

JOINT EXTERNAL EVALUATION OF IHR CORE CAPACITIES

of the
REPUBLIC OF FINLAND

Mission report:
March 2017



**World Health
Organization**

JOINT EXTERNAL EVALUATION OF IHR CORE CAPACITIES

of the
REPUBLIC OF FINLAND

Mission report:
March 2017

WHO/WHE/CPI/2017.24.Report

© World Health Organization 2017

Some rights reserved. This work is available under the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 IGO licence (CC BY-NC-SA 3.0 IGO; <https://creativecommons.org/licenses/by-nc-sa/3.0/igo>).

Under the terms of this licence, you may copy, redistribute and adapt the work for non-commercial purposes, provided the work is appropriately cited, as indicated below. In any use of this work, there should be no suggestion that WHO endorses any specific organization, products or services. The use of the WHO logo is not permitted. If you adapt the work, then you must license your work under the same or equivalent Creative Commons licence. If you create a translation of this work, you should add the following disclaimer along with the suggested citation: "This translation was not created by the World Health Organization (WHO). WHO is not responsible for the content or accuracy of this translation. The original English edition shall be the binding and authentic edition".

Any mediation relating to disputes arising under the licence shall be conducted in accordance with the mediation rules of the World Intellectual Property Organization (<http://www.wipo.int/amc/en/mediation/rules>).

Suggested citation. Joint External Evaluation of IHR Core Capacities of the Republic of Finland. Geneva: World Health Organization; 2017. Licence: CC BY-NC-SA 3.0 IGO.

Cataloguing-in-Publication (CIP) data. CIP data are available at <http://apps.who.int/iris>.

Sales, rights and licensing. To purchase WHO publications, see <http://apps.who.int/bookorders>. To submit requests for commercial use and queries on rights and licensing, see <http://www.who.int/about/licensing>.

Third-party materials. If you wish to reuse material from this work that is attributed to a third party, such as tables, figures or images, it is your responsibility to determine whether permission is needed for that reuse and to obtain permission from the copyright holder. The risk of claims resulting from infringement of any third-party-owned component in the work rests solely with the user.

General disclaimers. The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of WHO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by WHO in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

All reasonable precautions have been taken by WHO to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either expressed or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall WHO be liable for damages arising from its use.

Design and layout by Jean-Claude Fattier

Printed by the WHO Document Production Services, Geneva, Switzerland

ACKNOWLEDGEMENTS

The WHO Joint External Evaluation (JEE) Secretariat would like to acknowledge the following, whose support and commitment to the principles of the International Health Regulations (2005) have ensured a successful outcome to this JEE mission:

- The Government and national experts of Finland for their support of, and work in, preparing for the JEE mission. (The Finnish Ministry of Social Affairs and Health, Ministry of Agriculture and Forestry, Ministry of the Interior, Ministry of Defence, Ministry of Transport and Communications, Ministry of Foreign Affairs, National Institute for Health and Welfare, Food Safety Authority, Radiation and Nuclear Safety Authority, Finnish Institute of Occupational Health, Defence Forces, Transport Safety Agency.)
- The governments of Germany, Estonia, Israel, the Netherlands and Sweden, for providing technical experts for the peer review process.
- The European Centre for Disease Prevention and Control (ECDC), Food and Agricultural Organization of the United Nations (FAO), and the World Organisation for Animal Health (OIE) for their contribution of experts and expertise.
- The following WHO entities: WHO Regional Office for Europe, WHO HQ Country Health Emergencies Preparedness and IHR Department.
- Global Health Security Agenda for their collaboration and support.

Contents

Abbreviations-----	vi
Executive Summary -----	1
Finland Scores -----	3
PREVENT -----	5
National legislation, policy and financing-----	5
IHR coordination, communication and advocacy -----	8
Antimicrobial resistance -----	10
Zoonotic diseases -----	14
Food safety-----	17
Biosafety and biosecurity-----	19
Immunization-----	22
DETECT -----	25
National laboratory system-----	25
Real-time surveillance-----	28
Reporting-----	31
Workforce development-----	33
RESPOND -----	36
Preparedness-----	36
Emergency response operations-----	39
Linking public health and security authorities-----	42
Medical countermeasures and personnel deployment-----	44
Risk communication-----	46
OTHER IHR-RELATED HAZARDS AND POINTS OF ENTRY -----	50
Points of entry -----	50
Chemical events-----	53
Radiation Emergencies-----	56
Appendix 1: Joint External Evaluation Background-----	58

Abbreviations

AMR	Antimicrobial Resistance
BSL	Biosafety level
ECDC	European Centre for Disease Control
EQA	External Quality Assurance
EU	European Union
EU EWRS	EU Early Warning and Response system
Evira	The Finnish Food Safety Authority
FETP	Field Epidemiology Training Programme
FINAS	Finnish Accreditation Service
FZC	Finnish Zoonosis Centre
FZS	Finnish Zoonoses Strategy
GMO	genetically modified organisms
HCAI	Health care associated infection
ICQ	internal quality control
IHR	International Health Regulations (2005)
ISO	International Organization for Standardization
JEE	Joint External Evaluation
MAF	Ministry of Agriculture and Fishery
MSAH	Ministry of Social Affairs and Health
NFP	National IHR Focal Point
NIDR	National Infectious Disease Register
OIE	World Organisation for Animal Health
POC	Point of Care
RYMY	the food and waterborne epidemic reporting system
SOPs	Standard Operating Procedures
THL	National Institute for Health and Welfare
Valvira	National Supervisory Authority for Welfare and Health
WGS	Whole Genome Sequencing
WHO	World Health Organization

Executive summary

Findings from the joint external evaluation

Since WHO introduced the Joint External Evaluation (JEE) Tool in February 2016, some 35 countries have hosted JEE missions. Finland is to be commended for the leadership it has shown in volunteering to be the first country from the European Union to join this group. In addition, Finland's political commitment to the International Health Regulations (IHR) and to the development of the JEE process has been exemplary and deserves global recognition and commendation.

The presence of high-level representatives during the JEE mission from the Finnish Ministry of Social Affairs and Health, Ministry of Agriculture and Forestry, Ministry of the Interior, Ministry of Defence, Ministry of Transport and Communications, Ministry of Foreign Affairs, National Institute for Health and Welfare, Food Safety Authority, Radiation and Nuclear Safety Authority, Institute of Occupational Health, Defence Forces, Transport Safety Agency and other agencies, as well as their in-depth knowledge of the technical areas they manage was further evidence of Finland's high level of commitment and achievement.

During the JEE mission, Finland's capacities in 19 technical areas were evaluated through a peer-to-peer, collaborative process that brought together Finnish and JEE subject matter experts. The JEE team concluded that Finland has extensive and effective capacities to detect, assess, notify and respond to major public health events, and actively participates in efforts to strengthen IHR capacities for health security. The JEE team also noted that the country is going through a series of reforms in the social and health sectors. It is the team's hope and expectation that the results of this evaluation will support Finland in maintaining and improving its capacity as these reforms are implemented.

The JEE team would like to thank our Finnish colleagues who prepared a very detailed and well-evidenced self-evaluation and actively participated in the external evaluation process. The team found Finland's experts to be true professionals with an impressive dedication and commitment to providing people living in Finland with world-class health protection.

Finland has many outstanding public health institutions, an established public health infrastructure and provides knowledge and skills globally. In order to maintain the same level of capacity and excellence, the following high-level recommendations are put forward for consideration.

- Although Finland currently has a high level of capacity and performance, the country is also negotiating a series of reforms in the social and health sectors. In order to maintain optimum performance in health security, relevant agencies and institutions must ensure that:
 - Plans, policies, strategies, regulations and legislation continue to support the application of the IHR in a fully integrated One Health and Comprehensive Security approach;
 - Operations and functions in public, animal and environmental health are sustained and strengthened through the adequate provision of resources in each technical area and through investment in the necessary skills and competencies.
- Finland has achieved high scores, with either demonstrated or sustainable capacity in almost all technical areas. In the absence of major, real incidents, there is a risk of complacency and, as a result, cuts or redistribution of resources may occur. Therefore it is imperative to continuously invest in IHR capacity for the health security of the people of Finland.
- Finland has demonstrated very high levels of collaboration across the technical areas. There is clear willingness among multisectoral partners to come together and deliver. This collaborative approach

should be complemented, where necessary, by a clear chain of command and decision structures that allow for scaling up in times of emergency, or to address major incidents.

The JEE evaluation team would like to note, and express its appreciation for, the considerable work and effort that Finland dedicated both to the self-evaluation and the external evaluation. The outstanding professionalism, transparency and willingness of the Finnish hosts to work collaboratively to identify strengths and areas for further development were instrumental to the success of the mission. It is the sincere hope of the JEE team that Finland will find this report useful in maintaining and strengthening its IHR capacities for health security.

Finland 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	4
	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	4
Zoonotic Disease	P.4.1 Surveillance systems in place for priority zoonotic diseases/pathogens	5
	P.4.2 Veterinary or Animal Health Workforce: human/animal	4
	P.4.3 Mechanisms for responding to zoonoses and potential zoonoses are established and functional	3
Food Safety	P.5.1 Mechanisms are established and functioning for detecting and responding to foodborne 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	3
Immunization	P.7.1 Vaccine coverage (measles) as part of national program	4
	P.7.2 National vaccine access and delivery	5
National Laboratory System	D.1.1 Laboratory testing for detection of priority diseases	5
	D.1.2 Specimen referral and transport system	5
	D.1.3 Effective modern point of care and laboratory based diagnostics	5
	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	4
	D.2.3 Analysis of surveillance data	4
	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	4
	D.4.2 Field Epidemiology Training Program or other applied epidemiology training program in place	4
	D.4.3 Workforce strategy	4
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.	5

Emergency Response Operations	R.2.1 Capacity to Activate Emergency Operations	4
	R.2.2 Emergency Operations Center Operating Procedures and Plans	4
	R.2.3 Emergency Operations Program	5
	R.2.4 Case management procedures are implemented for IHR relevant hazards.	5
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	5
Medical Countermeasures and Personnel Deployment	R.4.1 System is in place for sending and receiving medical countermeasures during a public health emergency	5
	R.4.2 System is in place for sending and receiving health personnel during a public health emergency	5
Risk Communication	R.5.1 Risk Communication Systems (plans, mechanisms, etc.)	4
	R.5.2 Internal and Partner Communication and Coordination	4
	R.5.3 Public Communication	4
	R.5.4 Communication Engagement with Affected Communities	3
	R.5.5 Dynamic Listening and Rumour Management	4
Points of Entry (PoE)	PoE.1 Routine capacities are established at PoE.	4
	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.	4
	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.	5
	RE.2 Enabling environment is in place for management of Radiation Emergencies	5

¹ FETP: Field epidemiology training programme

PREVENT

National legislation, policy and financing

Introduction

The International Health Regulations (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 a 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 the 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 that identify national structures and responsibilities as well as the allocation of adequate financial resources are also important.

Target

Adequate legal framework for States Parties to support and enable the implementation of all their obligations, and rights to comply with and implement the IHR (2005). New or modified legislation in some States Parties for implementation of the IHR (2005). Where new or revised legislation may not be specifically required under the State Party's legal system, States may revise some legislation, regulations or other instruments in order to facilitate their implementation and maintenance in a more efficient, effective or beneficial manner. States Parties ensure provision of adequate funding for IHR implementation through the national budget or other mechanism.

Finland level of capabilities

Finland ratified the IHR in 2007 and incorporated the Regulations into national law, designating the National Institute for Health and Welfare as the national IHR focal point.

The prevention of communicable diseases is regulated in detail under national legislation. This legislation addresses: naming communicable diseases and notification to the national infectious diseases register; prevention measures; monitoring, surveillance and response planning; and vaccinations for inclusion in the national vaccination programme.

The prevention and control of communicable diseases, including detecting signs of epidemics, is the responsibility of municipalities. In addition, the Communicable Diseases Act also obliges private healthcare providers, defence forces, border guards, prison health care services and state-run psychiatric hospitals and correctional schools to take responsibility for the prevention of communicable diseases in the settings where they are responsible healthcare.

Finland has a significant number of cross-border agreements, protocols and memoranda of understanding (MOUs) with neighbouring countries with regard to public health emergencies. These include the United Nations Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction (The Biological Weapons Convention); The Chemical Weapons Convention of the Organization for the Prohibition of Chemical Weapons; the International Atomic Energy Agency Conventions on Assistance in the Case of a Nuclear Accident Or Radiological Emergency

and on Early Notification of a Nuclear Accident; a mutual emergency assistance agreement with the Nordic countries in relation to radiation accidents; bilateral agreements on notification and information exchange in case of a nuclear or radiation emergency with Denmark, Germany, Norway, Russia, Sweden and Ukraine; bilateral agreements with Norway and Sweden on security of supply; a Nordic framework agreement on healthcare, which concerns the cooperation of authorities on preparedness and assistance during crises or catastrophes; and an MOU among the Nordic-Baltic countries on an Animal Health Emergency Reserve.

Recommendations for priority actions

- Ensure the assessment, adjustment and coordination of national legislation and policies as required by the IHR in the ongoing health, social services, and regional government reform which affects services, their organization, financing and steering, taking into account that services may be outsourced to private service providers.
- Prepare legislation that allows for the Ministry of Health and Social Affairs to make decisions on the provision and receipt of assistance falling under its administrative sector during emergencies, and which regulates the status, rights and responsibilities of the personnel deployed accordingly.

