



Strategic Approach to International Chemicals Management: implementation and priorities in the health sector

**Meeting report
Bonn, Germany
22-23 June 2015**



**World Health
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ABSTRACT

The health sector is an important stakeholder in the Strategic Approach to International Chemicals Management (SAICM). This meeting aimed to identify the role and responsibilities of the health sector in the implementation of the SAICM and priorities for the sector in reaching the 2020 goal for sound chemicals management in the WHO European Region. Recognition was given to the needs to strengthen human resources and to create basic national frameworks to ensure the engagement of the health sector in the sound management of chemicals at national level in close cooperation with other sectors, relevant governmental agencies and stakeholders.

Keywords

CHEMICAL SAFETY
HAZARDOUS SUBSTANCES
ENVIRONMENTAL HEALTH
RISK ASSESSMENT
PUBLIC HEALTH
CAPACITY BUILDING

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Abbreviations

| | |
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| EDCs | endocrine-disrupting chemicals |
| EU | European Union |
| ICCM | International Conference of Chemicals Management |
| SAICM | Strategic Approach to International Chemicals Management |
| WHO ECEH | WHO European Centre for Environment and Health |

Background

The strategy for strengthening the engagement of the health sector in the implementation of the Strategic Approach to International Chemicals Management (SAICM), adopted at the third session of the International Conference of Chemicals Management (ICCM3), reconfirms the important role of the health sector as a stakeholder in SAICM. Assessment of the role of the health sector in countries with different chemicals management systems had revealed gaps in capacities, including in human resources and infrastructure, which should be filled to ensure the sector's effective involvement in chemicals management. Taking into account a broad range of health-related aspects of chemical safety, the WHO Executive Board at its 134th Session requested the WHO Secretariat to assist countries in setting priorities in the management of chemicals so as to enable the efficient use of resources and better progress in protecting human health from the negative impacts of hazardous chemicals.

At ICCM3, SAICM stakeholders recognized the need to set regional priorities for the achievement of the goal agreed at the 2002 Johannesburg World Summit on Sustainable Development of ensuring that, by the year 2020, chemicals are produced and used in ways that minimize significant adverse impacts on the environment and human health (the 2020 goal). This was outlined by the SAICM Secretariat in the Overall Orientation and Guidance, developed in response to a request from ICCM3 and further discussed at ICCM4 (Geneva, September 2015). The second meeting of the SAICM Open-ended Working Group (Geneva, December 2014) had encouraged different sectors to identify sectoral priorities as input to the discussions at ICCM4.

In response, the WHO Regional Office for Europe organized a Meeting in the context of the European Environment and Health Process, with the main purpose of: (i) identifying regional priorities in addressing health-related aspects of chemical safety, and (ii) discussing action for strengthening capacities, including human resources and infrastructure, at national level to enable responses to the challenges caused by the production and use of hazardous chemicals.

The Meeting took place in Bonn, Germany, on 22–23 June 2015, supported by funds from the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety. It was attended by 32 experts from 22 countries, including country representatives, representatives of international and nongovernmental organizations, and WHO temporary advisers (see Annex 1 for the list of participants). Ms Marta Ciraj and Mr Jean-Pierre Bourguignon were elected chairpersons, and the rapporteur was Ms Bernice Schaddelee-Scholten.

A series of presentations given during the Meeting by stakeholders in SAICM reflected a wide range of views about the role of the health sector in the implementation of SAICM (programme in Annex 2).

Introduction

Ms Elizabet Paunovic, Head of the WHO European Centre for Environment and Health (WHO ECEH) in Bonn, welcomed participants and highlighted the importance of identifying priorities for the health sector and future action to protect human health from the impacts of chemicals.

The discussion would focus on identification of health sector priorities in the WHO European Region and agreement on recommendations for national frameworks to ensure that the health sector has the capacity to carry out its role in chemical safety. The outcomes of the Meeting would provide regional input into WHO's priorities for the health sector to be considered at ICCM4.

Global and regional policies and strategic documents, such as the SAICM health strategy, World Health Assembly resolutions, chemical multilateral environmental agreements, the WHO European Health 2020 strategy, the United Nations post-2015 development agenda and sustainable development goals, form a strong basis for involving the health sector in chemicals management. Setting priorities can contribute to reducing the burden of noncommunicable diseases. The discussion should focus on areas in which progress is critical. For example, about 30% of WHO European Member States lack chemicals policies. Even though countries classified by the United Nations Environment Programme as the Western Europe and Other Group and Central and Eastern European countries showed the highest indices of health sector involvement in comparison with other regions globally, there is room for improvement. Furthermore, it is not only important that the health sector becomes involved; it should also be clear how it could be involved.

In the view of the SAICM Secretariat, the health sector is critically important in SAICM policy deliberations and delivery of the 2020 goal. Milestones in the preparations for ICCM4 and the main expected outcomes included agreement on the SAICM Overall Orientation and Guidance, decisions on the chemicals in products programme, and decisions on environmentally persistent pharmaceutical pollutants and highly hazardous pesticides. Other important topics for discussion at ICCM4 included chemicals management beyond 2020 and the implementation of sustainable development goals. A high-level component would develop how the SAICM multisectoral approach can benefit the latter.

Role and responsibilities of the health sector in the management of chemicals

In many countries in WHO European Region, including in Germany, the environmental sector plays a leading role in chemicals management. The involvement of the health sector is, however, of paramount importance for the success of SAICM and achievement of the 2020 goal. Chemicals should be a subject of interest and concern for the health sector, in view of their important contribution to chronic diseases.

Two priorities for the health sector in this context are the long-term health effects following (sub-)chronic exposures, including to nanomaterials, and the contribution to the continuing debate on endocrine-disrupting chemicals (EDCs). Specific attention should be paid to the 11 elements and six core activity areas in the SAICM Overall Orientation and Guidance.

Since the health sector is a significant user of chemicals, it was felt that health ministries should encourage WHO to strengthen its engagement in the SAICM Secretariat. WHO is, however, already focusing on implementation of the strategy for engagement of the health sector in SAICM in the Regional Offices.

In the view of the SAICM Regional Focal Point of the Western European and Other Group, WHO is playing an active role in connection with the SAICM, including in its health sector

strategy. A further priority for the health sector should be the collection of robust evidence on the chemical causes of illness and the resulting costs, as well as evidence on safer alternatives. There was an unquestionable role for poison control centres.

The Health and Environment Alliance, which is a major network of environment and health nongovernmental organizations, is active in the area of chemical safety through activities such as translating science into policy, raising awareness of the health impact of chemicals and evaluating the economic costs of ill health. An example of the latter is the recent report on *Health costs in the European Union: how much is related to EDCs?*¹ From the perspective of nongovernmental organizations/civil society, the health sector should give more attention to increasing capacity, gathering evidence of economic costs of diseases and being more strongly involved in human biomonitoring and in a dialogue with policy-makers.

Initiatives taken by the Endocrine Society fit into the set of actions proposed in the SAICM health strategy through awareness-raising, risk assessment, capacity-building and resilience, information collection and dissemination, intersectoral collaboration and international leadership. EDCs are a challenge for the current regulatory framework, in part because of the problems in establishing thresholds for them and the fact that their potency is dependent on a life-stage and biological/health endpoint. The most important messages from the 2015 Endocrine Society Statement include the need for development of regulations to protect vulnerable groups, science-based revision of criteria for EDCs and improvement of hazards characterization of chemicals that might be considered as EDCs.

