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Health sector involvement in chemicals management: implementation of the WHO Chemicals Road Map at a national level

Leadership
and Coordination



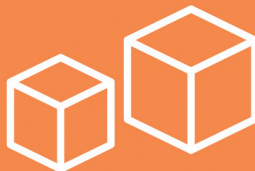
Knowledge
and Evidence



Risk
Reduction



Institutional
Capacity



MEETING REPORT

Minsk, Belarus

11-12 February 2020

Abstract

The WHO *Road map to enhance health sector engagement in the Strategic Approach to International Chemicals Management towards the 2020 goal and beyond*, known as the WHO Chemicals Road Map, was approved by the World Health Assembly in 2017. An accompanying workbook was also developed to support Member States' implementation efforts. The subregional meeting on 11–12 February 2020 in Minsk, Belarus, aimed to assist central and eastern European countries in prioritizing actions to enhance the management of hazardous chemicals at a national level, and in planning activities to implement them. Examples of good practices, successful experiences and supportive documents needed to plan actions were presented to guide the identification of priority actions both at the meeting and during the development of national implementation plans. Key institutional elements to ensure stronger health sector involvement in chemicals management were also discussed to facilitate national activities.

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Abbreviations

ICCM	International Conference on Chemicals Management
IHR	International Health Regulations
PIC	poison information centre
SDGs	Sustainable Development Goals
SAICM	Strategic Approach to International Chemicals Management
UNITAR	United Nations Institute for Training and Research
WHO ECEH	WHO European Centre for Environment and Health

Introduction

Enhancement of health sector involvement in chemicals management is critical for the effective planning and implementation of risk-reduction measures and the protection of populations from the negative impact of chemicals. A resolution on the Strategic Approach to International Chemicals Management (SAICM) (1) adopted at the third session of the International Conference on Chemicals Management (ICCM) in 2009, identified the most important areas in which the health sector can and should contribute.

In May 2017, the Seventieth World Health Assembly approved the *Road map to enhance health sector engagement in the Strategic Approach to International Chemicals Management towards the 2020 goal and beyond* (2), known as the WHO Chemicals Road Map. It identifies concrete actions in which the health sector should play a leading or supporting role, and recognizes the need for multisectoral cooperation. The WHO Chemicals Road Map Workbook (3) was developed to further support Member States' efforts to choose priorities and plan activities, and a WHO network of focal points for chemicals and health was created to facilitate information exchange, the identification of shared priorities, and greater collaboration and coordination both within and beyond the health sector.

At the regional level, the Sixth Ministerial Conference on Environment and Health, held in 2017 in Ostrava, Czechia, recognized chemical safety as one of seven priorities for the WHO European Region. Coordination of the implementation of the WHO Chemicals Road Map (2) and the Ostrava Declaration on Environment and Health (4) is needed to ensure the achievement of these global and regional priorities.

The subregional meeting on 11–12 February 2020 in Minsk, Belarus, was organized in cooperation with WHO headquarters and the Ministry of Health of Belarus. It aimed to assist central and eastern European countries in prioritizing actions to enhance the management of hazardous chemicals at a national level, and in planning activities to implement them (see Agenda 1 for the provisional programme). The meeting covered a number of topics, including:

- the WHO Chemicals Road Map and its links to the 2030 Agenda for Sustainable Development (5) and other global and regional processes in the area of chemicals management;
- experiences in health sector involvement in chemicals management at global and national levels;
- key institutional frameworks for ensuring stronger health sector involvement in chemicals management; and
- surveillance of acute and chronic poisonings and health disorders potentially caused by chemicals.

Presentations, discussions and activities focused on enhancing participants' knowledge and experience to facilitate national activities towards the implementation of the WHO Chemicals Road Map, and to strengthen capacities for the achievement of the Sustainable Development Goals (SDGs) (6), the fulfillment of the commitments of the Ostrava Declaration on Environment and Health (4) and the implementation of SAICM (1).

Dr Siarhei Sychic, Director of the Scientific Practical Centre of Hygiene of the Ministry of Health of Belarus, opened the meeting by highlighting the significant contribution of the health sector to chemical

safety. He stressed the importance of organizing meetings of specialists in public health, toxicology and other allied areas for sharing the knowledge, experience and expertise needed to strengthen national capacities and facilitate actions. He warmly welcomed participants on behalf of the Ministry of Health, and expressed its gratitude to WHO for organizing the meeting.