Indicators and scores

P.1.1 Legislation, laws, regulations, administrative requirements, policies or other government instruments in place are sufficient for implementation of IHR (2005) – Score 4

Strengths/best practices

- Finland has fully implemented the IHR through national legislation and cross-sector policies.
- Laws and policies are fully assessed for their conformity with international agreements before ratification. The implementation of these laws and policies is monitored at both the regional and national levels.
- The National Supervisory Authority for Welfare and Health (Valvira), supervises the social welfare, health care and environmental health sectors. It provides guidance to the Regional State Administrative Agencies on all social and health care related matters with the aim of ensuring the harmonization of guidance, licensing and supervisory practices across Finland. Valvira and the Regional State Administrative Agencies undertake supervisory activities on the basis of jointly prepared supervision plans.

Areas that need strengthening and challenges

- Appropriate preparedness structures should continue to be prioritized during reforms to the health and welfare system. This is particularly important given that some services may be outsourced to the private sector.
- Legislation that provides for a decision by the Ministry of Social Affairs and Health on sending and receiving assistance in emergencies (as opposed to assistance sent or received via nongovernmental organizations or through mechanisms in other sectors, for example the Civil Protection Mechanism).

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

- Finland's comprehensive incorporation of the IHR into national legislation has involved multisectoral collaboration and evaluation through practical exercises.

- The legislative process has taken into account the ability to build in different sectors' responsibilities over time. The new comprehensive security approach, for example, has been captured in the Security Strategy for Society.
- Finland's use of preparedness exercises to test legislation and policies for their effectiveness.

Areas that need strengthening and challenges

No specific challenges were identified.

IHR coordination, communication and advocacy

Introduction

The effective implementation of the IHR requires multisectoral/multidisciplinary approaches through national partnerships for efficient and alert response systems. Coordination of nationwide resources, including the designation of a National IHR Focal Point, which is a national centre for IHR communications, is a key requisite for IHR implementation.

Target

Multisectoral/multidisciplinary approaches through national partnerships that allow efficient, alert and responsive systems for effective implementation of the IHR (2005). Coordinate nationwide resources, including sustainable functioning of a National IHR Focal Point – a national centre for IHR (2005) communications which is a key requisite for IHR (2005) implementation – that is accessible at all times. States Parties provide WHO with contact details of National IHR Focal Points, continuously update and annually confirm them.

Finland level of capabilities

Finland has designated a National IHR Focal Point, the National Institute for Health and Welfare, which is accessible at all times. There are standard operating procedures and guidelines for coordination between the national focal point and other relevant sectors, which include the details of key contacts in other sectors.

Collaboration with law enforcement authorities takes place on a routine basis. Collaboration with other actors occurs on an ad hoc basis as necessitated by specific events. Between agencies, collaboration occurs on a voluntary basis with decisions escalated to government if required.

The Security Committee, a government-level, multisectoral coordination structure, convenes regularly. For situations where multisectoral action is required, specific laws and decrees provide details of the coordination actions that actors from different sectors at the regional and municipal level are required to take.

Although the IHR came into force in 2007 and has been ratified into Finnish law, there remains a lack of awareness of the IHR as a global legal instrument in critical non-health sectors. In order to ensure the further development of IHR capacity, further advocacy is required in the health sector, zoonotic sector and other relevant sectors. Furthermore, the forthcoming public health reform process must take the IHR fully into account and ensure that the Regulations are incorporated in the update of any national regulations.

Recommendations for priority actions

- Ensure that the IHR are fully incorporated into the forthcoming social and health care reforms and in the update of relevant legislation at all levels.
- Enhance multisectoral advocacy for the IHR as a global legal instrument by, for example, providing annual updates on the status of IHR implementation to national stakeholders.
- Continue working with other countries to streamline IHR implementation, monitoring and evaluation, reporting and communication between Member States, regional, and global actors.

Indicators and scores

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

Strengths/best practices

- The IHR (2005) is ratified into national legislation.
- The National Institute for Health and Welfare is designated as the National IHR Focal Point and has, by law, the full mandate and obligations of a national focal point as defined by the IHR (2005). The National IHR Focal Point is accessible at all times.
- A national high-level multisectoral coordination structure, the Security Committee, is in place. The committee comprises permanent secretaries from each ministry and representatives of the private sector and nongovernmental organizations.
- High-level multisectoral meetings of the heads of preparedness and secretaries of preparedness of each ministry are convened both on a regular and ad hoc basis.

Areas that need strengthening and challenges

- Awareness of the IHR (2005) is still insufficient among some ministries and sectors. Additional advocacy is needed.
- Communication between multisectoral administrative stakeholders and operational stakeholders needs to be enhanced when facing new health threats.
- Communication between the National IHR Focal Point and other stakeholders requires strengthening at all levels.

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. Antimicrobial resistance (AMR) is evolving 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 coordinated by FAO, OIE and WHO to develop an integrated global package of activities to combat antimicrobial resistance, spanning human, animal, agricultural, food and environmental aspects (i.e. a One Health approach). Each country has: (i) its own national comprehensive plan to combat antimicrobial resistance; (ii) strengthened surveillance and laboratory capacity at the national and international levels following international standards developed as per the framework of the Global Action Plan; and (iii) 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..

Finland level of capabilities

Both the public and animal health sectors have well-established AMR surveillance and reporting systems. This capacity is complemented by clinical laboratories in the public health sector that perform susceptibility testing for all clinically important bacteria. The Finnish Medicines Agency collects information on medicines and their use, and publishes antimicrobial sales data, including sales data for veterinarian use under the European Surveillance of Veterinary Antimicrobial Consumption (ESVAC) project.

The National Institute for Health and Welfare provides expertise and reference laboratory functions for public health, issues guidance for clinical laboratories and performs outbreak investigations, surveillance and national and international reporting.

The Finnish Food Safety Authority (Evira) provides expertise and reference laboratory functions for animal health and food safety, issues guidance for clinical laboratories and performs outbreak investigations, surveillance, approvals and notifications for laboratory test samples originating from animals or food, and national and international reporting.

Finland does not have a national plan for antibiotic stewardship in the public health sector, but there are disease-specific treatment recommendations for most community-acquired infections. Finland does not yet have a national plan for healthcare acquired infections (HCAI), but hospitals participate in a voluntary national surveillance network and HCAI will be incorporated in the forthcoming National Action Plan on AMR (which builds on the existing Control of Antimicrobial Resistance and Development of Antimicrobial Stewardship Policy 1999).

Finland has a history of prudent, prescription-based use of antimicrobials in the animal health sector, dating back to 1949. The country also forbids veterinarians from making a profit from the sale of medicines.

National guidance on the use of antibiotics in animals was first issued in 1996 and updated in 2016. A multisectoral coordination mechanism was established in 2012. Actions regarding AMR in zoonotic bacterial species have been part of the Zoonosis Strategy since 2013.

In the animal health sector, tests are performed in private clinics. This activity is not well controlled and it is not known how much testing is performed. National guidance is needed on infection prevention in veterinary clinics and hospitals. At the community level, Finland uses more first generation cephalosporins than other Nordic countries and there is no clear explanation for why this is the case.

Recommendations for priority actions

- Ensure the sustainability of AMR and HCAI detection, surveillance and control programmes and antimicrobial stewardship, from an integrated One Health perspective, with the help of the forthcoming National Action Plan on AMR (2017-2021).
- Develop a comprehensive data collection and reporting tool to allow for information exchange between local, regional and national bodies, and between the public health and animal health sectors, on the detection and surveillance of AMR and HCAI and on antimicrobial consumption.
- Develop national guidelines for infection prevention in hospitals and long-term care facilities.
- Develop joint guidelines for public health and veterinary professionals on the investigation and control of outbreaks caused by resistant bacteria of an animal origin.

Indicators and scores

P.3.1 Antimicrobial resistance detection – Score 4

Finland's capacity exceeds the score of 4 in the public health sector as laboratories been reporting all priority AMR pathogens for five years with a system for continuous improvement.

Strengths/best practices

- Clinical laboratories in the public health sector are capable of performing susceptibility testing for all clinically important bacteria.
- The reference laboratory performs susceptibility testing for mycobacteria, including M. tuberculosis.
- Both the public and animal health sectors have well established AMR surveillance and reporting systems.
- The National Institute for Health and Welfare and clinical laboratories have a long tradition of cooperation in the field of AMR surveillance and harmonization of susceptibility testing methods.
- There is a well established division of duties between the National Institute of Health and Welfare reference laboratory and clinical laboratories.

Areas which need strengthening and challenges

In the public health sector:

- Reference laboratory functions have been reduced to a minimum, covering carbapenemase-producing Enterobacteriaceae (CPE), methicillin-resistant Staphylococcus aureus (MRSA) and vancomycin-resistant enterococcus (VRE).

In the animal health sector:

- Animal pathogens are only monitored in a small number of species.
- Resistance monitoring for bacterial species in imported food needs strengthening.

- Studies on mechanisms of resistance are mainly dependent on external funding.
- More frequent reporting should be available online.

P.3.2 Surveillance of infections caused by antimicrobial-resistant pathogens – Score 4

Finland's capacity exceeds the score of 4 in the public health sector as designated sentinel sites have conducted surveillance of infections caused by all priority AMR pathogens for five years with a system for continuous improvement.

Strengths/best practices

- There are national protocols for the detection of AMR pathogens in clinical laboratories.
- Both the public and animal health sectors have well-established surveillance and reporting systems for infections caused by AMR pathogens (MRSA, VRE, CPE and extended-spectrum beta-lactamase-producing Enterobacteriaceae (ESBL-E)).
- Findings are notified to the National Infectious Diseases Register.
- There is an active exchange of information between the public and animal health sectors on MRSA and ESBL-E associated with livestock.

Areas which need strengthening and challenges

- Surveillance, infection control and training in the welfare sector, including long-term care for the elderly.
- Information sharing between different actors at the local, regional and national levels.
- In the animal health sector, clinical samples are not systematically cultured and tested for susceptibility, particularly in the case of pets, and there are no legal requirements to control the quality of clinical laboratories.
- Reforms to the health and welfare system, including an increased role for the private sector.

P.3.3 Health care-associated infection (HCAI) prevention and control programmes – Score 3

Strengths/best practices

- There are guidelines for the control of multidrug-resistant pathogens.
- Instructions and guidelines on HACI are in place at the local level.
- There are national, regional and local registers for carriers of multidrug-resistant strains.

Areas which need strengthening and challenges

- There is not currently a national plan for HCAI, although this will be published in May 2017 as part of the National Plan on AMR.
- National guidelines for the prevention of different types of HCAI in hospitals and long-term care facilities are in place.

In the animal health sector:

- The Veterinary Teaching Hospital monitors for HCAI but it is not known if other veterinary clinics monitor HCAI.
- National guidance is needed for infection prevention in veterinary clinics and hospitals.
- Healthcare reforms, including the changing role of the private sector.

P.3.4 Antimicrobial stewardship activities – Score 3

The JEE team noted that Finland's capacity exceeds the score of 4 in the animal health sector as designated centres have conducted all antimicrobial stewardship practices for five years with a system for continuous improvement.

Strengths/best practices

- Finland has a long tradition of prudent use of antibiotics in the public and animal health sectors.
- Antimicrobial usage in livestock is very low and strictly controlled.
- Animal Health ETT, a food industry association, promotes the health and welfare of livestock by coordinating national animal health care and guiding the import of livestock, embryos, semen and feeds in order to control the risk of disease.
- Veterinarians are not allowed to make a profit on the sale of medicines.
- There are high levels of cooperation between the food industry, veterinarians and authorities on the prudent use of antimicrobials.
- Recommendations are in place for the use of antibiotics in treating most common diseases.

Areas which need strengthening and challenges

In the public health sector:

- There is not currently a national plan for antimicrobial stewardship.
- With regards to antimicrobial consumption there is a need for improved reporting, regional consumption statistics, coordination of the use of antibiotics by communities and hospitals, hospital-specific data and consumption data for different indicator antibiotics.
- Budget cuts have led to a reduction of activities focussed on AMR. Information sharing between different actors at the local, regional and national levels needs strengthening. Reforms to the health and welfare system, including increased use of the private sector, pose a challenge to sustaining AMR activities.

In the animal health sector:

- Stronger evidence is needed on the effectiveness of national actions.
- There is a need for more effective implementation and promotion of the prudent use of antimicrobials in the treatment of pets, horses and animals bred for fur.
- More resources are required for the distribution of information on AMR and antimicrobial usage, education, training and the promotion of national policies.

Zoonotic diseases

Introduction

Zoonotic diseases are communicable diseases that can spread between animals and humans. These diseases are caused by viruses, bacteria, parasites and fungi carried by animals, insects or inanimate vectors that aid in its transmission. Approximately 75% of recently emerging infectious diseases affecting humans is of animal origin; and approximately 60% of all human pathogens are zoonotic.

Target

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

Finland level of capabilities

Finland's Ministry of Agriculture and Fishery (MAF) and Ministry of Social Affairs and Health (MSAH) produced the Finnish Zoonoses Strategy (FZS) in 2004, which was revised in 2013 and will be re-evaluated after 2017. This formal policy addresses zoonotic diseases from a One Health perspective and is implemented through the State Council decree on the Zoonosis Centre.

The current strategy sets targets and list actions on priority pathogens that are relevant to public health: Campylobacter, Salmonella, Yersinia, Listeria, Enterohaemorrhagic Escherichia coli, Methicillin-resistant Staphylococcus aureus, Rabies, Puumala virus, Tick-borne Encephalitis and Borrelia. The government has demonstrated that it has the capability to train and test the skills of both public and animal health workers to investigate and respond to a zoonotic event.

