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ASSESSMENT OF ENVIRONMENTAL MONITORING IN ESTONIA

Report on a WHO Project Review

Copenhagen
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1994

EUR/HFA target 18

TARGET 18
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

A review was held for the WHO project supported by Health and Welfare Canada called "Assessment of Environmental Monitoring in Estonia". The purpose of the meeting was to determine which information can be used in the criteria documents, and to make recommendations for improving the management of environmental health in Estonia. It was agreed that when the Estonian authorities need to use data collected on the environment and health, they should carefully assess the accuracy and reliability of the data. It was agreed that the parameters to be monitored routinely should be chosen according to the existing technical capacities to produce reliable and comparable data, the relevance to existing problems, and the financial acceptability. In conclusion, the participants recognized the need for training, organizing quality control of laboratories and supporting the formulation of standard methods.

Keywords

ENVIRONMENTAL MONITORING
ENVIRONMENTAL HEALTH
DATA COLLECTION – methods

Introduction

Mr X. Bonnefoy, WHO/EURO, opened the meeting by explaining the purpose of the agreement i.e. assessment of the institutional structures and technical procedures for environmental monitoring. The objectives are to determine available information which can be used in the development criteria documents and to provide recommendations for improvement of environmental health management in Estonia. He also explained a larger programme to assess environmental health and monitoring services in all European Member States.

Discussion was then opened on the reports made by Drs A. Kappos and I. Wilson and the Estonian experts. Health services were discussed first and the following were some of the comments.

Dr R. Otson commented that although assessment of Estonian health data was not a stated requirement under the agreement, such an assessment would be useful for development of criteria documents.

The potential lack of objectivity of appointed public servants (as opposed to selected thorough competition) may lead to an undue influence on generation of environmental health data.

There appears to be a lack of enforcement of existing legislation. Although new laws are required, it would be best to focus enforcement on a small number of important laws.

The concept of sustainable development for the environment requires explanation, publicity and acceptance in Estonia.

The need to abide by international environmental laws should have some influence on progress in Estonia.

Drs Kappos and Silla discussed the health system and consequent data limitations.

- There are inconsistencies in pollution monitoring data.
- Although the data on the number of deaths are probably correct, the cause of death data are probably unreliable due to several factors, such as, inconsistent qualifications of medical personnel, possibility of several causes of deaths, and censorship of data by government officials.
- Although current circumstances are similar to the past, age and sex mortality information is now available.
- Morbidity data are more unreliable than mortality data.
- There are indications that a segment of the health services population is striving for improvement of the system.
- Health data in limited, focussed (special) studies may be reliable.
- The quality of "western" morbidity data is also questionable.

A discussion of the merits of the Estonian (and former USSR) system followed, but no clear conclusions were drawn.

After a brief review by Dr Wilson of her assessment of the environmental monitoring services, there was a discussion on this topic.

It is not clear if previously restricted or cited pollution data are now available.

There is a lack of information (quantitative) on values exceeding MACs.

Some methods for determination of metals are detailed, but the quality of their application is unknown.

Water quality data are available, but are of uncertain quality.

Air quality data do not generally include the substances listed in the agreement target (except for BaP) and reliability is uncertain.

There is a lack of within lab QA/QC.

New analytical methods are not being validated.

Overall, the monitoring data are unreliable for a variety of reasons.

Perhaps nitrate data are useful.

Collation and retrospective examination of pollution data would be expensive if done properly. The quality of some current efforts in this direction is unknown.

Any use of existing data can lead to wrong conclusions.

Comments

1. Estonian officials should make an assessment of the reliability of the data which has been and is provided by various Estonian agencies.
2. Estonian officials should identify a few selected chemicals whose occurrence can be properly monitored.
3. Estonian Government officials must be advised of the need for coordination and streamlining (consolidation) of health and monitoring services.
4. It is important that Estonian laboratories obtain supplies of proper reference standards, reagents and other special materials required for application of modern analytical methods. Production of such supplies in Estonia should be encouraged.
5. Proper within-lab procedures must be implemented. This requires training in modern lab management and operating procedures.