Ms Alena Drazdova, Deputy Director for Science of the Scientific Practical Centre of Hygiene of Belarus, and Mr Saulius Majus, Head of the Product Evaluation Division of the National Public Health Centre of Lithuania, co-chaired the meeting. Ms Maryna Anisovich was elected rapporteur. Thirty-five national and international experts from 19 countries attended the meeting (see Agenda 2 for the list of participants).

The WHO Chemicals Road Map

The introductory session of the meeting included a review of the WHO Chemicals Road Map, which was developed in consultation with Member States and other stakeholders following the 2016 adoption of World Health Assembly resolution WHA69.4 (2). The WHO Chemicals Road Map identifies four priority actions areas – risk reduction, knowledge and evidence, institutional capacity, and leadership and coordination – as well as a number of activities to achieve the overall objective of SAICM: to minimize the negative impact of chemicals on human health throughout their life cycle (1).

Action areas of the WHO Chemicals Road Map interlink with one another and with other global strategies, including the Global Action Plan for the Prevention and Control of Noncommunicable Diseases 2013–2020 (7), the Global Programme on Climate Change and Health (8), the Global Action Plan for Healthy Lives and Well-being for All (9) and the joint food safety initiatives of WHO and the Food and Agriculture Organization of the United Nations (10). Implementation of the WHO Chemicals Road Map will also contribute to achieving the 2030 Agenda and its SDGs (in particular targets 3.9, 6.3 and 12.4) (5,6), multilateral environmental agreements and the International Health Regulations (IHR) (2005) (11). Regionally, the WHO Chemicals Road Map links strongly with the portfolio of actions of the Ostrava Declaration on Environment and Health (4). The links between all of these programmes and processes should be considered when planning actions for improving chemicals management at a national level.

The Global Chemicals and Health Network was created to facilitate the implementation of the WHO Chemicals Road Map. Currently, the Network represents 73 Member States, including 26 European Member States. It provides a platform for discussing emerging chemical safety issues, raising awareness of the health impact of hazardous chemicals, identifying common problems, and fostering greater inclusion of health sector perspectives in international discussions on chemicals. Meeting participants encouraged the WHO Regional Office for Europe to increase its participation in the Network.

The WHO Chemicals Road Map is a living document that will be updated according to new developments by SAICM beyond 2020. An ongoing discussion of these developments was initiated after the 2015 ICCM meeting, and is currently underway through a number of intersessional meetings. To date, five strategic objectives have been agreed: national implementation; knowledge generation

and sharing; addressing issues of concern; risk prevention; and finance mobilization. The work continues to define targets, milestones and indicators.

Independent evaluation identified the main issues to be addressed beyond 2020. These include addressing gaps between developed and developing countries, protecting workers' rights, ensuring stable financial mechanisms and availability of resources, increasing collaboration between sectors and stakeholders, strengthening national capacities such as poison information centres (PICs), and boosting the involvement of industry and the scientific community. The vision of SAICM and its implementation will be crystallized at the fifth session of the ICCM in October 2020.

Planning the implementation of the WHO Chemicals Road Map at a national level

The meeting's second session included a presentation of the WHO Chemicals Road Map Workbook (3), designed to assist countries in identifying national priorities and planning implementation measures. It recommends four steps: determination of potential activities, prioritization, implementation of planning, and communication and sharing.

Using the Workbook throughout the planning process can facilitate the involvement of other sectors and mainstreaming with other processes at national, regional and global levels. The Workbook also proposes prioritization criteria, such as opportunity to leverage, feasibility and flexibility for implementation, expected impact, and potential risks. Other criteria can be considered based on national context.

According to the United Nations Institute for Training and Research (UNITAR) vision on planning of national chemical strategies, developing a national implementation plan saves time, effort and resources, and reduces risk of failure. The process of creating a national plan commonly includes the following elements:

- engaging in preparatory tasks and considerations;
- defining the plan's purpose and scope with a statement of the problem and goals;
- performing a situation and gap analysis;
- setting objectives and indicators;
- planning the details, including activities, timelines and resources; and
- implementing and evaluating the plan.