Finland has a number of active One Health entities that support research, analysis, and decision-making regarding zoonotic diseases. These include:

- The Finnish Zoonosis Centre (FZC), which was established by decree in 2007. The Director of the FZC is the only permanent staff member, hosted by Evira. The FZC forms a co-operation body between Evira and the National Institute for Health and Welfare (THL), ensuring close co-operation between public health, animal health and food and feed safety.
- The steering committee of the FZC, which has been chaired by the MAF since 2007, includes representatives from the MAF, MSAH, THL and Evira. The FZC's tasks are specified in the Zoonosis Centre Decree.
- The Standing National Committee for Infectious Diseases has been chaired by MSAH since 1992. It connects central and regional public health expertise with central animal health and food safety management authorities, including the MAF and Evira.
- The Zoonoses Centre Group, which has been chaired by the Director of the FZC since 2007, steers the joint efforts of the public health, animal health and food safety units within Evira and THL. It also prepares the work plan and progress report of the FZS.
- The National Expert Group on Antimicrobial Resistance, which has been chaired by THL since 2012, connects central and regional public health expertise with laboratory surveillance and animal health management expertise at Evira.
- The Epi-meeting, which is a weekly meeting at THL that also includes experts from Evira. The focus is on ongoing outbreak investigations and human infectious disease signal monitoring and communication.

- Outbreak investigation groups, which are multidisciplinary municipal or local investigation teams for food-borne outbreaks. They include a municipal infectious disease physician, a hygiene veterinarian and a health inspector, as prescribed by legislation.

Recommendations for priority actions

- Using the framework identified in the FZS and the existing One Health bodies, determine whether they are optimized for the identification of a slowly evolving emerging zoonotic hazard and of feasible actions. Extend the FZS and its implementation to also cover natural resources and environmental policies.
- In light of the anticipated social and health care and regional government reforms, it is imperative that Finland maintains its strong One Health collaboration networks and information exchange efforts on all levels. The renewal should include legislation on notification of animal and infectious diseases and local outbreak investigation groups.
- Secure a National Veterinary Sanitation Expert and a position for a National Veterinary Epidemiologist while sustaining sufficient veterinary know-how and personnel for the management of zoonotic disease surveillance and outbreak response. Enable comprehensive education of official veterinarians and enhance existing education opportunities.
- Given the rarity of large zoonotic disease outbreaks in Finland, conduct table-top or practical exercises, including all levels of national, regional, and municipal experts, to identify any organizational, legal, policy or operational gaps in the planned response to a complex zoonotic disease outbreak involving several administrative sectors.

Indicators and scores

P.4.1 Surveillance systems in place for priority zoonotic diseases/pathogens – Score 5

Strengths/best practices

- In support of zoonotic disease surveillance, Finland maintains:
 - An infectious disease registry for human cases;
 - A monitoring programme for animal diseases;
 - Rapid case investigation capacity;
 - A robust laboratory network (in the public and private sectors) with close collaboration between central public health and animal health laboratories;
 - A central reference laboratory as part of a network in the European Union
- Open online reporting of surveillance results and public communication of new findings.

Areas which need strengthening and challenges

- The public and animal health surveillance strategy requires updating to include zoonoses that are emerging and not food-safety related.
- Increase the monitoring of diseases in animals used as sentinels.
- Review legislation and procedures on the notification of animal and infectious diseases, and on data sharing between animal and public health authorities at all levels, in order to reflect reforms to organizational structures and to enhance epidemiological analyses of animal health data.
- Public funding cuts pose a challenge to maintaining reference laboratories and expertise.
- Increased use of clinical laboratory services outside Finland could lead to loss of information.

- Some animal clinical laboratories are not accredited.
- Insufficient sample material for syndromic and passive surveillance of animal diseases; and insufficient capacity in veterinary epidemiology, data management, and bio-statistics.

P.4.2 Veterinary or animal health workforce – Score 4

Strengths/best practices

- Finland has adequate capacity in the public sector and industry to react to and contain sudden animal disease outbreaks, with robust capacity in conducting epidemiological investigations of suspected and real cases of animal disease.
- There is a strong One Health approach, particularly with respect to food-borne outbreaks, due to joint industry efforts on animal health and long-standing collaboration between public sector officials and the food industry.

Areas which need strengthening and challenges

- The prevention of diseases in intensive animal farming and the prevention of new kinds of zoonotic challenges (slowly evolving diseases such as tick-borne infections, for example).
- Modernized animal production will require modernized disease prevention procedures and expertise, including expertise on environmental issues.

P.4.3 Mechanisms for responding to infectious and potential zoonotic diseases established and functional – Score 3

Strengths/best practices

- The Finnish Government has sufficient legal power and a One Health framework in its national zoonoses strategy. Mechanisms are particularly strong in the food sector, where there is robust collaboration between the health, veterinary, and food safety sectors.
- Food industry operators are highly committed to detection and control of zoonotic diseases throughout the food chain and have a long-standing collaborative relationship with public sector officials.
- Finland benefits from international collaboration and the support of the European Union.

Areas which need strengthening and challenges

- The rarity of zoonotic disease outbreaks in Finland suggests that the implementation of the FZS work plan, which should be expanded to cover the natural resource (wildlife) and environmental sectors, should be tested through robust exercises.
- The precise role of the FZC and its steering committee during both slowly evolving diseases outbreaks and rapidly evolving zoonotic disease outbreaks needs to be identified and optimized.
- The decision-making structures and resources available to investigate and manage zoonotic health risks are unclear.
- The production of multidisciplinary expert rapid assessments and opinions would benefit from an improved structure.
- Access to local outbreak investigation and management capabilities for non-food related events should be improved.
- Occupational safety at animal premises and the monitoring of the health status of people working with animals requires improvement.
- The implementation of voluntary measures in the food industry has declined in recent years, and there is less potential to combat food production-related zoonosis through food strategies.

Food safety

Introduction

Food- and water-borne 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

Surveillance and response capacity among States Parties for food- and water-borne disease risks or events by strengthening effective communication and collaboration among the sectors responsible for food safety, and safe water and sanitation..

Finland level of capabilities

As a Member State of the European Union (EU), Finland follows EU food safety regulations and directives. Codex Alimentarius food standards are used in the rare instances where there are no applicable EU regulations.

Finland has been a forerunner in implementing a One Health approach. Public and animal health authorities have been carrying out joint investigations into food and waterborne outbreaks since 1975.

A mandatory food and water outbreak investigation system has been in place since 1997. The registry for this system (RYMY), which was made available online in 2010, is maintained by the Zoonosis Centre and jointly operated by the THL and Evira.

Finland's 300 municipalities investigate outbreaks, however this responsibility is planned to move to 18 provincial teams as part of countrywide reforms. Currently, an outbreak team consists of a head physician, a municipal veterinary officer, a contact person for infectious diseases, food safety and health inspectors, representatives from the municipal water supply operator and representatives from the local or regional laboratory.

One area of concern is Finland's ability to scale up capacity in the event of a major outbreak. Finland favours a bottom-up approach over top-down directives, with responsible individuals and organizations acting through a shared sense of responsibility rather than a clear chain of command. This could impact the country's ability to address a major food or waterborne emergency, particularly if it were to occur at a time when it was difficult to reach all responsible officers at different levels of their respective organizations.

Recommendations for priority actions

- Agencies and municipalities, respectively, should improve and update both national and local food and water borne emergency contingency plans, so that in an emergency situation outside office hours, first responders know who to contact. Contact lists should be, to the largest extent possible, based on a position rather than a named individual. National contingency plans should also acknowledge the possibility of outbreaks that demand extensive resources. Any updated plan should be tested through simulation exercises.

- Create a national online database for collecting microbiological laboratory results and associated metadata from the food chain, enabling practical risk profiling of foods and food businesses.
- Establish and implement, through the Zoonoses Centre, a ‘lessons learned’ protocol for all major food and water-borne outbreaks.
- Ensure, through legislation, that provincial outbreak response teams will replace municipal ones as part of the forthcoming reforms.
- Link the existing Centre for Biological Threat Preparedness (BUOS) more closely to the routine food and water borne investigation and Zoonoses Centre activities

Indicators and scores

P.5.1 Mechanisms for multisectoral collaboration established to ensure rapid response to food safety emergencies and outbreaks of foodborne diseases – Score 5

Strengths/best practices

- A true One Health approach to food and waterborne outbreak investigations and reporting has been in place since 1997.
- Mandatory follow-up, investigation and reporting of all food and waterborne outbreaks.
- A small, well-educated public health workforce and a low threshold for contacting additional experts when required.
- Public health authorities have strong ties to academia and its research facilities.
- Food businesses trust authorities to help them solve problems rather than impose sanctions.
- All food commodities (including water) are controlled by a single food safety authority.
- Formal and frequent cooperation between the public and animal health sectors, as demonstrated by the Zoonosis Centre.
- Training on outbreak investigation principles and practices for local authorities/experts is provided on a regular basis (a one-week intensive course is delivered every other year in co-operation with multiple institutes).
- Online RYMY incident register in place since 2010.
- Reference laboratories work in close contact with competent central authorities, bringing new methodology, insights and expert opinion as needed.

Areas which need strengthening and challenges

- A large number of municipal outbreak response teams means that there is little practical field epidemiology experience in each of the scarcely populated areas.
- It can be a challenge to contact individuals who are responsible for starting a local outbreak response in an emergency situation. Despite contingency planning there is no obligation for individuals to be available at all times.
- Occasionally low motivation levels in primary health care to take adequate numbers or types of human samples.

Biosafety and biosecurity

Introduction

It is vital to work with pathogens in the laboratory to ensure that the global community possesses 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 diseases 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 with especially dangerous pathogens identified, held, secured and monitored in a minimal number of facilities according to best practices; biological risk management training and educational outreach 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 in place as appropriate.

Finland level of capabilities

In Finland, a number of stakeholders are directly responsible for, or involved in the operation of biosafety of laboratories working with dangerous human and animal pathogens. These stakeholders include: MSAH, including THL; the Board for Gene Technology, the National Supervisory Authority for Welfare and Health); the Ministry for Foreign Affairs (including the Unit for Arms Control and Export Control Unit); the Ministry of Agriculture and Forestry (including Evira, that is concerned with animal and plant pathogens); the Ministry of Defence (including Finnish Defence Forces); the Ministry of the Environment (including the Finnish Environment Institute, environmental laboratories, waste management services); the Ministry of Interior (including internal security); Regional State Administrative Agencies in Finland; laboratory licensors; universities, vocational education providers and researchers; hospital laboratories; and the private sector.

Finland has aligned its existing biosafety regulations with European Union directives. Biosafety practices, work on genetically modified organisms (GMO), and occupational health and safety are well regulated, but legislation is scattered. Biosafety or biosecurity are only considered in an occupational health and safety context. There is no specific licensing system for Finland's BSL-3 laboratories except for GMOs. There is no record of facilities housing risk group 3 or 4 pathogens, except for GMOs. Veterinary laboratories are more tightly regulated than clinical microbiology laboratories.

Finland is a member of the Biological Weapons Convention, The Australia Group, and several other international agreements and arrangements. Regulations exist on the import and exports of dual-use items, defence material and animal and plant pathogens. Import regulations for human pathogens have been recently introduced, but do not cover GMOs.

There is some multisectoral collaboration and networking on biosafety and biosecurity through the Finnish Biosafety and Biosecurity Network, which offers a forum for biosafety and biosecurity education free-of-charge. Good collaborative efforts are noted between the Centre for Biothreat Preparedness, the Zoonosis Centre, and the Biosafety and Biosecurity Network. Biosecurity is primarily the responsibility of laboratories.

Recommendations for priority actions

- Review, establish, or update biosafety and biosecurity legislation to create a comprehensive integrated whole-of-government biosafety and biosecurity system to include an oversight mechanism and monitoring of dangerous pathogens as well as establishing requirements for biosafety and biosecurity laboratory licensing and/or accreditation. National coordination of biosecurity capacity building should be enhanced by a coordinating body.
- Consider establishing a national mechanism to harmonize biosafety and biosecurity laboratory standards, personnel training in biosafety and biosecurity, and monitoring systems between government and non-government BSL-3 laboratories.
- Biosafety and biosecurity training needs to be strengthened in vocational and higher educational institutes along with continuous training of professionals.
- Enhance education and communication efforts with the goal of raising awareness and compliance with biosafety and biosecurity legislation and practices to all relevant professionals.
- Explore the feasibility of requiring all institutions working with dangerous pathogens to have a biosafety/biosecurity officer.

Indicators and scores

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

Strengths/best practices

- Finland maintains a high-level biosafety laboratory infrastructure, with approximately six BSL-3 labs.
- The government has implemented biosafety and GMO legislation.
- General awareness of biosafety, good microbiological practices and techniques, available and widely used personal protective equipment, and high-level occupational health and safety standards.
- Multisectoral collaboration within the Finnish Biosafety and Biosecurity Network.
- The upcoming chemical, biological, radiological and nuclear defence strategy will consider gaps in biosecurity legislation.

Areas which need strengthening and challenges

- There are no required biosafety or biosecurity inspections or audits of BSL laboratories or personnel. Some BSL3 laboratories have been cross-audited by other BSL3 laboratories. THL's BSL3 laboratory was audited by DNV in 2013.
- BSL-3 or BSL-4 laboratories do not need a license, except for GMO use. Under the Food Act, Feed Act, and Animal Diseases Act, Evira is responsible for the licensing of food, feed, and animal diseases laboratories. The Regional State Administrative Agencies in Finland are responsible for licensing of human diagnostic laboratories.
- Collections of pathogens and toxins have not been systematically identified. There is no list of dangerous pathogens other than the risk group classification related to the occupational health regulations, with the exception of GMOs. A notification and application procedure including a national register and mandatory records for operators is in place for GMOs.

P.6.2 Biosafety and biosecurity training and practices – Score 3

Strengths/best practices

- General awareness of biosafety, good microbiological practices and techniques is strong, with personal protective equipment widely used.
- High occupational health and safety standards.

