

JOINT EXTERNAL EVALUATION OF IHR CORE CAPACITIES

of the
REPUBLIC OF LATVIA

Mission report:
May 8-12, 2017



**World Health
Organization**

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ABBREVIATIONS

AMR	Antimicrobial Resistance
BIOR	Institute of Food Safety, Animal Health and Environment
BSL	Biosafety level
CDPC	Centre for Disease Prevention and Control
EARS-net	European Antimicrobial Resistance Surveillance Network
EFSA	European Food Safety Authority
EQA	External Quality Assessments
ESAC-net	European Surveillance of Antimicrobial Consumption Network
EPIET	European Programme for Intervention Epidemiology Training
FBDO	food-borne disease outbreaks
FETP	Field Epidemiology Training Programme
FWD-Net	Food- and Waterborne Diseases and Zoonoses Network
FVS	Food and Veterinary Service
GLASS	Global Antimicrobial Resistance Surveillance System
Euro-GASP	European Gonococcal Antimicrobial Surveillance Programme
EU	European Union
GP	General Practitioner
HCAI	Healthcare associated infection
IHR	International Health Regulations
ILI	influenza-like illness
MoA	Ministry of Agriculture
MRSA	Methicillin-resistant <i>Staphylococcus aureus</i>
NATO	North Atlantic Treaty Organization
NRL	National Microbiology Reference laboratory
PHEOC	public health emergency operations centre
SARI	Severe Acute Respiratory Illness
SEMS	State Emergency Medical Service
SMR	State Material Reserves
SOMC	State Operational Medical Committee

Findings from the Joint External Evaluation

Latvia: High Level Summary and Recommendations

1. Latvia has a high level of capacity that is guided by skilled and dedicated health professionals. There are areas for improvement including strengthening the collaboration between the human and animal health sector, improving antimicrobial stewardship, ensuring a multi-sectoral approach to biosafety and biosecurity and disseminating standard operating procedures across a number of sectors. The main risk to Latvia's health security is due to the lack of adequate financial resources to address challenges of maintaining and retaining a skilled and appropriately sized workforce. Addressing this will be a challenge given the size of the population and the current overall budget available to the Government of Latvia but the issue should be highlighted.
2. Latvia has achieved high scores, with either developed, demonstrated or sustainable capacity in most of the technical areas. But in the absence of major, real incidents, there is risk of complacency and, as a result, cuts or redistribution of resources. Therefore it is imperative to continuously invest in IHR capacity for the health security of the people of Latvia.
3. Latvia has demonstrated a willingness to fully implement IHR requirements and be quite transparent of the strengths and weaknesses of their health capacity. Latvia should be applauded for being one of the first countries in the European region to volunteer for a Joint External Evaluation and it is hoped that other countries follow their lead.

Latvia Scores

Capacities	Indicators	Score
National Legislation, Policy and Financing	P.1.1 Legislation, laws, regulations, administrative requirements, policies or other government instruments in place are sufficient for implementation of IHR.	4
	P.1.2 The state can demonstrate that it has adjusted and aligned its domestic legislation, policies and administrative arrangements to enable compliance with the IHR (2005)	5
IHR Coordination, Communication and Advocacy	P.2.1 A functional mechanism is established for the coordination and integration of relevant sectors in the implementation of IHR.	4
Antimicrobial Resistance	P.3.1 Antimicrobial resistance (AMR) detection	5
	P.3.2 Surveillance of infections caused by AMR pathogens	4
	P.3.3 Healthcare associated infection (HCAI) prevention and control programs	3
	P.3.4 Antimicrobial stewardship activities	1
Zoonotic Disease	P.4.1 Surveillance systems in place for priority zoonotic diseases/pathogens	4
	P.4.2 Veterinary or Animal Health Workforce	4
	P.4.3 Mechanisms for responding to zoonoses and potential zoonoses are established and functional	4
Food Safety	P.5.1 Mechanisms are established and functioning for detecting and responding to food-borne disease and food contamination.	5
Biosafety and Biosecurity	P.6.1 Whole-of-Government biosafety and biosecurity system is in place for human, animal, and agriculture facilities	3
	P.6.2 Biosafety and biosecurity training and practices	2
Immunization	P.7.1 Vaccine coverage (measles) as part of national program	5
	P.7.2 National vaccine access and delivery	5
National Laboratory System	D.1.1 Laboratory testing for detection of priority diseases	4
	D.1.2 Specimen referral and transport system	3
	D.1.3 Effective modern point of care and laboratory based diagnostics	4
	D.1.4 Laboratory Quality System	5
Real-Time Surveillance	D.2.1 Indicator and event based surveillance systems	4
	D.2.2 Inter-operable, interconnected, electronic real-time reporting system	3
	D.2.3 Analysis of surveillance data	5
	D.2.4 Syndromic surveillance systems	4
Reporting	D.3.1 System for efficient reporting to WHO, FAO and OIE	4
	D.3.2 Reporting network and protocols in country	4
Workforce Development	D.4.1 Human resources are available to implement IHR core capacity requirements	2
	D.4.2 Field Epidemiology Training Program or other applied epidemiology training program in place	2
	D.4.3 Workforce strategy	2
Preparedness	R.1.1 Multi-hazard National Public Health Emergency Preparedness and Response Plan is developed and implemented	5
	R.1.2 Priority public health risks and resources are mapped and utilized.	4

Emergency Response Operations	R.2.1 Capacity to Activate Emergency Operations	3
	R.2.2 Emergency Operations Center Operating Procedures and Plans	3
	R.2.3 Emergency Operations Program	3
	R.2.4 Case management procedures are implemented for IHR relevant hazards.	4
Linking Public Health and Security Authorities	R.3.1 Public Health and Security Authorities, (e.g. Law Enforcement, Border Control, Customs) are linked during a suspect or confirmed biological event	4
Medical Countermeasures and Personnel Deployment	R.4.1 System is in place for sending and receiving medical countermeasures during a public health emergency	4
	R.4.2 System is in place for sending and receiving health personnel during a public health emergency	2
Risk Communication	R.5.1 Risk Communication Systems (plans, mechanisms, etc.)	3
	R.5.2 Internal and Partner Communication and Coordination	3
	R.5.3 Public Communication	3
	R.5.4 Communication Engagement with Affected Communities	3
	R.5.5 Dynamic Listening and Rumour Management	3
Points of Entry (PoE)	PoE.1 Routine capacities are established at PoE.	3
	PoE.2 Effective Public Health Response at Points of Entry	4
Chemical Events	CE.1 Mechanisms are established and functioning for detecting and responding to chemical events or emergencies.	2
	CE.2 Enabling environment is in place for management of chemical Events	4
Radiation Emergencies	RE.1 Mechanisms are established and functioning for detecting and responding to radiological and nuclear emergencies.	3
	RE.2 Enabling environment is in place for management of Radiation Emergencies	3

PREVENT

National legislation, policy and financing

Introduction

The IHR (2005) provide obligations and rights for States Parties. In some States Parties, implementation of the IHR (2005) may require new or modified legislation. Even if new or revised legislation may not be specifically required, States may still choose to revise some regulations or other instruments in order to facilitate IHR implementation and maintenance in a more effective manner. Implementing legislation could serve to institutionalize and strengthen the role of IHR (2005) and operations within the State Party. It can also facilitate coordination among the different entities involved in their implementation. See detailed guidance on IHR (2005) implementation in national legislation at (http://www.who.int/ihr/legal_issues/legislation/en/index.html). In addition, policies which identify national structures and responsibilities as well as the allocation of adequate financial resources are also important.

Target

States Parties should have an adequate legal framework to support and enable the implementation of all of their obligations and rights to comply with and implement the IHR (2005). In some States Parties, implementation of the IHR (2005) may require new or modified legislation. Even where new or revised legislation may not be specifically required under the State Party's legal system, States may still choose to revise some legislation, regulations or other instruments in order to facilitate their implementation and maintenance in a more efficient, effective or beneficial manner.

State parties should ensure provision of adequate funding for IHR implementation through national budget or other mechanism.

Latvia Level of Capabilities

Latvia has a hierarchy of legislation, laws and policies in place. At the highest level, the constitution of the Republic of Latvia provides for the right to life for everyone to be protected by law and that the state shall protect human health and guarantee a basic level of medical assistance for everyone. Several laws exist to support the implementation of the IHR (2005), including: the epidemiological safety law; the civil protection and disaster management law; the law on the supervision of the handling of food; the chemical substances law; and the waste management law. There are cabinet regulations that have been formulated that support the implementation of existing laws such as: the procedures for the organisation of the disaster medicine system; the procedures for registration of infectious diseases, the procedures for the implementation of public health measures; the cabinet instruction regarding actions of responsible institutions in the event of finding a substance or object of unknown origin if it is suspected that it contains explosive, radioactive, dangerous chemical or biological substances, or if indications of terrorist attack are detected.

Cross-border agreements exist with neighbouring countries with regard to public health emergencies, including: the framework agreement between the government of the Republic of Latvia with the governments of: Republic of Estonia on mutual assistance in the event of disasters; Republic of Lithuania on mutual support in the event of natural disasters and other large-scale accidents; Belarus on collaboration in the prevention of disasters, other emergencies, and the elimination of their consequences; the Russian Federation on collaboration within the field of emergency prevention and elimination; and Georgia on collaboration within the field of civil emergency prevention, preparedness and response; as well agreement

between the Baltic States - Partnership Agreement between the Ministry of Health of the Republic of Latvia, the Ministry of Social Affairs of the Republic of Estonia and the Ministry of Health of the Republic of Lithuania on Joint Procurements of Medicinal Products and Medical Devices and Lending of Medicinal Products and Medical Devices Procurable Centrally 02.05.2012.

It is clearly stipulated that epidemiological safety measures shall be financed from State budget funds allocated to the Ministry of Health in accordance with the law on the relevant annual State budget, from subsidies, general revenues, revenues from services that are charged for, and from other own revenues, including donations and gifts. In case of epidemics, pandemics, and emergency situations that threaten to cause epidemics, additional financing is provided for in the epidemiological and safety law to cover compulsory vaccinations, implementation of quarantine and other measures from the State budget funds. In such cases, the decision to grant funding is taken by the Cabinet. In addition, local government funds, and funds which have been donated by other natural and legal persons may also be used in the prevention of epidemics or pandemics and emergency situations.

In the case of financing for civil protection and disaster management, the cabinet can decide on financing of national institutions responsible for carrying out the tasks entrusted to them in the field of civil protection and disaster management.

Recommendations for Priority Actions

- **Strengthen human resources to implement the existing legislation and policies:** In view of the aging public health workforce and the reluctance of public health workers and medical practitioners to work in rural areas, strengthen human resources to support IHR and global health security implementation that is aligned with the overall public health workforce development plan.
- **Streamline roles and responsibilities to implement the legislation and policies:** Conduct a desk review to identify areas of overlap for some legislations/policies and subsequently streamline the roles and responsibilities of key stakeholders in areas of overlap.
- **Streamline policies for risk communication** through protocols for the responsible focal points to ensure consistent messaging during emergencies and capacitate the focal points with modern communication facilities and technologies.
- **Conduct regular practical trainings, simulations and exercises** to test the functionality of the existing legislation and policies, as well as, conduct after action reviews to learn lessons as to how existing legislation and policies support or enable response to real events.
- **Establish a robust supervision and monitoring system** to enforce the implementation of existing legislations, policies and regulations.

Indicators and Scores

P.1.1 Legislation, laws, regulations, administrative requirements, policies or other government instruments in place are sufficient for implementation of IHR - Score 4

Strengths/ Best Practices

- Relevant legislation in place, for example, Procedures for the Implementation of Public Health Measures (Cabinet Regulation No. 1050; adopted 16 November 2010 – prescribes procedures for the implementation of public health measures to prevent or reduce threat to the public health).
- Assessment of relevant legislation, regulations or administrative requirements, and other governmental instruments has been carried out.
- EU legislation in enacted.

- Legislative acts have been promulgated.
- Permanent improvement of existing legislation takes place.
- Conclusions made after different trainings are acted upon.
- State Disaster Medicine Plan updated annually.
- Assessments of IHR done yearly.

Areas that need strengthening/challenges

- Several amendments have been made in the national legislation but not always in a timely manner.
- Country's ability (institution's ability) and/or will to improve national legislation.
- Implementation of existing legislative acts.

P.1.2 The state can demonstrate that it has adjusted and aligned its domestic legislation, policies and administrative arrangements to enable compliance with the IHR (2005)

- Score 5

Strengths/ Best Practices

- Coordination of the legal and regulatory frameworks between sectors.
- Cross-sectoral Councils and Commissions.
- Cross-sectoral working groups.
- Cross-sectoral Readiness Planning Commission on Serious Health Risk Management.

Areas that need strengthening/challenges

- Cooperation within the country.
- Clear delineation of roles and responsibilities.
- Work towards the goal.
- Team work.

IHR Coordination, Communication and Advocacy

Introduction

The effective implementation of the IHR requires multisectoral/multidisciplinary approaches through national partnerships for effective alert and response systems. Coordination of nation-wide resources, including the designation of an IHR NFP, which is a national centre for IHR communications, is a key requisite for IHR implementation.

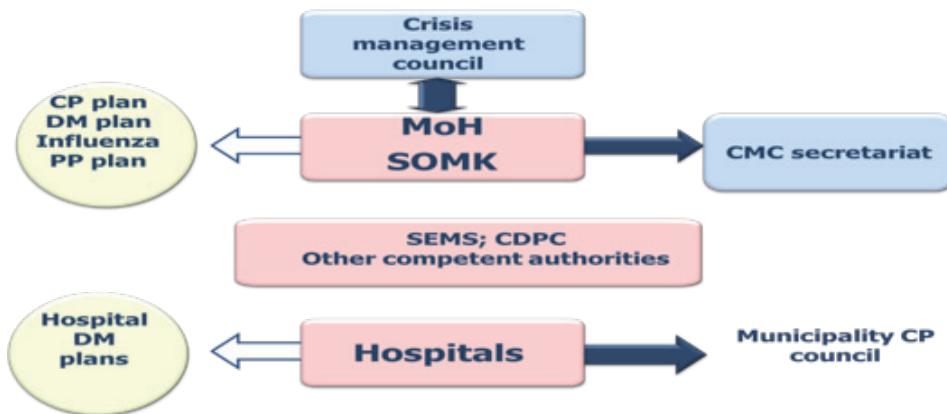
Target

The NFP should be accessible at all times to communicate with the WHO IHR Regional Contact Points and with all relevant sectors and other stakeholders in the country. States Parties should provide WHO with contact details of NFPs, continuously update and annually confirm them.

Latvia's Level of Capabilities

The IHR (2005) was adopted by the Latvia cabinet-regulation No 417, of June 26th 2007 and has been translated into Latvian. The coordination of IHR implementation is supported by the procedures for the implementation of public health measures-cabinet regulation No. 1050 of 16th November 2010 and has the enabling national plans that facilitate notification, coordination, communication such as: the State Civil Protection plan of 9th August 2011, the State Disaster Management plan of 18th October 2016, and the Public Health Response plans for points of entry (PoE).

There are clear coordination structures at the various levels, see figure below.



The national focal point for IHR coordination, communication and advocacy is the State Emergency Medical Service, which is responsible for preparedness and response planning. Several competent authorities for key IHR core capacity strengthening have been designated, including: the Centre for Disease Prevention and Control, the Health Inspectorate, State Environment Service, the Food and Veterinary Service, the Riga East University Hospital; the State Fire and Rescue Service; the designated PoEs (3 ports and 3 airports) with their PH emergency contingency plans.

To streamline coordination of the various IHR stakeholders in the country, Multisectoral Pandemic Preparedness commission has been reorganised and on 22th of April 2016 designated as Cross-sectoral readiness planning commission on serious health risk management.

The main role of the commission is to: streamline preparedness planning, review risk assessment and actual information on health threats nationwide and globally, improve collaboration and improve understanding to react in case of emergency.

The leadership of the commission is from the Ministry of Health, with participation of other competent authorities and relevant stakeholders, including: the State Environmental Centre, the Ministry of Welfare, the Ministry of Education, the Ministry of Transport, the Ministry of Defence, the Ministry of Interior, the Ministry of Foreign Affairs, the Ministry of Agriculture, the State Disaster Prevention and Control Centre, the Health Inspectorate, the Health Service, and the State Emergency Medical Service. The commission meets twice a year, but in times of crisis, it is activated frequently.