Well developed objectives should correspond to the SMART concept: specific, measurable, agreed, realistic and time dependent. Prioritization at all stages through the application of relevant criteria is the most challenging exercise in any planning process. A number of good examples of organizing a planning process under UNITAR leadership can be seen in countries of the WHO European Region (for example, Albania and Georgia).

In their discussion, meeting participants drew attention to the strong influence of financial resource availability on the planning and implementation of national actions. An integrated approach involving

national, international and other donors is key. To ensure financing, it is also important to clearly state a country's needs and goals.

Participants agreed that a robust methodology should be used for planning national actions with the involvement of relevant stakeholder groups. A detailed analysis of the existing situation, including gaps and weaknesses, should precede planning. Mainstreaming chemicals management with other strategic policies at national and international levels opens up possibilities for securing sustainable financial support for implementation.

During the practical exercise, participants gathered in small groups to practise planning the implementation of the WHO Chemicals Road Map at a national level using the Workbook. Their task was to go through the steps, including prioritizations and detailed planning of resources and timeframes for implementation. They reported several criteria to the plenary: impact on human health, how easily the objectives can be achieved (this includes the identification of so-called low-hanging fruit, which is important in a context of limited resources), cross-cutting impact, successful experience in other areas, and contribution to overall progress in the area of chemical safety.

Participants agreed that the Workbook is a valuable instrument for supporting planning at the national level. However, they noted the need for further support from WHO. This could take the form of smaller-group meetings for national experts from different areas of chemicals management to plan national actions with support from international experts. Participants also briefly discussed opportunities for project applications while finalizing the exercise.

National coordinators of the project “Establishment of key elements of national systems for the sound management of chemicals in selected countries in eastern Europe, Caucasus and central Asia” then shared the experience of developing a national chemical safety road map, which is a specific task of the project.

In Belarus, the Government authorized the Ministry of Health to lead the establishment of a chemicals management system within the framework of its sustainable development strategy. In addition to setting out actions towards the successful implementation of chemical conventions and the technical regulations of Eurasian economic cooperation, the Belarusian road map builds links between the country's economic and social development and the benefits of the sound management of chemicals throughout their life cycle.

Establishing a system for the safer management of biocides is a priority for Georgia and an area of focus within the framework of its national environmental health action plan and its Association Agreement with the European Union. Thus, the Georgian road map is focused on this aspect of chemicals management. The country applied WHO's recommended approach for developing the national road map, which reflects action areas of the WHO Chemicals Road Map. These action areas were defined through a screening assessment performed by the country with support from the WHO European Centre for Environment and Health (ECEH).

Kazakhstan's road map was developed within the framework of the implementation of the national green economy strategy. It addresses the most important areas of chemicals management, including stronger legislation, institutional arrangements, health protection and the role of the health system,

minimization of pollution and the recovery of contaminated sites, innovation and cleaner technologies in industry and agriculture, stakeholder capacity, and information exchange. Special conditions were created to ensure multisectoral and multistakeholder involvement at all stages of the road map's development. This involved collecting information for the situational analysis, holding wide discussions of the draft version, and forming working groups with representatives of nongovernmental organizations and 10 governmental agencies involved in chemicals management to guide the road map's development.

Following the presentations, participants expressed their gratitude for the valuable country experience that was shared. Wrapping up the day, the co-chair summarized the discussions of the methodology for planning actions within national contexts, the WHO Workbook and UNITAR guidance documents, and the examples of national experience. The co-chair highlighted that further steps should be taken at a national level.

Key frameworks for health sector involvement in sound chemicals management

The third session of the meeting emphasized that strengthening health sector involvement in chemicals management at all levels requires the creation of relevant frameworks. The basic elements of such frameworks were discussed at a meeting of Member States on 22–23 June 2015 in Bonn, Germany. They were identified as follows:

- legislation that clearly defines the health sector role in chemicals management;
- infrastructure at all levels of governance (a central agency, public health institutions, research institutions, analytical institutions and PICs);
- sufficient, competent and resilient human resources (both public-health and health-care professionals) with clearly defined roles and responsibilities;
- the collection and dissemination information to support decision-making on risk prevention, including evidence of the negative health impact of hazardous chemicals.