An analysis of the roles and responsibilities of the health sector in chemicals management globally revealed a need for clear identification of the role of the health sector in national legislation and its strong involvement in the interministerial/intersectoral discussion and decision-making process, as well as the creation of an appropriate infrastructure with adequate human resources.² On the basis of this analysis and of SAICM documents, selected sustainable development, health and environment strategies, a draft document entitled Proposals for National Frameworks had been prepared for consideration at the Meeting.

Case studies demonstrating the involvement of the health sector in chemicals management in Slovenia, Sweden and Bosnia and Herzegovina (Republika Srpska) were presented.

In Slovenia, the European Union (EU) had supported the establishment of the Chemicals Office of the Republic of Slovenia within the Ministry of Health. Its tasks include the coordination of an intersectoral committee, the identification and management of chemical risks, control of implementation of the relevant legislation, good laboratory practice and international coordination. The advantages and challenges of such an allocation of chemical safety authority were discussed. A major advantage, for example, is better coordination with other health care institutions which play an important role in chemicals management, such as the Poison Control Centre in the public health management of emergencies, or the National Public Health Institute

¹ Health costs in the European Union: how much is related to EDCs? Brussels: Health and Environment Alliance; 2014 (http://www.env-health.org/IMG/pdf/18062014_final_health_costs_in_the_european_union_how_much_is_realted_to_edcs.pdf, accessed 4 December 2015).

² Health-sector involvement in chemicals management at the national level: review of current practice. Copenhagen: WHO Regional Office for Europe; 2014 (<http://www.euro.who.int/en/publications/abstracts/health-sector-involvement-in-chemicals-management-at-the-national-level-review-of-current-practice>, accessed 17 December 2015).

in implementation of the human biomonitoring programme. Slovenia supported the presence of WHO in the SAICM Secretariat.

In Sweden, chemicals management is led by the Ministry of the Environment. Sweden has strong environmental legislation that includes the main provisions for chemicals management. The implementation of this legislation should result in the achievement of environmental objectives which, in relation to chemicals management, are: clean air, a nontoxic environment and a good built environment. The role of the health sector in chemicals management is limited to the collection of knowledge on health and the environment and responsibility for treatment of diseases caused by exposure to chemicals. Obstacles in the way of deeper involvement by the health sector include the fact that knowledge available in the health sector is not always drawn on, the health sector is itself uncertain of its role in chemicals management, and health is not always the main priority. Positive changes are, however, expected following implementation of the Health in All Policies approach in all EU policies. The general attitude of people in Sweden not to accept risks had contributed to the country's success regarding the safety of chemicals. All producers who introduce a product on the market are obliged to supply information as to whether compounds in a product are dangerous for human health.

In Bosnia and Herzegovina (Republika Srpska), a chemical accident in 2005 involving the destruction of 31 000 litres of acetic anhydride served as a starting point for the creation of the Department of Chemicals and development of new legislation in the area of chemical safety in Republika Srpska. The Ministry of Health supports the operation of the chemical and biocide inventory, ensures that chemical information is available on-line, educates the public, participates in international cooperation and coordination, organizes the public health response in chemical emergencies and assists in the implementation of sound chemicals management in the health sector. The complexity of chemicals management requires constant cooperation between all stakeholders.

Building capacities in the health sector

Three parallel round-table discussions addressed the building of capacities in the health sector.

Strengthening human resources to ensure health sector involvement in chemicals management

It was difficult to develop a unique recommendation in view of the variety of conditions in countries. National situation assessments were needed before action could be taken.

The main gaps in human resources are: insufficient personnel; low budget; insufficient education, training and knowledge; gaps in motivation, such as a low ability to translate knowledge into policies; a lack of evidence or data collection and analysis; and gaps in intersectoral inputs.

To facilitate the strengthening and mobilization of health sector resources, the following actions could be taken at national and international level:

- ensuring access to information by making an inventory of existing resources;
- advocating for increases in human resources according to gaps and needs;

- awareness raising and education for government, nongovernmental organizations and society, in particular the health sector;
- cooperation/collaboration between countries to share resources (such as laboratories, education and expertise);
- development of an international web-based resource of relevant data, research findings, fact sheets, and the costs of action/inaction.

Three main target groups for education and training are:

- the health care and public health sector (public health, paediatrics, toxicology, gynaecology, nurses);
- the research sector (chemistry, toxicology, epidemiology, health researchers); and
- the government sector (policy-makers in the environment and health sectors, as well as in other sectors such as finance, transport and agriculture).

Training programmes should be tailored to specific needs, area of expertise and responsibilities of the audience. For health sector specialists, these should include basic knowledge about chemical safety in areas such as food safety, environmental protection, urban and regional development, industry/technology, transport, waste management and finance.

Such education and training can be motivated by, for example, grading and giving awards to schools and universities that promote education in this area through competitions and the preparation of interesting learning materials, as well as the incorporation of chemical issues in accreditation systems.

Other professionals can contribute to training for health sector specialists in this context. For example, mass media specialists can promote the topic, nongovernmental organizations can advocate increased resources, and researchers can contribute knowledge.

Building capacities in the health sector to address emerging health issues (the case of EDCs)

Elements necessary to facilitate capacity-building in the health sector to address problems with EDCs include the following:

- incorporation of the notion of EDCs in curricula starting from basic science (the concept of the developmental origin of health and disease) to clinical symptoms and treatment as well as the capacity for preventive interventions, keeping in mind the multidisciplinary nature of the topic;
- provision of suitable education materials;
- inclusion of scientific and preventive components in continuous training;
- training in communication: an educational strategy built on positive motivations rather than obligations;
- adjustment of EDC education to the following target groups (including policy-makers):
 - general practitioners, to facilitate good behavioural practice and alert public opinion to EDCs;

- specialists providing health care during the most sensitive periods (such as gynaecologists in pregnancy), to recommend preventive measures to their patients;
- physicians, nurses and professionals such as chemists, risk assessors, lawyers and politicians, to address safety issues; a basic knowledge of EDCs is crucial to encourage public awareness for pressure on policy-makers to take action;
- training in how to tackle the problem at the current stage of knowledge and bridge the gap between knowledge and practice by, for example, demonstrating the feasibility of preventive education (such as labelling), filling in the gap between science and education translated into daily consumer behaviour, and filling in the gap in the application of a multidisciplinary approach;
- adjustment of the organization and structure of education;
- securing support from authorities through education of policy-makers, organizational support (pressure to go beyond individual voluntary initiatives), financial support for training and preventive education, and demonstration of the economic costs of EDC-related diseases.

Preventing impacts on human health in emergency situations

Emergencies are acute and chronic events. It is, therefore, important to raise awareness of chronic issues as part of the involvement of the health sector in emergencies and in the sound management of chemicals.

Priorities and topics to facilitate the involvement of the health sector in the management of chemical emergencies include:

- clarification of the legal framework for the role and responsibilities of the public health sector during emergencies, and recognition from other partners of input from the health sector in command and control structures and frameworks;
- activities to promote the involvement of the health sector, such as:
 - top down chemical safety promotion programmes from international agencies such as WHO;
 - national and international awareness days or weeks to promote chemical safety;
- high-level political pressure to promote chemical safety and address countries that are not implementing SAICM through, for example, WHO events on chemical safety aimed at audiences such as health ministers.