Recommendations for Priority Actions

1. Strengthen knowledge and understanding about IHR as a global health framework with multi-sectorial dimension to all relevant sectors.
2. Conduct simulations/exercises or after actions review so as to draw lessons on the functionality of the multisectoral IHR coordination mechanisms and to provide self-learning possibilities for all relevant sectors and the private sector on preparedness and response, consistent with the expanded scope of IHR (2005).
3. Expand legal roles and responsibilities of the IHR NFP and strengthen the capacity to perform those.

Indicators and Scores

P.2.1 A functional mechanism is established for the coordination and integration of relevant sectors in the implementation of IHR - Score 4

Strengths/ Best Practices

- The IHR has been ratified and incorporated into national legislation, guidelines and plans; competent authorities have been designated and there is regular information exchange with national stakeholders and international partners.
- Joint sensitisation of Baltic States (Latvia, Lithuania, and Estonia) on IHR implementation has been conducted 17th of April 2009.
- EU wide command-post exercises have been conducted.

Areas that need strengthening/challenges

- Increased awareness of IHR among other sectors so as to improve their interest to strengthen and maintain health security.
- Need to conduct advocacy for IHR at the highest high level in collaboration with the WHO Country and Regional offices.
- Continous training and sensitization to overcome the perception that "it will not happen to us".
- Address coordination challenges and fragmentation through the development of a coherent system for detection and response to chemical events (surveillance, monitoring of chemicals used and how they are transported).

Antimicrobial Resistance

Introduction

Bacteria and other microbes evolve in response to their environment and inevitably develop mechanisms to resist being killed by antimicrobial agents. For many decades, the problem was manageable as the growth of resistance was slow and the pharmaceutical industry continued to create new antibiotics.

Over the past decade, however, this problem has become a crisis. The evolution of antimicrobial resistance (AMR) is occurring at an alarming rate and is outpacing the development of new countermeasures capable of thwarting infections in humans. This situation threatens patient care, economic growth, public health, agriculture, economic security, and national security.

Target

Support work being coordinated by WHO, FAO, and OIE to develop an integrated and global package of activities to combat antimicrobial resistance, spanning human, animal, agricultural, food and environmental aspects (i.e. a one-health approach), including: a) Each country has its own national comprehensive plan to combat antimicrobial resistance; b) Strengthen surveillance and laboratory capacity at the national and international level following agreed international standards developed in the framework of the Global Action Plan, considering existing standards and; c) Improved conservation of existing treatments and collaboration to support the sustainable development of new antibiotics, alternative treatments, preventive measures and rapid, point-of-care diagnostics, including systems to preserve new antibiotics.

Latvia Level of Capabilities

Latvia has cabinet regulations in place which define a number of priority pathogens in humans and animals that are tested for in designated laboratories. At present sixteen laboratories have the capacity to test for all priority AMR pathogens, and those laboratories report routine data to the Centre for Disease Prevention and Control of Latvia, which reports them to the European Antimicrobial Resistance Surveillance Network (EARS-net). Latvia has the capacity to report on all WHO priority pathogens and recently started participating in the Global Antimicrobial Resistance Surveillance System (GLASS), where in addition to invasive samples also urine specimens are reported by Latvia. Data on Neisseria gonorrhoeae and salmonella spp. are reported to Euro-GASP and Food- and Waterborne Diseases and Zoonoses Network (FWD-Net) respectively.

Surveillance on antimicrobial resistance in animals is carried out in accordance with the EU Commission Implementing Decision No 2013/652/EU of 12 November 2013 on the monitoring and reporting of antimicrobial resistance in zoonotic and commensal bacteria. This Decision lays down specific requirements for the harmonised monitoring and reporting of isolates of *Salmonella* spp., *C. jejuni*, Indicator commensal *E.coli* and ESBL, AmpC, carbapenemase-producing *Salmonella* spp. and *E.coli*. Results of the harmonised AMR monitoring are reported to European Food Safety Authority in the framework of zoonoses reporting.

Testing for AMR pathogens in animals is done by BIOR, the Institute of Food safety, Animal Health and Environment. Similarly, wholesale data on antimicrobial use are reported and published regularly in the Antimicrobial Consumption interactive database, which provides European reference data on antimicrobial consumption. Latvian sales data for veterinary antimicrobial agents is published annually in the European Surveillance of Veterinary Antimicrobial Consumption report published by the European Medicines Agency.

Antimicrobial drugs are prescription-only medicines both in humans and animals.

Regarding Health-care associated infections, Latvia has participated in a number of point-prevalence studies and cabinet regulation No. 104 (adopted February, 2016) lays out the control measures in medical treatment institutions in order to prevent spread of infections. While the legal foundation for prevention and control of health-care-associated infections exists, the extent to which all those measures are implemented down to the peripheral level of the health care system needs improvement and oversight. How such measures are regulated and implemented in the area of animal health could not be assessed.

Latvia established a Committee on AMR in 2013, and a National AMR Action Plan involving input from all relevant sectors (such as human health, animal health and agriculture, etc.) is planned to be developed. At present the national coordination and response to AMR is still fragmented and not fully integrated across all relevant sectors. While surveillance and laboratory activities for AMR, as well as some HCAI prevention and control activities are taking place, the extent of such activities differ by sector and there is still a need to commence planning for antimicrobial stewardship activities in the human and animal sector. A coordinated joint national action plan for AMR building on the One Health Principle could help bringing otherwise fragmented activities together, and to consolidate and strengthen ongoing activities in the area.

Recommendations for Priority Actions

- Develop a National AMR Action Plan involving all relevant sectors, building on the recommendations of the Global AMR Action Plan. This plan will support consolidation of the national response to AMR, improve national coordination and address all areas that need strengthening.
- Develop and implement activities for antimicrobial stewardship in humans and animals, including local antibiotic treatment guidelines.
- Strengthen infection prevention and control capacity (related to implementation of Cabinet Regulation No. 104) up to the peripheral health facility level in humans and animals.

Indicators and Scores

P.3.1 Antimicrobial Resistance (AMR) Detection - Score 5

Strengths/ Best Practices

- Designated laboratories conduct detection and reporting of all priority AMR pathogens (as defined by Cabinet Regulation No. 7) for more than five years, and the list of mandatory pathogens for reporting has subsequently been expanded.
- Laboratories operate with a common international standard and 38% are ISO accredited.

Areas that need strengthening/challenges

- Low numbers of samples are requested by physicians, which may hamper the quality of data reported. This is a common problem, especially in the absence of dedicated programmes that support diagnostic and antibiotic stewardship.
- Multidisciplinary work in hospitals across professional boundaries, building on a patient-centered approach, improved turnover time of laboratory samples, and good communication between laboratory and clinician can improve the use of microbiologic diagnostics to guide patient treatment and ultimately surveillance. Reimbursement of antimicrobial susceptibility testing can also help decrease barriers for testing. The NRL has assumed duties relatively recent, and is still shaping its role as a provider of orientation and training to other laboratories within the network.

P.3.2 Surveillance of infections caused by AMR pathogens - Score 4

Strengths/ Best Practices

- A National Reference Laboratory for AMR was designated in 2017, which provides confirmatory testing for the national network of laboratories conducting antimicrobial susceptibility testing.
- Annual External Quality Assessments (EQAs) are organized for all laboratories which participate in surveillance activities. At present 16 laboratories provide data for surveillance purposes (covering roughly 70% of the population), which feed into the annual European Antimicrobial Resistance Surveillance Network report.
- Latvia has the capacity to report on all WHO priority pathogens (through European Antimicrobial Resistance Surveillance Network) and recently started participating in GLASS, where in addition to invasive samples and urine specimens are reported by Latvia. Data on Neisseria gonorrhoeae and salmonella spp are reported to Euro-GASP and FWD respectively.
- Testing for AMR pathogens in animals is done by BIOR, the Institute of Food safety, Animal Health and Environment, however this information is currently not used for surveillance purposes.

Areas that need strengthening/challenges

- Limited awareness among the healthcare workforce, and limited training in use of clinical case definitions for diagnostic and antimicrobial stewardship.
- Passive, laboratory based surveillance relies on routine samples being taken for antimicrobial susceptibility testing; this is currently an issue due to weak diagnostic stewardship resulting in low numbers of samples requested and processed in laboratories.

P.3.3 Healthcare associated infection (HCAI) prevention and control programs - Score 3

Strengths/ Best Practices

- Cabinet Regulation No. 104 includes regulations on basic requirements for hygienic and counter-epidemic measures in medical treatment institutions; recommendations and best practices for health care facilities have been developed by the Latvian CDC in collaboration with the Health Inspectorate, and are available to health care facilities to adapt to their circumstances. The best practices cover many important aspects of infection prevention and control, including waste management and use of personal protective equipment.
- Mandatory isolation measures are defined by Cabinet Regulation No. 104, and for highly transmittable diseases (e.g. TB, haemorrhagic fever, etc.) isolation in three specially designated hospitals are foreseen.
- Latvia has undertaken two point prevalence survey of healthcare-associated infections and antimicrobial use in European acute care hospitals (based on the ECDC protocol) to date.

Areas that need strengthening/challenges

- It is not clear how effectively the regulations, recommendations and best practices on basic requirements for hygienic and counter-epidemic measures in medical treatment institutions and health care facilities are implemented at the peripheral level.
- While isolation measures are foreseen in national plans, and reportedly followed in case of serious infectious diseases, isolation measures in case of infections caused by resistant bacteria (e.g. MRSA) might be less effectively implemented.
- HCAI in long-term-care facilities and prevention of surgical site infection are not covered by the current plans.
- No information was shared on HCAI plans and measures applied in the area of animal health.

P.3.4 Antimicrobial stewardship activities - Score 1

Strengths/ Best Practices

- Large clinical centres in Latvia implement some activities supporting rational use of antimicrobials, and patterns of antimicrobial use have been assessed through point-prevalence studies in acute care hospitals, as well through on-going antimicrobial use surveillance.
- Interventional studies on quality of surgical prophylaxis have been done.

Areas that need strengthening/challenges

- A comprehensive National AMR Action Plan including development and implementation of antimicrobial stewardship activities in humans and animals has not been developed.
- Local antibiotic treatment guidelines for common infections and institutional antibiograms supporting evidence-based rational use of antimicrobials are needed.
- Only a guideline on rational pharmacotherapy in children is currently available.
- A review of educational curricula for undergraduate and post-graduate health care professionals should be done to ensure that stewardship principles and good prescribing practice are integrated; the same accounts for human resource staffing plans for hospitals, to start building an enabling environment for multidisciplinary work across disciplines and to start consolidating capacities needed to address AMR in health care facilities.
- No information was shared on antimicrobial stewardship plans and measures applied in the area of animal health.

Zoonotic Disease

Introduction

Zoonotic diseases are communicable diseases and microbes spreading between animals and humans. These diseases are caused by bacteria, viruses, parasites, and fungi that are carried by animals and insect or inanimate vectors may be needed to transfer the microbe. Approximately 75% of recently emerging infectious diseases affecting humans is of animal origin; approximately 60% of all human pathogens are zoonotic.

Target

Adopted measured behaviours, policies and/or practices that minimize the transmission of zoonotic diseases from animals into human populations.

Latvia Level of Capabilities

Latvia has a zoonotic diseases surveillance system in place, managed by the Food and Veterinary Service (FVS) and the Centre for Disease Prevention and Control (CDPC) of Latvia. The list of notifiable zoonotic diseases (more than twenty) for surveillance and information exchange between CDPC and FVS meets national and EU requirements and priorities. The following zoonotic diseases can be considered as the subjects of greatest public health concern within the country: Lyme disease; Salmonellosis; Tick-borne encephalitis; Trichinellosis. The animal infectious diseases surveillance plan for 2017 covers the following eight zoonoses: Rabies; Zoonotic salmonella (*Salmonella Enteritidis*, *Salmonella Typhimurium*); Bovine brucellosis (*Brucella abortus*); Bovine tuberculosis (*Mycobacterium bovis*); Ovine and caprine brucellosis (*Brucella melitensis*) ; Swine brucellosis (*Brucella suis*.), Newcastle disease and Influenza. The Government regulations provide the exchange of information on detection of zoonotic disease between regional (territorial) units of FVS and CDPC within and not later than 2 days, and between national (central) level of FVS and CDPC as soon as possible but no later than 24 hours.

Latvia is free of the following diseases according to OIE requirements: self-declaration of the freedom from rabies in accordance with Article 8.12.3. of the Terrestrial Code, 8 December 2014 and has received the status of a negligible BSE, 29 May 2014 in accordance with the OIE Terrestrial Animal Health Code.

Following decisions approved that Latvia is officially free from:

- Bovine tuberculosis - European Commission Implementing Decision 2011/675/EU of 12 October 2011;
- Bovine brucellosis - European Commission Implementing Decision 2012/204/EU of 19 April 2012;
- Ovine and caprine brucellosis - European Commission Implementing Decision 2010/695/EU of 17 November 2010.

The Agricultural Data Centre is the responsible agency for registration of animals and holdings (cattle, pigs, sheep, and goats) in line with EC requirement. According to the Agricultural Data Centre data on 1 January 2017 Latvia has: 412 314 cattle (23 913 holdings); 13 159 goats (2 363 holdings); 9 278 horses (3 282 holdings); 106 629 sheep (3 709 holdings); 334 082 swine (3 964 holdings); 4 513 119 poultry birds (3 333 holdings). Notification of animal movements is based on "movement declarations". Animal owners are responsible for movement notification.

Stakeholders for prevention and control of zoonotic diseases are: Ministry of Agriculture, Ministry of Health, Food and Veterinary Service, Center for Disease Prevention and Control; State Emergency Medical Service; Health Care practitioners/service providers; Institute of Food Safety, Animal Health and Environment (BIOR).

Latvia has been implementing the zoonotic salmonella control programme according to European Commission Regulation (EC) No 1168/2006 (repealed by Commission Regulation (EU)), since 2008. The zoonotic salmonella prevalence (targeted serotypes - S. Enteritidis, S. Typhimurium) in laying hen flocks was 20.5% at the end of 2007, but in 2008 prevalence in laying hen flocks was 14.5% and at the end of 2009, 10% S. enteritidis infected laying hen flocks were detected. From 2007 to 2010 the prevalence decreased about 5% annually, demonstrating progress in decreasing zoonotic salmonella prevalence (targeted serotypes - S. enteritidis, S. Typhimurium) in laying hen flocks. For several years, FVS had not detected positive (Salmonella enteritidis, Salmonella typhimurium) laying hen flocks in large commercial holdings at all; in 2016 Salmonella spp was detected in only one laying hen flock in a commercial holding. On average, every year, 4-5 farms are detected infected with Salmonella from small non-commercial farms.

In 2016, significant salmonella outbreaks (more than 10 cases) were investigated in collaboration with animal human health sectors: February - March, a S. typhimurium outbreak in a kindergarten (16 cases); July, S. enteritidis in 3 kindergartens and 2 summer camps (36 cases) through one food provider; September - October, S. enteritidis in 18 kindergartens (97 cases) through one food provider; Salmonellosis (S. enteritidis) outbreak in September 2016, with a total number of 97 sick, including 94 children. Epidemiological investigations carried out by CDPC, concluded that the case was related to Salmonella contaminated cooked meal (contained raw eggs) that has delivered from one catering establishment to 18 pre-school educational institutions.

FVS has developed Contingency Plans and Operational Manuals for priority diseases including zoonoses such as Avian Influenza and Newcastle disease.

FVS is subject to periodical EU audit and there are a number of FVO audit missions among them on:

- Animal health - contingency plans; animal protection during depopulation for disease control March 2013;
- Public Health - Hygiene Pack in June 2013; Evaluate the official controls on consignments in transit February 2015;
- Evaluate the proposal for a Border Inspection Post at Liepaja port December 2015.

Recommendations for Priority Actions

- Establish Inter-ministerial "One-Health" platform and formalise the approach to zoonoses, food safety and antimicrobial resistance among human and animal health sectors involving additional stakeholders like Ministry of Environmental Protection, etc.
- Conduct in depth gap analysis of mechanism for early warning and early detection and early response for all stakeholders involved.
- Mapping and risk assessment of public health zoonotic risks.

Indicators and Scores

P.4.1 Surveillance systems in place for priority zoonotic diseases/pathogens - Score 4

Strengths/ Best Practices

- The Legal basis and programmes are in place for active and passive surveillance, control and prevention of zoonotic diseases.