The multisectoral management of chemicals is vital, and the health sector should play a major role by, inter alia, establishing robust channels of communication with relevant stakeholders to advocate for human health, and increasing awareness of the health risks of exposure to hazardous chemicals.

PICs play an important role in responding to chemical emergencies, but also in the everyday management of chemicals. PICs should be available in every country irrespective of geographical or population size. At a minimum, a PIC is a centre with toxicological expertise capable of advising medical staff and the general population 24 hours a day and seven days a week by phone. For medical staff, PICs provide guidance on diagnosis, clinical management and prevention of poisoning (including availability and use of antidotes and potential sources of exposure such as products, substances, and toxic plants and animals) and first aid for poisonings. Other important functions of a PIC include detecting and quantifying relationships between toxic chemicals and illness, training emergency and public health staff, and advising on the prevention of negative health effects.

An adequately resourced PIC has sufficient staff in terms of expertise and number, and information resources including, at a minimum, a toxicological database, treatment protocols, a product database, and poisoning and other health surveillance databases. A PIC may also include or be strongly connected to a clinical treatment unit, laboratory service and/or research unit.

Establishing and developing a PIC requires policy support and sustainable funding. Cooperation with other institutions for treatment and prevention is crucial for PICs at local, national and international levels. Approaches to establishing PICs differ from country to country depending on factors such as available resources, risk of chemical emergencies, etc.

Several national PIC models were presented to the meeting participants.

In Azerbaijan, the PIC is based in a clinic. In 2009, with support from WHO, an information unit was created to collect and analyse information on poisoning, analyse epidemiological information, and publish scientific and public information on the topic. The PIC staff respond to around 12 000 emergency calls annually. Through poisoning surveillance, they also identify chemicals of concern. Acetic acid, alcohol substitutes and drugs are currently the main agents of poisonings.

The PIC in Azerbaijan faces a number of challenges, including difficulty monitoring poisonings due to lack of an obligatory reporting system or national statistics on poisoning; inadequate availability of antidotes; poor accessibility of international sources of information; lack of specialists at the local level, especially with knowledge of English or Russian; and lack of trainings. A proposal to consider the creation of a (sub)regional stock of antidotes, the organization of international conferences on a regular basis, and technical and financial support for establishing/strengthening the country's PIC was addressed to WHO at the meeting.

The PIC in Hungary functions within the country's Public Health Institute. Medical and laboratory services are functionally linked to the PIC at central and local levels. European Union legislation has affected the operation of the PIC in terms of, for example, the registration of hazardous products. Its free information service for both the public and health workers includes information on clinical symptoms, first aid, antidotes, treatment and products. In 2018, three quarters of the calls to the PIC were from the public and one quarter were from paramedics and doctors. Reporting cases of poisoning to the PIC is mandatory and takes place through a designated reporting system. A poisoning database and a database on the properties of substances and mixtures are in both place. The telephone number of the PIC is marked on products containing hazardous chemicals.

In Serbia, the PIC is located in the Military Medical Academy. It provides treatment, prevention and toxicology research services. It benefits from the resources of the clinical departments and the Institute of Occupational Medicine's Department of Toxicology. Local hospitals are capable of quickly recognizing the symptoms of poisoning by snake venom and toxic plants, and only in difficult cases do they contact the Academy for advice. The PIC monitors and analyses cases of poisoning, and collects and stores data from 12 hospitals and three additional institutions. Information is available online. National laboratories and coordination services (for example, veterinary services) also participate in the national poison monitoring programme.

The functions of the Serbian PIC are divided among institutions according to their mandate. The Department of Toxicology, the Military Medical Academy and some laboratories carry out human biomonitoring; educational institutions develop and deliver curricula and courses; and authorized institutions provide laboratory services (chemical, veterinary, etc.). As a whole, the system covers all functions laid out in existing WHO documents and recommendations.

In a practical exercise, participants clustered in working groups to list the expectations and functions that can be assigned to a PIC in different areas: clinical services; laboratory services; information services; surveillance/toxicovigilance; and research. The results of the working group discussions are summarized below.