Areas which need strengthening and challenges

- There are good biosafety and biosecurity measures directed specifically at government-owned and -operated labs and their personnel. But there is a discrepancy between government-owned and -operated laboratories, such as those at THL and Evira (where BLS-3 personnel receive good training on biosafety and biosecurity and background checks are carried out on personnel working with dangerous pathogens) and other laboratories where there are no such standardized training procedures or background checks.
- There is no universal mechanism concerning oversight or a country-wide code of conduct for scientists.
- Biosafety or biosecurity inspections or audits of BSL laboratories or personnel are not required for all BSL-3 labs. Some BSL-3 laboratories have been cross-audited by other BSL3 laboratories. THL's BSL3 laboratory was audited by DNV in 2013. BSL-3 laboratories do not need a license, except for GMO use.
- Collections of pathogens and toxins have not been systematically identified. There is no list of dangerous pathogens other than the risk group classification related to occupational health regulations, with the exception of GMOs.

Immunization

Introduction

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

Target

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

Finland level of capabilities

Finland's National Immunization Programme has a clear legal foundation through national legislation and is accessible to the population free of charge. The country has very high overall vaccination coverage, despite some geographical areas falling below the 90-95 % coverage threshold. Finland's 300 municipalities are responsible for administering vaccines, which they carry out through comprehensive preventive child health, student health and primary health care services. There is also a routine surveillance system for vaccine-preventable diseases.

The Government has allocated a sufficient budget for procuring and administering vaccines and has put a forecasting mechanism and an effective distribution plan in place. Access to vaccines is ensured by long-term contracts and a six-month stockpile. The country has an effective and high-quality vaccine delivery system with good quality cold-chain infrastructure. There is a mechanism in place to monitor adverse events following immunization and to swiftly address dropouts from immunization programmes.

However, there are some information gaps regarding vaccinations carried out by the private sector; lower levels of coverage in specific groups, such as asylum seekers and undocumented migrants; and a need for stronger communications promoting the value of vaccines.

The lower coverage levels among undocumented migrants can be attributed to a lack of legal rights to vaccination for this group. The communication challenges stem from a decentralized system, which has limited and fragmented capacity to respond to an active anti-vaccine movement.

There are also limited data on vaccine wastage and no electronic monitoring system for vaccine storage and deliveries.

Recommendations for priority actions

- Continue improving vaccination coverage and maintaining the low incidence of vaccine-preventable diseases by:
 - Defining and providing an action plan for non- and under-vaccinated populations including asylum seekers, undocumented migrants and other mobile populations;
 - Conducting multisectoral research and taking action on vaccine hesitancy to maintain public trust and enable effective communication on the value of vaccination.
- Prepare a national immunization plan with clear strategic targets for the implementation of the national immunization programme, management of outbreaks of vaccine-preventable diseases and

introduction of new, cost-effective vaccines.

- Maintain and enhance data analysis and research capabilities. This should include:
 - Continuing to develop electronic data transfer and inter-linked registries to ensure real-time analysis of vaccination coverage (including vaccinations provided by the private sector), vaccine impact and safety; vaccine wastage and vaccine delivery systems;
 - Research activities on the impact of vaccines introduced or considered for introduction to the national immunization programme.

Indicators and scores

P.7.1 Vaccine coverage (measles) as part of national programme – Score 4

Strengths/best practices

- High coverage, thanks to comprehensive public child healthcare services that are accessible to the population free of charge and a clear legal foundation for the National Immunization Programme.
- National Institute for Health and Welfare supports healthcare providers in implementing the National Immunization Programme.
- A very comprehensive population database, unique personal identifiers, a low number of people in mobile populations and no significant disease burden.
- Good knowledge of areas and populations among nurses and a very low dropout rate.
- A National Vaccination Registry that allows for a very detailed population based analysis of vaccination coverage in all municipalities.
- A good disease surveillance system and laboratory systems that cover the entire country.

Areas which need strengthening and challenges

- Communication activities and campaigns that promote the value of vaccines and counter the anti-vaccine movement.
- Better information on vaccinations administered by the private sector and among adults.
- Increasing levels of coverage in specific groups including immigrants, asylum seekers, and undocumented migrants (who have no legal rights to vaccination services).
- Increasing coverage of Measles vaccination to >95% in the one third of municipalities where coverage is low, and maintain coverage elsewhere.
- Reaching the European Council target for influenza vaccination coverage.

P.7.2 National vaccine access and delivery – Score 5

Strengths/best practices

- Adequate government resources and mechanisms are in place for vaccine procurement, stockpiling, cold-chain infrastructure and distribution. This has ensured that no stock-outs have occurred at any level.
- A comprehensive population registry to forecast vaccine needs.
- A dedicated team at the National Institute for Health and Welfare to manage the procurement and delivery of vaccines at the district level and provide a consultation service for district pharmacies and municipalities on vaccine delivery or cold-chain issues.

Areas which need strengthening and challenges

- There is limited information on vaccine wastage.
- An electronic system to manage vaccine deliveries and the stock situation at the municipal level is required.

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.

Finland level of capabilities

Finland has a well-functioning laboratory system in place for public, animal and environmental health. Laboratories from each sector collaborate with each other and according to the One Health approach. There is also strong collaboration internationally with WHO and the European Centre for Disease Control (ECDC).

The country's laboratory systems use modern technologies, electronic databases and are involved in research and development. Expert and reference laboratories perform typing in support of surveillance and outbreak response efforts and are introducing new methods including Whole Genome Sequencing (WGS). Point of Care (POC) testing is also available.

Finland's laboratories conduct a wide range of tests. They have internal quality control (ICQ) procedures in place and are subject to external quality assessments (EQA) in accordance with ISO and WHO standards. Specimen transport is organized through the national postal service, for which funding is available at the national and regional levels.

The laboratory licensing system has a system for regular evaluations, with each decision reviewed every four years. The Finnish Accreditation Service (FINAS) is responsible for accreditation and certification.

Finland has identified the need to develop a core diseases surveillance strategy. The country also faces challenges in retaining its laboratory workforce and in maintaining reference laboratories, particularly in the face of public-sector funding cuts. The availability of good quality POC tests for all pathogens is a challenge and there is a need for clear guidance on public-private partnerships and for external quality assurance of WGS.

Recommendations for priority actions

- Ensure sufficient laboratory surveillance capacity to detect known and novel threats including all infectious agents listed in the infectious diseases decree.
- Maintain the integration of laboratory and epidemiological expertise in order to control and respond to these threats.

- Securing geographical coverage of the clinical and environmental diagnostic laboratory network and access to high-quality services within the context of social and health care reform.
- Securing capacity and expertise at the national expert and reference laboratory functions, including BSL-3 preparedness, as well as for scaling up in the event of national or international outbreaks.
- Clarify the role of private-sector laboratories within the national IHR laboratory capacity by developing clear guidelines for collaboration and communication.

Indicators and scores

D.1.1 Laboratory testing for detection of priority diseases – Score 5

Strengths/best practices

- Laboratory licencing is subject to ICQ and EQA and is regularly reviewed by FINAS according to the appropriate standards for testing and clinical laboratories.
- Laboratories have the required equipment, are well-maintained and perform a wide range of tests.
- There is a comprehensive laboratory network in both the public and private sectors.
- Testing for rare diseases is centralized and supported through international collaboration.

Areas which need strengthening and challenges

- A surveillance strategy for core diseases is under development.
- Retaining an expert workforce and maintaining reference laboratories.
- Reductions in public-sector funding.

D.1.2 Specimen referral and transport system – Score 5

Strengths/best practices

- Specimen transport is organized via the national postal service and the Matkahuolto bus service. Different categories of microbes are shipped with appropriate labelling and with guidance for specimen transportation and packaging.
- Funding is at the municipal and national levels for transporting samples to expert and reference laboratories.
- There is strong collaboration with international networks, including through WHO, ECDC and the European Union National Reference Laboratory networks.

Areas which need strengthening and challenges

- Ensuring the sustainability of daily mail services through the national postal service.

D.1.3 Effective modern point-of-care and laboratory-based diagnostics – Score 5

Strengths/best practices

- Customer-driven practices for POC testing.
- Supervision of POC testing by a clinical microbiological laboratory.
- Media and reagents for core laboratory tests are produced or procured in-country.
- Private partners develop methodologies in collaboration with national public bodies.

Areas which need strengthening and challenges

- The availability of good quality POC tests for all pathogens.
- A lack of guidelines for public-private partnerships.

D.1.4 Laboratory quality system – Score 5

Strengths/best practices

- Laboratory licencing procedures are in place and supported by annual checks by competent authorities (including Regional State Administrative Agencies, The Food Safety Authority, The National Supervisory Authority for Welfare and the Radiation and Nuclear Safety Authority). Licensing decisions are reviewed every four years.
- FINAS is responsible for accreditation, for example on laboratory quality for POC tests.
- WHO performs disease-specific accreditation.

Areas which need strengthening and challenges

- EQA and accreditation for WGS.

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 biosurveillance 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 intermediate level regional capacity to analyse and link data from and between strengthened, real-time surveillance systems, including interoperable, interconnected electronic reporting systems. This would 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 OIE standards.

Finland level of capabilities

Finland has a strong and well-functioning public health surveillance system that uses interconnected real-time systems and incorporates several aspects of the One Health approach.

Reporting is primarily electronic and employs unique personal identifiers to allow linkages with additional data sources. Analysed data are reported on a systematic basis and syndromic surveillance systems are in place allowing for systematic reporting from primary public health care centres.

Reporting of animal surveillance data is manual at the central level and there is a need for electronic systems for more efficient handling of animal health data, and to allow for reliable sharing of information between the public and animal health sectors. .

Recommendations for priority actions

- Improve tools for analyzing data from the National Infectious Disease Register (NIDR) at the regional level and to make the reports publicly available including tables, graphs and maps.
- Improve HCAI surveillance in both health and social care according to the new Communicable Disease Act.
- Create an electronic data management system for animal health surveillance and control data.

Indicators and scores

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

Strengths/best practices

- NIDR includes nationwide, population-based data.
- Primary healthcare register fulfills several roles at the local, regional and national levels.

- Established monitoring programme for animal diseases.
- Electronic reporting for public health data.
- Collaboration between public and animal health reference laboratories.

Areas which need strengthening and challenges

- Improve online reporting to the public, including the production of tables, figures and maps for the THL.
- Create an electronic database and reporting system for animal surveillance data.
- General improvement of reporting tools at THL.
- A lack of information communication technology resources.

D.2.2 Interoperable, interconnected, electronic real-time reporting system – Score 4

Strengths/best practices

- Several electronic real-time surveillance systems are in place.
- Three sources provide information: clinical laboratories, physicians and reference laboratories.
- The use of unique personal identifiers.
- Enhanced surveillance for priority diseases.

Areas which need strengthening and challenges

- Improve linkages between animal and human surveillance data.
- Improve the timeliness of the provision of reference laboratory data to NIDR.
- Improve data collection for the vaccine register.
- Develop tools to automatically extract HCII data.
- A lack of resources for HCII teams.

D.2.3 Integration and analysis of surveillance data – Score 4

Strengths/best practices

- Abilities and experience in performing register-linked studies.
- The availability of animal health data for central authorities.
- Animal health data allows for analysis according to geographical distribution.
- The provision of evidence-based findings for decision makers.
- Research collaboration between hospitals, regions, universities and international collaborators, and cooperation between researchers and control experts on the analysis of animal health data.

Areas which need strengthening and challenges

- Training regional and local teams on the analysis of surveillance data.
- National-level training on analyzing surveillance data for certain diseases.
- The need to strengthen tools for analyzing and reporting regional and local data.
- A lack of resources for analyzing data at all levels, both for animal and public health data.
- Improve systematic reporting and analysis of animal health data.

D.2.4 Syndromic surveillance systems – Score 4

Strengths/best practices

- Electronic data in primary health care register can be used for surveillance of several syndromes.
- Flexible systems that have been used successfully for influenza-like illness surveillance.

Areas which need strengthening and challenges

- Coverage in the private sector.
- The need to increase reporting to cover more syndromes.
- Uncertainty linked to national healthcare reforms.
- The system has not been fully evaluated for communicable diseases.

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.

Finland level of capabilities

The country has designated the THL as the National IHR Focal Point (NFP). THL has multiple communicable disease surveillance systems and has a duty officer available at all times to respond to national and international issues and carry out risk assessments. THL has access to the secure WHO Event Information Site. THL also reports to the EU Early Warning and Response system (EWRS), in consultation with the Ministry of Social Affairs and Health. Both THL and the Occupational Health Agency (TTL) report on chemical and environmental events and threats through the EU EWRS and IHR systems.

Suspected food safety issues are reported through RYMY, which is co-managed by THL and Evira. The Ministry of Agriculture and Forestry and EVIRA reports to the Rapid Alert System on Food and Feed, EU Com, Animal Disease Notification System (ADNS) and Zoonotic Disease and Animal Disease Notifications System (OIE). The Radiation Safety Authority reports on radionuclear events to the International Atomic Energy Agency.

THL trains its duty officers on the IHR decision tree and participates in meetings and workshops with the WHO Regional Office, EU commission, European Food Safety Authority and the European Centre for Disease Control. Training seminars are conducted for World Organization for Animal Health focal points. Recent exercises to test Finland's identification and reporting systems included national and EU-level preparedness components focusing on scenarios requiring IHR reporting of a potential public health emergency or international concern. However, the exercises were not taken to the reporting stage.

In general, there is excellent coordination between sectors at the national level. International notification systems are used, however not all protocols and points of contact for coordinating with other sectors are up to date. There is also a lack of awareness among other stakeholders of international reporting requirements and the IHR focal point function responsibilities. Standard operating procedures (SOPs) require strengthening, especially for rapid consultation and communication with some sectors. In addition, there is a need to increase competency in infectious disease epidemiology in regional offices and in some hospital districts.

Recommendations for priority actions

- To update standard operating procedures and reporting protocols for notifying potential public health emergencies of international concern to the IHR national focal point and develop them to include relevant stakeholders from civil protection, police, rescue services, environmental agencies, customs, the poison centre and medicines agency, among others.