- List of notifiable zoonotic diseases meets national priorities and EU requirements (more than 20 diseases).
- National and EU programmes and procedures are in place to control specific animal populations for zoonotic diseases.
- Technical capacity, collaborative multi-disciplinary teams and networks for surveillance of zoonotic diseases are in place.
- Well-established ISO accredited national reference laboratories: Institute for Food Safety, Animal Health and Environment (BIOR) and National Microbiological Reference Laboratory (Riga East University Hospital) providing the necessary diagnostic and research services for zoonosis, food safety and environmental threats.
- State commendation to livestock farmers in case of outbreak of zoonotic diseases is foreseen by legislation and implemented. It facilitates early notification of suspected cases by animal owners.
- Direct communication and coordination with routine information exchange in addition to mandatory reporting of zoonoses events.
- Existence of procedures or mechanisms for the timely notification of zoonotic diseases to OIE and WHO and summary reports on zoonoses including food-borne outbreaks (European Food Safety Authority, European Centre for Disease Control).

Areas that need strengthening/challenges

- Developing of advanced practical epidemiological tools and periodical training of veterinary and public health clinicians on surveillance to ensure continuous improvement of zoonotic diseases surveillance.
- Improve zoonotic diseases surveillance in wild animals and the environment.
- Conduct prevalence studies for several zoonoses.
- Strengthening public health microbiology.
- BIOR laboratory capacity development to address the optimization of the diagnostic work with closure of regional laboratories dealing with food safety and animal health and future emerging diseases.
- Raising knowledge and awareness on zoonosis prevention and control among animal owners, livestock farmers and general public.

P.4.2 Veterinary or Animal Health Workforce - Score 4

Strengths/ Best Practices

- One competent authority responsible for controls on food and feed safety, animal health and animal welfare in the country and at the border posts.
- Multi-disciplinary team with expertise in different areas: food safety, animal health, public health, agronomy, biology, etc.
- Regular proficiency testing for laboratory technicians run by reference laboratories of OIE, EC, etc.

Areas that need strengthening/challenges

- Regular in-depth trainings/continuous education.
- Insufficient resources in risk assessment and epidemiology.

P.4.3 Mechanisms for responding to zoonoses and potential zoonoses are established and functional - Score 4

Strengths/ Best Practices

- Good collaboration and data exchange between Centre for Disease Prevention and Control of Latvia and Food and Veterinary Service.
- Cooperation agreements between Centre for Disease Prevention and Control of Latvia, Food and Veterinary Service, National Microbiology Reference Laboratory, Institute of Food Safety, Animal Health and Environment "BIOR" and Health Inspectorate provides conditions for early warning between sectors.
- Contingency plan for dealing with outbreaks of all types of epizootic disease (including epizootic diseases with zoonotic character like avian influenza, Newcastle diseases etc.) is in place with detailed structure and organization of all the bodies involved.
- Compensation system in place for animal owners in cases of detection of several zoonotic diseases.

Areas that need strengthening/challenges

- Continue to regularly evaluate the existing legislation, regulations, and policies relevant to mechanisms, structures and financing for coordination and response.
- Establish functional inter-institutional zoonoses working group at national level for overview of the entire system to prioritise and determine areas which should be improved in zoonotic diseases control area – gaps of legislation, gaps of surveillance system etc.
- Improve zoonotic diseases surveillance in wild animals and the environment as well as better understanding a disease ecology.
- Developing of useful epidemiological tools to enhance surveillance and control of zoonotic diseases.
- Provide molecular typing and comparison of zoonotic pathogens detected in human, animals and food
- Develop link between public health laboratories and animal health laboratories in order to display and analyze surveillance data better.

Food Safety

Introduction

Food and waterborne diarrhoeal diseases are leading causes of illness and death, particularly in less developed countries. The rapid globalization of food production and trade has increased the potential likelihood of international incidents involving contaminated food. The identification of the source of an outbreak and its containment is critical for control. Risk management capacity with regard to control throughout the food chain continuum must be developed. If epidemiological analysis identifies food as the source of an event, based on a risk assessment, suitable risk management options that ensure the prevention of human cases (or further cases) need to be put in place.

Target

State parties should have surveillance and response capacity for food and water borne diseases' risk or events. It requires effective communication and collaboration among the sectors responsible for food safety and safe water and sanitation.

Latvia Level of Capabilities

Food Safety is the responsibility of the Ministry of Agriculture (MoA). Its Veterinary and Food Department has the mandate for supervising the development and implementation of food safety policy and for the legislative regulation on food safety. The State Food and Veterinary Service (FVS), supervised by MoA, is the only competent control authority responsible for food and feed safety - thus responsible for managing food-associated risks. The FVS food control system was accredited in accordance with ISO 17020 by LATAK (Latvian Accreditation Body) in 2007. According to the requirements of National legislative acts and an additional agreement between the Centre for Disease Prevention and Control (CDPC) and FVS, the food and veterinary inspectors participate in the epidemiological investigations of food-borne disease outbreaks (FBDO) only under their own competence, including the inspection of related enterprises, sampling etc. The Institute of Food Safety, Animal Health and Environment ("BIOR") provides laboratory testing, including microbiological investigations for food and environmental samples. Generally they are responsible for assessing risks associated with microbiological and chemical agents in food, in animals and the environment.

Surveillance of infectious food-borne diseases, like other infectious diseases, is conducted by the Centre for Disease Prevention and Control (CDPC). The legislative base is the Epidemiological Safety Law and Cabinet Regulation on "Procedures for Registration of Infectious Diseases." Epidemiologists of CDPC are involved in FBDO according to their territorial distribution and responsibility. At least 14 epidemiologists from the national and regional level have participated in international courses for outbreak investigations, organized by ECDC/EU. In local FBDO, there is rapid information exchange between CDPC and FVS. CDPC has an agreement with FVS, which regulates information exchange and contact points of these two institutions. Furthermore, there is a collaboration agreement between CDPC and the Institute of Food Safety, Animal Health and Environment "BIOR" regarding microbiological investigation of contacts and environmental samples. Thus, communication and collaboration of the national key institutions for FBDO investigations is formally established and functioning.

The joint evaluation also revealed challenges in the surveillance of food-borne diseases in Latvia, incl. transport of specimens from some areas of the country to the National Reference Laboratory, the limited

number of state paid diagnostic tests conducted per stool sample (clinician's decision), and the length of time before a causative agent is identified. Currently, there is no protocol on genotyping methods to be used nor on information exchange between the National Microbiology Reference laboratory (NRL) and BIOR to compare human and food (environmental) samples.

On the epidemiological side, due to a lack of human resources, the decision has been taken to stop notification and investigation of sporadic non-confirmed gastroenteritis, which, combined with limited microbiological investigations on stool samples, limits the capability to detect FBDO. Similarly, there is limited human resource capacity to conduct full-scale FBDO investigations (incl. epidemiological studies). Furthermore, a training need has been identified by Latvian public health officials for joint exercises of CDPC and FVS and possibly also for a multi-sectoral coordination group (possibly involving BIOR and NRL) in the investigation of FBDO.

Recommendations for Priority Actions

- Develop a plan to increase diagnostic tests on stool samples (for sporadic and outbreak cases) and food samples in FBDO.
- Develop a protocol for molecular subtyping, which includes when to apply (which) methods and formalises information exchange between NRL and BIOR (and CDPC).
- Sustain training activities on investigations of FBDO.

Indicators and Scores

P.5.1 Mechanisms are established and functioning for detecting and responding to foodborne disease and food contamination - Score 5

Strengths/ Best Practices

- A single competent authority for Food Safety. CDPC, responsible for FBDO investigations, has collaboration agreements with FVS and BIOR, focal points are clearly defined in relevant stakeholders (surveillance and response staff).
- Good access to surveillance data via the webpage of CDPC.
- FVS has developed internal procedures for food and veterinary inspectors in case of FBDO.
- Regular exchange of information among food and veterinary inspectors on FBDO and microbiological contamination of food.

Areas that need strengthening/challenges

- Timely identification of causative agents in FBDO. This includes resources for sampling in FBDO and the number of pathogens for which a stool sample is tested.
- Molecular genotyping methods to identify causative agents in FBDO and standardized comparisons between human and food samples.
- Human resource capacity for monitoring gastrointestinal diseases and for conducting full-scale FBDO investigations.

Biosafety and Biosecurity

Introduction

Working with pathogens in the laboratory is vital to ensuring that the global community possess a robust set of tools—such as drugs, diagnostics, and vaccines—to counter the ever evolving threat of infectious diseases.

Research with infectious agents is critical for the development and availability of public health and medical tools that are needed to detect, diagnose, recognize, and respond to outbreaks of infectious disease of both natural and deliberate origin. At the same time, the expansion of infrastructure and resources dedicated to work with infectious agents have raised concerns regarding the need to ensure proper biosafety and biosecurity to protect researchers and the community. Biosecurity is important in order to secure infectious agents against those who would deliberately misuse them to harm people, animals, plants, or the environment.

Target

A whole-of-government national biosafety and biosecurity system is in place, ensuring that especially dangerous pathogens are identified, held, secured and monitored in a minimal number of facilities according to best practices; biological risk management training and educational outreach are conducted to promote a shared culture of responsibility, reduce dual use risks, mitigate biological proliferation and deliberate use threats, and ensure safe transfer of biological agents; and country-specific biosafety and biosecurity legislation, laboratory licensing, and pathogen control measures are in place as appropriate.

Latvia Level of Capabilities

Latvia has an established list of dangerous pathogens defined under the regulation N° 189, Annex 1 "Classification of Group 2, 3.4 biological agents". The investigation on these dangerous biological pathogens is allowed only within the National Microbiology Reference Laboratory in BSL3 facilities. The NRL was established in 2010 in the Riga East University hospital, Latvian Centre of Infectious Diseases, using financial support of ERAF project, it is composed of BSL2 and 3 that permits diagnostics of epidemiologically important infection diseases.

The regulations and guidelines for medical laboratory activities are in place for biosafety and biosecurity. The medical laboratories have documented procedures for biological, chemical and other hazards; are responsible for identification of hazards; and have documented procedures in cases of accidents. Personal protective equipment is available according to the specific work. The director of the laboratory is required to maintain adequate labour protection measures and operational plans.

NRL has monitoring activities such as:

- Internal audits;
- Regular staff training in biosafety. For example, the management staff responsible for training of employees working in BSL3 (CL3) have been participating in the following training: Practices and principles of containment; level 3 design, working practices and management by the Health Protection Agency (UK); WHO Bio risk Management Advanced Trainer Programme; and other training by the Robert Koch Institute (Germany).

The Health Inspectorate of Latvia is in charge of the control of medical institutions in respect of regulations for biosafety and biosecurity and inclusion in the medical institution registry. The Health Inspectorate operates regular controls in medical laboratories (approximately every 5-6 years), in which it verifies laboratory correspondence to regulations, guidance on hygiene, as well as work environment and medicine movement requirements. Additional controls that go beyond the plans are also done in medical laboratories when the Health Inspectorate receives complaints from legal persons.

The Latvian National Accreditation Bureau performs laboratory accreditation. Safety and security requirements for accredited medical laboratories are based on ISO 15189 standards and testing laboratories on ISO 17025 standards. Latvia is finalizing the development and implementation of comprehensive national biosafety and biosecurity legislation and finalizing the development and implementation of laboratory licensing/accreditation.

Physical security measures and response are based on the State Civil Protection Plan. All institutions have the obligation to develop its own civil protection plans, and establish security units. The security of information (e.g., inventory of agents and toxins) is protected by special control measures, for example, authorised and limited access to territories, computer systems, LIS, documents and records. The definition of sensitive information confidentiality is based on the Personal Data Protection Law.

The transportation of dangerous good is governed by the national regulation n° 674. The Latvian Institute for food Safety, Animal Health and Environment (BIOR) has its own SOP for safe and secure transport.

International agreements exist with Sweden to send dangerous pathogens if Latvia does not have the capacity to investigate. Other collaborations are in place with E-CDC, WHO and EU regional laboratories. Latvia is also part of laboratory networks on specific disease and receives information from collaborative institutions.

Latvia is finalizing the consolidation of dangerous pathogens and toxins into a minimum number of facilities, the process to support the active monitoring, and maintaining of up-to-date records and pathogen inventories within facilities that store or process dangerous pathogens and toxins. The country is starting to put into place oversight monitoring and enforcement mechanisms, and collections of pathogens and toxins are identified.

Latvia is starting the development and implementation of pathogen control measures, including standards for physical containment and operational handling, and containment failure reporting systems (on institutional level and is putting into place tools and resources to support diagnostics that preclude culturing dangerous pathogens.

Recommendations for Priority Actions

- Ensure that biosafety and biosecurity regulations and guidelines are inclusive and integrate cross-government collaboration and create an oversight mechanism for biosafety and biosecurity that includes all sites.
- Establish external audit at the national level to monitor surveillance procedures.
- Strengthen and systematize practical (not theoretical) training for ALL professionals working or that could be working with dangerous pathogens.
- Enhance education and communication efforts to raise awareness and compliance with biosafety and biosecurity practices among all relevant professionals.

Indicators and Scores

P.6.1 Whole-of-Government biosafety and biosecurity system is in place for human, animal, and agriculture facilities - Score 3

Strengths/ Best Practices

- Latvia has biosafety regulations in place.
- Regulations and guidelines for biosecurity are followed by laboratories within the country.
- Physical security measures are in place to minimize potential risk of inappropriate removal or release of biological agents.
- Information security - access to sensitive information (e.g. inventory of agents and toxins) is controlled.
- Transportation security: procedures for safe and secure transport of culture, specimens, samples and other materials are established and followed.
- Ref labs and some medical laboratories have appropriate ISO accreditation.
- Country has considered consolidating the locations for dangerous pathogens and toxins.
- Appropriate physical, information, transportation and personnel security measures are in place.
- National waste management policy is in place.
- Site-specific biosafety and biosecurity supporting documents are available.

Areas that need strengthening/challenges

- There are systems at the institutional (not national) level only that monitor surveillance procedures of dangerous pathogens. A national protocol is needed.
- Control measures of pathogens, including standards for physical containment, biosafety and biosecurity management are the responsibility of individual laboratories. A national protocol is needed.
- An internal audit of laboratory biosafety/biosecurity is performed only in NRL and BIOR. Organization which conducts laboratory controlling and auditing could include biosafety/biosecurity audits in their programme.

P.6.2 Biosafety and biosecurity training and practices - Score 2

Strengths/ Best Practices

- The laboratory, which is nominated for work with dangerous pathogens, regularly organizes biosafety and biosecurity training.
- Latvia has conducted a training needs assessment and identified gaps in biosafety and biosecurity training, but has not yet implemented comprehensive training or a common training curriculum (only at the reference laboratory).
- Academic institutions have biosafety training programmes in place to work with dangerous pathogens.
- NRL is the only laboratory in Latvia with BSL3 facilities, so regularly organizes biosafety and biosecurity training according to the laboratory plan. The training programme consists of two parts – theoretical course (lectures) and practical training exercises in laboratory rooms. All personnel undergo training before they may start to work in the laboratory.

Areas that need strengthening/challenges

- Laboratory biosafety procedures (work with dangerous pathogens) inspection does not take place.

- General lack of awareness among the laboratory workforce of international biosafety and biosecurity best practices for safe, secure and responsible conduct (in reference laboratory only).
- The country doesn't have biosafety and biosecurity training programmes that include work with dangerous pathogens and toxins. Country does not yet have sustained academic training in institutions that provide education on biosafety and biosecurity.
- Personnel, who maintain or work with dangerous pathogens and toxins, only have access to a short course in the postgraduate professional laboratory physicians study programme and the number of student places in the programme is limited.
- No common curriculum is used for biosafety and biosecurity training across all facilities housing or working with dangerous pathogens. Such training is organized only at Institution level.

Immunization

Introduction

Immunization is one of the most successful global health interventions and one of the most cost-effective ways to save lives and prevent disease. Immunizations are estimated to prevent more than two-million deaths a year globally.

Target

A functioning national vaccine delivery system—with nationwide reach, effective distribution, access for marginalized populations, adequate cold chain, and ongoing quality control—that is able to respond to new disease threats.