There is public trust in the health sector, in terms of the advice it gives and how confident health sector professionals are in their response. The health sector has a key role to play in advocacy for human health.

The lack of resources, including equipment, technical skills and laboratory staff limits stronger engagement by the health sector in the management of chemicals emergencies. The infrequency and variability of chemical emergencies militate, however, against the strengthening of technical and human resources and, importantly, political support for the obtaining and keeping of budgets for costly technical resources.

The benefits of intersectoral cooperation in and between countries should be explored in areas such as medical countermeasures (antidotes and stockpiles), the development of mutual aid agreements and standard operating procedures, the creation of professional networks (such as the important networks of poisons centres), and the sharing of resources and information. These could also be priority areas for cooperation in transboundary pollution situations.

Hazard-mapping is vital to planning, preparedness and response. Easy access to environmental and health data and the availability of such data and information to the general public are particularly important. Data-sharing would also help to augment the input from the health sector in wider issues concerning land use planning and the regulation of industry.

Continuous professional development training for public health specialists should focus on core skills, including:

- risk assessment
- risk mitigation and risk management
- risk communication
- exercises and scenarios
- generic project management skills, hypothesis-testing
- political skills, negotiating and influencing skills.

Such training should also be linked to wider objectives regarding the promotion of and education in chemical safety, for example, in schools and in general publicity campaigns.

It is important to learn from past events but it can be difficult to change policies and legislation in the wake of specific events. There can be a short corporate memory.

Other tools in addition to those discussed above include:

- investigation of clusters of disease, including diseases of unknown etiology and chronic events;
- validation and accreditation of available toxicological information resources and databases;
- development of surveillance systems;
- availability and accessibility of data;
- medical countermeasures, such as antidotes and stockpiles;
- professional networks, such as the importance of networks of poisons centres.

Towards the 2020 goal: priorities for the health sector in the WHO European Region

Regional priorities towards the 2020 goal in the SAICM's Central and Eastern European countries were set at the Fifth SAICM Central and Eastern European regional meeting in September 2013. The six main priorities were: creation/strengthening of poison control centres, management of industrial accidents, implementation of international conventions, engagement of

stakeholders, use of the Globally Harmonized System of Classification and Labelling of Chemicals and training of specialists.

Health sector activities in the chemical safety area were also discussed at a meeting organized by the Regional Office in 2012. These included: management of carcinogens, mutagens, reproductive toxicants and EDCs; management of contaminated sites; implementation of health-related activities of international chemicals agreements; implementation of the International Health Regulations; and emergency prevention, preparedness and response. These areas could also be considered and discussed as priorities for the health sector in the implementation of the SAICM. The management of chemicals needs a clear message similar to that in the Sixty-eighth World Health Assembly resolution WHA68.8 on the health impact of air pollution.

An emerging policy issue for SAICM is the elimination of lead from paints. Albania, for example, had participated in WHO's international lead poisoning prevention weeks since 2013. To make information about the effects on health of lead publicly available, WHO's document on lead poisoning in children³ had been translated into Albanian and considered for inclusion in the curriculum for medical doctors. There was a need for access to information on quantities of lead in paint.

As regards the involvement of the health sector in the management of emergencies, the key principles in the United Kingdom are: preparedness; clarity of role and responsibilities; ability to work with others; ability to detect, respond and manage emergencies; prevention; communication/advocacy; research and training; and capacity-building. For example, the roles and responsibilities of environmental and health institutions should be clearly defined in agreements. Tools included the development of a Global Early Alerting and Response system and work to improve chemical risk assessment under the International Health Regulations. An additional consideration is the role of the public sector in armed conflicts. While these clearly differ from other emergencies, the responses will be broadly the same since the decisions remain health-based.

The Meeting broke into three working groups to discuss proposals for national frameworks and health sector priorities for SAICM implementation based on draft documents prepared by the Secretariat. These documents were subsequently updated on the basis of the working groups' proposals and can be found in Annexes 3 and 4 to this report.

In preparation for these discussions, a comprehensive review had been undertaken of a wide range of documents developed by international organizations and in the framework of international processes to identify action and activities relevant to the health sector in achieving the 2020 goal. Participants were invited to use the overview table in selecting a smaller number of priority actions most relevant to the health sector in the Region. The important note was that these should represent priorities rather than gaps to be filled.

WHO was in the process of carrying out a global survey among health sector stakeholders on health-related priorities and activities towards the achievement of the 2020 goal of sound chemicals management. A preliminary analysis had been made of a small questionnaire survey, carried out by the Regional Office, on priority chemical safety topics to demonstrate a different

³ Childhood lead poisoning. Geneva: World Health Organization; 2010 (<http://www.who.int/ceh/publications/leadguidance.pdf>, accessed 4 December 2015).

approach to setting priorities. The working groups were asked to decide which approach would be most effective for a discussion, bearing in mind that priorities should be measurable and realistic and existing capacities should be considered when developing priorities.

The working groups identified four common priority areas: strengthening of policies and strategy development; monitoring, surveillance and evidence collection; capacity-building; and scientific research.

Among the topics then discussed, human biomonitoring stood out as a tool for advancing the health sector. Training and education were considered as starting points for strengthening the health sector.

Political will was deemed crucial for the sustainability and effectiveness of action. In this regard, the Secretariat provided information on the European Environment and Health Process that provides political, scientific and other support for action in the environmental health area, including relating to chemicals. The most recent example is the publication on human biomonitoring prepared for the mid-term review of Parma Declaration implementation.⁴

Participants pointed to the need for an authority which would coordinate the implementation of the health sector strategy so as to ensure that the focus is not solely on individual action but on the entire process of implementing priorities.

Conclusions and recommendations

Global and regional policies such as the SAICM health strategy, World Health Assembly resolutions, chemical multilateral environmental agreements, the European Health 2020 strategy, the Parma Declaration, and the United Nations post-2015 development agenda and sustainable development goals create a strong basis for the involvement of the health sector in chemicals management.

The role and responsibilities of the health sector differ significantly from country to country depending on the chemicals management system. In a majority of countries, however, the health sector plays a leading role in many areas such as, but not limited to, advocacy for human health in relation to chemicals, evidence-gathering relating to the impact of chemicals on health, the diagnosis and treatment of diseases caused by chemicals, the public health management of chemical emergencies, and dialogue with the public and with decision-makers.

The health sector should play a more significant role in the management and safety of chemicals. Recognition of this role in countries' national legislation, the creation of an appropriate top down infrastructure, the strengthening of human resources and other capacities and involvement of the health sector in intersectoral decision-making dialogue are all essential for strengthening the engagement of the health sector in the implementation of sound chemicals management.

⁴ Human biomonitoring; facts and figures. Copenhagen: WHO Regional Office for Europe; 2015 (http://www.euro.who.int/__data/assets/pdf_file/0020/276311/Human-biomonitoring-facts-figures-en.pdf?ua=1, accessed 11 December 2015).

In order to benefit from participation in decision-making, capacity-building, international activities and resource mobilization, the health sector should advocate a strong mechanism for intersectoral cooperation and coordination at national level.

