The Role of Health Systems in Chemical Safety in Eastern Europe, Caucasus and Central Asia (EECCA) Countries

Report summary of meeting held in Minsk, Belarus
20–22 February 2008

The WHO Regional Office for Europe

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ABSTRACT

The meeting aimed to review the capacity of health systems of eastern Europe, Caucasus and central Asia (EECCA) countries in the field of chemical safety and to identify needs for international support for national and sub-regional priority actions strengthening the role of health systems, especially in preparedness and response to chemical emergencies.

Keywords

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Background

Chemical safety came into focus in 1972, when the United Nations Conference on the Human Environment endorsed the Stockholm Declaration on Human Environment, advocating the need for a common outlook and common principles on the preservation and enhancement of the human environment. Since then, there have been several landmark developments in the global response to the emerging threat of chemical risks and the need to promote chemical safety.

Chemicals play an important role in everyday life and their production and use has been growing rapidly. While they provide benefits, they can also have negative impact on humans and the environment. Although widely used, little information exists on hazardous chemicals sold commercially and used in countless products. There is a potential for a negative impact at every stage of chemical production and product use. Potential health threats might involve chemical accidents, fires, chemical contamination of the environment, or the deliberate release of chemicals and poisons.

The sound management of chemicals is essential to achieve sustainable development, including the eradication of poverty and disease, the improvement of human health and the environment and the elevation and maintenance of the standard of living in countries at all levels of development.1

Chemical safety involves issues relating to the environment, health, agriculture, industry, trade, etc., that come under the responsibility of different sectors of government. Coordination and cooperation among the different government agencies is essential if a successful national chemical safety programme is to be achieved. Although the prevention of risk to human health is one of the key components of such a programme, the involvement of the health sector has been limited in many cases. The successful implementation of a chemical safety programme depends on the active and effective participation of the health sector.

To assist eastern Europe, Caucasus and central Asia (EECCA) countries’ health sectors chemical safety activities at national, regional, international levels, the Bonn office of the WHO Regional Office for Europe organized this meeting in Minsk, Belarus, 20–22 February 2008. The meeting was hosted by the Ministry of Health of Belarus.

Participants

Experts from 11 EECCA countries, 2 other countries from the European Region, resource persons and an international organization, the United Nations Institute for Training and Research (UNITAR) participated at the meeting. Ainash Sharshenova and Irina Zastenskaya were elected to co-chair the meeting. Toby Smith acted as rapporteur (Annex 1).

Summary of the meeting discussion

The meeting started with an introduction on health systems’ role in chemical safety, and focused on preparedness for and response to chemical emergencies. Specific topics included national systems in emergency planning, preparedness, chemical accidents, poison centres’ data collection.

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1 Dubai Declaration of SAICM (Strategic Approach to International Chemicals Management)
systems, integrated approaches for sound management of chemicals, European Union (EU) legislation on chemicals, including REACH (regulation EC/1907/2006 “Registration, Evaluation, Authorisation and Restriction of Chemical substances”) and SAICM. WHO’s role in emergencies, implementation of the International Health Regulations and chemical safety in the context of a multi hazard approach to health systems preparedness were discussed, and participants described their countries’ situations regarding chemical safety.

The participants formed two groups to discuss the role of health systems in chemical safety for EECCA countries, assess the current situation and identify gaps and priorities.

**Working Group 1. Observations of present situation of chemical management in EECCA countries**

**National laws and regulations on chemicals**

Laws regarding chemicals have been generally inherited from the previous regime and are therefore not harmonized with present international requirements. Although most EECCA countries have laws regarding the safe production, transportation and trade of chemicals, these laws are often neither harmonized nor enforced. They are under the authority of different ministries (for example ministries of interior, transport, trade, health, environment, customs, agriculture) and unfortunately there may often be poor communication between the ministries in charge. Law enforcement is reliant on existing skills for inspection (for example sanitary, veterinarian, environment and ecology) and there is therefore a highly variable level of compliance. Sub laws and other legal acts may contain varying standards for pollutants in various media, however many of the newer emerging pollutants have not been identified and there are often no standards for monitoring and evaluation. The following actions are needed:

- country specific legislation to implement laws concerning chemicals should be introduced;
- updating national regulations to REACH specifications or adapting the underlying principles of REACH.