- To include IHR notification scenarios in national preparedness exercises and risk assessments.
- To increase regular communication between the scientific community and governmental authorities and institutes.

Indicators and scores

D.3.1 System for efficient reporting to FAO, OIE and WHO – Score 4

Strengths/best practices

- The IHR NFP is well established and has been operational since 2007. It serves as the single national and international contact point.
- Coordination with the EU EWRS system is in concordance with decision 1082/EU/2013 on cross border health threats: IHR notification from and within the EU system is possible. There is tight integration between the Ministry of Social Affairs and Health and the IHR NFP.
- Reporting systems from the animal and food safety sector to the OIE are in place.
- IHR/EWRS systems are managed by a single entity.
- There is close collaboration between food safety, public health, animal health and environmental health actors.
- Clear surge and escalation models exist at the ministerial and agency levels.

Areas which need strengthening and challenges

- Written SOPs may need to be developed, especially for those sectors where cooperation is not necessary on a daily basis.
- Infrequent contact between some sectors, and a lack of updates to the IHR NFP on contact details for focal points.

D.3.2 Reporting network and protocols in country – Score 4

Strengths/best practices

- A strong legislative base, with clear roles and responsibilities for relevant actors.
- Strong real-time surveillance systems.
- Weekly and daily collaboration between the infectious disease, environmental health and food safety sectors at the national, regional and municipal level.
- Active use of EU regional notification systems.
- Close cooperation between THL, EVIRA and other sectors including joint outbreak investigations, joint investigation teams at the municipal level and joint training exercises.
- A weekly situation report is produced for the Ministry of Health and Social Affairs.

Areas which need strengthening and challenges

- Standardized protocols for interaction are not established in all sectors.
- Preparedness exercises should contain multiple scenarios, including IHR reporting and its consequences.
- The IHR NFP has infrequent contact with some sectors.
- Maintaining up-to-date contact lists.
- A general lack of awareness of potential public health events in other sectors.

Workforce development

Introduction

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

Target

States Parties with 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).

Finland level of capabilities

Finland has mechanisms in place for modelling productivity, added value, dynamics and forecasts for workforce demand in a number of sectors. This is conducted in collaboration between the Ministry of Economic Affairs and Employment, Ministry of Education and Culture, Ministry of Finance, Ministry of Social Affairs and Health and related institutions including the Finnish National Agency for Education and the VATT Institute for Economic Research.

Education needs are informed by forecasts, extending to 2030, on the number of graduates required from different educational levels and sectors. These evidence-based educational policies are an example of best practice, but there is no specific analysis on the workforce required for IHR core capacities.

Despite the lack of a written national public health workforce strategy, Finland has implemented measures to balance workforce supply and demand. Furthermore, the country provided estimates of capacity and training needs regarding communicable disease prevention and control to the ECDC in 2015, which included a situation and gap analysis.

There is some concern regarding the allocation of human resources at intermediate and local levels—in particular for public health and preventive medicine—due to uncertainty around forthcoming reforms in the health and social sectors.

Larger cities, including Helsinki, Turku and Tampere have positions for epidemiologists with surveillance and outbreak responsibilities. However these positions are not always staffed with professionals who have had formal training in epidemiology. There are no trained epidemiologists in municipal teams. At the local and regional level, clinical staff conduct public health and preventive medicine activities, including legal tasks related to infectious disease.

All 20 healthcare districts have infection control teams, which include at least one infectious disease specialist, one microbiologist and one infection control nurse. These teams have responsibility for communicable disease control in addition to their clinical responsibilities.

Finland participates in the ECDC Fellowship Programme and continuous professional development is mandatory for every health care professional group in Finland.

Medical doctors responsible for communicable diseases and veterinarians responsible for food safety and animal diseases at the municipal level are able to take part in outbreak investigation training, which is offered by THL every other year.

Recommendations for priority actions

- Ensure the sustainability of the general workforce strategy in the new social and healthcare system, and enhance the public health workforce as part of the strategic targets.
- Explore measures to organize and finance specialization and continuous professional education in public health, epidemiology and preventive medicine.
- Support the participation of physicians, nurses and veterinarians in multidisciplinary courses on public health and preventive medicine, with a focus on field epidemiology and additional training and capacity building opportunities, in particular at the intermediate and advanced level.

Indicators and scores

D.4.1 Human resources available to implement IHR core capacity requirements – Score 4

Strengths/best practices

- In general, there is a balance between supply and demand for health care professionals.
- Sufficient numbers of infectious disease specialists and infection control nurses, exist.
- The availability of multidisciplinary teams at all levels.
- Efficient communication between levels and organizations.
- Multiple communications tools used for information sharing.

Areas which need strengthening and challenges

- An uneven geographical distribution of infectious disease and communicable disease specialists.
- Some hospital districts have difficulty recruiting infectious disease and communicable disease specialists and some municipalities have difficulty recruiting primary care physicians.
- Infectious disease and communicable disease specialists and primary care physicians lack training in public health and field epidemiology.
- Uncertainty regarding how IHR tasks will be organized following health and social sector reforms.

D.4.2 FETP or other applied epidemiology training programme in place – Score 4

Strengths/best practices

- Effective use of European Union training programmes, including the Field Epidemiology Training Programme (FETP) and continuous professional development opportunities.
- Close collaboration among higher education institutions, THL and professional societies.
- Several stakeholders and partners collaborate in organizing training courses and planning training programme content.

Areas which need strengthening and challenges

- Public health and IHR tasks should be incorporated with nursing and primary care physician training, as appropriate.
- Formal recognition of public health specialization for physicians, and infection control specialization for nurses.
- Improve the balance of content relating to public health and infection control and content relating to clinical practice during specialization and continuous professional education.

- Involve graduates from FETP (and other European programmes) in the provision of training at all levels, in particular for outbreak investigation, epidemiological surveillance, risk assessment and other key capacities under IHR.

D.4.3 Workforce strategy – Score 4

Strengths/best practices

- A long-standing tradition of conducting long-term multi-sectorial forecasts of workforce demand and education needs.
- Quantitative anticipation of workforce demand based on collaboration between four Ministries.
- Information sharing between authorities.
- Dynamic, Applied General Equilibrium Model for anticipating workforce demand.
- Mitenna model for anticipating long-term demand for labour and educational needs.
- Process model for anticipating vocational competence and skills needs.
- Statutory forums for collaboration between authorities, education institutions, labour market organizations and professional organizations.

Areas which need strengthening and challenges

- Ensuring the sustainability of the workforce in the context of ongoing health and social sector reform.
- The integration of public health, preventive medicine and preparedness (including IHR tasks) into strategic targets.
- Strategic objectives are fragmented and do not provide a comprehensive framework for planning, development and retention of human resources for health.
- The new integrated forecasting model should balance the benefits of quantitative and qualitative approaches to ensure that educational supply is in line with workforce demand.

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

Development and maintenance of national, intermediate (district) and local/primary level public health emergency response plans for relevant biological, chemical, radiological and nuclear hazards. This covers mapping of potential hazards, identification and maintenance of available resources, including national stockpiles and the capacity to support operations at the intermediate and local/primary levels during a public health emergency.

Finland level of capabilities

The Security Strategy for Society, a government resolution, is based on a comprehensive and multi-hazard approach and aims to secure functions that are vital to society in all conditions. The strategy, coordinated by a Security Committee in cooperation with ministries' heads of preparedness, includes roles, responsibilities and risk models. Periodically updated, a revised strategy is expected to be published in late 2017.

The Emergency Powers Act designates authority to Ministries for steering preparedness, leading activities, preparing situational reports and coordinating with other ministries as required. All public authorities and organizations are required to be prepared to carry on their duties during an emergency.

Finland has detailed national, regional and municipal preparedness plans for pandemics, environmental health risks and radiation incidents. Local health authorities are responsible for preparedness and security, including the provision of health and social care. Collaboration between sectors is obligatory. Regional State Administrative Agencies are responsible for monitoring preparedness and arrange exercises with the Emergency Services College.

Through regular, routine monitoring, Finland has the capacity to respond promptly and effectively to public health risks and public health emergencies of international concern as set out in Annex 1 of the IHR. Finland also has the capacity to detect, assess, notify, and report events in accordance the IHR in the event of a biological, chemical and radiological incident.

Finland collaborates with WHO, other UN agencies and EU coordination mechanisms, and participates in EU-wide exercises in order to strengthen preparedness against serious cross-border health threats. Finland also collaborates on preparedness with Nordic countries in accordance with the Nordic Health Preparedness Agreement.

Medicines are stockpiled at the national, regional and local levels, with resources, stocks and needs monitored by the National Emergency Supply Agency (NESA). Risk assessments and evaluations following incidents provide information on potential resource gaps.

A national risk assessment was completed in 2015 and resource mapping is carried out at the national, regional and local levels. Relevant ministries, agencies and partners carry out mapping of IHR core capacities.

Recommendations for priority actions

- Sustain Finland's high level of preparedness as the country implements social and health care reforms.
- Identify and secure critical infrastructure related to information and communication technology, energy, clean water and crisis-specific equipment.
- Ensure that Finland's preparedness plans for cross-border health threats encourage international collaboration while at the same time respecting the specificities of national health systems.
- Incorporate business continuity planning in preparedness planning, including the private sector.
- Investigate measures to mitigate for disturbances in global markets that could affect the supply of critical equipment or medicines.

Indicators and scores

R.1.1 National multi-hazard public health emergency preparedness and response plan developed and implemented – Score 5

Strengths/best practices

- The IHR are fully integrated in national legislation.
- Legislation covering preparedness is comprehensive and applies at the local, regional and national levels.
- Frequent updates of threat assessments and tests of preparedness plans.
- A long history of collaboration between sectors.
- Clear, defined roles and responsibilities.

Areas which need strengthening and challenges

- Health and social care is dependent on critical infrastructure.
- Preparedness for cross-border threats depends upon international collaboration frameworks.
- Preparedness plans should consider the impact of on-going health and social sector reforms, the growing private sector role in healthcare and business continuity issues.

R.1.2 Priority public health risks and resources mapped and utilized – Score 5

Strengths/best practices

- Whole of government approach, including comprehensive intersectoral participation. Involvement of regional level stakeholders in risk assessments with a national impact.
- Resource mapping implemented at the local level as part of the all hazard approach to contingency and preparedness planning.
- Decentralisation of resources: all regions make their own risk assessments and are self-sufficient in relation to mapped risks.

- Public funding at national and local level (government and municipalities).
- Periodic review and update of risk profiles.

Areas which need strengthening and challenges

- Sustain Finland's high levels of preparedness as the country implements social and health care reforms.
- Identify and secure critical infrastructure related to information and communication technology, energy, clean water and crisis-specific equipment.
- Ensure that Finland's preparedness plans for cross-border health threats encourage international collaboration while at the same time respecting the specificities of national health systems.
- Incorporate business continuity planning in preparedness planning, including the private sector.
- Investigate measures to mitigate for disturbances in global markets that could affect the supply of critical equipment or medicines.

Emergency response operations

Introduction

A public health emergency operations centre is a central location for coordinating operational information and resources for strategic management of public health emergencies and emergency exercises. Emergency operations centres 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

Country with public health emergency operations centre (EOC) functioning according to minimum common standards; maintaining trained, functioning, multisectoral rapid response teams and “real-time” biosurveillance laboratory networks and information systems; as well as trained EOC staff capable of activating a coordinated emergency response within 120 minutes of the identification of a public health emergency.

Finland level of capabilities

Finland has well-established emergency response operations, with a network of public health emergency operation centres forming a virtual centre. This virtual centre is responsible for recognizing and responding to public health emergencies at the national level. In the event of a major emergency, several physical operation centres are also available. Depending on the type of threat, responsible authorities coordinate and collaborate with relevant national authorities. The virtual emergency operations centre (EOC) identifies and responds to emergencies and covers all levels of the public health system, including national, regional and municipal bodies. The national emergency number (112) is linked to the virtual EOC system.

At the local level, it is the responsibility of 20 hospital districts, health centres, out-of-hospital emergency medical services, regional rescue departments, and municipal control and command rooms to respond to events. Emergency medical services are part of a comprehensive national security mechanism. During public health emergencies, municipalities provide a situational update and response operations in collaboration with ministries and the government situation centre. There are comprehensive operating procedures and plans in place, which are tested, evaluated and updated regularly using a range of possible scenarios. Finland has functional mechanisms in place for patient referral and transportation. These mechanisms are supported by adequate resources, guidelines, standard operating procedures and regular testing.

Some areas would benefit from further actions to strengthen performance. These include increasing the frequency of exercises, developing operating procedures and plans in the context of changing threats, updating standard operating procedures and plans for multisectoral collaboration and coordination through a single networked emergency operation centre.

Recommendations for priority actions

- Coordinate procedures and plans so that multiple sectors can act as a single emergency operation centre.
- Identify priority exercises to test joint operations through virtual EOCs, and carry out these exercises two or more times a year.
- Update procedures and processes regularly in light of evolving threats.

Indicators and scores

R.2.1 Capacity to activate emergency operations – Score 4

Strengths/best practices

- The virtual emergency operations centre functions at all times, has trained staff and has the capacity for rapid response.
- The virtual emergency operation centre is able to coordinate efforts between multiple sectors and at the local, regional and national levels.
- There is a mechanism to ensure the continuity of public health services during unusual events, such as power outages or cyber attacks.
- Regular multisectoral exercises have tested Finland's capacity to activate emergency operations.

Areas which need strengthening and challenges

- In the absence of real events, there is a need to test Finland's capacity to activate emergency response operations through exercises specifically focused on multisectoral collaboration and practical arrangements at all administrative levels.