Four areas of chemicals management – policy development and strengthening legislation; monitoring, surveillance, risk assessment and evidence collection; capacity building; scientific research – are priorities for action in the European Member States. These priorities are in line with the SAICM core activity areas and elements of the global chemical safety agenda.

National priorities should be set based on a national assessment to address health-related aspects of chemical safety and, in particular, SAICM emerging policy issues and other issues of public health concern.

Inadequate education, training and knowledge, a low budget and low levels of motivation are the main factors leading to a lack of human resources in a health sector requiring a complex approach to strengthening human resources at national level. Health researchers and policy-makers should be trained in addition to health care professionals to help in this. Education and training should be undertaken to promote positive motivation in the health sector. These could include, for example, grading and giving awards to schools/universities offering education in this area, organizing competitions and preparing interesting learning materials, as well as incorporating chemical issues in accreditation systems.

National and international awareness days or weeks can be organized to promote chemical safety, as can WHO events on chemical safety aimed at health ministers at regional and global levels.

The most important action that the health sector can undertake to ensure the protection of public health in chemical emergencies is: (i) advocating the improvement of the legal framework for recognition of the health sector's input in the command and control structure and framework, and (ii) ensuring the full implementation of the International Health Regulations in relation to chemical hazards.

Annex 1

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Annex 2

PROGRAMME

22 June 2015

Session I

09:00 – 10:30

Introduction

Welcome address (*Dr Elizabet Paunovic/Dr Dorota Jarosinska, WHO ECEH*)
Introduction of the participants, selection of Chair and Rapporteur
Scope and purpose of the meeting (*Dr Irina Zastenskaya, WHO ECEH*)
Health sector role in chemicals management in the context of WHO global and regional policies and strategies (*Dr Elizabet Paunovic, WHO ECEH*)

On the road to ICCM4 – an update from the SAICM Secretariat
(*Ms Brenda Koekkoek, SAICM Secretariat, UNEP - remote connection*)

Session II

11:00 – 15:00

11:00 – 12:30

The role and responsibilities of health sector in management of chemicals

International chemical safety: priorities and health sector role in their implementation (*Mr Alexander Nies, Federal Ministry of Environment, Nature Conservation, Building and Nuclear Safety, Germany*)

Priorities of the European Union and other countries groups in addressing health-related aspects of chemical safety (*Mr Richard Vincent, Department for Environment, Food and Rural Affairs, United Kingdom*)

Advocating for prevention of effects of hazardous chemicals on human health from the perspective of civil society (*Ms Anne Stauffer, HEAL*)

Health sector role in chemicals management from the professional societies' point of view (*Professor Jean-Pierre Bourguignon, CHU of Liege, Belgium*)

The role and responsibilities of health sector in selected countries: diversity of approaches and models (*Professor Gary Coleman, United Kingdom*)

Health sector in the chemicals safety in Slovenia (*Dr Marta Ciraj, Ministry of Health; Dr Pia Vracko, National Institute of Public Health, Slovenia*)

Chemicals management and health in Sweden (*Professor Greta Smedje, Public Health Agency of Sweden; Mr Loic Viatte, Ministry of Environment and Energy, Sweden*)

Chemical safety networking from the health sector perspective - identification of key institutions, collaboration and best practice (*Ms Džejna Milaković-Ramadani, Ministry of Health and Social Welfare of the Republic of Srpska, Bosnia and Herzegovina*)

Session III **Building capacities in the health sector – round-table discussions (three round-tables in parallel)**
15:30 – 17:30

Strengthening of human resources to ensure health sector involvement in chemicals management (*Facilitator: Dr Irena Buka, Mother Rosalie Health Services Centre, Canada*)

Building capacities in health sector to address emerging health issues (–the case of EDCs) (*Facilitator: Professor Jean-Pierre Bourguignon, CHU of Liege, Belgium*)

Prevention of human health impacts in emergency situations: what human capacities are necessary for effective prevention, response and recovery (*Facilitator: Professor Gary Coleman, United Kingdom*)

23 June 2015

09:00 – 9:30 Reporting back from the discussions during round-tables

Session IV **Towards 2020 goal: the health sector priorities in the WHO European Region**
09:30 – 17:00

09:30 – 12:30 Regional priorities towards 2020 goal in Central and Eastern European countries and health sector role in their implementation
(*Mr Szymon Domagalski, Bureau for Chemical Substances, Poland, SAICM Regional Focal Point for Central and Eastern European countries*)

Prevention of avoidable exposure: elimination of lead from paints
(*Dr Lindita Tafaj, Institute of Public Health, Albania*)

The role of the health sector in chemical emergencies: emergency preparedness, response and advocacy (*Mr Andrew Kibble, Centre for Radiation, Chemical and Environmental Hazards, United Kingdom*)

Actions addressed to the health sector: presentation of the meeting working document (*Mr Jonathan Krueger, Switzerland*)

Priorities for chemicals management globally and in WHO European Region: analysis of the questionnaire survey (*Ms Carolyn Vickers, WHO HQ; Dr Irina Zastenskaya, WHO ECEH*)

13:30 – 16:00 Discussion of national frameworks and priorities towards 2020 goal in working groups

16:00 – 17:00 Reporting back from the discussions during round-tables
Plenary discussion of national frameworks for SAICM implementation and regional priorities towards 2020 goal

Session V **Closing session**
17:00 – 17:30 Next steps and closure

Annex 3

HEALTH SECTOR PRIORITIES FOR THE ACHIEVEMENT OF THE SAICM 2020 GOAL ON SOUND CHEMICALS MANAGEMENT

Introduction

An important role for the health sector in chemicals management and identification of priority actions towards achievement of the 2020 goal for the sound management of chemicals is an item in a number of strategic documents.

The role of the health sector in implementation of the SAICM was formally recognized at ICCM3 when the strategy for strengthening the engagement of the health sector in the implementation of the Strategic Approach to International Chemicals Management was adopted. Gathering clinical and research evidence about chemical risks, advocating chemical safety, sharing knowledge and information were stressed in the strategy as key roles and responsibilities for the health sector.

In the Parma Declaration (2010),¹ WHO European Member States committed themselves to contribute to the implementation of SAICM and identify and assess the risks from hazardous substances. As part of the 2015 mid-term review to assess progress in implementing the Parma agenda, it was found that despite notable progress having been achieved in reducing the risk from and strengthening the regulation of some chemicals (such as persistent organic pollutants) included in the Stockholm Convention, exposure to hazardous chemicals still remains an issue of concern in all Member States, with priorities differing significantly from country to country.²

The document EB 134/23 adopted by the WHO Executive Board at its 134th Session in 2013 referred to World Health Assembly resolution WHA59.15 regarding SAICM-related activities and highlighted the need to strengthen the role of the health sector in chemicals management. The document required Member States to be consulted on identifying core priority action for the health sector in order to guide the work of WHO and its Member States towards the achievement of the 2020 goal for the sound management of chemicals.

The second meeting of the ICCM Open-ended Working Group, held in December 2014, was presented with an update on implementation of the health sector strategy, including action to establish networks and undertake technical cooperation aimed at monitoring risks and formulating norms on the use and management of chemicals.³

¹ Parma Declaration on Environment and Health. Copenhagen: WHO Regional Office for Europe; 2010 (http://www.euro.who.int/__data/assets/pdf_file/0011/78608/E93618.pdf, accessed 5 December 2015).