Clinical services

- Diagnosis, treatment and, if needed, reanimation, including through the use of specialized equipment (dialysis, plasmapheresis, oxygen therapy delivery systems, etc.)
- Provision of professional psychotherapy (in case of suicide attempts)
- Consideration of the special needs of children and provision of relevant therapies (paediatric services);
- Diagnosis and treatment of poisonings at workplaces (occupational diseases)
- Development of protocols for diagnosis, treatment and prevention
- Training of toxicologists working at the local level and public-health and health-care professionals, and education of the public and other allied professionals
- Development of recommendations on the use, planning needs, stocking and provision of antidotes

Laboratory services

- Clinical and laboratory analysis for identification and quantification of toxic agents in biological samples (human biomonitoring)
- Chemical analysis of environmental, food and product samples to identify sources of exposure to a toxic agent
- Clinical laboratory investigations for diagnosis and treatment

Information services

- Provision of information 24 hours a day, seven days a week to the public and medical staff
- Organization of meetings, trainings and awareness-raising campaigns
- Analysis and sharing of information, including statistical data, with supervisory authorities and other stakeholders
- Collection of information on hazardous chemicals and products and toxic plants and animals
- Support of operability of databases and availability of information to relevant stakeholders
- Monitoring of media reports and interaction with the media

Surveillance/toxicovigilance

- Identification of risk of poisoning and assessment of risk groups
- Monitoring of the number of poisonings, their structure and trends
- Monitoring and maintenance of lists of toxic chemical products and natural toxins
- Control and monitoring of narcotic drugs in the country, including illegal ones

- Notification of health and other authorities; development of measures for prevention, diagnosis, treatment and provision of antidotes; and other organizational measures
- Continuous analysis of data, and creation and maintenance of a database

Research

- Conduct of epidemiological studies of exposure to chemicals
- Poisoning profiling
- Study of the relationship between hazardous chemicals and noncommunicable diseases
- Study of the toxicological properties of chemicals, including their toxicokinetics and toxicodynamics
- Education and public awareness-raising
- Early detection of unusual products, chemicals and active agents

Poisoning surveillance

The meeting's final session focused on poisoning surveillance. Poisoning surveillance is a key function of a PIC and a core capacity within the framework of the IHR (2005) (11). It is critical for the early detection and verification of disease outbreaks, and should be in place in each country. According to the IHR, an event should be evaluated based on rapid risk assessment, which entails assessing the agent hazard, assessing exposure and clinical symptoms, and describing the event.

Toxicovigilance is an essential part of poisoning surveillance. It is an active process of identifying and assessing risks from exposure to various types of chemicals within a community or at the population level. Toxicovigilance involves monitoring data to identify new risks and trends, to alert authorities of a sudden event, to prevent and manage risks, and to treat cases in time. It requires collaboration between PICs, toxicological laboratories, public health agencies, safety agencies and other stakeholders.

PICs commonly perform toxicovigilance by identifying emerging hazards; collecting detailed data on demographics, agents and circumstances of exposure; performing clinical functions during emergencies and in everyday life; and sharing extensive information and expertise on the effects of exposure to chemicals. They maintain access to product and toxicological databases, and can immediately instruct hospital physicians on diagnosis and treatment and recommend prevention measures in earlier stages of an outbreak. Qualified and trained poison information staff are needed to ensure the proper operation of a PIC. Other expertise may need to be involved in certain cases.

Unfortunately, the agent causing a disease outbreak cannot always be identified in the initial stages; in these cases, specific investigation must be carried out. To guide countries in performing such investigations, WHO is developing a manual for investigating a suspected outbreak of illness of possible chemical aetiology, which will be published in 2020. A number of factors determine the complexity of the identification and verification of cases when the clinical picture is non-specific: when exposure occurs over a prolonged period and across a wide geographical area; when exposure to multiple agents takes place; and when expertise is lacking due to the uniqueness of a case.

To practise the investigation of an unknown disease outbreak, participants applied the principles and recommendations outlined in the manual during a simulation exercise. Information was added to the initial case description as participants worked through the five steps of investigation:

- detection and notification of cases;
- information gathering and evaluation;
- a preliminary assessment of the outbreak;
- a field investigation; and
- identification of the source of the event and development of appropriate preventive interventions.

Participants highly appreciated the training, noting that it fostered better understanding of the investigation process and allowed them to identify the types of expertise that should be involved. They encouraged WHO to continue organizing trainings on toxicovigilance.