Latvia: Level of Capabilities

Latvia has a national immunization policy (Public Health Strategy for 2014-2020), legitimized by respective legislative acts (e.g. the Epidemiological Safety Law; Cabinet Regulation No. 330, adopted 26 September 2000 "Vaccination Regulations"). It has a comprehensive system to administer vaccination and monitor vaccination coverage. 14 vaccine preventable diseases are included in the routine childhood immunization schedule. Vaccination is also recommended for certain risk groups (e.g., influenza, tick-borne encephalitis). Recommended vaccinations are paid for by the government. Target rates for coverage for each vaccine are defined. Vaccination coverage is measured at the national level by the Centre for Disease Prevention and Control and published three times a year. By law, physicians have to offer vaccination to target groups. National coverage data are compared with General Practitioners (GPs) annual self-assessment regarding vaccines administered. In general, vaccination coverage is high (>90%) and morbidity of vaccine preventable diseases is low. Latvia has interrupted endemic transmission of measles for >36 months. While vaccination coverage for measles is slightly below 95% (93.2), it is acknowledged that coverage assessment in Latvia provides a minimum estimate as a non-negligible proportion of registered children (denominator) is assumed to live outside the country. Thus, their vaccination status is not captured (numerator). Furthermore, vaccine coverage for measles has been increasing over the past years and the trajectory of progress justifies the expectation that 95% coverage will be reached by 2020.

Latvia has an immunization supply chain network operating across the entire country, where general practitioners request vaccines monthly from wholesalers. This process is coordinated and controlled by the Centre for Disease Prevention and Control. Latvia encounters vaccine hesitancy for some vaccinations (e.g. against human papilloma virus, varicella) in their general population as well as partly among GPs. Renewed attention and innovative strategies are required to overcome the many challenges posed by vaccine hesitancy to maintaining strong immunization programmes. Any adverse events following immunization should be reported by the physician in accordance with Cabinet Regulation No. 2 of 27 December 2005. 1040, "Procedures by the medical practitioner to report on the complications caused by the vaccination".

Recommendations for Priority Actions

- Introduce a vaccination register within the E-Health framework.
- Address vaccine hesitancy by educating health care workers and analysing factors influencing vaccination behaviours (e.g. through tools from WHO's tailoring immunization programmes framework).

- Introduce a causality assessment for adverse events following immunization, according to the WHO recommendation.
- Supplement the National Disaster Medical Plan by drafting an attachment including vaccines regarding the import and distribution of medical countermeasures and equipment.
- Require all clinicians to be fully vaccinated before offering care.

Indicators and Scores

P.7.1 Vaccine coverage (measles) as part of national programme - Score: 5

Strengths/ Best Practices

- National policy is supported by law and 100% financed.
- Vaccination is comprehensive and mandatory.
- Vaccine coverage can be measured monthly and is published three times a year.
- The up-to-date national immunization schedule is in line with the Global (European) Vaccine Action Plan.
- Programme of vaccinating children in highly endemic areas against TBE is working effectively.

Areas that need strengthening/challenges

- Vaccine hesitancy for some vaccines exist (e.g. against HPV, Varicella and pneumococcal disease), and anti-immunization activities are increasing.
- Public health resources and expertise capacity to address vaccine hesitancy are not always sufficient.

P.7.2 National vaccine access and delivery — Score: 5

Strengths/ Best Practices

- Sustainable financing allowing for free-of-charge vaccination for all children and other target groups.
- Immunization supply chain network is well established with clearly defined roles and responsibilities of all involved parties and covers the entire country.
- Latvia has a long experience in successfully outsourcing vaccine logistics to the private sector with no operational, equipment and investment costs and shared logistics with other pharmaceutical products and medical goods.

Areas that need strengthening/challenges

- Separation of the tendering process for vaccine supply and vaccine storage/distribution.
- Maintaining reserve stocks for some vaccines.
- Introductions of the second varicella vaccination and the 3rd booster dose for pertussis vaccine.
- Improvement of vaccine logistic chain for influenza vaccine – to move from a compensatory system to routine vaccine procurement and distribution system.
- Improvement of coverage for the seasonal influenza vaccination.

DETECT

National laboratory system

Introduction

Public health laboratories provide essential services including disease and outbreak detection, emergency response, environmental monitoring, and disease surveillance. State and local public health laboratories can serve as a focal point for a national system, through their core functions for human, veterinary and food safety including disease prevention, control, and surveillance; integrated data management; reference and specialized testing; laboratory oversight; emergency response; public health research; training and education; and partnerships and communication.

Target

Real-time biosurveillance with a national laboratory system and effective modern point-of-care and laboratory-based diagnostics.

Latvia Level of Capabilities

Latvian laboratories are able to conduct all six mandatory core tests mentioned in IHR. These are:

- PCR for influenza virus;
- Culture for Polio virus;
- Serology for HIV;
- Microscopy for mycobacterium tuberculosis;
- Rapid diagnostic tests for plasmodium spp. (e.g. lateral flow serology);
- Bacterial culture for salmonella enteritidis serotype typhi.

The other core tests can be country specific and therefore vary. For Latvia these are at the moment:

- ELISA for viral gastroenteritis;
- NAAT test for chlamydia trachomatis;
- ELISA for TBE Ab / borrelia Ab;
- ELISA for HCV Ab / Ag and PCR for HCV (one or two step Reverse Transcriptase-PCR);
- But national priority core tests are not specifically defined yet.

The national reference laboratory (NRL) covers all registered (communicable) infectious diseases. Latvia operates three NRLs in total; one national reference laboratory for all human pathogens except TB, one reference laboratory for TB and one reference laboratory for food safety, animal health and environment at the Institute of Food Safety, Animal Health and Environment (BIOR). The BIOR is comprised of three separate testing laboratories at the same location.

Aside from the NRL which is capable of performing all ten core tests, there are in total 85 national medical laboratories of which 32 are accredited by ISO 15189 (human pathogens) or ISO / IEC 17025 (food and veterinary) respectively. 19 of those are microbiology testing laboratories. Here nine of the ten core

tests can be readily performed. Tests that cannot be performed inside Latvia (aside from core tests) are conducted by agreement at the Public Health Agency of Sweden PHA-Sweden.

There seems to be not enough microbiological testing during outbreaks, especially when those outbreaks are located in the periphery. Epidemiologist could be enabled and allowed to take samples and forward them to laboratories with a more complete diagnostic panel. In order for this to occur, the epidemiologists should put this request to the MoH. NRL conducts a large number of tests upon request, but is often lacking necessary clinical information (e.g. reason for testing, date of onset), making it difficult to interpret the results. Better communication or including the NRL in existing communication strategies may be advised.

Recommendations for Priority Actions

- Define national priority core tests.
- Improve specimen transport system from district levels to NRLs.
- Improve registry of laboratories in order to have a precise list including the fields of testing, respectively.
- Organize supervision of quality systems in registered but not accredited laboratories.
- Finalize organization of a system for development and approval of national diagnostic algorithms.

Indicators and Scores

D.1.1 Laboratory testing for detection of priority diseases - Score 4

Strengths/ Best Practices

- Laboratories are able to conduct all six core tests mentioned in the IHR and tests for main registered infectious diseases.
- NRL for human pathogens cover all in Latvia registered infectious diseases.
- NRL has developed a set of testing algorithms for performance of core laboratory tests including algorithms for HIV, HCV; Borrelia, Influenza, Polio/ Entero, TB.
- National algorithms for confirmation of HIV, HCV, HBV and Syphilis reactive test in blood transfusion services are in process.
- There is an official NRL agreement with PHA-Sweden for testing not available in country.
- Complete population has access to laboratory services for priority diseases.
- Standardization of testing by accreditation according to ISO standards LVS ES ISO 15189 for medical laboratories and LVS ES ISO/IEC 17025 for veterinary and environmental samples is in place.
- Most laboratories participate in national or international EQA programs.
- Laboratories send samples for confirmation/ reference testing to the NRL.
- NRLs send samples for confirmation/ testing/ validation to WHO regional centres if indicated.

Areas that need strengthening

- There is the need to agree on national diagnostic algorithms.
- There is only a limited list of guidelines for infectious diseases.

Challenges

- System for development and approval of national diagnostic algorithms is only at the very beginning.
- Priorities are not defined and should be implemented in cooperation with clinicians despite of limited capacities.

D.1.2 Specimen referral and transport system - Score 3

Strengths/ Best Practices

- Ability to transport specimens safely and quickly from 80% or more of intermediate levels/districts to national laboratory facilities for advanced diagnostics.
- There are documented regulations – CM Regulation No 7 “Procedures for Registration of infectious diseases” (05.01.1999) governing the specimen reference testing for seven of the ten priority diseases.
- There is a functioning referral system in place – weekly reports of NRLs to epidemiologists (CDPC).
- NRLs participate in WHO and ECDC laboratory networks.
- SOPs in place for specimen collection, packaging, and transport in accredited laboratories.
- Reference testing in NRLs is covered by government budget. NRLs refer samples to registered WHO reference centres for Influenza, Polio, and Measles/ Rubella.
- There is official agreement with PHA-Sweden for testing not available in country.
- BIOR RL and larger private medical laboratories have special equipped courier transport which regularly covers the whole country.
- Transport is conducted according to WHO guidelines.

Areas that need strengthening/challenges

- Reference testing and availability of testing for complete spectrum of registered infectious diseases is limited for the country because of gaps in the specimen transport system from district levels to NRLs as transports are only taking place once or twice a week (this problem is currently addressed in the Cabinet).
- It is not clear from the tool whether rules of ADR for road transport are being implanted. It is suggested to revise whether transportation rules are in accordance with European regulations such as ADR.
- Transportation of laboratory samples on national level is provided by institutions which send samples to NRLs if covered by their budget. Transportation from some regions is currently only organized once or twice a week. Transport is in part provided by private laboratories.
- MoH does currently not support courier contracts for NRLs. It is therefore suggested that MoH addresses this lack of transport coverage by e.g. enabling transport capacities by NRLs or supporting courier contracts.

D.1.3 Effective modern point of care and laboratory based diagnostics - Score 4

Strengths/ Best Practices

- Effective modern laboratory based diagnostics are available for most medical institutions in very short distances (none more than 1h apart). Because of this excellent infrastructure point of care diagnostics is not often required.
- Commercial point of care tests are available and routinely used in laboratories and at clinical sites for HBs Ag, anti- HCV, anti- HIV detection, Syphilis, viral gastroenteritis and more.
- BSL-2 and BSL-3 laboratories available.
- For HIV and TB commercial kits/ reagents procurement processes are organized (NRL, TB-RL).
- EQA organized by NRL include rapid tests.

Areas that need strengthening/challenges

- Standardization of point of care testing is needed.
- It is not clear which laboratories and clinical sites apply rapid tests.
- Apply all-round lab-training.
- Implementation of an internal quality control system.
- Involvements in EQA programs are not in place / identified for point of care testing on country level.

D.1.4 Laboratory Quality System - Score 5

Strengths/ Best Practices

- Medical Laboratories are registered and inspected by National Health Inspectorate.
- Laboratories are accredited by Latvian Accreditation Bureau.
- In-vitro diagnostic device registration is regulated by State Agency of Medicines Laboratory.
- Equipment is maintained through maintenance contracts.
- Laboratories participate in national EQA programs organized by:
 - NRL for medical laboratories, bacteriology, serology, parasitology (free of charge, 46 participants)
 - BIOR for bacteriology and parasitology.
- 38% (32/85) of medical laboratories have been accredited according to ISO standards.
- Microbiology NRL accredited for disease specific testing by WHO – Influenza, Polio, and Measles/ Rubella.
- TB-RL is WHO TB supranational reference laboratory.
- WHO NRL biosafety manual used.
- Internal audits LVS EN ISO 15189 and 15190.
- Site specific documents to maintain biosafety and biosecurity are in place.

Areas that need strengthening/challenges

- The number of registered laboratories as well as their field of testing is not clear.
- Supervision of quality systems in registered but not accredited laboratories is not organized appropriately.
- SOPs only in place for accredited laboratories.
- In medical institutions registry not all laboratories are included that are part of medical institutions. In addition field of testing (diagnostic capabilities) of those laboratories is not clear.
- By 12/31/17 all laboratories need to be accredited according to Medical Council regulations No 60, but reaching this deadline will be challenging/ impossible.
- Therefore there needs to be some kind of supervision or national certification system in place for those non-accredited laboratories by then.
- Biorisk training is conducted abroad (e.g. PHE-Porton Down, Robert Koch Institute), however no common curriculum in between different labs exists.

Real-Time Surveillance

Introduction

The purpose of real-time surveillance is to advance the safety, security, and resilience of the Nation by leading an integrated bio-surveillance effort that facilitates early warning and situational awareness of biological events.

Target

Strengthened foundational indicator- and event-based surveillance systems that are able to detect events of significance for public health, animal health and health security; improved communication and collaboration across sectors and between sub-national, national and international levels of authority regarding surveillance of events of public health significance; improved country and regional capacity to analyse and link data from and between strengthened, real-time surveillance systems, including interoperable, interconnected electronic reporting systems. This can include epidemiologic, clinical, laboratory, environmental testing, product safety and quality, and bioinformatics data; and advancement in fulfilling the core capacity requirements for surveillance in accordance with the IHR and the OIE standards.

Latvia Level of Capabilities

Real time surveillance works very well in Latvia. The Centre for Disease Prevention and Control (CDPC) is responsible for real-time surveillance, which is conducted with indicator-based surveillance, syndromic surveillance and event-based surveillance. Surveillance of communicable diseases is mandatory according to the Epidemiological Safety Law. From the clinical side, 61 diseases are notifiable according to cabinet regulations 7/948/528, and 50 are notifiable from the laboratories. Case definitions comply with EU standards. The main electronic reporting system is the VISUMS system, a module integrated with the VIS system which is the national electronic patient system. Not only the health practitioners but also managers of day care centres, schools etc. who detect a cluster of suspected cases, report this to their regional CDPC department (Latvia is divided into 6 regions) by telephone. The regional level enters the reported cases into the VISUMS system so that it reaches the national level as well as other regions in real time. The regional and national CDPC is staffed 24/7 to handle urgent incoming case reports. When a laboratory report arrives for the same case as is already reported into VISUMS, they are linked together since all cases have unique identifiers. Besides VISUMS, clinicians report cases of tuberculosis into a separate TB system and HIV cases to the HIV system. CDPC on the national level then enter these reported cases into the VISUMS. Cabinet regulations specify how swiftly cases must be reported; severe diseases (polio, etc.) must be reported immediately (by the local level to the regional CDC and by the regional level into the VISUMS). Less severe cases must be reported within one working day and the last group of diseases, including HIV and TB, should be reported within three working days. Syndromic surveillance is carried out for four syndromes/diseases: meningitis, encephalitis, AFP and acute hepatitis, clinicians who have met these syndromes enter them into the VISUMS system. Furthermore there is sentinel-based surveillance for influenza-like illness (ILI), other respiratory diseases and pneumonia. There are 11 hospitals, 70 GPs, 36 kindergartens and 37 schools included, covering approximately 5 percent of the Latvian population. Lastly, event-based surveillance of national newspapers and webpages, media are automatically scanned for a list of specified keywords using tailored web-crawlers who collect the relevant text sections on a daily basis. Thanks to the unique identifier of cases, register-based analyses are performed frequently. For instance, excess mortality, from the mortality registry is co-analysed with number of influenza cases to estimate excess mortality.

The key strengths identified are that both indicator-based and syndromic surveillance is in place and that the system for electronic surveillance and reporting, VISUMS, works well. The surveillance is regulated by a solid national legislative framework. Collaboration and data exchange between CDPC and the Latvian Food and Veterinary Service works well, mainly thanks to good personal relations. A more structured and formal cooperation between the human and the animal side would improve and integrate surveillance. In the future, a common surveillance and reporting system for both the human and the veterinary side would enhance surveillance in both sectors and enable a one health perspective to surveillance.

Latvia is good at publishing data to the public, both basic reporting of cases and incidence in table format, as well as more advanced epidemiological analyses using information from different registers. A number of best practises were noted, practises which could potentially help other countries: (1) automated monitoring of media is considered helpful for epidemiologists to have up-to-date information for communication with media and the public, (2) good cooperation between CDPC and different actors (the food and veterinary sector, the national reference laboratories, the institute of food safety, etc.), makes early warning work well.