6. An independent lab certification and inspection system should be implemented for labs which produce environmental monitoring data.
7. Development of an independent expert, central laboratory for selected methods and determinants is recommended highly. The lab could be funded by the interested parties (i.e. Government departments), should be directed by a monitoring expert, could be governed by collaborating agencies, and should be protected from financial, political or other influences. It should obtain international recognition and organize participation in international programs. Its role would be to educate technical personnel and advise on procedures. It need not conduct routine analyses.

Then a discussion on environmental health services was next initiated.

The lack of collaboration and coordination between the health protection and environmental protection systems was noted for Estonia. The approaches in Germany, England and Canada were discussed.

Comments

1. Estonia should implement a mechanism to ensure cooperation or integration between the health and the environmental monitoring services.
2. Responsibilities for specific pollutants and media must be defined for the cooperating agencies.
3. Analyses of different media for determination of the same pollutants should be conducted (physically) in separate facilities.

Recommendations

1. Participants have acknowledged a very wide diversity in the quality of the data produced by various institutes.

Should Estonian authorities need to use data collected for environment and health, they should carefully assess the accuracy and the reliability of the said data.

The participants have agreed to conclude that many reports are published without having made this kind of assessment.

2. Parameters to be monitored routinely should be chosen, among others, according to the following criteria:
 - Existence of technical capacities to produce reliable and comparable data;
 - Relevance to existing problems
 - Economical acceptability.

This will certainly lead to a fewer number of parameters to be monitored.

3. Lack of clarity in distribution of responsibilities as well as a multiplication of laboratories and structures have led to overlapping in the execution of tasks and to poor quality of data. This could be improved by reorganizing and streamlining environmental and health services and related organizations and institutes.
4. Intersectoriality should be a preoccupation in reorganizing services. Careful attention should be given to procedures allowing for exchange of data and information among various ministries. Flow of information should reach and come from communities and local authorities.
5. Priorities for monitoring should be given to the most afflicted regions.
6. The participants have agreed to recognize the need in environmental health for:
 - training of personnel working in laboratories and environmental health services;
 - organizing quality control of laboratories and within laboratories;
 - laboratories processes of regular inspection and scientification of laboratories;
 - increasing the commitment of management to improve quality control;
 - supporting the elaboration of standard methods;
 - participating in international programmes with special emphasis on Baltic and Nordic States.

Therefore, the Working Group suggested that the Estonian authorities should study the possibility of establishing relevant structure and identifying funds for satisfying these needs.

7. In order to improve reliability of data and the efficiency of the laboratories, the selected recognized laboratories for environment and health monitoring must be supplied with proper reference standards, enough reactive and adequate material required for the application of analytical methods.

Production of such supplies should be encouraged in Estonia. Simultaneously, advanced techniques, including automation of analyses, should be promoted.

8. The participants acknowledged the need of using validated methods. Therefore, sound validation of all methods should be performed, both by independant reference bodies and by the laboratories themselves.

Should the Estonian authorities need to use data related to environmental health, they should carefully assess the accuracy and reliability of the said data. The participants have agreed to conclude that many reports have been published without having controlled the "quality" of the data used in the report and therefore conclusions of these reports are questionable. The participants have acknowledged a very wide diversity in quality of data produced by the institutes.

Parameters to be monitored routinely should be chosen among others in the following criteria.

- existence of technical capacities to produce reliable data;
- relevance to existing problems;
- economical acceptability. This will certainly lead to a number of parameters to be monitored.

3. Lack of clarity of distribution of responsibilities, the multiplication of laboratories and structures has led to overlapping in execution of tasks and sometimes poor quality of data. This could be improved by reorganization and streamlining of environmental health services and related organization in institutes.

Annex 1

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