**International conventions and agreements**

A different situation was noted in every participating country; most EECCA countries have ratified the Basel and Stockholm conventions, whilst others (such as Rotterdam and International Labour Organization (ILO) conventions) have not been implemented. The global system for harmonized labelling (GHS) is not implemented in all EECCA countries. An explanation for this is that the benefits of harmonized systems had not been clearly made to key decision makers, and economic reasons were raised as another potential explanation. In addition, whilst conventions require ratification and legislation needs updating to implement the conventions, laws for the application of the conventions need to be introduced. The group agreed that a focal point was required to make and initiate change. It was recommended that countries:

- introduce laws and regulations to allow implementation of international conventions;
- harmonize their existing laws according to the requirements of the international conventions; and
- ratify international conventions (e.g. Basel, Stockholm, Rotterdam)

**General chemicals management**

No system for the integrated management of chemicals was present in any country, although partial stages were in place. No mechanism existed for cradle-to-grave management of chemicals,
including considerations of chemical assessment and risk management. Accurate chemical inventory was lacking.

While the import of chemicals, production and trade were controlled, the monitoring of ecological effects was not always considered, especially for waste. The long-term effects and consequences of chemical releases and waste disposal were therefore often not established. Finally, capacity to roll out and enforce new systems was lacking. The group recommended:

- preparation of an international project proposal to establish a single database to assist countries to disseminate data and to support surveillance.

**Chemical accidents**

Laws for dealing with emergency situations are generally in place along with mechanisms for response, however it was unclear if all countries in EECCA were parties to the United Nations Economic Commission for Europe (UNECE) convention regarding transboundary effects of industrial accidents. Responders are connected to other ministries that have obligation to respond, and responses were described as purely reactive/spontaneous when dealing with emergencies. The role of the health sector was deemed not great enough on the chemical safety and chemical accident prevention agenda.

Chemical emergency plans were relatively old, generic, nonspecific and often nonexistent. Hazard identification at each facility was often not undertaken and a detailed assessment of the unique set of consequences at each process not always considered (for example, taking into account substances, receptors and different media/ecosystems). In addition, worse-case scenarios and their consequences were often not considered.

Risk assessment was not always undertaken as part of preparedness and response and needed incorporating into existing emergency plans. Emergency plans and action plans were incomplete and required updating with inclusion of health input. There were concerns that the plans in place had insufficiently trained staff and insufficient equipment for implementation. It was noted that:

- emergency plans required improvement to be in line with the Seveso Directive;
- to strengthen preparedness and response to chemical accidents, the emergency plans needed to emphasize the role of the health system

**Poison centres**

Currently, poisons centres, as such, are not present in all EECCA countries. While toxicology centres existed, there were subtle differences between these two centre types regarding roles and responsibilities. In addition, existing centres may not necessarily follow the WHO International Programme on Chemical Safety (IPCS) guidelines. In most EECCA countries, toxicology centres were affiliated with accident and emergency care (clinical care), with additional specialized departments for surveillance. This was organized slightly differently in each country. These centres were reactive rather than proactive and epidemiological data were not shared with public health authorities. The working group recommended that:

- a definition be required for poison centres and a distinction made between a toxicology centre and a poison centre;
- poison centres needed to be established following WHO (IPCS) guidelines.

There was a need for capacity building with the development of poison centres, along with the development of a central database enabling a mechanism for information sharing.
Working group 2. Identification of gaps and priorities in the EECCA region on chemical safety

In the countries of EECCA, the health sector participated in chemical safety activity development. All countries had some legislative base to control air emissions, water releases, and waste management. In many countries governments were making efforts to develop laboratory capacities for the control of chemical residues in food and other environmental media, in order to assess and manage risks. While countries in the region were at very different levels of chemicals management, some issues applied to all.

Legislation
Countries had no specific short- or long-term strategies for chemicals management, and development of such strategies was a priority at the country and regional levels. Countries had different legislative bases for chemical safety, but none had legislation completely corresponding to chemical safety needs. The priority in legislation was to make a critical analysis of existing legislation, including that which regulated risk assessment and risk management, in order to develop and enforce harmonized legislation taking account of international approaches to chemical safety regulation. Countries should:

- analyse EU legislation on chemical safety and evaluate the potential possibility to adopt (this will also facilitate trade with EU after REACH enforcement);
- accept and enforce the International Health Regulations (IHR), which would be very useful in raising chemical safety awareness at policy level and facilitate action to strengthen chemical safety;
- harmonize national legislation with the IHR; and
- hold training courses to facilitate the development and enforcement of legislation on chemical safety.