Recommendations for Priority Actions

- A 'One health' perspective would be strengthened if a common electronic system for cross-species disease surveillance and reporting came in place.
- Develop the VISUMS systems further so that cases and suspect cases are imported into the system automatically from the E-health system when clinicians accept a suggestion from the system, time and resources would be saved (less need for manual entering of cases on the regional level).
- Right now Severe Acute Respiratory Illness (SARI) is not included in the list of syndromes monitored in the country. This could be easily added enhancing the capability of early detection of some severe diseases.
- Since the VISUMS is integrated with the patient system VIS it would be possible to develop algorithms that trigger or alarm for certain diseases or syndromes (using ICD10 and/or free text).
- Improve integration between human and animal health surveillance, investigate possibilities for a common surveillance system.
- Develop VISUMS further to allow clinicians and laboratories to report into the system (without having to report to the regional level by telephone). The current capacity of VISUMS is not sufficient to provide it.
- Include SARI in syndromic surveillance.
- Better use of e-health, take advantage of the potential provided by VIS and VISUM interoperability.

Indicators and Scores

D.2.1 Indicator and event based surveillance systems - Score 4

Strengths/ Best Practices

- National electronic surveillance systems, allowing for timely reporting and surveillance, are in place.
- List of notifiable diseases is updated and now meet WHO/IHR and EU requirements.
- Case definitions comply with ones established by the EU.
- Different data sources are used in the surveillance (from the human side, the animal side, state security, WHO-IHR, EWRS, and EPIS).

Areas that need strengthening/challenges

- Training of clinicians on surveillance (reporting, case definitions).
- Integrate human surveillance with animal and food surveillance.
- Better use of molecular epidemiology as it could make epidemiological analyses better.

D.2.2 Inter-operable, interconnected, electronic real-time reporting system - Score 3

Note: the VISUMS system, for public health, is in fact able to share data in real time, when it has been entered by the regional level.

Strengths/ Best Practices

- Good collaboration and data exchange between CDPC and Food and Veterinary Service.
- CDPC make surveillance data and analyses publicly accessible through their webpage.
- The VISUMS system works well, allowing for automatic outbreak detection and linkage of cases (reports from bot clinics and laboratories).
- Good cooperation between CDPC and Food and Veterinary Service, the National Microbiology Reference Laboratory, Institute of Food Safety, Animal Health and Environment "BIOR" and Health Inspectorate.

Areas that need strengthening/challenges

- Electronic reporting systems for notifiable diseases are not shared between systems (public health and veterinary surveillance) – opportunities and advantages should be carefully evaluated.
- Use the opportunities of e-Health for surveillance and threat detection in the future as addition to the VISUMS system, making use of the integration between VISUMS and the VIS system (patient information).
- Long-term sustainability of the VISUMS system, including system management and development.

D.2.3 Analysis of surveillance data – Score 5

Strengths/ Best Practices

- The VISUMS supports integration of data from clinical case reports and case reports from laboratories; case reports are linked and merged into one.
- The VISUMS system is connected to the VIS system, into which patient data on treatment is entered for administrative and statistical purposes. This allows for validation and follow-up of surveillance data.
- Data in VISUMS can be co-analysed with data from other registers, such as the national death register, thanks to the possibility to link cases by the unique identifier or to perform analysis on a more aggregate level.
- The VISUMS works as a tool for data analysis, including possibilities for spatial analysis.

Areas that need strengthening/challenges

- If more advanced data analysis was supported in VISUMS, by an interactive analysis tool (such as the ECDC Surveillance Atlas of Infectious Diseases), the VISUMS data would be even more useful.
- Limitation of resources is a challenge, there is a shortage of competent epidemiologic analysts and the ones available have several other tasks to attend to making it hard to prioritise epidemic analysis.

D.2.4 Syndromic surveillance systems – Score 4

Strengths/ Best Practices

- Syndromic surveillance covers important syndromes:
 - ILI [influenza, other respiratory diseases, pneumonia] (hospital sentinel system);
 - AFP, meningitis and encephalitis (VISUMS);
- Outbreaks/clusters of suspected cases reported by syndrome through VISUMS or the ILI sentinel system can be verified by data from the National Reference Laboratory (for instance, aseptic meningitis – enteroviruses, influenza, pneumonia, and other respiratory diseases – respiratory pathogens).

Areas that need strengthening/challenges

- Latvia should consider including SARI in the syndromic surveillance. This addition would be rather straightforward since there are 11 hospitals enrolled in the sentinel system already.

Reporting

Introduction

Health threats at the human–animal–ecosystem interface have increased over the past decades, as pathogens continue to evolve and adapt to new hosts and environments, imposing a burden on human and animal health systems. Collaborative multidisciplinary reporting on the health of humans, animals, and ecosystems reduces the risk of diseases at the interfaces between them.

Target

Timely and accurate disease reporting according to WHO requirements and consistent coordination with FAO and OIE.

Latvia: Level of Capabilities

The capability for reporting to international organisations is generally good in Latvia. The State Emergency Medical Service Department of Disaster Medicine Preparedness Planning and Coordination, under the Ministry of Health, is appointed as the IHR NFP and is operational 24/7. The OIE contact point is the Food and Veterinary Service. The two contact points, for the human and animal side, collaborate under forms dictated in a formal agreement.

The clear identification of contact points, competent authorities, and well defined criteria for reporting are key strengths together with a solid legal basis; IHR is ratified and incorporated into national legislation. The systems and processes are exercised frequently, through both national and EU wide exercises, ensuring good cooperation between the different institutions. Areas that need strengthening are awareness and implementation of IHR in other sectors in Latvia as well as enhanced cooperation with neighbouring countries. The possibility to receive and disseminate information 24/7, to allow for faster start of response activities, was also highlighted. Development of standard templates for reporting, approved by all stakeholders/institutions, would increase quality of reporting.

Recommendations for Priority Actions

Indicators and Scores

D.4.1 System for efficient reporting to WHO, FAO and OIE - Score 4

Strengths/ Best Practices

- Contact points for international reporting are clearly identified.
- Competent authorities are clearly defined.
- Criteria for reporting are well defined.
- Cooperation between different institutions and the possibility to practice routines through exercises.

Areas that need strengthening/challenges

- Awareness of IHR among other sectors.
- Capability to receive and disseminate information 24/7 (to start response activities quickly).

D.4.2 Reporting network and protocols in country - Score 4.

Strengths/ Best Practices

- IHR is ratified and incorporated into the national legislation.
- Clear reporting flowcharts for reporting to international organizations in place.
- Well known information exchange mechanisms with national stakeholders, for example the weekly EWRS meetings with food and veterinary laboratories in which information-exchange on surveillance data and acute events take place are appreciated by epidemiologists and an example of good practise.

Areas that need strengthening/challenges

- Collaboration with bordering countries and information exchange with their respective contact persons is a challenge. The implementation and adoption of a regional cooperation strategy could be a way forward, including both security and economic cooperation. WHO EURO may be a good channel to help reinforcing the cooperation with neighbouring county, by strengthening the existing, well working system.

Workforce Development

Introduction

Workforce development is important in order to develop a sustainable public health system over time by developing and maintaining the highly qualified public health workforce with appropriate technical training, scientific skills, and subject-matter expertise.

Target

State parties should have skilled and competent health personnel for sustainable and functional public health surveillance and response at all levels of the health system and the effective implementation of the IHR (2005). A workforce includes physicians, animal health or veterinarians, biostatisticians, laboratory scientists, farming/livestock professionals, with an optimal target of one trained field epidemiologist (or equivalent) per 200,000 population, who can systematically cooperate to meet relevant IHR and PVS core competencies.

Latvia Level of Capabilities

The country has a skilled and experienced workforce across multiple sectors with 6513 clinicians and 8781 nurses. There are 20 food inspectors at the central level and 147 food inspectors around the country. There are 14 epidemiologists at the central level and 31 at the regional level which reflects a reduction from previous numbers from 2009 when there were a total of 69 epidemiologists for the country. Staff retention is a challenge due to low salaries with many leaving the country to find work elsewhere.

Latvia does not have an FETP programme but Latvians do have access to the EPIET program and has had four graduates to date from EPIET, however only one is still currently working in Latvia. Latvia would benefit from a field epidemiology training programme that focused on workforce retention so that current levels do not shrink even more.

The largest challenge is financial. Without adequate budgets to train and support the workforce it will be difficult for Latvia to maintain the highly skilled workforce that exists today.

Recommendations for Priority Actions

- Produce multi-sectoral workforce development strategy with a tiered approach that addresses needs at different levels for laboratorians, human and animal health specialists.
- Develop a workforce retention policy with appropriate incentives including in-service trainings and adjusted salaries.
- Expand access to an applied epidemiology training programme.

Indicators and Scores

D.5.1 Human resources are available to implement IHR core capacity requirements - Score 2

Strengths/ Best Practices

- Skilled and experienced workforce across multiple sectors.
- Epidemiologic staff on duty 24/7/365 in Riga.

- Public health events/threats investigated and responded to, with the system tested with both real events and exercises.
- High scores across all evaluated technical areas reflective of quality of workforce.

Areas that need strengthening/challenges

- Current workforce is aging and reducing in numbers, with reductions due to retirements, emigration and low salaries.

D.5.2 Field Epidemiology Training Program or other applied epidemiology training program in place - Score 2

Strengths/ Best Practices

- Majority of epidemiologists are medical doctors.
- Latvians can apply to the European EPIET programme.

Areas that need strengthening/challenges

- The current options for epidemiologic training programmes are limited in scope and size.
- An expanded applied field epidemiology training programme (possibly a tiered approach with 3, 9 and 24 month levels) across multiple disciplines would be beneficial.

D.5.3 Workforce strategy - Score 2

Strengths/ Best Practices

- A general public health workforce strategy exists.
- The Public Health and Epidemiology Chair of Riga Stradiņš University performs educational, research, and public health advisory and expert functions and offers education at the bachelor, master and doctoral level since 1997.

Areas that need strengthening/challenges

- To fully meet the capacity requirements of this indicator, a multi-sectorial plan for the public health workforce needs to be developed and implemented.
- There is a need for multi-sector applied field epidemiology programme to address gaps.

RESPOND

Preparedness

Introduction

Preparedness includes the development and maintenance of national, intermediate and community/primary response level public health emergency response plans for relevant biological, chemical, radiological and nuclear hazards. Other components of preparedness include mapping of potential hazards, the identification and maintenances of available resources, including national stockpiles and the capacity to support operations at the intermediate and community/primary response levels during a public health emergency.

Target

Preparedness will include the development and maintenance of national, intermediate and community/primary response level public health emergency response plans for relevant biological, chemical, radiological and nuclear hazards. Other components of preparedness include mapping of potential hazards, the identification and maintenances of available resources, including national stockpiles and the capacity to support operations at the intermediate and community/primary response levels during a public health emergency.

Latvia Level of Capabilities

Latvia is well connected internationally through bilateral Civil Protection and preparedness agreements with neighbouring countries and via EU and NATO membership. The Latvian Civil Protection and Disaster Management system allocates clear lead and supporting institutions for a wide range of threats, including pandemics, chemical events, and radionuclear events. Similarly, the State Disaster Medical Plan is all-hazard in approach, describing the objective of the Disaster Medicine System, roles and responsibilities during emergencies, coordination mechanisms between institutions, and information about health care surge capacity. Preparedness plans have been regularly tested in recent years through national and EU-level simulation exercises.

The Ministry of Health is the lead agency of a Cross-sectoral Readiness Planning Commission on Serious Health Risk Management, however this body meets only 2 times during the year and may be overly dependent upon interpersonal relationships rather than formal structures. As such, there remains the potential for a lack of interoperability in preparedness planning (e.g. for epizootics). Similarly, the State Disaster Medical Plan links to but does not detail activities at Points of Entry, even though some of these, such as Riga airport, have detailed preparedness plans.

The Civil Protection and Disaster Management authority conducts an over-arching risk mapping exercise, while the State Disaster Medical Plan mandates an annual mapping of risks and capacities. However, there may be challenges in addressing identified surge capacities, due to limited healthcare resources. In addition, health risk mapping is somewhat superficial and should be conducted in greater detail while also assessing a wider range of biologic risks.

Recommendations for Priority Actions

- Ensure that State Disaster Medical Plan explicitly addresses all IHR-relevant issues, including Points of Entry and medical counter-measures.
- Further formalize and intensify activities of the Cross-sectoral Readiness Planning Commission on Serious Health Risk Management so as to become less dependent on interpersonal relationships.
- Move towards real-time mapping of surge capacities.
- Address resource gaps in the Disaster Medicine system.
- Risk mapping should assess a greater range of health risks (and in more detail), including vectors and vector-borne diseases in relation to Points of Entry.
- Strengthen collaboration with private sector and with neighbouring countries to enhance the interoperability of preparedness planning.

Indicators and Scores

R.1.1 Multi-hazard National Public Health Emergency Preparedness and Response Plan is developed and implemented - Score 5

Strengths/ Best Practices

- Comprehensive legislation covering civil protection and health clearly outline roles and responsibilities a wide range of threats.
- The State Disaster Medicine Plan is multi-hazard and is amended annually. It lays out roles and responsibilities, contains risk-specific annexes, and adds new dimensions as required (e.g. on involvement of NGOs during emergencies).
- Plans are tested regularly through simulation exercises such as STORMEX (2016) and participation in EU-wide exercises Quicksilver (2014) and Quicksilver Plus (2015).
- Latvia has demonstrated capacities in mechanisms for responding to infectious zoonoses and for detecting and responding to foodborne disease and food contamination.

Areas that need strengthening/challenges

- Need to more formally link important preparedness dimensions to the State Disaster Medicine Plan, such as Points of Entry and on sending and receiving medical countermeasures and personnel.
- Stronger formal and legislative integration with other sectors, such as the Food & Veterinary Service, in preparedness and response planning, to become less dependent upon interpersonal relationships.
- Improve private sector involvement in disaster medicine preparedness planning.
- Address funding gaps to ensure adequate investments in the Disaster Medicine system at the national and local level.
- Strengthen collaboration with neighbouring countries to promote the interoperability of preparedness planning across borders.

R.1.2 Priority public health risks and resources are mapped and utilized - Score 4

Strengths/ Best Practices

- Civil Protection and Disaster Management system has conducted an all-hazard risk mapping, identifying pandemic influenza as one of the highest risks facing Latvia.
- State Emergency Medical Plan requires annual risk and resource mapping, including surge capacities at health institutes and hospitals that provide 24/7 care.

- Strong data collection on State Material Reserves (such as medication, injection and infusion devices, dressings and immobilization materials, products of vital functions, disaster medical special equipment, medical devices), hospital capacities, and ambulances.

Areas that need strengthening/challenges

- Risk mapping process should assess greater range of health risks and in more detail, including vectors and vector-borne diseases in relation to Points of Entry.
- Move towards capability to map hospital/surge capacity data in real-time.
- Emerging risks and risk drivers could be routinely identified and assessed as part of the annual preparedness planning process.

Emergency Response Operations

Introduction

A public health emergency operations center (EOC) is a central location for coordinating operational information and resources for strategic management of public health emergencies and emergency exercises. EOCs provide communication and information tools and services and a management system during a response to an emergency or emergency exercise. They also provide other essential functions to support decision-making and implementation, coordination, and collaboration.

Target

Countries will have a public health Emergency Operation Center (EOC) functioning according to minimum common standards; maintaining trained, functioning, multi-sectoral rapid response teams and “real-time” biosurveillance laboratory networks and information systems; and trained EOC staff capable of activating a coordinated emergency response within 120 minutes of the identification of a public health emergency.

Latvia Level of Capabilities

Latvia does not have a dedicated public health emergency operations centre (PHEOC). The Ministry of Health could allocate an ad hoc EOC during a crisis, such as at the facilities hosting the call centre “113” of the State Emergency Medical Service (SEMS) where there is secure space and equipment available. Alternatively, the State Fire and Rescue Service also has facilities that could serve as an EOC during a health crisis (e.g. Crisis Centre 112). Designating a dedicated PHEOC facility is important for ensuring that all relevant staff know where to go during crises and, more importantly, to ensure that the facility is fit-for-purpose for running incident management activities during public health emergencies in Latvia.

The State Operational Medical Committee (SOMC) has decision-making authority during emergencies, including activation of the EOC and incident management structures. The SEMS will be the health sector lead at operational level during health emergencies and has developed standard procedures for initiating Emergency Operations and general roles and responsibilities in incident management. Although there is not dedicated EOC staff, a 24/7 duty roster is established and maintained by SEMS. Despite the SOPs that do exist and the 24/7 duty roster, there is a strong need to ensure that SEMS incident management structures are not overly dependent on key personnel. Thus, elaborating on SOPs for EOC operating plans and procedures and formally training staff in incident management is a priority.