R.2.2 EOC operating procedures and plans – Score 4

Strengths/best practices

- Comprehensive operating procedures and plans for each authority are in place and are tested regularly through exercises related to public health emergencies.
- Plans, directives, responsibilities and information sharing practices are jointly developed and owned by relevant authorities.
- Comprehensive plans and procedures concerning cyber threats.

Areas which need strengthening and challenges

- Operating procedures and plans may require updating in response to changing threats.
- Updating and implementing operating procedures and plans in a multisectoral context will require strong collaboration between multiple authorities and coordination through the emergency operation centre.

R.2.3 Emergency operations programme – Score 5

Strengths/best practices

- A strong public health EOC is available and has the capacity to respond in a timely manner.
- Response operations are evaluated regularly, leading to the development and implementation of corrective action plans.
- The multisectoral virtual emergency operations centre helps to ensure the efficient use of resources.

Areas which need strengthening and challenges

- The virtual EOC should develop the capacity to respond to changing threats and test and update its operations procedures regularly.
- Enhance preparedness through the regular update and sharing of information on imminent and potential public health threats to relevant authorities.

R.2.4 Case management procedures implemented for IHR relevant hazards – Score 5

Strengths/best practices

- Guidelines and standard operating procedures are in place for case management, patient referral and transportation, including the transport of people with potentially infectious diseases.
- The availability of trained professionals and adequate resources.
- Standard operating procedures for pre-hospital emergency medical services and hospitals are implemented and tested regularly.

Areas which need strengthening and challenges

- Case management protocols and procedures require updating in the context of changing threats.

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

Country conducts a rapid, multisectoral response in case of a biological event of suspected or confirmed deliberate origin, including the capacity to link public health and law enforcement, and to provide and/or request effective and timely international assistance, such as to investigate alleged use events.

Finland level of capabilities

Throughout its 100-year history as an independent state, Finland has demonstrated remarkable levels of cooperation in its efforts to safeguard the country's security.

The country has developed a robust and sustainable level of collaboration between public health and security authorities to exchange reports and information on events of joint concern at national, intermediate and municipal levels, based on laws, regulations and mutual agreements.

This high level of engagement and long tradition of horizontal cooperation is demonstrated by the number of stakeholders who are involved in linking public health and security. These include the Ministries of Social Affairs and Health, Foreign Affairs, Interior, Agriculture and Forestry, Defence, National Institute of Health and Welfare, National Supervisory Authority for Health and Welfare, National Food Safety Agency, Helsinki Central University Hospital, National Emergency Supply Centre, Finnish Security Intelligence Service, Finnish Customs, Finnish Boarder Guard and Finnish Defence Forces. Cooperation between all these bodies is codified in law and clearly mandated.

Maintaining a high level of expertise and readiness is a huge challenge. Finland needs to invest in international collaboration and in continuous improvement of its health and security forces to be able to respond to changing threats and to keep pace with the latest global threat-reduction standards.

Recommendations for priority actions

- Invest in international collaboration to secure continuity and to integrate international experience into national regulations.
- Invest in human resources to maintain continuity.
- Ensure internal knowledge sharing.
- Continuously improve standard operating procedures according to the latest international insights.

Indicators and scores

R.3.1 Public health and security authorities (e.g. law enforcement, border control, customs) linked during a suspect or confirmed biological event – Score 5

Strengths/best practices

- Clear mandates for collaboration, most of which are codified in law or based on accepted protocols.
- Details regarding points of contact responsible for information and notification are identified and shared among relevant authorities.
- The presence and use of an electronic reporting system and database (RYMY).
- Standard operating procedures at the municipal level for the control and protection of water supplies.
- Continuous education on preparedness for public health and security authorities.

Areas which need strengthening and challenges

- Ensuring that the response to the deliberate dissemination of infectious or poisonous material is based on standard operating procedures, not an ad-hoc reactive approach.
- Shortages in some very specialized skills and pressures on human resources, which might affect continuity of expertise and readiness in specialized areas.

Medical countermeasures and personnel deployment

Introduction

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

Target

National framework for transferring (sending and receiving) medical countermeasures, and public health and medical personnel from international partners during public health emergencies.

Finland level of capabilities

Through the Health Care Act, Finland has the ability to provide state funding for contingency measures in order to maintain preparedness for emergency health care and major accidents, should the situation require it.

Finland has partnerships and agreements in place for sending and receiving medical countermeasures during a public health emergency. These are supported by frequent exercises involving countries from the Nordic region.

The Ministry of Social Affairs and Health may appoint and authorize national actors to coordinate contingency activities. For example, the Ministry of Social Affairs and Health has an agreement with Helsinki University Hospital regarding the repatriation of injured Finnish citizens from abroad.

There is also strong collaboration with non-State actors. The Finnish Red Cross (FRC) regularly collaborates with the government to provide assistance during international crises and disasters and can contribute to operations in the case of a domestic event.

Finland can also call upon the European Union Civil Protection Mechanism. The Ministry of Interior is responsible for requesting technical assistance through the mechanism's Emergency Response Coordination Centre and Finland's Crisis Management Centre is responsible for coordinating deployment.

Recommendations for priority actions

- Develop national legislation and procedures to define the legal position of health personnel coming from abroad and being sent abroad.
- Increase collaboration with international operators, for example the EU Civil Protection Mechanism, in order to leverage Finland's knowledge and experiences.

Indicators and scores

R.4.1 System in place for sending and receiving medical countermeasures during a public health emergency – Score 5

Strengths/best practices

- There is strong co-operation between Nordic states on matters relating to health emergencies. There is daily cross-border assistance and cooperation between Finland, Norway and Sweden.
- Finland intends to sign the EU joint procurement agreement for pandemic vaccines and other medical countermeasures.
- Practical, daily collaboration between the Finnish Government and the Finnish Red Cross.
- Stockpiling agreements for the health care sector are in place, through the National Emergency Supply Agency.
- The Finnish Red Cross has trained personnel and field hospitals with stockpiles that can be deployed within 24 hours abroad and within a few hours domestically.
- The Finnish Medical Agency has processes to allow special permission for the compassionate use of medicines.

Areas which need strengthening and challenges

- Increasing international collaboration and the number of official agreements outside of the Nordic countries.
- Legislation concerning the import of medicines during public health emergencies.

R.4.2 System in place for sending and receiving health personnel during a public health emergency – Score 5

Strengths/best practices

- Strong collaboration between Nordic states on emergency healthcare matters, including daily cross-border assistance and cooperation.
- The ability to send medical personnel based on an agreement between the government and the Finnish Red Cross, and through the EU Civil Protection Mechanism.
- The Ministry of Social Affairs and Health has an agreement with Helsinki University Hospital regarding the repatriation of injured Finnish citizens from abroad, and an agreement with the social authority of the City of Vantaa concerning psycho-social support.
- The district hospitals of Helsinki and Uusimaa have national-level roles and responsibilities when medical evacuation from abroad is required.
- The presence of a national Crisis Management Centre.
- Valvira is working on legislation that will allow health personnel coming from abroad to be rapidly certified.

Areas which need strengthening and challenges

- Increasing international collaboration and the number of official agreements outside of the Nordic countries.
- Legislation concerning sending and receiving medical personnel during public health emergencies.

Risk communication

Introduction

Risk communications should be a multilevel and multifaceted 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 disease outbreaks. 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, including 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 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 should be tested and updated as needed.

Target

State Parties use multilevel and multifaceted risk communication capacity. Real-time exchange of information, advice and opinions between experts and officials or people who face a threat or hazard (health or economic or social wellbeing) to their survival, so that informed decisions can be made to mitigate the effects of the threat or hazard and protective and preventive action can be taken. This includes a mix of communication and engagement strategies, such as media and social media communications, mass awareness campaigns, health promotion, social mobilization, stakeholder engagement and community engagement.

Finland level of capabilities

Finland has risk communication capacity across multiple levels and sectors. In general, the authority responsible for a particular health risk or event leads on information exchange activities among stakeholders, communication to the public and international communications, with support from other authorities.

If the situation calls for action from several authorities, and it is unclear which ministry has overall responsibility, the Government will decide on a lead. In practice, municipal authorities deal with most health security incidents. These authorities are also responsible for communication and the provision of information to other municipalities, as well as to regional and national stakeholders.

To provide surge capacity, communication resources can be shifted between agencies within an administrative sector. However, municipalities do not always have surge capacity and the processes for scaling up are not always documented.

Risk communication is a part of an exercise, carried out every four years, that simulates a Council of State emergency meeting. Healthcare personnel are trained on how to communicate with the public through webinars and webcasts. Every year 20 to 30 experts receive media training.

Recommendations for priority actions

- Include risk communication in all exercises and systematic evaluations of lessons learned following real events;
- Strengthen public communication and engagement with communities on different IHR-related areas by:
 - Clearly defining the roles and responsibilities of different levels of administrations and organizations
 - Strengthen the mandate and resources of organizations that are responsible for population-level health education on key health security risks;
 - As part of the on-going social and health care reform ensure that sufficient risk communication resources are available at the local, regional and national level.
- Establish and empower national networks of organizations to recognize and counter disinformation related to health security.

Indicators and scores

R.5.1 Risk communication systems (plans, mechanisms, etc.) – Score 4

Strengths/best practices

- The authority leading operations during a crisis also leads and coordinates communications. For large-scale, multisectoral crises, responsibility can be raised to the ministerial level.
- The central government, including ministries and central agencies, can provide operational and communications support to regional and local administrations.
- Each national authority has their own crisis communication guidelines, which are complementary to central governmental communications guidelines.
- Communications is understood as an integral part of leading and managing a crisis. Communication regarding the control of communicable diseases is implemented at all administrative levels: local, regional and national.
- Communications training is regular for staff working on radiation and nuclear safety and there are joint national guidelines for managing radiation situations that include guidance on risk communications. Regular joint exercises are also conducted.

Areas which need strengthening and challenges

- The coordination of multi-sectorial communication is often challenging.
- Risk communication resources are limited at the municipal and regional levels.
- Greater clarity is needed on roles and responsibilities regarding risk communication at different administrative levels in multisectoral crisis situations.
- Strengthening coordination of communication during cross-border crises.
- Municipalities have limited communications staff.
- Communications during power cuts or outages in information communication technology systems.

R.5.2 Internal and partner communication and coordination – Score 4

Strengths/best practices

- National actors have the ability and structures to coordinate communication effectively during domestic crisis, with clearly defined roles in some cases.

- The Ministry of Social Affairs and Health and the National Institute for Health and Social Welfare participate in the European Union Health Security Committee's communicators network to share information and best practices.
- Authorities have established practices with which to communicate with target groups nationally, regionally and locally.
- THL has strong outbreak communication capabilities.

Areas which need strengthening and challenges

- More regular testing of communication response plans with external partners and stakeholders.
- Systematic evaluation of real life events and/or exercises.
- Target groups, stakeholders and other partners need to be identified in more detail in order to facilitate delivery of tailored communications.
- Functions are often dependent on a specific individual rather than a role.

R.5.3 Public communication – Score 4

Strengths/best practices

- Relations and interaction between authorities and the media function well.
- An administrative culture that promotes openness and transparency.
- Communication strategies proactively target a variety of media platforms (including newspapers, radio, television and social media.)
- Finland citizens have high levels of trust in public authorities and a highly educated.
- Authorities use search engine optimization to improve access to online information.

Areas which need strengthening and challenges

- Sharing experiences and new strategies with partner organizations to continually improve communications.
- The dissemination of key messages through multiple channels to tackle rumours and disinformation.
- A decentralized communication model leads to multiple actors and interfaces.

R.5.4 Communication engagement with affected communities – Score 3

Strengths/best practices

- A variety of communications channels are used to reach affected parties.
- Authorities can issue emergency warnings (through television or radio) if it is necessary to warn the public about a dangerous situation that may threaten the security or health of people, or cause significant damage or destruction to property
- Authorities are prepared to collaborate closely with civil society organizations (the Finnish Red Cross, for example) in different emergencies.
- The Finnish Broadcasting Company has statutory responsibility for transmitting emergency warnings to the public through its own channels. Warnings are transmitted automatically on commercial radio stations and, if decided by the authorities, publicized on television channels. An emergency warning interrupts all programmes being broadcast.

Areas which need strengthening and challenges

- Clearer roles and responsibilities between non-governmental and governmental organizations.
- The potential of technological advances (smartphones, for example) has not yet been fully realized.
- Recognizing and monitoring specific target groups, and tailoring communications according their needs.

R.5.5 Dynamic listening and rumour management – Score 4

Strengths/best practices

- By monitoring media and trends in public concerns, communications departments and agencies can address information gaps.
- The Prime Minister's Office is leading an intersectoral project on the development of crisis management and crisis communications, with a particular focus on communications with citizens. The project will design a model for mapping, analysing and understanding opinions and attitudes.

Areas which need strengthening and challenges

- A mechanism for sharing public health concerns and rumours between authorities
- Active monitoring of international media and social media during crises
- Increased efforts to counter the deliberate distribution of disinformation
- Insufficient resources and practices for monitoring social media before, during and after crises.

OTHER IHR-RELATED HAZARDS AND POINTS OF ENTRY

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

Finland level of capabilities

Finland has several international airports. Every year, more than 15 million passengers pass through Helsinki-Vantaa airport, which has direct flights to Asia. Following a government decree, Helsinki-Vantaa and Turku airports are in the process of becoming designated under the IHR, however both of these points of entry already function as designated airports.

Three airports (Helsinki-Vantaa, Turku, Tampere) have SOPs for handling suspected cases of severe communicable diseases. These SOPs have been developed in collaboration with the Airport Authority, Rescue Department, National Institute for Health and Welfare, municipal health centres, regional hospitals and other relevant services in order to provide an appropriate public health emergency response. There are no dedicated medical or public health professionals at airports. In the event of an emergency, the regional emergency medical services will transport passengers who are suspected of having a highly contagious disease to a designated hospital for medical assessment and care.