² Improving environment and health in Europe: how far have we gotten? Copenhagen: WHO Regional Office for Europe; 2015 (http://www.euro.who.int/__data/assets/pdf_file/0018/276102/Improving-environment-health-europe-en.pdf, accessed 5 December 2015).

³ SAICM [website]. Report of the Second meeting of the Open-ended Working Group. Geneva: Strategic Approach to International Chemicals Management; 2014 (SAICM/OEWG.2/13, para. 39) (http://www.saicm.org/index.php?option=com_content&view=article&id=509:meeting-documents-2nd-meeting-of-the-open-ended-working-group-geneva-15-17-december-2014, accessed 5 December 2015).

Such regional and global commitments create solid bases for discussion of the roles and responsibilities of the health sector in the management of chemicals, priority-setting and effective national frameworks for strengthening the engagement of the health sector in sound chemicals management.

Challenges and opportunities in setting health sector priorities in chemical safety

While the health sector has been active in contributing to sound chemicals management, the setting of priorities can be both challenging and provide opportunities. In the WHO European Region, for example, levels of health sector activity and capacity for sound chemicals management vary, with some countries bound by EU regulations and others not. This also means that there may be a diversity of priorities in countries, depending on factors such as their economic development, levels of contamination from chemicals and list of chemicals that are used and produced. Moreover, many processes and actions are already addressed to the health sector by sources such as the World Health Assembly and SAICM. A background document prepared for the regional workshop held from 22–23 June 2015 in Bonn, Germany, identified a list of 80 existing actions addressed to the health sector of relevance to the Region. The WHO publication *Health-sector involvement in chemicals management at the national level: review of current practice*⁴ noted the following.

The current situation vis-à-vis health-sector involvement in, and the implementation of, chemicals management varies significantly among countries around the world. Current information collected from different sources demonstrates that the role and responsibilities of the health sector should be defined in national legislation. This would enable the identification of overlapping mandates and gaps in regulations and enhance coordination among national agencies. There should be significant health-sector involvement in the development of interagency policies, plans and programmes for national chemicals management so that it can perform its important role in risk assessment, health-impact assessment, monitoring, control and surveillance.

Nevertheless, there are also opportunities regarding the need to set regional priorities. The implementation of sound chemicals management is clearly a priority for the health sector owing to the growing evidence of the chemical burden of disease. Recognition of the crucial role that the health sector must play for progress to be made towards chemical safety and the 2020 goal has been reinforced, *inter alia*, by the adoption of the SAICM health sector strategy and by inclusion of chemical safety in the list of regional priorities in the framework of the European Environment and Health process. Lastly, reducing harm from chemicals is likely to be included in the forthcoming sustainable development goals, for example, the proposed target 3.9 which states: “By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water, and soil pollution and contamination.”

The process of priority-setting

Participants in the regional workshop engaged in a dialogue with the aim of identifying regional priorities towards the 2020 goal on sound chemicals management and SAICM. To assist their discussions, a number of background documents were prepared, including a compilation of existing actions addressed to the health sector of relevance to the Region. A number of key

⁴ Health-sector involvement in chemicals management at the national level: review of current practice. Copenhagen: WHO Regional Office for Europe; 2014 (http://www.euro.who.int/__data/assets/pdf_file/0020/242660/Health-Chemical-Web_Final.pdf, accessed 5 December 2015).

questions were posed to stimulate debate on possible priorities in detail. The discussions were reviewed and their conclusions compiled to form the list of priority areas in the next section.

Priorities identified for health sector action in WHO European Member States
Following the process outlined above, a number of priority areas were identified for the Region. In selecting these, the participants stressed that this does not mean that other areas are not important and that work can and should continue in those areas as well. Links were identified and included between the priority areas identified and the 11 basic elements recognized by the SAICM stakeholders as critical to the attainment of sound chemicals and waste management at national and regional levels found in the SAICM Overall Orientation and Guidance, which was to be discussed at ICCM4.⁵

The following priority areas were identified.

Policy development and strengthening legislation

A key element towards achieving the 2020 goal for the health sector is to develop and implement policy and to strengthen legislation in a number of areas, including (in no order of priority):

- identifying the role of the health sector;
- promoting the implementation of safer alternatives to toxic chemicals;
- undertaking monitoring and surveillance for hazards, risk and health impact assessments;
- integrating chemicals issues into the broader development agenda, health sector policies and strategies;
- developing capacities, including for assessing the costs of inaction on chemicals issues; and
- advocating the establishment or strengthening of governmental mechanisms to provide liaison and coordination between all parties involved in chemical safety activities and ensure health-sector participation.

All of these policy developments should take into account and address the specific needs of vulnerable and highly exposed population groups and all stages of the life-cycles of chemicals.

Actions in this priority area are in line with SAICM Overall Orientation and Guidance elements: (a) legal frameworks that address the life cycle of chemicals and waste; (c) implementation of relevant international multilateral environmental agreements, health, labour and other relevant conventions as well as voluntary mechanisms; (d) strong institutional frameworks and coordination mechanisms among relevant stakeholders; (g) inclusion of chemicals and waste in national health, labour, social, environment and economic budgeting processes and development plans; and (j) monitoring and assessment of the impacts of chemicals on health and the environment.

⁵ The Overall Orientation and Guidance was discussed at ICCM4. The report of that meeting will be available later on the SAICM website (ICCM4 International Conference on Chemicals Management 28 September–2 October 2015 [website]. Chatelaine: United Nations Environment Programme; 2015 (http://www.saicm.org/index.php?option=com_content&view=article&id=534&Itemid=696, accessed 21 December 2015)).

Monitoring, surveillance, risk assessment, and evidence collection

Regional and national integrated monitoring and surveillance systems should be developed and strengthened to improve exposure and risk assessment and evidence-gathering with the aim of contributing to timely and evidence-based decisions about chemicals management. Action should be taken to:

- acquire human biomonitoring and exposure data, data on environmental pollution and food contamination, and health surveillance including poisonings;
- improve global access to information about the impacts of chemicals on human health;
- harmonize approaches to assess the exposure and risks of hazardous chemicals to people at various stages of their lives;
- collect information on chemicals in products related to effects on human health; and
- establish guidelines for “healthy” soil, water, air, food and products (including guidelines for new chemicals).

These actions link to SAICM Overall Orientation and Guidance elements: (e) collection, and systems for the transparent sharing of, relevant data and information among all relevant stakeholders using a life-cycle approach, such as the implementation of the Globally Harmonized System of Classification and Labelling of Chemicals; (h) chemicals risk assessment and risk reduction through the use of best practices; (i) strengthened capacity to deal with chemicals accidents, including institutional strengthening for poison centres; and (j) monitoring and assessment of the impacts of chemicals on health and the environment.