Simulation exercises have tested the incident management command structure. However, the absence of a dedicated PHEOC facility and the lack of experience in real-world events means that the Latvian capacity for health Emergency Response Operations is largely untested.

There are established case management guidelines, sometimes drawing from WHO and ECDC guidance, but their uptake at regional levels and at all designated Points of Entry could use reinforcement.

Recommendations for Priority Actions

- Designate and develop a dedicated public health EOC facility, commensurate to Latvian needs and resources, drawing upon guidance such as the WHO Framework for a Public Health Emergency Operations Centre.
- Develop guidance and SOPs for operation of the PHEOC.

- Ensure staff training and awareness of emergency/incident management structure and SOPs.
- Regularly test the Emergency Operations Program through functional exercises, some involving key partners from other sectors (e.g. Food and Agriculture, Security).

Indicators and Scores

R.2.1 Capacity to Activate Emergency Operations - Score 3

Strengths/ Best Practices

- There are clear triggers for activating the Disaster Medical System.
- The SOMC is the lead decision-making authority during emergencies.
- The State Emergency Medical Services is the designated lead agency at operational level during emergencies and has SOPs in place for Emergency Operations.
- There is 24/7 staffing for notification of events.

Areas that need strengthening/challenges

- Designate and develop a dedicated public health EOC facility, commensurate to Latvian needs and resources, drawing upon guidance such as the WHO Framework for a Public Health Emergency Operations Centres.
- Articulate SOPs for EOC functionality and for essential roles/functions for the management of the PHEOC.
- Ensure staff training and awareness of PHEOC to strengthen business continuity.

R.2.2 Emergency Operations Center Operating Procedures and Plans - Score 3

Strengths/ Best Practices

- A Cabinet Regulation (No. 956) describes the functions of the SOMC.
- SEMS has developed an Emergency Situation Management Plan which outlines structural and operational elements for basic roles, main tasks for different departments, contact information for all staff members, and a checklist of stakeholders to be contacted in response to an event.

Areas that need strengthening/challenges

- Develop guidance and SOPs for each essential role/function within the incident management structure, providing further details on roles related to public health sciences, in particular.
- Ensure staff training and awareness of emergency/incident management structure and SOPs to ensure business continuity and become less dependent upon key personnel.
- Develop an event tracking system to keep track of key decisions made during emergencies.

R.2.3 Emergency Operations Program - Score 3

Strengths/ Best Practices

- Simulation exercises are regularly conducted, with a recent functional exercise that tested chains of command in the Emergency Operations Programme.
- The State Operating Medical Committee meets at least once per year regardless if any emergencies are activated.

Areas that need strengthening/challenges

- No emergency activation of the EOC in the past year mean that the EOC has not demonstrated its capacity during a “real” response.
- Regularly test the Emergency Operations Programme through functional exercises, some involving key partners from other sectors (e.g. Food and Agriculture, Security).

R.2.4 Case management procedures are implemented for IHR relevant hazards – Score 4

Strengths/ Best Practices

- SOPs are available for management and transport of potentially infectious patients.
- Case management guidelines for other IHR hazards are available.

Areas that need strengthening/challenges

- Reinforcing provision and awareness of case management guidelines at regional level and at designated Points of Entry other than the main airport.

Linking Public Health and Security Authorities

Introduction

Public health emergencies pose special challenges for law enforcement, whether the threat is manmade (e.g., the anthrax terrorist attacks) or naturally occurring (e.g., flu pandemics). In a public health emergency, law enforcement will need to quickly coordinate its response with public health and medical officials.

Target

In the event of a biological event of suspected or confirmed deliberate origin, a country will be able to conduct a rapid, multi-sectoral response, including the capacity to link public health and law enforcement, and to provide and/or request effective and timely international assistance, including to investigate alleged use events.

Latvia level of Capabilities

Existing national legislation outlines response roles and responsibilities of institutions in case of deliberate act with unknown substance or detection of object in case there is a suspicion that it contains explosive, radioactive, hazardous chemical or biological agents, and if signs of a terrorist act are found. The national counter-terrorism plan and the state disaster medicine are main regulations. Procedures for the organisation of the disaster medicine system are also included in national legislation.

The State Emergency Medical service has a bilateral agreement with State Police and State Food and Veterinary Service. Agreements with State Border Guard, State Fire and Rescue Service, Centre for Disease Prevention and Control, State Environmental Service are under the development. The Ministry of Health and Ministry of Interior are key institutes. The State Police is the main institution if something unknown is identified, and they determine which additional agencies to involve in managing an incident. They manage field screening, isolation, transfer of samples, etc. The Fire and Rescue Service is responsible for chemical substances and ensures decontamination of the site and the exposed individuals. SEMS provides medical service and care for disease/intoxications, and provides 24/7 IHR notification. The Centre for Disease Prevention and Control organizes anti-epidemic measures, investigations, site disinfection, and informs EWRS. The State Environmental Service is responsible for substances of unknown origin, especially if they are hazardous chemicals or radio-nuclear. If a terrorist event is confirmed or suspected, the main responsible institution is the Security Police. They manage the terrorism incident and coordinate the institutions involved.

The Epidemiological Safety law enables the forcible isolation in a hospital in cases where a person shows the symptoms of a highly dangerous infection. Voluntary self-isolation is recommended for contacts of isolated persons. A medical practitioner shall determine the need for isolation of a patient, if the patient does not agree, the Health Inspectorate determines the forced isolation, if necessary involving the State Police in its implementation.

Recommendations for Priority Actions

- Improved exchange of knowledge and practices between health, animal health and security sectors, particularly at regional and local levels.
- Provide experts with technical equipment and PPE at national level; training of specialists at regional level; improve first risk assessment if it is a threat to public health or not.

Indicators and Scores

R.3.1 Public Health and Security Authorities, (e.g. Law Enforcement, Border Control, Customs) are linked during a suspect or confirmed biological event - Score 4

- Latvia public health and security authorities exchange reports and information on events of joint concern at national level.
- Public health and security authors have multi-sectoral training yearly.
- State Emergency Medical service has a bilateral agreement with state police and state food and veterinary Service. Agreement with State Border guard, State Fire and Rescue service, Centre for Disease Prevention and Control, State Environmental Service is under the development.

Strengths/ Best Practices

- Exchange of information and report between involved institutions.
- Training Organization of inter-institutional and national level.
- Abilities of laboratory to make nessessary tests biological agents identification.
- Response of involved institutions to real events.

Areas that need strengthening/challenges

- Studies and trainings of involved employees in regional level.
- Risk assessment of event in order to define threat to society.
- Improved timelines (time from notification of event until laboratory results).
- Limited financing for creating one multidiscipline expert team for response of event immediately.

Medical Countermeasures and Personnel Deployment

Introduction

Medical Countermeasures (MCM) are vital to national security and protect nations from potentially catastrophic infectious disease threats. Investments in MCM create opportunities to improve overall public health. In addition, it is important to have trained personnel who can deploy in case of a public health emergency for response.

Target

A national framework for transferring (sending and receiving) medical countermeasures and public health and medical personnel among international partners during public health emergencies.

Latvia Level of Capabilities

Latvia has a stockpile of medical devices, medicinal products, and medicines with State Emergency Medical Service being the responsible custodian. There is no capacity for vaccine production in the country. Among the stockpiled medicines are antibiotics but no vaccines. Antidotes are included in the Formulary but are not yet stockpiled as financial resources do not allow it at this point. It is, however, suggested to have sufficient financial resources in place to abide by the agreed on formulary. There are also no contracts with manufacturers or suppliers to increase production or supply during an emergency. Latvia supports the European Commission's joint procurement especially for rarely available immunobiological products. In addition there is a joint procurement agreement between the Baltic States, and several bilateral agreements between Latvia and its Baltic counterparts on specific vaccines (LAT-EST Procurement plan for Rotavirus vaccine, LAT-LIT procurement for vaccine against pneumococcal infections). Resources and logistics for delivery, distribution and reception of countermeasures/ procurement items are in place. Additionally the country has a pandemic preparedness plan in place in the form of an influenza pandemic preparedness plan (Cabinet regulation No 948). The JEE tool however does not describe how this plan can be adopted to other agents but this may only be a formality.

The country has no national plan in place that identifies procedures and decision-making related to sending and receiving health personnel during a public health emergency. However, there are other procedures in place that address this issue (Cabinet regulation No 42). Latvia plans to utilize EU Civil Protection Mechanism to support with additional aid if needed.

Recommendations for Priority Actions

- Implementation of a new concept on the State Material Reserves (SMR) management.
- Provide the necessary funding to improve and complete the nomenclature (SMR formulary).
- Establish a procedure for sending and receiving health personnel during public health emergency. Start with identifying potential sending institutions, have a system for volunteering physicians in place.
- Establish a procedure for distribution/dissemination of medical countermeasures during a health emergency (especially when received as international support).

- Establish a database for trained personnel and volunteers and provide training courses all relevant sectors (multisectoral training curriculum should be established and carried out at a minimum of once per year involving all sectors and stakeholders).

Indicators and Scores

R.4.1 System is in place for sending and receiving medical countermeasures during a public health emergency - Score 4

Strengths

- Legal framework and a plan that identifies procedures and decision making related to sending and receiving medical countermeasures during a public health emergency.
- The country have a stockpile of medical countermeasures for national use during a public health emergency (mostly for responders).
- Hospitals have stockpiles for 5 days.
- The country is a part of European Commission's joint procurement agreements.
- Partnership Agreement on Joint Procurements of Medicinal Products and Medical Devices and lending of Medicinal Products and Medical Devices Procurable Centrally with Lithuania, Estonia.
- Bilateral agreements with neighboring countries and beyond to receive and provide assistance in the emergency and crisis situations.
- Exercises the policies and plans to receive, consider and respond to international requests for assistance during public health emergency and also to demand assistance (i.e.: EU, NATO).

Best Practices

- The warehouse staff are ready to deploy within 2-3 hours of being notified.
- Resource mapping is performed yearly through the actualization of State Emergency Medical plan.
- Experience in providing assistance by sending personnel during emergencies - Latvia provided assistance to Ukraine, Greece, Slovenia.

Areas that need strengthening

- Latvia has a basic capacity for response in health emergencies at national level.
- Insufficient permanent financing, whereby it is not possible to ensure and restore all the necessary SMR nomenclature/formulary.
- Logistic concerns related to distributing medical countermeasures during a public health.
- Further development/ optimization of the State material reserves.
- Special equipment (Capsule to transport infected patients) is included in nomenclature for procurement but physically is not in place yet.
- Latvia has a very limited capacity (for response at international level).

Challenges

- Improvement of multisectoral trainings.

R.4.2 System is in place for sending and receiving health personnel during a public health emergency—Score 2

Strengths/Best Practices

- Legal framework is in place (regulations, bilateral agreements with neighboring countries and beyond).
- Personnel deployment procedure during emergencies is implemented in the institution's disaster medical/continuity plans.
- SEMS makes the effort to organize trainings and strives to expand to multisectoral training sessions and meetings.

Areas that need strengthening

- Lack of skilled and/or trained personnel and volunteers.
- Lack of experience to respond/work abroad in international teams/missions.
- Insufficient financial resources. The financing through the planned governmental budget. After an emergency each institution in the country has an opportunity to request funds from the budget for unforeseen events.

Challenges

- There is no unique expert list for health professionals. Generally when experts are requested, information is disseminated through associations or other channels for voluntary application.

Risk Communication

Introduction

Risk communications should be a multi-level and multi-faceted process which aims at helping stakeholders define risks, identify hazards, assess vulnerabilities and promote community resilience, thereby promoting the capacity to cope with an unfolding public health emergency. An essential part of risk communication is the dissemination of information to the public about health risks and events, such as outbreaks of diseases. For any communication about risk caused by a specific event to be effective, the social, religious, cultural, political and economic aspects associated with the event should be taken into account, as well as the voice of the affected population. Communications of this kind promote the establishment of appropriate prevention and control action through community-based interventions at individual, family and community levels. Disseminating the information through the appropriate channels is essential. Communication partners and stakeholders in the country need to be identified, and functional coordination and communication mechanisms should be established. In addition, the timely release of information and transparency in decision making are essential for building trust between authorities, populations and partners. Emergency communications plans need to be tested and updated as needed.

Target

State parties should have risk communication capacity which is multi-level and multi-faced real time exchange of information, advice and opinion between experts and officials or people who face a threat or hazard to their survival, health or economic or social well-being so that they can take informed decisions to mitigate the effects of the threat or hazard and take protective and preventive action. It includes a mix of communication and engagement strategies like media and social media communication, mass awareness campaigns, health promotion, social mobilization, stakeholder engagement and community engagement.

Latvia's Level of Capabilities

The country has communication capacity in every institution involved in emergency response. There is legislation informing the communication activities during emergency and ensuring coordination among relevant agencies.

There is a Regulation on "Cooperation among State Fire and Rescue Service and the National Police in fire-fighting, rescue operations and exchange of information" issued by the Ministry of the Interior 26 February 2008. This Regulation sets the ground of operational cooperation and information exchange among these institutions.

The By-law of the State Fire and Rescue Service prescribes that authorities, public and media shall be regularly and promptly informed (including by social media) on their functions, tasks and activities. The State Fire and Rescue Service has an internal communication strategy (2017-2020) and, at the institution level, an internal institutional regulation is present addressing "Measures for implementation of communication arrangements in State fire and rescue service". This regulation prescribes the procedures the Service follows to provide a common communication policy, in cooperation with the media and the public. Internal regulations include algorithms on how to provide information to the media and public (including social media).

The Ministry of Health has developed a crisis communication plan, as part of the State Disaster Medicine plan that sets out inter-agency coordination mechanisms, roles and responsibilities for communication staff

and allows for delegation of responsibilities to the relevant subordinate units according to the field of the emergency.

Laws, regulations and mechanisms are in place also for international coordination of communication activities.

In the event of an emergency, the Health Security Committee includes communication experts delegated by the Ministry of Health and Center for Disease Prevention and Control. The State Operative Medical Committee instructs the communication department in the MoH according to the communication role (management) scheme, and the latter coordinates messaging and communication to media and public together with other government agencies. The country has the capacity to quickly adapt messages to the changing needs of an emergency response and to customize them considering public feedback, and reactions based on past experiences. Institutions use a mix of communication tools to reach the widest public possible: TV, press/newspaper, social media, and specific channels via NGOs. Press briefings, media interviews, social network messaging and call centers are used.

Risk communication is tested during simulations and workshops (several, mainly at the European level - European Commission exercise "Quicksilver" in 2014 and "Quicksilver Plus" in 2015, but also a recent exercise with SEMS participation on counter-terrorism training at the airport "Riga" 8 to 9 September 2016). State Military-organized trainings offer opportunities to test crisis and risk communications capacities and processes.

The country has a small but very professional and engaged workforce dedicated to risk communication.

The responsible agencies within the MoH recognize the need for a "multi-eye principle" as a way to ensure active/dynamic listening, even if no formalized roles, responsibilities and mechanisms/methods have been defined for such a function.

Recommendations for Priority Actions

- A communication management scheme should be tested in multihazard situations: this would allow for a comprehensive review of the communication capacities and coordination mechanisms in an inter (multi)sectoral response situation.
- Communication SOPs are needed for a systematic approach to rumour and misinformation control and management.
- Organize national level, multisectoral risk communication focused trainings.

Indicators and Scores

R.5.1 Risk Communication Systems (plans, mechanisms, etc.) - Score 3

Strengths/ Best Practices

- The country has legislation in place to allow inter-agency coordination during emergencies that includes also roles and responsibilities for risk communication. However, human and financial resources would need to be strengthened.
- Latvia has demonstrated strong coordination and capacity for risk communication during the response to the collapse of the supermarket roof in November 2016, exceeding the assigned score of 3 for indicator R.5.1. However, financial resources for scale-up are needed.

Areas that need strengthening/challenges

- Regular allocation of resources to ensure sustainability of risk communication capacities.

R.5.2 Internal and Partner Communication and Coordination - Score 3

Strengths/ Best Practices

- Latvia has a well-organized and coordinated communication capacity, meeting all the requirements for a score 4 for indicator R.5.2. However, formalized SOPs and regular multi-agency specific training is lacking, impeding regular testing and update of the system's capacities.

Areas that need strengthening/challenges

- Formalized SOPs are needed to ensure coordination of communication activities among various institutions' focal points.
- Regular meetings among various Ministries' communication focal points should be reinstated to ensure exchange of information and coordination of activities.