Municipal health centres, which do not have a duty officer available at all times, are in charge of contact tracing, interviews and providing advice to passengers in designated spaces within airports. Airlines are responsible for disinfecting aircraft.

Helsinki-Vantaa airport carries out systematic training exercises on a variety of different types of emergency. These exercises primarily focus on multisectoral collaboration in responding to ‘normal’ medical emergencies or accidents.

Finland’s ports, including Helsinki harbour, are in the process of being designated under IHR. Health-related questions based on the Maritime Declaration of Health (IHR 2005 Annex 8) are integrated into the PortNet system, which tracks all international arrivals and departures at Finnish ports.

Trained and well-equipped personnel inspect ships and issue Ship Sanitation Certificates (SSC) at authorized ports according to the IHR. Finland’s points of entry do not have a vector monitoring programme. However

the country's climate and epidemiological situation mean that this poses less of a risk than in some other countries.

Finland has a long land border with the Russian Federation, which includes several points of entry for rail and road traffic. This long border increases the risk of people or animals with severe infectious diseases, or other health problems, crossing into the country undetected. Finland should therefore carry out a comprehensive assessment of the risks and resources available, and make a decision on whether land borders need to be designated or strengthened.

Finland should put a public health emergency contingency plan in place that provides all designated points of entry with a sufficient level of preparedness, based on a risk assessment. This plan should nominate a coordinator to handle public health emergencies at the municipality level and allow for the provision of additional personnel, including support outside of normal working hours. This plan should be regularly updated and provide for systematic training for points of entry staff. Finland should also provide appropriate public health emergency responses at non-designated points of entry, based on a risk assessment.

Recommendations for priority actions

- Improve the procedure for maintaining communications and situational awareness among all actors in real incidents.
- Build decision-making capacity, and then assess the need to designate additional land border crossings and airports.
- Plan and conduct infectious disease capacity exercises, with a specific focus on points of entry.

Indicators and scores

PoE.1 Routine capacities established at points of entry – Score 4

Strengths/best practices

- Well-developed, collaborative, public healthcare and emergency systems that are able to handle emergencies and medical care at points of entry.
- Helsinki-Vantaa airport and Helsinki port have developed plans and SOPs in cooperation with responsible health authorities and other actors. This has led to mutual understanding, sharing of information and cooperation.
- Standard operating procedures are in place to deal with passengers arriving by air or sea who are suspected of having an infectious disease.
- Trained and well-equipped inspectors (from Valvira and municipal authorities) ensure a safe environment at points of entry and monitor water quality, food safety, and waste management, among other issues.

Areas which need strengthening and challenges

- The capacity at land border crossings (road and rail).
- Communication and situational awareness among all actors, including road traffic and health authorities.
- Regular training of responsible staff at points of entry.
- Increased availability of expertise in the field on hygiene, infectious disease control, inspection of aircraft and vector control, including out of hours availability.
- The regular update and distribution of plans, and exercises to test them, in order to achieve and maintain common understanding and awareness.

PoE.2 Effective public health response at points of entry – Score 4

Strengths/best practices

- Strong multisectoral collaboration at points of entry, among and between authorities and at the national and international level.
- Three international airports have SOPs on how to handle and transport people suspected of having a serious infectious disease from an arriving aircraft to a designated hospital.
- Implementation of control measures in cooperation with the emergency medical services and border authorities, including handling of passengers' contacts.

Areas which need strengthening and challenges

- Emergency contingency plans should be strengthened to include the nomination of coordinators for public health event management, clear chains of command, and procedures for the recruitment of additional personnel.
- Staff at points of entry require stronger knowledge and skills related to public health risk assessment, hygiene requirements and infectious disease preventive measures, through systematic training programmes.
- Increase the exchange of information with points of entry personnel on the epidemiological situation, recommendations given by international organizations, public health risk detection, infectious disease prevention and other areas.
- Ensure that there is an appropriate, high-quality response to public health events, including those related to infectious diseases, at all airports, ports and border crossings.
- Improve on-site access to specialized public health expertise at designated points of entry.

Chemical events

Introduction

Timely detection and effective response of potential chemical risks and/or events require collaboration with other sectors responsible for chemical safety, industries, transportation and safe disposal. This would entail that State Parties need to have surveillance and response capacity to manage chemical risk or events and effective communication and collaboration among the sectors responsible for safety.

Target

States Parties with surveillance and response capacity for chemical risks or events. This requires effective communication and collaboration among the sectors responsible for chemical safety, industries, transportation and safe disposal.

Finland level of capabilities

Chemical safety in Finland is based on European Union (EU) legislation on the prevention of chemical events. Finland has also ratified all relevant international conventions. Risk assessments are primarily made through EU legislative frameworks, with national risk assessments carried out when necessary.

Although responsibilities related to chemical events have been divided among different agencies and institutes, there are several networks to ensure the efficient flow of information at the national level. These networks include both safety and security authorities and experts.

Finland does not have a comprehensive overview of preparedness levels in different regions with regards to chemical events. These levels are likely to vary between regions according to the likelihood of serious chemical events occurring.

Finland has different monitoring and surveillance systems for chemicals in place. However, there is no centralized data collection or publishing mechanism that could give a comprehensive picture of the different kind of chemical incidents in Finland. There is a good laboratory network for chemical analysis, but the outsourcing of some analyses and recent budget cuts could result in a reduction in capacity in future. These budget cuts have also significantly reduced human resources.

The main authorities responsible for chemical events are the Safety and Chemicals Agency, Food Safety Authority, National Institute for Health and Social Welfare. The Finnish Institute of Occupational Health is available to provide advice to the public at all times.

Recommendations for priority actions

- Improve awareness at the national level and prepare a comprehensive, common understanding on chemical safety in Finland, covering all sectors (the general public and stakeholders from the environmental, occupational and food sectors).
- Perform a gap analysis and develop a strategy for planning and responding to the following expected gaps:
 - Personnel, following the retirement of experts, for example toxicologists;
 - The number of laboratories required;
 - Preserving knowledge of experts on treatment of patients during chemical events.

- Improve arrangements for ensuring awareness of situations, and improving the information flow and understanding among all organizations taking part in the response to acute chemical incidents.

Indicators and scores

CE.1 Mechanisms established and functioning for detecting and responding to chemical events or emergencies – Score 4

Strengths/best practices

- Strong networks between authorities, experts and different sectors at the national level. These networks include both safety and security experts. This forms a basis for information flow between authorities and experts.
- Surveillance systems, including laboratory capacity for surveillance. Advice is available at all times on chemical events.
- A well-functioning poison information centre.
- Networks such as the Finnish Centre of Excellence for Serious Chemical Threats, which includes both safety and security experts. Safety experts are involved also in chemical, biological, radiological and nuclear defence networks.
- Finnish defence forces can provide assistance with the management of chemical events when needed.
- Mutual agreements on collaboration at the national level and regional levels.

Areas which need strengthening and challenges

- A comprehensive, common understanding of chemical safety in Finland is needed in all sectors.
- A comprehensive, up-to-date overview of the current knowledge and expertise of local actors on chemical hazards. This includes information on needs for additional training locally/regionally.
- Given the rarity of large-scale incidents, there is a need for more frequent, multisectoral exercises covering these types of incident (an accident involving a vehicle transporting chemicals, for example).
- Improved information flow and situational awareness among all relevant authorities and experts in the event of an acute chemical incident.
- Recent budget cuts have caused significant reductions in human resources.
- Minimal resources for research and development may result in a reliance on the EU in the chemical safety arena.
- Outsourcing of chemical analyses could cause problems in future. There is no national strategy or agreement on the minimum level of capacity.

CE.2 Enabling environment in place for management of chemical events – Score 4

Strengths/best practices

- Comprehensive legislation and an up-to-date chemical strategy that considers chemical, biological, radiological and nuclear defence security aspects.
- Multisectoral collaborative networks in place of a single coordinating body.
- Active involvement in EU networks and working groups related to chemical safety.
- Strategies have been developed in collaboration with multiple sectors and with all relevant actors including the chemical industry and nongovernmental organizations.

Areas which need strengthening and challenges

- Responding to changes in the public communication environment in order to ensure effective, reliable communication and prevent the spread of disinformation in the case of chemical events.
- The management of cases with long-term consequences, which are usually managed on a case-by-case basis due to their infrequency. This may require guidelines and an allocated budget.
- General guidelines are available for local and regional authorities on preparedness planning for chemical incidents. However, there is a need for an up-to-date overview of the current knowledge, expertise and training needs locally and regionally.

Radiation emergencies

Introduction

To counter radiological and nuclear emergencies, timely detection and an effective response towards potential radiological and nuclear hazards/events/emergencies are required in collaboration with sectors responsible for radiation emergency management.

Target

States Parties with surveillance and response capacity for radiological and nuclear hazards/events/emergencies. This requires effective communication and collaboration among the sectors responsible for radiological and nuclear emergency management.

Finland level of capabilities

Finland has a strong, multisectoral capacity to counter radiological and nuclear emergencies.

The Finnish Radiation and Nuclear Safety Authority is the competent authority for radiation and nuclear safety. During an emergency, it provides radiation emergency-specific analysis (including on-site prognosis, dispersion calculation and dose assessment), recommendations for protective actions by all authorities, and advice to other stakeholders, such as those in industry.

Finland has signed and ratified applicable international agreements. The country also has bilateral agreements on early notification and exchange of information with neighbouring countries. The International Atomic Energy Agency's Integrated Regulatory Review Service reviewed Finland's regulatory system for radiation and nuclear security in 2012 and conducted a follow-up mission in 2015.

Large-scale radiation emergencies could affect the whole population, therefore there are a large number of stakeholders. The Ministry of Interior provides guidance on roles and responsibilities during radiation emergencies, coordinating 27 different authorities, all municipalities and some private sector organizations.

Key organizations, and their responsibilities, include:

- The Regional Rescue Service: for protective actions for the population, such as providing indoor shelter;
- The Ministry of Social Affairs and Health: for iodine thyroid blocking;
- Customs: for radioactivity monitoring of imported goods;
- Valvira: for safety of drinking water, providing guidance and supervising decontamination;
- Municipal health protection authorities: for measuring safe living environments;
- Helsinki University Hospital: for treating people with severe radiation exposure.

Recommendations for priority actions

- Prepare and implement a comprehensive national monitoring strategy for radiation emergencies.
- Improve the arrangements for ensuring situational awareness during response among all organizations taking part.
- Ensure arrangements for the disposal of radioactive waste.

Indicators and scores

RE.1 Mechanisms established and functioning for detecting and responding to radiological and nuclear emergencies – Score 5

Strengths/best practices

- A principle of cooperation, communication and coordination among all organizations.
- Preparedness for a wide variety of different domestic emergencies. Roles and responsibilities are clear and documented.
- Functional arrangements with neighbouring countries and international organisations.
- A comprehensive protective action strategy (covering the public, emergency workers, food production, infrastructure, industry, decontamination and management of waste) is in place for the full range, and all phases, of radiation emergencies.
- A principle of continuous improvement in safety and of cooperation with different authorities.
- Regular, large-scale exercises to test the response to a variety of severe emergency scenarios. The exercises include participants from a wide range of sectors, including the private sector, media, competent authorities in neighbouring countries and international organizations.
- Regular drills on monitoring and field operations.

Areas which need strengthening and challenges

- Coordination and planning of measurements and monitoring during radiation emergencies. This will be addressed by an on-going project that is developing a comprehensive national monitoring strategy in case of radiation emergencies.
- Ensuring adequate funding, resources and knowledge to maintain laboratories and other capabilities. Efficient co-operation and coordination to maintain a laboratory network that has capabilities spread across multiple different organizations.

RE.2 Enabling environment in place for management of radiation emergencies – Score 5

Strengths/best practices

- Good national-level cooperation among authorities and private-sector organizations.
- Multiple coordination bodies at different levels.
- Regular exercises and drills that focus on safety- and security-related scenarios and include international participation.
- All exercises are evaluated systematically and lead to recommendations for improvements.

Areas which need strengthening and challenges

- Management of radioactive waste following the use of radioactive material and the management of contaminated waste following decontamination activities.
- Domestic coordination and communication among a wide range of organizations during a radiation emergency; an inherent challenge in all operations that rely on cooperation and decisions by multiple organizations.
- A joint system is needed that brings all response organizations together, in order to ensure a shared understanding of the situation, a consistent response and clear communication to the public.

Appendix 1: JEE background

Mission place and dates

Helsinki, Finland, March 27-31, 2017

Mission team members:

- Mr Ran Adelstein, Ministry of Health, Israel (Team Member)
- Ms Maria Axelsson, Public Health Agency of Sweden, Sweden (Team Member)
- Dr Nirmal Kandel, World Health Organization, Switzerland (Team Lead)
- Dr Larry Kerr, Health and Human Services, USA (Team Member)
- Mr Sam Nuttall, United Kingdom (Writer/Editor)
- Dr Henk Jan Ormel, Food and Agriculture Organization of the United Nations (Team Member)
- Dr Jelena Rjabinina, Ministry of Health, Estonia (Team Member)
- Dr Carmen Varela Santos, European Center for Disease Control, Sweden (Team Member)
- Ms Tanja Schmidt, WHO Regional Office for Europe, Denmark (Team Member)
- Dr Anders Tegnell, Public Health Agency of Sweden, Sweden (Team Lead)
- Dr Aura Timen, National Institute for Public Health and the Environment, Netherlands (Team Member)
- Dr Angela Wirtz, Ministry of Health, Germany (Team Member)

Objective

To evaluate Finland's capacities and capabilities relevant for the 19 technical areas of the JEE tool, in order to provide baseline information to support Finland's efforts to strengthen and maintain capacities for health security and Finland's ongoing social and health care reforms.