Risk assessment
One of the main elements of risk assessment is the identification of the hazards of different chemicals and substances, and its main purpose is to prevent harm to human health. In EECCA countries capacity building was one of the most important issues. The other was the development and implementation of a common harmonized methodology to assess risk, to reveal the connection between environment pollution and population morbidity and mortality based on information from health evaluation. The actions should be taken are follows:

- training toxicologists and epidemiologists in leading scientific centres in EECCA countries (for example in Ukraine);
- holding short WHO training courses;
- developing and implementing the methodology for risk assessment and methods for hazard assessment;
- providing financial support for capacity building to implement risk assessment in every country.

Information exchange
EECCA countries had practically no databases on chemicals, their hazards and characteristics, but there was good experience in pesticide registration and control at government level. To facilitate information exchange and dissemination the following actions were priorities for EECCA countries:
• gaining access to international databases on chemicals and chemical hazards (and making the data available in national languages was desirable);
• providing information on best environmental practices and best available techniques.

Information on best practice was also very important for emergency prevention and preparedness.

Laboratory capacity
Laboratory capacity differed greatly throughout the Region. The common problems were: insufficient methodological base (no harmonized methods to control chemicals in environmental media, food, and biological substances); no information on the production and use of chemicals; insufficient number of qualified staff; old and poorly-maintained equipment. As a rule laboratories were accredited in national (not international) systems. To enhance laboratory control it is necessary to:

• to renovate equipment (including what is necessary for rapid analysis in emergency situations);
• to train laboratory staff in leading analytical centres;
• to create reference-laboratories to provide reliable data;
• to create national toxicological centres for not only clinical care but also training and registration and analysis of all cases of poisoning;
• to create national radiological centres to train personnel and register every case of radiological poisoning.

Training
In addition, medical personal and the population needed training in how to act in an emergency.

Awareness raising
There is a significant lack of awareness raising in EECCA countries in the field of chemical safety, and public participation in strengthening the safety of chemical use is very poor. The main reason for this is the lack of information available to the population in general, and more specifically to workers, children and adolescents, nursing mothers, pregnant women and women of reproductive age, in regard to chemical-related hazards and how to prevent their negative effects.

Nongovernmental organizations can help in the development of materials to raise awareness.
Conclusions and recommendations

The participants discussed the role of the health sector in chemical safety, identified key problems, gaps and areas that need strengthening at national, subregional and regional levels. They made recommendations on working together in joint projects, sharing experiences, capacity-building, especially on toxicology, and risk assessment and management. They emphasized the need for data management systems for harmonized collection of data on chemicals and poisoning, especially in Russian language.

• Although countries in EECCA have some legislation on chemical safety, it is inadequate, and needs updating and further development to meet international standards.

• Most of the countries have ratified the international conventions and agreements but do not have the laws to implement them A pragmatic approach should be adopted to shape policy and to fit new legislation around existing laws.

• All EECCA countries need focal points for the role of health systems in chemical safety. This could be achieved by appointment of a SAICM (Strategic Approach to International Chemicals Management) focal point for health in line with World Health Assembly resolution WHA 59.15.

• Capacity building in chemicals management, especially training of toxicologists, is of utmost importance. WHO could assist in training.

• There is a lack of trained staff, thus limiting the provision of a strong regional service. A train-the-trainer approach is suggested as a method of drawing upon international expertise and strengthening local capacity.

• Poison centres should be available 24 hours a day, 365 days a year and should have a shared and harmonized database (in Russian) to encourage cross-fertilization, surveillance and follow-up. Proactive poison centres are not available in most countries.

• EECCA countries require the development and or upgrading of national and regional toxicology centres, which would share and/or exchange information on chemicals and chemical incidents.

• A good reporting system is fundamental, as the number of both acute and chronic incidents is set to increase.

• There is a need to implement chemical safety programmes to completely eliminate banned pesticides and obsolete chemicals.

• The participants reached consensus on the need to improve surveillance and risk assessment through improved ecological sampling, modelling and modernized laboratories for chemical characterization and pollutant quantification.

• An inventory of dangerous chemical products and public awareness campaigns should be developed to target vulnerable groups.

• Programmes on accident prevention should be better regulated in the Member States.
• Cooperation and the availability of consistent specialist advice within each country and throughout the region would reduce inequality in response capabilities essential for transboundary incidents.

EECCA countries welcomed the news that the Canadian Center of Occupational Health and Safety (CCOHS) would make available the Russian Cyrillic version of INTOX in cooperation with the WHO Regional Office for Europe in the near future.
### Annex 1

**LIST OF PARTICIPANTS**

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