Capacity-building

As a major cross-cutting theme towards the actions needed to achieve the 2020 goal, capacity-building was identified as a priority for a number of areas, including:

- strengthening institutional capacities through building countries’ capacities to implement the SAICM health sector strategy, including the creation and/or strengthening of poison control centres to deal with acute and chronic poisonings and chemical incidents.
- strengthening human resources, including the development of training programmes for health care and public health professionals and safety practitioners regarding the environmental and occupational risks of chemicals, specifically the effects of chemicals on children, including the developmental origins of health and disease; action should also be taken to incorporate chemical safety awareness and understanding of the GHS labelling system in, inter alia, school and university curricula.
- strengthening capacities for monitoring, surveillance and evidence collection, including for health risks related to exposure to hazardous chemicals and diagnosing and treating health disorders caused by exposure to chemicals.
- strengthening capacities for safer procurement and use of chemicals (including pharmaceuticals) and management of medical wastes by the health sector.
- strengthening capacities for implementation of international agreements relating to chemicals and wastes through engaging in SAICM to: cooperate proactively with SAICM national focal points to maximize collective efforts related to chemicals and waste management; get involved in national, regional, and international SAICM forums; engage with other sectors in sound chemicals management; promote inclusion of health priorities

in the national SAICM implementation plans; and participate in intersectoral coordination mechanisms on chemicals management.

Identified actions in this priority area link to SAICM Overall Orientation and Guidance elements: (c) implementation of relevant international multilateral environmental agreements, health, labour and other relevant conventions as well as voluntary mechanisms; (d) strong institutional frameworks and coordination mechanisms among relevant stakeholders; (e) collection, and systems for the transparent sharing of, relevant data and information among all relevant stakeholders using a life-cycle approach, such as the implementation of the Globally Harmonized System of Classification and Labelling of Chemicals; (i) strengthened capacity to deal with chemicals accidents, including institutional strengthening for poison centres; (j) monitoring and assessment of the impacts of chemicals on health and the environment; and (k) development and promotion of environmentally sound and safer alternatives.

Scientific research

Scientific research to provide evidence-based recommendations which can be easily translated for policy-makers was identified as a priority in the following areas:

- development of harmonized methodologies and new tools for hazards and risk assessment (especially for vulnerable groups) relevant to real-life exposures (for example, aggregate/cumulative exposures using simple analytical methods for in-field exposure assessment);
- development of methodologies for health surveillance;
- development of indicators for assessing exposures to and the effects of chemicals and scientific advances in toxicogenomics incorporating early development in the studies of the etiology of human disease, and comparative assessments to ensure the safety of alternative products.

Priorities for emerging policy issues (such as EDCs, highly hazardous pesticides, carcinogens and lead in paint) should be set at national level based on national assessments.

These issues link to link to SAICM Overall Orientation and Guidance elements: (e) collection, and systems for the transparent sharing of relevant data and information among all relevant stakeholders using a life-cycle approach, such as the implementation of the Globally Harmonized System of Classification and Labelling of Chemicals; (j) monitoring and assessment of the impacts of chemicals on health and the environment; and (k) development and promotion of environmentally sound and safer alternatives.

Annex 4

PROPOSALS FOR NATIONAL FRAMEWORKS FOR ENGAGING THE HEALTH SECTOR IN IMPLEMENTING SAICM

Introduction

SAICM stakeholders recognize the importance of the role of the health sector in numerous areas of chemicals management, including the protection of human health, with a particular focus on: the specific needs of vulnerable and highly exposed population groups, building capacities for assessment and reduction of the risks from the most hazardous chemicals (pesticides, persistent organic pollutants, carcinogens, mutagens and reproductive toxicants and endocrine-disrupting chemicals), scientific research and data collection, and social and economic considerations.¹

In the strategy for strengthening the engagement of the health sector in the SAICM, the key roles and responsibilities of the health sector were laid down as the gathering of clinical and research evidence about chemical risks, advocacy for chemical safety, and the sharing of knowledge and information.

An appropriate infrastructure should be created in the health sector to ensure fulfilment of its important role in chemicals management, bearing in mind synergy with existing global and regional policies for sustainable development and public health.

A well-coordinated national approach by the health sector is vital throughout the life-cycle of chemicals, since the sector will have to deal with many other sectors and authorities at all levels of government with responsibilities relating to chemical management, in consultation with authorities responsible for economic, agricultural, industrial and social development. Commitment at senior levels, both political and administrative, is required to ensure effective work.

Building a national framework

Several basic elements of the national frameworks for strengthening the involvement of the health sector are outlined in this document: legislation, infrastructure, human resources, and the collection and dissemination of information.

Legislation

The enhancement of each country's legal and institutional framework for the implementation of chemical safety across all relevant ministries and governmental agencies, and the strengthening of the implementation and enforcement of national laws and regulations are the essential building blocks of good governance for the implementation of sound chemicals management.

It is important to create coherence between the mandates of ministries with respect to their specific responsibilities in the subsequent stages of the life-cycle of chemicals. This would facilitate capacity-building and the development of scientific research in the health sector,

¹ Strategic Approach to Chemicals Management; Global Plan of Action [website]. Geneva: SAICM; 2015 (http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475, accessed 5 December 2015).

encourage fund-raising for the successful implementation of legislation, and increase the involvement of the health sector in the management of chemicals.

The roles and responsibilities of the health sector in chemical safety should be defined in national legislation (in, for example, a separate act regulating the different aspects of chemical safety) for all types of chemical and at all stages of their life-cycles, even though existing legislative and regulatory mechanisms for involvement of the health sector in national chemicals management differ significantly from country to country.

The development/strengthening of national legal frameworks for chemicals management should include the involvement of the health sector in the following activities as a minimum:

- evaluating hazards and assessing the exposures to and risks of chemicals to human health, bearing in mind the specific needs of susceptible population groups;
- determining the impact of chemicals on human health (and thereby on the economy and sustainable development) and participating in setting priorities for development of national strategies and risk reduction plans;
- gathering clinical and research evidence about chemical risks and informing decision-makers and the public;
- preventing and managing chemical emergencies and natural disasters involving chemicals, including by providing medical treatment for those affected;
- advocating risk reduction measures and implementation of safer alternatives;
- raising awareness of chemical safety with special emphasis on protecting vulnerable populations through education and training;
- assessing the impact of chemicals management policies through monitoring and evaluation, including biomonitoring and health surveillance;
- generating and sharing relevant information, conducting scientific research, sharing knowledge and participating in international mechanisms to solve chemicals-related problems.

Infrastructure

An effective national organizational infrastructure is a fundamental element for the implementation of chemicals management in the health sector. Developed organizational structures create a basis both for a response to existing public health problems caused by chemicals and for preparedness in the face of emerging challenges to the protection of human health from negative impacts from chemicals.

The following basic elements can be considered for structural arrangements for a stronger health sector involvement in chemicals management:

- organization and/or strengthening of capacities of a department or unit in ministries of health responsible for environmental health and chemicals safety, including the management of emergency situations involving chemicals;
- establishment and/or strengthening of the infrastructure for research in areas related to the health aspects of chemical safety;

- establishment and/or strengthening of health surveillance systems that correspond, *inter alia*, to the need for gathering evidence of the health effects of exposures to chemicals;
- development of relevant analytical and clinical facilities necessary for the assessment of exposures, including human biomonitoring and the diagnosis and treatment of acute and chronic poisonings;
- establishment of poison control centres with roles and responsibilities corresponding to WHO's recommendations;
- development of organizational mechanisms to share and disseminate the information needed for the prevention of chemical impacts on health and for the protection of vulnerable population groups.