R.5.3 Public Communication - Score 3

Strengths/ Best Practices

- The country uses multiple approaches for proactive outreach of the public. However, it is not systematic and carefully planned.

Areas that need strengthening/challenges

- National and inter-agency planning for regular update of communication outreach, including regular testing of the mechanisms should be set up.

R.5.4 Communication Engagement with Affected Communities - Score 3

Strengths/ Best Practices

- The country has mapped all stakeholders at intermediate and local level. Furthermore, relevant institutions regularly develop information education communication (IEC) material.

Areas that need strengthening/challenges

- A systematization and formalization of engagement with affected communities with annual exercises to test the system and incorporate feedback and lessons learnt into the plans is needed.

R.5.5 Dynamic Listening and Rumour Management - Score 3

Strengths/ Best Practices

- Latvia has several mechanisms in place at institution level to listen and manage rumours and misinformation.

Areas that need strengthening/challenges

- The system is mainly on an ad-hoc basis and lack systematic plan and interagency coordination of response activities once misinformation and rumours are detected.

OTHER

Points of entry

Introduction

All core capacities and potential hazards apply to Points of entry and thus enable the effective application of health measures to prevent international spread of diseases. States Parties are required to maintain the core capacities at the designated international airports and ports (and where justified for public health reasons, a State Party may designate ground crossings) which will implement specific public health measures required to manage a variety of public health risks.

Target

States Parties should designate and maintain the core capacities at the international airports and ports (and where justified for public health reasons, a State Party may designate ground crossings) which implement specific public health measures required to manage a variety of public health risks.

Latvia Level of Capabilities

Latvia has six designated points of entry according to the IHR (2005), including three airports and three seaports. These points of entry are, in total, located in 3 cities: Riga (Capital of the country), Liepaja and Ventspils. The main one is the international airport of Riga, which is serviced by 17 companies and receives an average of 5 Million passengers per year.

Legislation for the implementation of IHR is in force. Multi-hazard plans and guidelines exist and competent authorities are available 24/7, at every point of entry, for both routine and emergency operations.

The airport of Riga is the only one with appropriate facilities for isolation, assessment and care of suspected/ill travellers. All points of entry have/are serviced by ambulances for the rapid evacuation of suspected/ill travellers to appropriate medical facilities.

There is good communication and collaboration between all relevant authorities: public health authorities, medical practitioners, ambulances, firefighters, customs, police, etc.

Regarding seaports, there are staff dedicated to public health management and delivering of ship sanitation certificates in each of them. There are no medical facilities in seaports but ambulances are available to evacuate suspected/ill travellers.

Regarding ground crossings, Latvia is located in the Baltic region of Eastern Europe, and surrounded by four countries. Two of them are members of the Schengen zone: Estonia and Lithuania and the two others are out of the Schengen zone: Russia (with whom Latvia has 11 ground crossings) and Belarus (with whom it has 7 ground crossings). There are no health staff at ground crossings. Health is under the responsibility of the relevant city.

Recommendations for Priority Actions

- Strengthen legislation and provide guidelines and material to all points of entry, in order to perform some specifics public health measures and procedures (quarantine, ship hygiene control, waste management, luggage handling).

- Enhance security at points of entry by building facilities to quarantine suspected/ill passengers and animals.
- Reinforce capacity of resources at all Points of entry regarding for instance: Personal protective equipment, disinfection material, waste management capacities, etc.
- Conduct risk assessment on vectors at points of entry. As needed, develop core capacities for the detection and management of vectors and reservoirs in and around Points of entry.
- Develop a national strategy to reinforce the workforce, via training of new staff and their allocation in designated Points of entry which lack of staff.
- Improve the collaboration between public and private actors working at Points of entry.

Indicators and Scores

PoE.1 Routine capacities are established at PoE - Score 3

Strengths/ Best Practices

- Facilities and/or emergency vehicles available to provide medical services including prompt assessment, care and evacuation of suspected/ill travellers and animals.
- Committed and regularly trained staff are available in both seaports and airports.
- Full-scale exercises organized regularly (yearly) and involving all stakeholders.
- Capacities (staff and material) available for screening of cargo and inspection of conveyance.
- Well-equipped crisis room to trigger a coordination crisis team at the main Point of entry (airport of Riga).

Areas that need strengthening/challenges

- No facilities for quarantining suspect/ill travellers and animal.
- No program for detection of vectors and reservoir in and around points of entry.
- Lack of material at some Points of entry, to perform some specific procedures (quarantine, Waste management, luggage handling).
- Exercises are not organized regularly at every point of entry.

PoE.2 Effective Public Health Response at Points of Entry - Score 4

Strengths/ Best Practices

- Core legislation regarding the implementation of IHR at every point of entry.
- Multi-hazard plans linked to national response plans, available and regularly updated (exercise, events). Capacities assessed and balanced between possibilities and needs.
- Excellent notification skills between emergency management stakeholders.
- Full on-site access for emergency teams which can circulate easily and have rapid access to all areas of the points of entry.
- Good collaboration between the authorities of the airport of Riga and the main airline operating there (Air Baltic).

Areas that need strengthening/challenges

- Lacks of legislation/guidelines to address specific duties (quarantine, Waste management, luggage handling).

- Shortage of staff and concern regarding the renewal of workforces at points of entry.
- Gaps in the collaboration between public and private actors (divergences of interest, economics issues, security requirements, etc.).

Chemical events

Introduction

State parties should have surveillance and response capacity for chemical risk or events. It requires effective communication and collaboration among the sectors responsible for chemical safety, industries, transportation and safe disposal

Target

State parties should have surveillance and response capacity for chemical risk or events. It requires effective communication and collaboration among the sectors responsible for chemical safety, industries, transportation and safe disposal.

Latvia Level of Capabilities

Latvia joined the OECD recently on July 1st 2016. The Rotterdam-, Stockholm-, and Basel- Conventions are ratified by Latvia. Further, the Strategic Approach to International Chemicals Management is implemented and the UN Economic Commission for Europe Convention is also ratified. ILO Conventions 170 and 174 however are not ratified.

Chemical incident surveillance and case management are in place as well as guidelines for such surveillance and assessment/management (MERPD orders No 25, 315, 202, SES order No 82). However, monitoring activities to support chemical safety are not in place. The registration, evaluation, authorisation and restriction of chemicals (REACH) in Latvia is implemented by the Latvia Environment, Geology and Meteorology Center. Surveillance of sentinel health events indicating exposure to harmful chemicals, environmental monitoring and consumer products is implemented. A risk assessment procedure is in place due to implementing REACH. Laboratory capacity, human resources, and financing only meet minimal standards and leave room for improvement. Investigation reports with regards to monitoring and surveillance are not produced. An inventory of reference health care facilities for chemical safety does not exist. However, the SEVESO-directive is implemented in Latvian legislation (Cabinet regulation No. 131) and possible hazard-sites are registered and regularly inspected.

Latvia operates a Poisons and Drug Information centre at the Riga East University Hospital.

A national coordination body is set within inter-ministerial working groups and from MERPD (i.e. Chemical Safety Working Group). Chemical incidents with public health concern are regarded in the State Disaster Medicine Plan and the Civil Protection Plan. A budget for state emergencies is reserved.

Latvia is involved in international chemical and toxicological networks (e.g. INCHEM, INTOX) which also provide a chemical database.

Latvia plans to enhance capacities in 2017 but it is not clear if all sectors such as personnel and/or equipment will be covered by this.

Recommendations for Priority Actions

- Improve capacity where resources are reported to be needed and modernize equipment (e.g. replace old emergency vehicles).

- Improve the system on knowledge transfer between sectors in addition to training that is already successfully implemented. At the same time there is need for raising awareness with regard to legislations that are in place.
- There are some areas where the sufficiency level is below 10% of the designated national minimum. These minimum requirements should at least be met.
- Training with cross-sectoral involvement (maintain level of preparedness and update skills).
- Appropriate risk assessment in different sectors (allocate financial resources and identify priorities).
- Disaster loss database and sharing (map the situation and ensure proper data for risk assessment).

Indicators and Scores

CE.1 Mechanisms are established and functioning for detecting and responding to chemical events or emergencies - Score 2

Strengths/Best Practices

- National legislation in place.
- Civil protection plans (Hazardous objects, municipal level and state level).
- SFRS has developed internal regulation and professional training developed to manage chemical hazards.
- Developed occupational safety requirements in case of chemical accident including management .
- Internal institutional regulation in occupational safety requirements during response actions in chemical accidents.
- Gained experience from previous disasters (implementation of lessons learnt).
- Regular fire safety and civil protection inspections carried out regularly.

Areas that need strengthening/challenges

- Clear understanding on stakeholders tasks (cross-sectoral co-operation mechanisms).
- Raise awareness of current capacity and knowledge of all stakeholders regarding different phases of chemical emergencies.
- Methodology to carry out clean-up procedures in special environments (e.g. shoreline) and organisms (e.g. contaminated animals).
- Laboratory capacity for confirmatory analyses should be established.
- Regular knowledge transfer between sectors.
- To establish common risk assessment methodology.
- To create comprehensive disaster event database and ensure exchange of data and knowledge.

CE.2 Enabling environment is in place for management of chemical Events - Score 4

Strengths/ Best Practices

- Regulations for safety measures of hazardous objects and sites.
- Regular fire safety and civil protection inspections.
- Plans and procedures for all stakeholders are tested by regular exercises.
- SFRS procedures and practical performance are tested jointly with hazardous objects regular exercises.
- Gained experience from previous disasters (implementation of lessons learnt).

Areas that need strengthening/ Challenges

- Provision of training ground area.
- Software or electronic applications for chemical dispersion and release, safety measures, hazard modelling.
- Sufficiency of rescue service units with capacity to respond to chemical emergencies.
- Experience in different meteorological and environmental conditions.
- Receiving and providing international assistance.
- Ensure host nation support during emergency.
- Amend sufficient capacities, modern equipment, and human resources (qualified personnel).

Radiation emergencies

Introduction

State parties should have surveillance and response capacity for radio-nuclear hazards/events/emergencies. It requires effective communication and collaboration among the sectors responsible for radio-nuclear management.

Target

State parties should have surveillance and response capacity for radio-nuclear hazards/events/emergencies. It requires effective communication and collaboration among the sectors responsible for radio-nuclear management.

Latvia Level of Capabilities

There is a low perceived risk for radiation emergencies in the country, given that there are no nuclear power plants in the country itself, and mainly sealed radioactive sources are used in the country. Relevant assessments of the country's preparedness to respond in case of radiation emergencies have been carried out by the Atomic Energy Agency in 2011 and another assessment of Regulatory Infrastructure for Safety, including emergency preparedness and response, is planned to start this year (2017) and will last till 2019. Relevant activities in neighbouring countries are being monitored and appropriate risk assessments have been carried out accordingly (i.e. when new power plants go on-line). The Latvian crisis management system, covering preparedness and response to radiological and nuclear emergencies, is in place. Technical guidance including SOPs is developed and updated regularly. Radiation emergency response plans including transport of radioactive material and waste management are in place.

Given the low level of risk, the capacities in this area are especially prone to be neglected, given competing priorities. Theoretical knowledge, plans and provisions need to be substantiated by ensuring the functionality, sustainability and practical application of protocols and procedures. Investigation capacity and capacity to maintain and up-scale human resources prepared to respond in case of more serious emergencies is particularly limited.

Latvia needs to ensure that sufficient medical personnel are trained in dealing with radiological emergencies and an active roster of trained specialists is maintained. The same accounts for having a functional mechanism in place for transporting patients abroad in case of serious events (real life simulations).

Recommendations for Priority Actions

- Continue providing training for medical staff and first responders to a radiological incident that includes handling of contaminated victims and the symptoms of acute radiation syndrome.
- Conduct regular training and exercises drills to test and improve the written protocols and multi-sector working relationships and understanding at the operational, tactical and national level.

Indicators and Scores

RE.1 Mechanisms are established and functioning for detecting and responding to radiological and nuclear emergencies - Score 3

Strengths/ Best Practices

- A crisis management system covering preparedness and response to radiological and nuclear emergencies is in place.
- Duties and roles in emergency response area are assigned for natural and legal persons, local governments and state agencies.
- Identifying, notifying and activating mechanisms are in place.
- Mechanisms and procedures are updated on a regular basis, and the national risk assessment is regularly reviewed.

Areas that need strengthening/challenges

- Regular exercises which include verification of preparedness and response for radiological emergencies.
- Formalized training of medical personnel involved in response to radiological emergencies.
- Availability of necessary equipment for sufficient protection of first responders during a radiological emergency.

RE.2 Enabling environment is in place for management of Radiation Emergencies - Score 3

Strengths/ Best Practices

- The State Disaster Medical Plan contains the basic information flow during radiological events, the relationship between organizations and decision makers, the analysis and the activities performed by the medical staff. It also contains a database of all medical facilities and material resources for medical care purposes and is annually updated.
- Local and national response to a radiological emergency in Latvia is an integral part of the Civil Protection System that is created and operated under Civil Protection and Disaster Management Law to ensure legal and organizational framework for response to all types of emergencies in Latvia.

Areas that need strengthening/challenges

- Training of medical staff to properly address the topic of radiological emergencies needs improvement, especially the capacity to correctly identify and confirm symptoms of radiation exposure i.e. by general practitioners.
- Options for sending patients with severe radiation injuries for medical treatment abroad should be formalized.

Appendix 1: Joint External Evaluation Background

Mission Place and Dates

Riga, Latvia; 8 to 12 May, 2017

Mission Team Members:

Ambrose Talisuna	Team lead Regional Advisor, Health Security, Health Emergency Preparedness and IHR	WHO AFRO
Benjamin Dahl	Team lead Epidemiologist	CDC
Lisa Brouwers	Head of unit Epidemiology and Health Economics Public Health Agency of Sweden	Sweden
Saskia Nahrgang	Technical Officer AMR Communicable Diseases and Health Security	WHO EURO
Jouni Pousi	Senior Specialist Ministry of the Interior, Department for Rescue Services	Finland
Martin Richter	Head of Bio Incident Response Unit Robert Koch Institute Center for Biological Threats and Special Pathogens Federal Information Center for Biological Threats and Special Pathogen	Robert Koch Institute
Andriy Rozstalnyy	Animal Health Officer FAO Regional Office for Europe/Budapest	FAO
Jonathan Suk	Senior Expert Public Health Emergency Preparedness	ECDC
Luc Tsachoua	Chef de projets Public Health Emergency SERVICE DU PRESIDENT DEPARTEMENT DES RELATIONS INTERNATIONALES CELLULE PUBLIC HEALTH EMERGENCY	Belgium
Dirk Werber	State Office for Health and Social Affairs, Berlin Head of Unit for Infectious Disease Surveillance and Environmental Healt	Germany
Claudia Nannei	Observer Technical Officer Global Action Plan for Influenza Health System and Innovation Cluster	WHO HQ
Myriam Grubo	Observer Technical Officer Global Action Plan for Influenza Health System and Innovation Cluster	WHO HQ

Objective

To assess Latvia's capacities and capabilities relevant for the 19 technical areas of the JEE tool in order to provide baseline data to support Latvia's efforts to reform and improve their public health security.

The JEE Process:

The Joint External Evaluation process is a peer to peer review. As such, it is a collaborative effort between host country experts and External Evaluation Team members. The entire external evaluation, including discussions around the scores, the strengths, the areas which need strengthening, best practices, challenges and the priority actions should be collaborative, with external evaluation team members and host country experts seeking full agreement on all aspects of the final report findings and recommendations.

Should there be significant and irreconcilable disagreement between the external team members and the host country experts or among the external or among the host country experts, the External Evaluation Team Lead will decide the outcome; this will be noted in the Final Report along with the justification for each party's position.

Limitations and Assumptions

- The evaluation was limited to one week's time which limited the amount and depth of information which could be managed.
- It is assumed that the results of this evaluation will be made publically available.
- The evaluation is not an audit and information provided by Latvia will not be independently verified. Information provided by Latvia will be discussed and evaluation rating will be mutually agreed to by the Latvia and evaluation team. This is a peer to peer review.

Key Host Country Participants and Institutions

Latvia lead representative

Indra Liniņa, Deputy Head of Department of Disaster Medicine Preparedness Planning and Coordination, State Emergency Medicine Service; IHR focal point.

