND THE ROLE OF MEDICAL PROFESSIONALS IN ENVIRONMENTAL HEALTH

- Introduction
- Status and development of "environmental medicine". Overview of the situation in selected countries (Germany, Latvia, Netherlands, Poland, Romania, Sweden, Switzerland, United Kingdom, Australia)

B. REVIEW OF THE KEY ISSUES

- Regulatory instruments
- Services (enforcement):
 1. Health care system
 2. Public health infrastructures (environmental health services)
- Economic instruments
- Professional profiles, education and training
- Environmental health information systems
- Research
- Public information

C. THE WAY FORWARD. CONCLUSIONS AND RECOMMENDATIONS

- Government responsibilities – NEHAP development:
 1. Regulatory instruments
 2. Services
 3. Profiles, education and training of medical professionals
 4. Information systems in environmental health
 5. Research
 6. Public information

Annex 3

PROGRAMME

Tuesday, 16 January 1996

08.30 - 09.00 Registration

09.00 - 09.30 OPENING

- Welcome speech by Dr Rudolf Grupp, Director, MoH, Germany
- Welcome speech by Professor Hans Hoffmeister, Director, Robert Koch Institute, Berlin, Germany
- Welcome and scope and purpose (Dr M. Haralanova, WHO/EURO)
- Election of officers
- Adoption of agenda and provisional programme

ENVIRONMENTAL MEDICINE AND THE ROLE OF MEDICAL PROFESSIONALS IN ENVIRONMENTAL HEALTH

09.30 - 10.30 Plenary: Status and development of "Environmental medicine"

- **Introduction** (Presentation by Dr M. Haralanova, WHO/EURO)
- **Overview of the current situation in selected countries:**
 1. Germany (Dr J. Blasius)
 2. Latvia (Dr S. Velina)
 3. Netherlands (Dr M. van Bruggen)
 4. Poland (Dr N. Wuczynska)
- **Discussion**

11.00 - 12.30 Overview of the current situation in selected countries (continued):

5. Romania (Dr A. Dimitrescu)
 6. Sweden (Mr M. Eriksson)
 7. Switzerland (Dr C. Braun-Fahrländer)
 8. United Kingdom (Dr J. Williamson)
 9. Australia (Dr B. Powis)
 10. USA (Dr. Stolwijk, to be confirmed)
- **Discussion**

REVIEW OF THE KEY ISSUES

14.00 - 15.30 Plenary

- **Regulatory instruments** - legal and other regulatory provisions; definitions of "environmental medicine" (EM) and of "environmental diseases; recognition of EM as a medical discipline; mandate; liabilities; official procedures; responsibilities of medical professionals in environmental health (public health aspects) (Introductory presentation by Dr D. Eis, Germany)

Coffee breaks: 10.30 - 11.00 and 15.30 - 16.00
Lunch: 12.30 -14.00

- **Services:**
 - **Health care service** - approaches at different levels of the health care system (primary health care, clinics, general practitioners, etc.): diagnostics, therapy, malpractice, professional organizations, links to the environmental health services (Introductory presentation by Professor H. Altenkirch, Germany)
 - **Public health service - Environmental health and medical professionals** – medical doctors in environmental health services, government decision makers, interrelation between the health care and the public health systems with respect to environmental health (Introductory presentation by Dr J. Wuthe, Germany)
- **Discussion**

16.00 - 17.30 Plenary (continued)

- **Economic instruments** - health insurance systems and their role in “environmental medicine”: malpractice, stimulating the role of medical professionals in preventive public health activities with respect to environmental health; government funds and other incentives to stimulate and pay medical professionals for particular preventive services (Introductory presentation by Dr H. Schmitz, Germany)
- **Professional profiles, education and training** - profiles of medical professionals at different levels of the health care and public health systems with respect to “environmental medicine” and environmental health; education and training; development of appropriate curricula, etc. (Introductory presentation by Mr M. Fitzpatrick, WHO/EURO)
- **Environmental health information systems** - application of modern information systems to monitor the health status of the population with links to the environmental hazards as possible causes for the morbidity and mortality trends established; public health and clinical aspects; HEGIS; environmental epidemiology; small area surveys, etc. (Introductory presentation by Dr S. Velina, Latvia)
- Development and application of a mailbox system for information exchange between environmental health professionals (Presentation by Dr V. Kaiser, Germany)
- **Discussion**

Wednesday, 17 January 1996

09.00 - 10.30 Plenary (continued)

- **Research** – Clinical aspects of research: ethiology, diagnostics, therapy and epidemiology of “environmental diseases”. Public health aspects of research: environmental epidemiology, sentinel studies, small area surveys; involvement of medical professionals (general practitioners, etc); (Introductory presentation by Dr J. Williamson, United Kingdom)
- **Public information** – planning and implementing information and education programmes and campaigns targeted at:
 - medical professionals from the different levels of the health care system –clinical and preventive aspects of environmental health and “environmental medicine”
 - the general population
 - politicians and decision makers, etc.(Introductory presentation by Dr A. Dimitrescu, Romania)
- **Discussion**

11.00 - 12.30 Discussion in working groups

- **Working group I** – “Environmental medicine” (clinical aspects: regulatory instruments, services, profiles, education and training of medical professionals)
- **Working group II** – Public health aspects and the role of medical professionals in environmental health
- **Working group III** – Research and Environmental health information systems
- **Working group IV** – Public information and health education

14.00 - 15.30 Discussion in working groups (continued)

16.00 - 17.30 Plenary:

- Report of working groups
- Discussions

Thursday, 18 January 1996

THE WAY FORWARD

09.00 - 10.30 Plenary: Conclusions and recommendations

- NEHAP development – activities recommended to governments on:
 - regulatory instruments
 - services
 - environmental medicine
 - environmental health and the role of medical professionals
 - profiles, education and training of medical professionals
 - information systems in environmental health
 - research
 - public information

11.00 - 12.00 Plenary: Discussions (continued)

- Planning future activities

12.00 - 12.30 CLOSING