Human resources

The health sector needs to contribute proactively at national level to the development of preventive, legislative and regulatory measures for the safe management of chemicals. This requires a health sector workforce that is robust, resilient and knowledgeable about all phases of the life-cycle of chemicals.

There is a dearth of medical and health personnel trained in environmental health generally. This training needs to be strengthened, particularly for the sound management of chemicals that affect specific vulnerable groups, including children, older persons, highly exposed populations (such as workers in certain industries) and indigenous peoples. Governments and relevant professional bodies should work together to share and optimize the use of existing training materials.

To this end, the health sector needs to assure sufficient competence, capacity and resilience on the part of its human resources by clearly defining its roles and responsibilities in this field as follows:

- creation of an awareness of the roles and responsibilities of other agencies, organizations, sectors and disciplines;
- development of curricula and training, including vocational training;
- collaboration with the academic sector on the provision of accredited education and requirements for the attainment of recognized qualifications;
- establishment of programmes for continuing professional development;
- development of sufficient year-round capacity;
- development of audit programmes as part of ongoing governance;
- establishment of research and development programmes which can be translated into policy to address key gaps;
- publishing and disseminating of key audit and research findings;
- engagement of other key stakeholders and the public.

Training modules produced by WHO for health professionals and paediatricians in the context of its initiatives on children's environmental health hold considerable potential in this regard. Medical schools should develop residencies and fellowships or specializations in environmental health with an emphasis on toxicology and occupational and public health.

Collection and dissemination of information

As exposure to environmental chemicals may lead to both acute and chronic health effects, it is important to collect information on the source, type, nature and magnitude of releases and subsequent environmental contamination. This information provides a basis for alerting and notifying the government promptly, which in turn allows for immediate intervention as well as surveillance, environmental public health tracking, epidemiological investigation and research and development. The collection of information is a vital component of the health sector's role in this field.

The ultimate role of the health sector is to protect public health through liaison with other agencies, parties and disciplines to identify the locations of disposal sites for hazardous and other wastes, polluting industries, water abstraction points, major chemical industries, chemical storage sites and transport routes.

In addition, the health sector, together with key partners, needs to establish an inventory of potentially hazardous chemicals and to support research into chemicals to which a given community could be exposed, together with a system of monitoring of air, water, soil and food so that background levels and exposures following an incident may be identified.

For the health sector to be able to establish systems and structures for the identification, detection and prompt notification of exposures, it is necessary to:

- establish robust channels of communication with relevant stakeholders to facilitate the reporting of, and response to, incidents and events promptly, efficiently and effectively;
- establish biomonitoring capability and programmes to enable the estimation of background population exposure and uptake following an incident/event;
- collect health data relating to environmental insults;
- establish surveillance of chemical incidents and events to facilitate an understanding of the trends, patterns and potential impact on health of environmental chemicals;
- undertake environmental epidemiological investigations;
- establish research programmes which can be translated into policy;
- establish environmental public health tracking systems to gain further knowledge about the potential impact on health of exposure to chemical contaminants;
- integrate data relating to any acute or chronic incidents/events and point/nonpoint sources of pollution with exposure estimates and reported health effects in order to establish the burden of disease;
- establish complementary epidemiological strategies;
- establish robust and resilient channels of communication with other key stakeholders to ensure that health advice is at the heart of policy, planning and permissions (such as for placing chemicals on the market), as well as emergency planning, preparedness, response and recovery;
- establish robust and resilient channels of communication with the public (and/or their representatives) and the media so that information about risks from environmental chemicals may be disseminated openly, transparently and promptly during both the risk and crisis communication phases.

Assessment of risks to human health from exposure to chemicals

Health risk assessment is a basis for prognosis of the possible impact on human health following exposures to environmental chemicals and the taking of decisions to prevent them. On the basis of the results of the risk assessment, and taking into consideration all other contributing or ameliorating factors, a decision-making process aimed at eliminating or, if this is not possible, reducing to a minimum the risk from the chemicals under consideration can be undertaken.

In addition, health risk assessments can contribute to: identification of a list of priority chemicals at national level; implementation and effectiveness of control measures and health protection policies; forecasting and assessment of the socioeconomic impact of hazardous chemicals; awareness-raising among vulnerable population groups, the general public and workers; and facilitation of the implementation of relevant international agreements.

The following action can be taken at national level to ensure that the health sector is effectively involved in chemicals risk assessments:

- creating or strengthening the legislative base for health risk assessment as an essential element in the decision-making processes related to chemicals, taking into account the precautionary principle;
- harmonizing national methodologies for human health risk assessment with international and/or regional advice and ensuring that all relevant disciplines are involved;
- establishing the necessary infrastructure for monitoring and research so as to provide relevant data and reduce the uncertainties of health risk assessments;
- strengthening the laboratory capacities necessary for assessing exposures to hazardous chemicals (including in food and food contact materials);
- establishing professional education and training programmes to strengthen human capacities in all relevant disciplines;
- ensuring the transparency of the process, the interpretation of exposure data and the transmission of health risk assessment results to the whole population;
- creating a system for exchange of information on chemicals risk assessments at national, regional and international levels, including through the WHO Chemical Risk Assessment Network.

Evidence collection and burden of disease assessment

The research evidence shows that there is a considerable burden of disease from environmental hazards resulting in acute and long-term chronic illness. The costs of this long-term chronic illness are largely unknown and difficult to quantify as they include the cost to society and individuals, lost work and leisure time, social care costs and quality of life. There is a paucity of data identifying and quantifying the various links between environmental hazards and ill health, particularly regarding their cumulative effect and long-term impact. This includes the difficulties of identifying the cause/association behind illnesses such as cancers, which may have links to exposure to environmental hazards encountered at an earlier age. Despite the complexity of an environmental burden of disease assessment, it is important for supporting policy decisions, prioritizing and planning preventive action in health and the environment, assisting in the process of weighing the advantages and disadvantages of alternative interventions, comparing action and health gain, identifying high-risk populations, setting priorities in health research, improving the accuracy of quantitative linkages between health and the environment, improving

the geographical applicability of data, and raising awareness and strengthening the institutional capacity for reducing the impact of environmental health risks on the population.

The following action can be considered at national level:

- to set up systems for the collection of routine information in relation to the effects of chemicals on health;
- to adopt harmonized methodologies for epidemiological studies, evidence-gathering and burden of disease assessment;
- to allocate special funds in scientific programmes to support studies aimed at revealing links between the environment and human health;
- to ensure close cooperation with other relevant sectors, in particular the environmental sector, for developing national environmental, food, and consumer products safety monitoring programmes.

Chemical emergencies, implementation of the International Health Regulations and multilateral environmental agreements

To be able to manage and coordinate the widely differing activities undertaken by the many actors involved at the different stages of the chemical incident cycle (prevention, preparedness, detection and alert, response and recovery), an organizational structure that includes public health professionals is recommended at all administrative levels. Such a structure could be a dedicated agency or a network of government departments and/or institutes at the national, provincial and local levels.