Participating institutions

- Ministry of Health
- State Emergency Medical Service
- State Disease Prevention and Control Center
- Riga East University hospital, National Reference Laboratory
- Health Inspectorate
- National Health service
- Food and Veterinary service
- State Fire and Rescue Service
- State Security police
- State Environmental Service
- Riga International airport
- Freeport of Riga

Supporting Documentation Provided by Host Country

National legislation, policy and financing

- [www.likumi.lv](http://www.likumi.lv/doc.php?id=20436)
- http://www.vm.gov.lv/lv/nozare/normativie_dokumenti/valsts_katastrofu_medicinas_plans_/

IHR coordination, communication and advocacy

- The Medical Treatment Law
- Epidemiological Safety Law
- "Procedures for the Implementation of Public Health Measures" Cabinet Regulation No. 1050, Adopted 16 November 2010.
- Cabinet regulation No 417 "International Health regulations" adopted 26.06.2007.
- Cabinet Regulation No 948 Adopted 13 January 2011 "The provision of Disaster Medical system"
- Cabinet Regulation No. 948 "Regulations Regarding Influenza Counter-epidemic Measures" (adopted 21 November 2006) prescribes the counter-epidemic measures which shall be carried out by a health care practitioner
- State Emergency Medical Plan approved by the Ministry of Health, Order number 147, adopted on 18.10.2016.
- Procedures for Warning of the Higher Officials due to the Potential Threat or in Case of the Extraordinary Events in the Country (Cabinet Regulated Instruction No.16, adopted 28 September 2010).

Antimicrobial resistance

- Cabinet Regulation No. 7, adopted 5 January 1999 "Procedures for Registration of Infectious Diseases" <https://likumi.lv/doc.php?id=20667>
- Cabinet Regulation No 104, adopted 16 February 2016 "Regulations Regarding the Basic Requirements for a Hygienic and Counter-Epidemic Regimen in a Medical Treatment Institution" <https://likumi.lv/ta/id/280360-noteikumi-par-higieniska-un-pretepidemiska-rezima-pamatprasibam-arstniecibas-iestade>
- Cabinet Regulation No 1529, adopted 17 December 2013 "Health Care Organisation and Financing Arrangements", Annex 24 "Functions of the National Reference Microbiology and Third Biological Safety Level Laboratory" <https://likumi.lv/ta/id/263457-veselibas-aprupes-organizesanas-un-financesanas-kartiba>
- Cabinet Regulations No. 125, adopted 7 March 2017 "Regulations on the procedure for granting or revoking the status of national reference laboratories for epidemiological safety or suspending its operation, as well as the rights and obligations of the national reference laboratory" <https://likumi.lv/doc.php?id=289279>
- Commission Implementing Decision No 2013/652/EU of 12 November 2013 on the monitoring and reporting of antimicrobial resistance in zoonotic and commensal bacteria. <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013D0652&rid=1>

Zoonotic disease

- Veterinary Medicine Law (26/04/2001) <https://likumi.lv/doc.php?id=20436>
- Law On the Supervision of the Handling of Food (19/02/1998) <https://likumi.lv/doc.php?id=47184>

- Law of the Republic of Latvia - Latvian administrative violations code (07/12/1984) <https://likumi.lv/doc.php?id=89648>
- Regulation (EC) No 882/2004 of the European Parliament and of the Council of 29 April 2004 on official controls performed to ensure the verification of compliance with feed and food law, animal health and animal welfare rules <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02004R0882-20170228&qid=1493214410371&from=EN>
- Regulation of Cabinet of Ministers No 142 Adopted 22 February 2005 „By-laws of the Food and Veterinary Service“ <https://likumi.lv/ta/id/102419-partikas-un-veterinara-dienesta-nolikums>
- Regulation of the Cabinet of Ministers No. 7 of 5 January 1999 „Procedure of notification of Infectious Diseases“ <https://likumi.lv/ta/id/20667-infekcijas-slimibu-registracijas-kartiba>
- Regulation of Cabinet of Ministers No. 90 of 31 January 2012 “Procedures for the supervision and exchange of information on infectious diseases that affect both animals and people” <https://likumi.lv/ta/id/243913-kartiba-kada-veic-uzraudzibu-un-informacijas-apmainu-par-infekcijas-slimibam-ar-kuram-slimo-gan-dzivnieki-gan-cilveki>
- Animal Infectious Diseases Surveillance Plan 2017
- http://www.zm.gov.lv/public/ck/files/PVD/Veterinara_uzraudziba/Epidplans%202017_%2005012017.pdf National zoonoses report: <http://www.zm.gov.lv/partikas-un-veterinarais-dienests/statiskas-lapas/veterinara-uzraudziba/dzivnieku-infekcijas-slimibu-uzraudziba?nid=2219#jump>
- Regulations of European Commission and Regulations of Cabinet of Ministers of particular diseases control and eradication (Rabies, Zoonotic salmonella, Bovine brucellosis, Bovine tuberculosis etc.)
- Agreement between FVS and CDPC No. SL/2015-7 of 2 October 2015.

Food safety

- Law on the Supervision of the Handling of Food (19/02/1998)
- Veterinary Medicine Law (26/04/2001)
- Regulation of Cabinet of Ministers No 142 Adopted 22 February 2005 „By-laws of the Food and Veterinary Service“
- Regulation of the Cabinet of Ministers No. 7 of 5 January 1999 „Procedure of notification of Infectious Diseases“
- Regulation of Cabinet of Ministers No. 90 of 31 January 2012 “Procedures for the supervision and exchange of information on infectious diseases that affect both animals and people”
- Regulation (EC) No 178/2002 (EU Food Law) of the European Parliament and of the Council of 28 January 2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety
- Regulation (EC) No 852/2004 of the European Parliament and of the Council of 29 April 2004 on the hygiene of foodstuffs
- Regulation (EC) No 853/2004 of the European Parliament and of the Council of 29 April 2004 laying down specific hygiene rules for food of animal origin
- Regulation (EC) No 854/2004 of the European Parliament and of the Council of 29 April 2004 laying down specific rules for the organisation of official controls on products of animal origin intended for human consumption

- Regulation (EC) No 882/2004 of the European Parliament and of the Council of 29 April 2004 on official controls performed to ensure the verification of compliance with feed and food law, animal health and animal welfare rules

Biosafety and biosecurity

- World Health Organisation, Laboratory biosafety manual, Third edition, Geneva 2004;
- World Health Organisation, Biorisk management, laboratory biosecurity guidance, September 2006;
- European Committee for Standardization, CEN Workshop Agreement, CWA 15793, Laboratory biorisk management, September 2011; The European Committee for Standardization, Laboratory Biorisk Management Standard, CWA 15793:2011;
- World Health organisation, Guidance on regulation for the Transport of Infectious Substances 2015-2016, applicable as from 1 January 2015
- Cabinet Regulation No. 74, adopted 11 February 2002 "Requirements for personal protective Equipment, procedures for conformity assessment and market Supervision Thereof";
- Cabinet Regulation No. 189, adopted 21 May 2002 "Healthy and safety requirements into contact with biological substances";
- Cabinet Regulation No. 674, adopted 06 September 2005 "The Rules of the Transport of dangerous Goods";
- Cabinet Regulation No. 60, adopted 20 January 2009 "Regulations regarding Mandatory requirements for Medical Treatment Institutions and Their Structural Units";
- Cabinet Regulation No. 950, adopted 25 August 2009 "Procedures for Investigation and registration of Accidents at Work";
- Cabinet Regulation No. 864, adopted 15 December 2009 "The rules for Designating a reference laboratory and accreditation Procedures, Roles and responsibilities, as well as facilities and Equipment Requirements for Food, Animal feed and Veterinary Field";
- Cabinet Regulation No. 948, adopted 13 December 2011 "Procedures for the Organisation of the Disaster Medicine System";
- Cabinet Regulation No. 956, adopted 13 December 2011 "By-law of the State Operational medical commission";
- Cabinet Regulation No. 1529, adopted 17 December 2013 "Procedures for the organisation and financing of health care", Annex No. 24. "The core functions of the national Reference Laboratory"; Cabinet Regulation No. 1529, adopted 17 December 2013 "Procedures for the organisation and financing of health care", Annex No. 24. "The core functions of the national Reference Laboratory";
- Cabinet Regulation No. 125, adopted 07 March 2017 „Procedures of a National Reference Laboratory that Grant or Cancel all Activities of the National Reference Laboratory in Epidemiological Safety, as well as the Rights and Duties of the National Reference Laboratory".
- Labour Protection Law.
- Decision of the management Board of the Riga East University Hospital No.A1/1.1-02/14/64, adopted 10 March 2014 "Action plan for the removal of fire".
- Decision of the Management Board of the Riga East University Hospital No.A1/1.1-02/14/269, adopted 25 November 2014 "Action plan following an accident at work".

- Decision of the management Board of the Riga East University Hospital No.A1/1.1-02/16/25, adopted 15 February 2016 "Action plan for the bomb threats";
- Decision of the management Board of the Riga East University Hospital No.A1/1.1-02/16/25, adopted 15 February 2016 "Action plan for the substances of unknown origin or location of the subjected case";
- Decision of the management Board of the Riga East University Hospital No.V1/01-01/17/47, adopted 17 January 2017 "For Hygienic and Treatment pre-pandemic Regime Regulation"

Immunization

- Public Health Strategy for 2014-2020
- Epidemiological Safety Law (1997)
- Cabinet Regulation No. 330, "Vaccination Regulations",

National laboratory system

- Epidemiological Safety Law
- Cabinet Minister Regulation No. 7, adopted 5 January 1999 "Procedures for Registration of Infectious Diseases"
- CM Regulation No. 125, adopted 07 March 2017 „Procedures of a national reference laboratory that grant or cancel all activities of the national reference laboratory in epidemiological safety, as well as the rights and duties of the national reference laboratory”
- CM Regulation No. 1529, adopted 17 December 2013 „Procedures for the organisation and financing of health care”, Annex No. 24 „The core functions of the National Reference Laboratory”
- Law on the Supervision of the Handling of Food;
- Veterinary Medicine Law;
- Law on Circulation of Genetically Modified Organisms.
- Cabinet Regulations Nr.864 (2009) "Regulations for Reference Laboratory status granting and accreditation procedure, functions and duties as well as facilities and equipment requirements in fields of food, feed and veterinary"

Real-time surveillance

- Cabinet Regulation No. 7, adopted 5 January 1999, "Procedures for Registration of Infectious Diseases": <https://likumi.lv/doc.php?id=20667> (paragraph 7, 10), (annex 2, paragraph 1 and 38)
- Cabinet Regulation No. 948, adopted 13 December 2011, "Provision of Disaster Medical System": <https://likumi.lv/doc.php?id=241413> (paragraph 5, parts X and XI)
- Cabinet Regulation No. 328, adopted 13 May 2008, "Regulations Regarding Counter-epidemic Measures for Poliomyelitis": <https://likumi.lv/doc.php?id=175372> (translated to English)
- Information to clinicians on how to report cases: www.spkc.gov.lv/lv/profesionali/infekcijas-slimibas1/infekcijas-slimibu-registracij/par-infekcijas-slimibu-gadijum
- Publication of epidemiological reports and analyses: www.spkc.gov.lv/lv/statistika-un-petijumi/infekcijas-slimibas/epidemiologijas-bileteni1

Reporting

- Cabinet Regulation No. 1050, adopted 16 November 2010, "Procedures for the Implementation of Public Health Measures"
- Cabinet Regulation No. 7, adopted 5 January 1999 "Procedures for Registration of Infectious Diseases".
- Collaboration agreement between State Emergency Medical service and Food and Veterinary service. No 1-15/2016/12; signed 25.11.2016.

Workforce development

- "The Development of Human Resources in Healthcare in 2006-2015" <http://polsis.mk.gov.lv/documents/2135>

Preparedness

- Civil Protection and Disaster Management law <https://m.likumi.lv/doc.php?id=282333>
- State Disaster Medicine Plan http://www.vm.gov.lv/lv/nozare/normativie_dokumenti/valsts_katastrofu_medicinas_plans_/
- Cabinet Regulation No. 948 adopted 13 January 2011 "The provision of Disaster Medical System" <https://m.likumi.lv/doc.php?id=241413>
- Simulation Exercise Stormex <http://skaties.lv/tema/stormex-2016/>
- "The Law of state material reserves"
- Cabinet Regulation No.877, "The arrangements of state material reserves in storage, tracking, updating, leasing, lending, sales and retirement"
- Regulation of Cabinet of Ministers No. 90 of 31 January 2012 "Procedures for the monitoring and exchange of information on infectious diseases that affect both animals and people" <https://likumi.lv/ta/id/243913-kartiba-kada-veic-uzraudzibu-un-informacijas-apmainu-par-infekcijas-slimibam-ar-kuram-slimo-gan-dzivnieki-gan-cilveki>

Emergency response operations

- Cabinet Regulation No 948 Adopted 13 January 2011: "The provision of Disaster Medical system"
- Cabinet Regulation No. 956, adopted 13 December 2011 „By-law of the State Operational medical commission”
- Emergency Situation Management Plan of the State Emergency Medical Services (SEMS)

Linking public health and security authorities

- Epidemiological Safety Law. <https://likumi.lv/doc.php?id=52951>
- Civil Protection and Disaster Management Law. <https://likumi.lv/ta/id/282333-civilas-aizsardzibas-un-katastrofas-parvaldisanas-likums>
- The State Disaster Medicine Plan. http://www.vm.gov.lv/lv/nozare/normativie_dokumenti/valsts_katastrofu_medicinas_plans_/
- Procedures for the Organisation of the Disaster Medicine System; Cabinet Regulation No. 948; adopted 13 December 2011

- Instruction Regarding Actions of Responsible Institutions in the Event of Finding a Substance or Object of Unknown Origin if It is Suspected that It Contains Explosive, Radioactive, Dangerous Chemical or Biological Substances, as well as if Indications of Terrorist Attack are Detected

Medical countermeasures and personnel deployment

- The Law of State material reserves
- The Medical Treatment Law
- Epidemiological Safety Law
- The Cabinet of Ministers regulations No.877 "The arrangements of state material reserves in storage, tracking, updating, leasing, lending, sales and retirement" are issued on December 18, 2007
- The Cabinet of Ministers Regulations No 659 of 30 June 2009 "The Order of reception and delivery of humanitarian aid»
- Cabinet Regulation No 948 Adopted 13 January 2011 "The provision of Disaster Medical system"
- Cabinet Regulation No. 948 "Regulations Regarding Influenza Counter-epidemic Measures" (adopted 21 November 2006) prescribes the counter-epidemic measures which shall be carried out by a health care practitioner
- Provisions of involving legal entities or individuals resources in disaster response and recovery operations or firefighting or rescue missions, and calculation of compensation of incurred expenditure and loss for used resources defined in Cabinet Regulation No. 131, adopted 7 March 2017)
- SEMS internal order - "State Material Reserves Resources Circulation in SMR warehouses of European Medicines Agency service",
- The "National Disaster Medical Plan" has been developed, which includes the algorithm of State Material Reserves dispatch to the event location/medical institutions in an emergency situation (Appendix No.10)

Risk Communication

- "By-law of State fire and rescue service (Cabinet regulation Nr. 398)" <https://likumi.lv/doc.php?id=209089>
- "Cooperation among State Fire and Rescue Service and the National Police in fire-fighting, rescue operations and exchange of information" <http://tpi.mk.gov.lv>

Points of Entry

- Emergency Response Plan KV 1135 of the airport of Riga (consulted during the visit at the airport).

Chemical events

- Cabinet Regulated Instruction No.16
- State civil protection plan

Radiation emergencies

- Decision of Supreme Council of the Republic of Latvia about joining Convention on Early Notification of a Nuclear Accident and Convention on Assistance in the case of a Nuclear Accident or Radiological Emergency (adopted 10 November 1992)

- Civil Protection and Disaster Management Law (adopted 1 October 2016)
- State Civil Protection Plan
- State Disaster Medical Plan
- Law on Radiation Safety and Nuclear Safety (adopted 21 November 2000)
- Requirements for Preparedness for Radiological Emergency and Actions in the Event of Such Emergency (Cabinet Regulation No.152, adopted 8 April 2003)
- Instruction Regarding Actions of Responsible Institutions in the Event of Finding a Substance or Object of Unknown Origin if it is Suspected that it Contains Explosive, Radioactive, Dangerous Chemical or Biological Substances, as well as if Indications of Terrorist Attack are Detected (Cabinet Instruction No.12, adopted August 2008).