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 that 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.

Preparation and implementation of the mission

Prior to the visit the Finnish team drafted a comprehensive self-assessment and, in collaboration with WHO/team leads developed the agenda for the week, including several field visits. The JEE team held an initial teleconference and an in-person meeting before the start of the mission. The agenda for the mission was as follows:

Monday, March 27th

- Introduction of the Agenda of the JEE Mission, Permeant Secretary of Ministry of Social Affairs and Health

- Opening remarks from State Secretary of Prime Minister's Office
- The Finish Concept for Comprehensive Security from Secretary General of the Security Committee Vesa Valtonen
- Opening remark and presentation from External Evaluation Team Leaders
- Overview of Finland Health System
- JEE technical area discussions: National Legislation, Policy & Financing; IHR Coordination, Communication and Advocacy; Antimicrobial Resistance; Zoonotic Disease.

Tuesday, March 28th

- Site visits:
 - Laboratories (HUSLAB) Clinical Laboratory
 - Emergency Operations (Helsinki City Rescue Departments)
 - Primary Health Care Services (City of Vanta)
- JEE technical area discussions: Food Safety, Immunization; Workforce Development, Biosafety and Biosecurity; Real Time Surveillance.

Wednesday, March 29th

- Site visits:
 - Laboratories (Evira, Finish Food Safety Authority)
 - Points of Entry (Helsinki airport, Port of Helsinki)
- JEE technical area discussions: Risk Communication; Preparedness, Points of Entry, National Laboratory System.

Thursday, March 30th

- Site visits:
 - Laboratories (THL, National Institute for Health and Welfare)
 - Hospital Visits (Helsinki University Hospital)
 - Radiation and Nuclear Safety Authority
- JEE technical area discussions: Linking Public Health and Security Authorities; Medical Countermeasures and Personnel Deployment; Reporting; Emergency Response Operations; Chemical Events; Radiation Emergencies.

Friday, March 31st

- Review of field visits
- Review of scores and priority actions for all 19 technical areas with national team
- Briefing by external evaluation team
 - Briefing by external team leaders
 - Briefing on each JEE technical area
- Closing remarks from team leaders
- Closing remarks from the Minister of Health

Limitations and assumptions

- The evaluation was limited to one week, which limited the amount and depth of information that could be managed.
- The results of this evaluation will be made available publically.
- The evaluation is not an audit and information provided by Finland will not be independently verified. Information provided by Finland will be discussed and the host country and evaluation team will mutually agree to an evaluation rating.
- This is a peer-to-peer review.

Key host country participants and institutions

Key participants:

- Jaana Husu-Kallio, Permanent Secretary, Ministry of Agriculture and Forestry
- Jukka Juusti, Permanent Secretary, Ministry of Defence
- Elina Kalkku, Under State Secretary, Ministry for Foreign Affairs
- Paula Lehtomäki, State Secretary, Prime Minister's Office
- Päivi Nerg, Permanent Secretary, Ministry of Interior
- Harri Pursiainen, Permanent Secretary, Ministry of Transport and Communications
- Päivi Sillanaukee, Permanent Secretary, Ministry of Social Affairs and Health
- Vesa Valtonen, Secretary General of the Security Committee
- Hannele Aaltonen, Radiation and Nuclear Safety Authority
- Dr Sebastian Hiilm, Ministry of Agriculture and Forestry
- Maija Iles, Ministry of Social Affairs and Health
- Dr Lasse Ilkka, Ministry of Social Affairs and Health
- Dr Jari Jalava, National Institute for Health and Welfare
- Dr Olli Haikala, Ministry of Social Affairs and Health
- Virpi Kankaanpää, Ministry of Social Affairs and Health
- Dr Markku Kuusi, National Institute for Health and Welfare
- Professor Simo Nikkari, The Finnish Defence Forces
- Dr Mikko Paunio, Ministry of Social Affairs and Health
- Dr Taneli Puumalainen, National Institute for Health and Welfare
- Dr Saara Raulo, Finnish Food Safety Authority
- Professor Mika Salminen, National Institute for Health and Welfare
- Dr Tiina Santonen Finnish Institute of Occupational Health
- Dr Carita Savolainen-Kopra, National Institute for Health and Welfare
- Tapio Tourula, Finnish Transport Safety Agency
- Dr Marjukka Vallimies-Patomäki, Ministry of Social Affairs and Health
- Dr Anni Virolainen-Julkunen, Ministry of Social Affairs and Health

Key institutions:

- The Finnish Ministry of Social Affairs and Health
- Ministry of Agriculture and Forestry
- Ministry of Defence
- Ministry of the Interior
- Ministry of Transport and Communications
- Ministry of Foreign Affairs
- National Institute for Health and Welfare
- Food Safety Authority
- Defence Forces
- Transport Safety Agency
- Radiation and Nuclear Safety Authority
- Finnish Institute of Occupational Health

Supporting documentation provided by host country

Before the mission, the Finnish team prepared a comprehensive self-evaluation covering all 19 technical areas. This self-evaluation, together with the presentations delivered to the JEE team, was provided online ahead of the mission.

National legislation, policy and financing

Relevant documentation

- Introductory Act (254/2007) and Decree (643/2007) of the IHR
- Infectious Diseases Act 2016.
- Infectious Disease Decree 2017.
- The Decree on Vaccinations (149/2017)
- Health Care Act 2010.
- Health Care Professionals Act 1994.
- Health Protection Act 1994.
- Food Act 2006.
- Decree on Food and Water-borne Outbreaks 2011.
- Feed Act 2008.
- Animal Diseases Act 2013.
- Medication of Animals Act 2014.
- Veterinary Services and Veterinary Control Authorities Act 2009.
- Veterinary Border Controls Act 1996.
- Act on Client Fees in Social Welfare and Health Care 1992.
- Emergency Alerts Act 2012.

- Emergency Powers Act 2011.
- Rescue Act 2011.
- Defence Forces Act 2007.
- Several acts providing for general preparedness in cases of crises that include provisions for the availability of necessary equipment.
- Aviation Act 2014.
- Border Guard Act 2005.

IHR coordination, communication and advocacy

Relevant documentation

- The Constitution of Finland 1999.
- The Government Rules of Procedure.
- Infectious Diseases Act 1227/2016.
- Security Strategy for Society 2010.
- IHR self-reporting to WHO (most recently in 2014).

Antimicrobial resistance

Relevant documentation

- Communicable Diseases Act 2016.
- National Infectious Diseases Register and Infectious Diseases in Finland 2015.
- The Antimicrobial Treatment Strategies (MIKSTRA) Programme 2006.
- Medication of Animals Act 2014.
- Degree by Ministry of Agriculture and Forestry on use of medicines in animals 2014.
- Council of state degree 1054/2014 on the prohibition or restriction of use of certain medicines for animals.
- National guidance on antimicrobial use in animals.
- Declaration on actions needed to combat AMR by experts in human and veterinary medicine and stakeholders 2010.

Zoonotic diseases

Relevant documentation

- Finnish Zoonoses Strategy 2013.
- Zoonoses Directive 2003.
- State Council Decree on Zoonosis Centre 2006.
- Animal Disease Act 2013.
- State Council Decree on Infectious Diseases 1986.
- Ministry of Agriculture and Forestry Degree on Animal Disease Notification 2013.

Food safety

Relevant documentation

- EU regulations concerning Food Hygiene (2002, 2004, 2005).
- Finnish Food Act 2006.
- The Health Protection Act 1994.
- The Communicable Disease Act 2016.
- Decree concerning the follow-up and reporting of food- and water-borne outbreaks 2011.
- Decree on the Zoonoses Centre 2006.

Biosafety and biosecurity

Relevant documentation

- Government Decree on the Protection of Employees against Risks from Exposure to Biological Agents at Work 1993.
- Decree of the Ministry of Social Affairs and Health on Classification of Biological Agents 2010.
- Gene Technology Act 1995.
- Animal Diseases Act 2013.
- Veterinary Border Inspection Act 1996.
- Infectious Diseases Act 2016.
- Occupational Health and Safety 2002.

Immunization

Relevant documentation

- Ministry of Social Affairs and Health Decree on Vaccination 2017.
- Health Care Act 2016.
- Infectious Diseases Act 2016.

National laboratory system

Relevant documentation

- Standards SFS-EN ISO/IEC 17025:2005 (for testing laboratories), SFS-EN ISO 15189 (for clinical laboratories).
- HUSLAB Guidebook on Diagnostic Tests.

Real-time surveillance

Relevant documentation

- Finland's Self-Evaluation Report 2017.
- Infectious Diseases Act 2016.
- Food Act 2006.

- State Decree on Investigations of Food- and Water-borne Outbreaks 2011.
- Animal Disease Act 2013.
- State Council Decree on Zoonosis Centre 2006.

Reporting

Relevant documentation

- Act and decree on IHR implementation 2007.
- Infectious Diseases Act 2016.
- Decision no 1082/2013/EU of the European Parliament and of the Council on serious cross-border threats to health.
- Health Protection Act 1994.
- Food Act 2006.
- Council of State Decree on Food and Water-borne Outbreaks 2011.

Workforce development

Relevant documentation

- Hanhijoki, I. & Katajaisto, J. & Kimari, M. & Savioja, H. Education, training and demand for labour in Finland by 2025, 2012.
- Finnish National Board of Education Reports 2012.
- Honkatukia J. VATTAGE – A Dynamic, Applied General Equilibrium Model of the Finnish Economy 2009.
- Physicians in Finland, Finnish Medical Association, 2016.
- Physicians in Health Centres, Finnish Medical Association, 2017.
- Rellman J. Assessment of the Need for Specialist Training in Medicine and Dentistry until 2030, 2016.
- Reports and Memorandums of the Ministry of Social Affairs and Health 2016.
- National Programme for Training Medical and Dental specialities 2017-2019.
- Reports and memorandums of the Ministry of Social Affairs and Health 2016.
- Health Care Professionals Act 1994.

Preparedness

Relevant documentation

- Security Strategy for Society 2010.
- Emergency Powers Act 1991.
- Compulsory Stockpiling of Medicines Act 2008.
- Safeguarding Security of Supply Act 1992.
- Decree on the National Emergency Supply Agency 2008.
- Security Stockpiling Act 1982.

- Decree on Stockpiling of Critical Products and Materials 2013.
- Government Decision on the Security of Supply Goals 2013.
- Decision No 1082/2013/EU of the European Parliament and the Council of 22 October 2013 on serious cross-border threats to health and repealing Decision No 2119/98/EC.

Emergency response operations

Relevant documentation

- Infectious Diseases Act 2016.
- Health Protection Act 1994.
- Exceptional situations related to environmental health - A Handbook for environmental health care staff and cooperation partners. (Ministry of Social Affairs and Health) 2010.
- Health Care Act 2010.
- Security Strategy for Society 2010.

Linking public health and security authorities

Relevant documentation

- Veterinary Boarder Inspections Act 1996.
- Regional State Administrative Agencies Act 2009.
- EU Regulation 2016/399 of the European Parliament and of the council of on a Union Code on the rules covering the movement of persons across borders (Schengen Borders Code) 2016.
- Border Guard Act 2005.
- Infectious Disease Act 2016.
- Health Care Act 2010.
- Food Act 2006.
- Decision no. 1082/2013/EU of the European Parliament and of the Council of 22 October 2013 on serious cross-border threats to health, and repealing Decision No 2119/98/EC.
- Informing the Public of Dangerous Situations Act 2012.
- Council of State Decree on Food- and Water-borne Outbreaks 2011.

Medical countermeasures and personnel deployment

Relevant documentation

- No additional documentation provided for this technical area

Risk communication

Relevant documentation

- Personal Data Act 1999.
- Language Act 2003.
- Saami Language Act 2003.

- Electronic Services and Communication in the Public Sector Act 2003.
- Television and Radio Operations 1998.
- Emergency Warnings Act 2012.
- Openness of Government Activities Act 1999.
- Decree on the Openness of Government Activities and Good Data Management Practices (1030/1999) and subsequent amendments Security Strategy for Society (2010), Resolution on Comprehensive Security (2012) Government Communications Guidelines (2010), Guidelines for Emergency Warnings (2013).
- Government Communications Guidelines 2016.
- Best practice for crisis communicators: How to communicate during food or feed safety incidents.
- National Communications Plan for Dangerous Chemicals 2014–2020.
- National Preparedness Plan for an Influenza Pandemic (2012).
- Guidelines for Radiation Situations (2016).

Points of entry

Relevant documentation

- Helsinki Harbor Instructions for Cases of Infectious diseases 2016.
- Helsinki Vantaa Airport Instructions for Cases of Infectious Diseases 2014.
- Turku Airport Instructions for Cases of Infectious Diseases 2014.
- Tampere Pirkkala Airport Instructions for Cases of Infectious Diseases 2016.
- National Ship Inspection Guide, 16/2016.
- Health Protection Act 1994.
- Rescue Act 2011.
- Aviation Act 2014.

Chemical events

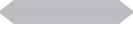
Relevant documentation

- Finnish Centre of Expertise on Chemical Threats – Background Documentation 2011.
- National Security Strategy 2010.
- National Chemicals Strategy 2012.
- Handbook on Preparedness Planning for Health Care 2002.
- Water Safety Plan for the Management of Risks Related to the Production of Household Water 2017.

Radiation emergencies

Relevant documentation

- Safety and Security Strategy 2010.
- Ministry of Interior Guide on Radiation Emergencies 2016.

- 
- 
- Valvira Guide on Regional and Local Health Protection Authorities and Radiation Emergencies 2016.
 - Valvira Guide on Ensuring Domestic Water Quality (Radioactivity) 2016.
 - Evira Guide on Protective Actions for Food Production and Food Supply Chain 2016.