The health sector can play an important role in each phase of the incident/disaster management cycle to determine the outcome of a chemical incident, as follows:

- detection and assessment of hazards and risk;
- identification of vulnerable population groups;
- development of exposure scenarios and risk-mapping;
- health surveillance;
- collection of relevant information on, and development of, databases on chemical safety;
- implementation of monitoring programmes;
- development and implementation of educational and awareness-raising programmes;
- training of medical and other professionals;
- communication with the public;
- health-impact assessment;
- rapid intervention and the removal of casualties from the scene;
- first-aid treatment and other generic countermeasures;
- recognition of clinical syndromes;
- symptomatic treatment and instigation of specific countermeasures;
- hospitalization, as appropriate;

- instigation of wider public health protection measures;
- liaison with laboratory staff and other medical professionals;
- organization and coordination of clinical and public health follow-up;
- other measures in accordance with national legislation.

The health sector should, therefore, ensure that there is adequate capacity for the provision of a prompt and adequate response to chemical incidents and the prevention or minimizing of a negative health impact. Alternatively, the health sector may be involved only in the response to chemical emergencies, with the main role being the provision of health care to victims.

Implementation of the International Health Regulations with the “all hazards” approach requires the creation of national emergency preparedness and response systems in order to enable the prevention of and proper response to “all hazards” events of public health concern.

The health sector plays a critical role in the implementation of multilateral environmental agreements such as the Stockholm Convention on Persistent Organic Pollutants, the Rotterdam Convention on Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal and the Minamata Convention on Mercury.

The main actions that should be considered are:

- to identify a responsible official or establish a unit in a ministry of health to assume responsibility for the coordination and management of public health in cases of chemical incidents;
- to ensure that the health sector has trained staff with the knowledge and skills to deal with each stage of an incident/disaster cycle;
- to ensure that the health sector participates in the development of the chemical incident response plan (including public health involvement), and national implementation plans of relevant legally binding instruments;
- to review legislation to define the role and responsibilities of the health sector in the implementation of relevant conventions and to correspond to the requirements of the International Health Regulations in relation to chemical hazards;
- to create a system for collecting and sharing information, including as a minimum surveillance of health disorders caused by hazardous chemicals including poisonings registration, toxicovigilance and toxicosurveillance, as well as the surveillance of victims' health status over a longer period to investigate the long-term effects, including human biomonitoring;
- to harmonize approaches and methodologies for the investigation of disease outbreaks with chemical origins and for communicating the risk to the public in accordance with WHO's recommendations;
- to create national capacity-building for conducting rapid health risk assessments, including a network of experts in all relevant areas of expertise that can be mobilized in case of chemical emergencies.

Specific issues

Prevention of lead poisoning

Lead poisoning has devastating health consequences, in particular for children, with childhood lead exposure estimated to contribute to 600 000 new cases of children with intellectual disabilities every year worldwide. The continued use of lead will create public health problems for many years to come. WHO has identified lead as one of 10 chemicals of major public health concern, and requires action by Member States to protect the health of workers, children and women of reproductive age. Given that children are exposed to lead in paints, the United Nations Environment Programme and WHO have established the joint Global Alliance to Eliminate Lead Paint, with the main objective of promoting the phasing-out of the manufacture and sale of paints containing lead and eventually the elimination of risks from such paint. Lead in paint as a SAICM emerging policy issue was the focus of resolution II/4 B adopted at ICCM2 in 2009.

The following actions can be taken at national level:

- adoption of regulations and procedures to prohibit the use of lead in the production of paint;
- elimination of the use of lead-added decorative paints and reduction in the exposure of children to lead from other sources;
- collection of data on lead exposures, including human biomonitoring, so as to identify and protect populations exposed to high levels of lead;
- raising of awareness among consumers and the general public on the health effects of exposure to lead and health protection measures;
- support for international action aimed at prevention of lead poisoning, including through participation in the WHO/United Nations Environment Programme Lead Poisoning Prevention International Week.

EDCs

Over the last decade, scientific understanding of the relationship between the environment and health has advanced rapidly, and there is now stronger evidence that trends in many endocrine-related disorders in humans are rising. The effects on human health identified include on reproductive health (both male and female), the thyroid, neurodevelopment in children, hormone-related cancers, the metabolic system, foetal development and puberty.

It is also known now that there are particularly vulnerable periods during foetal and postnatal life when EDCs, either alone or in combination, have a strong and often irreversible effect on the developing organs.

The SAICM Global Plan of Action proposes that stakeholders address EDC-related issues in certain areas, for example in connection with developing action plans to address priority concerns related to specific vulnerable groups, prioritizing the assessment of or studies on groups of chemicals that can adversely affect the endocrine system, filling the gaps in scientific knowledge, and harmonizing the principles and methods of risk assessment (for example, in vulnerable groups) with specific toxicological endpoints (such as endocrine disruption and ecotoxicology) and new tools.

At national level the following actions can be considered:

- identifying the institutions/ministries that should take the lead in strengthening cooperation among the stakeholders engaged in risk assessment and risk management of EDCs;
- creating a national multisectoral platform or similar mechanism for addressing issues related to EDCs;
- ensuring that policy-makers and the public, especially vulnerable population groups, are aware of EDCs and the risks they pose to human health;
- including scientific research on EDCs in existing and planned national programmes in environmental health and/or relevant areas;
- including information about EDCs in relevant education and training programmes for health care and public health professionals as well as specialists from other sectors involved in environmental health activities;
- considering the creation of a health surveillance system corresponding to the needs for revealing the relationships between the presence of EDCs in the environment and in consumer products (both food and nonfood) and human health disorders.

Health sector as user of chemicals

Hospitals and other medical care organizations influence the environment by generating wastes that can include hazardous chemicals (cleaning products, disinfectants, insecticides, pharmaceuticals) and using mercury in items such as medical devices, equipment and light bulbs, which may pollute the environment if managed improperly. These organizations also consume large amounts of energy in buildings and car fleets, and generate significant greenhouse gas emissions. Unsound management of obsolete pharmaceuticals as well as releases of pharmaceutical products into the environment can also lead to environmental pollution and negative impacts on human health. Several WHO and other United Nations initiatives aim to decrease the chemical footprint of the health sector on the environment, for example, the Minamata Convention on the use and storage of mercury.

A framework for a chemicals policy for health care settings should be established on the basis of best practices in the following areas:

- minimization, collection and disposal of medical wastes;
- efficient use of energy resources;
- sound management of existing and obsolete pharmaceuticals;
- development of treatment protocols for diseases which take account of environmental protection;
- procurement practice to prevent environment pollution;
- training and awareness-raising for health care providers.

The number of chemicals is expanding at a seemingly exponential rate. To enable countries to build on their benefits, it is time for the compartmentalism of functions found in many national systems for the management of chemicals to be broken down in favour of a strategic integrated system which would use the skills and talents found across all government departments. The health sector is recognized as an important partner in the development of such a strategic integrated system, particularly in relation to SAICM, the International Health Regulations and

many other international legal obligations, as well as by national public health communities and the public. This document has detailed the ways in which national governments can construct such systems for the benefit and protection of their populations.

**The WHO Regional
Office for Europe**

The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matters and public health. The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

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The health sector is an important stakeholder in the Strategic Approach to International Chemicals Management (SAICM). This meeting aimed to identify the role and responsibilities of the health sector in the implementation of the SAICM and priorities for the sector in reaching the 2020 goal for sound chemicals management in the WHO European Region. Recognition was given to the needs to strengthen human resources and to create basic national frameworks to ensure the engagement of the health sector in the sound management of chemicals at national level in close cooperation with other sectors, relevant governmental agencies and stakeholders.

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