Conclusions and next steps

The two-day subregional meeting on health sector involvement in chemicals management yielded the following conclusions.

- The WHO Chemicals Road Map Wordbook is a practical instrument that can guide planning at a national level.
- The guiding documents on planning activities towards sound chemicals management developed by UNITAR provide countries with a methodology for planning and prioritizing actions. Used in tandem with the Workbook, they contribute to effective planning at a national level.
- Criteria for prioritization at each step of a planning process can differ from country to country and should be identified at a national level. However, these criteria may be the same for countries with chemical management systems at a similar level of development, and planning processes could be organized at a subregional level for smaller groups of countries (for example, those of the south-eastern European region).
- Planning for the implementation of the WHO Chemicals Road Map at a national level should be streamlined with national priorities to ensure political support and financial resources.
- The rapid publication of WHO guidance documents on PICs and the manual for investigating a suspected outbreak of illness of possible chemical aetiology would be welcomed.
- Regular trainings on toxicovigilance are needed to strengthen national capacities and support the activities of PICs.

Participants also requested that WHO consider organizing trainings at a national level to support the creation/strengthening of PICs upon countries' requests, and that it consider planning WHO Chemicals Road Map pilot projects at a subregional level.

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Annex 1. Provisional programme

11 February 2020

9:00–9:30	Registration
9:30–10:00	Opening of the meeting <i>Ms Nataliya Zhukova, Ministry of Health of the Republic of Belarus</i>
	Election of co-chairs
	Adoption of the agenda
10:00–10:15	Scope and purpose of the meeting <i>Ms Irina Zastenskaya, WHO European Centre for Environment and Health (ECEH)</i>
10:15–11:00	Session 1. Introduction WHO Chemicals Road Map (linkages with Sustainable Development Goals, WHO and other global programmes, the Ostrava Declaration) <i>Ms Magdalena Frydrych, WHO</i> <i>Ms Irina Zastenskaya, WHO ECEH</i> WHO Global Chemicals and Health Network <i>Ms Magdalena Frydrych, WHO</i> Chemicals management beyond 2020 <i>Ms Brenda Koekkoek, Strategic Approach to International Chemicals Management (SAICM) Secretariat (via remote connection)</i>
11:30–13:00	Session 2. Planning the implementation of the WHO Chemicals Road Map at a national level WHO Chemicals Road Map Workbook – introduction <i>Ms Magdalena Frydrych, WHO</i> Prioritization of chemicals and actions Developing a national implementation plan: approaches, main elements and steps <i>Mr Andrea Cararo, United Nations Institute for Training and Research (UNITAR)</i> Discussion
14:00–15:45	Practical exercise 1: developing a national plan to implement the WHO Chemicals Road Map
16:15–17:00	Reporting on working group discussions

17:00–17:45 Presentation of national experience in developing road maps towards sound chemicals management
Ms Irina Iliukova, Belarus
Ms Nana Gabriadze, Georgia
Ms Nasima Zhunusova, Kazakhstan

17:45–18:00 Wrap up and closure of the day

12 February 2020

9:00–11:00 **Session 3. Key frameworks for health sector involvement in sound chemicals management**

Overview of framework elements in the health sector for sound chemicals management

Ms Irina Zastenskaya, WHO ECEH

Poison information centres (PICs): role and resources

European network of PICs

Ms Monique Mathieu, France

National PICs: organization and functions

Mr Ismayil Afandiyev, Azerbaijan

Ms Nikoletta Marosvölgyi, Hungary

Ms Branislava Matic, Serbia

Practical exercise 2: establishing a PIC according to WHO recommendations

11:30–13:00 **Session 4. Poisoning surveillance**

Requirements of the IHR

Ms Irina Zastenskaya, WHO ECEH

Poisonings surveillance and toxicovigilance

Information exchange and databases

Ms Monique Mathieu, France

WHO recommendations on investigation of poisonings

Ms Irina Zastenskaya, WHO ECEH

Discussion

14:00–15:30 Practical exercise 3: investigation of an unknown disease outbreak of possible chemical aetiology

16:00–16:30 Plenary discussion of the meeting outcomes

16:30–17.00 Next steps and closure of the meeting

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The WHO Regional Office for Europe

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