

Revised forms for the submission of the Confidence-Building Measures

Declaration form on Nothing to Declare or Nothing New to Declare for use in the information exchange

Measure	Nothing to declare	Nothing new to declare	Year of last declaration if nothing new to declare
A, part 1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A, part 2 (i)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A, part 2 (ii)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A, part 2 (iii)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(Please mark the appropriate box(es) for each measure with a tick, and fill in the year of last declaration in the last column where applicable.)

Date: March 31, 2014 _____

State Party to the Convention: Finland _____

Date of ratification/accession to the Convention: February 4, 1974 _____

National point of contact: Hanna-Leena Korteniemi / MFA _____

Confidence-Building Measure "A"

Form A, part 1 (i)

No maximum containment laboratory exists in Finland.

Form A, part 1 (ii)

If no BSL4 facility is declared in Form A, part 1 (i), indicate the highest biosafety level implemented in facilities handling biological agents¹ on a State Party's territory:

Biosafety level 3 ²	<input checked="" type="checkbox"/> yes / no
Biosafety level 2 ³ (if applicable)	yes / no

Any additional relevant information as appropriate:

Additional information specific to each laboratory working with biological agents at BSL2/BSL3 level follows from these organisations: Centre for Biothreat Preparedness, National Institute of Health and Welfare (THL), University of Helsinki; *i*) Yersinia Research Laboratory, *ii*) Department of Virology, *iii*) Department of Food and Environmental Sciences, *iv*) *Clostridium botulinum* laboratory, Finnish Food Safety Authority (Evira) and The Defence Forces Research Agency (DFRA).

¹ Microorganisms pathogenic to humans and/or animals

² In accordance with the latest edition of the WHO Laboratory Biosafety Manual and/or the OIE Terrestrial Manual or other equivalent internationally accepted guidelines.

³ In accordance with the latest edition of the WHO Laboratory Biosafety Manual and/or the OIE Terrestrial Manual or other equivalent internationally accepted guidelines.

Exchange of Data on Research Centres and Laboratories #1

1. Name(s) of the Facility

Centre for Biothreat Preparedness

2. Responsible public or private organization or company

Centre for Military Medicine, Finnish Defence Forces under the Ministry of Defence and the National Institute for Health and Welfare (THL) under Ministry of Social Affairs and Health.

3. Location and postal address

Tukholmankatu 8 A, FI-00290 Helsinki and Mannerheimintie 166, FI-00300 Helsinki.

4. Source(s) of financing of the reported activity, including indication if the activity is wholly or partly financed by the Ministry of Defence

The Centre is financed jointly by the Finnish Defence Forces and National Institute for Health and Welfare (THL).

5. Number of maximum containment units within the research centre and/or laboratory, with an indication of their respective size (m2)

There are no BSL-4 units at the Centre.

6. Scope and general description of activities, including type(s) of micro-organisms and/or toxins as appropriate

The Centre for Biothreat Preparedness started its activities in 2005. During 2013, the Centre developed rapid PCR detection assays for selected microbial agents.

If no BSL4 facility is declared in Form A, part 1 (i), indicate the highest biosafety level implemented in facilities handling biological agents⁴ on a State Party's territory:

Biosafety level 3	yes
-------------------	-----

⁴ Microorganisms pathogenic to humans and/or animals

Exchange of Data on Research Centres and Laboratories #2

1. Name(s) of the Facility

National Institute for Health and Welfare (THL), bacteriological and virological laboratories.

2. Responsible public or private organization or company

National Institute for Health and Welfare (THL) under Ministry of Social Affairs and Health.

3. Location and postal address

Mannerheimintie 166
FI-00300 Helsinki

4. Source(s) of financing of the reported activity, including indication if the activity is wholly or partly financed by the Ministry of Defence

Funding from the Ministry of Social Affairs and Health and large variety of external research funding.

5. Number of maximum containment units within the research centre and/or laboratory, with an indication of their respective size (m²)

There are no BSL-4 laboratories or other units at this containment level.

6. Scope and general description of activities, including type(s) of micro-organisms and/or toxins as appropriate

Clinical and environmental microbiological research and reference laboratory facilities in Helsinki, Turku, Kuopio and Oulu. Working mainly with ordinary occurring endemic and epidemic bacteria and viruses with main emphases on vaccine preventable diseases, enteric pathogens, zoonoses, *tuberculosis spp*, polioviruses, influenza (including 2009 pandemic influenza H1N1), coronaviruses, HIV, hepatitis viruses and environmental fungi and bacteria causing human health problems. The Institute manages regional influenza and polio laboratory facilities. The Institute is in charge of biothreat preparedness in public health context. National focal point for IHR started June 2007.

If no BSL4 facility is declared in Form A, part 1 (i), indicate the highest biosafety level implemented in facilities handling biological agents⁵ on a State Party's territory:

Biosafety level 3	yes
-------------------	-----

Any additional relevant information as appropriate:

Two BSL-3 level laboratories: 120m² in Helsinki and 80m² in Turku.

⁵ Microorganisms pathogenic to humans and/or animals

Exchange of Data on Research Centres and Laboratories #3

1. Name(s) of the Facility

Yersinia Research Laboratory

2. Responsible public or private organization or company

University of Helsinki

3. Location and postal address

Department of Bacteriology and Immunology
 Haartman Institute, University of Helsinki
 Haartmaninkatu 3
 P.O Box 21
 FI-00014 University of Helsinki
 Helsinki, Finland

Yersinia-research home page: <http://www.helsinki.fi/yersinia/>

4. Source(s) of financing of the reported activity, including indication if the activity is wholly or partly financed by the Ministry of Defence

Special state subsidy (EVO) for health science research in Finland, Centre for Military Medicine.

5. Number of maximum containment units within the research centre and/or laboratory, with an indication of their respective size (m2)

No BSL-4 laboratories.

6. Scope and general description of activities, including type(s) of micro-organisms and/or toxins as appropriate

The research is focused on genetics and biosynthesis of lipopolysaccharide (LPS) of *Yersinia pestis*, as well as on the role of LPS in virulence. Molecular evolution studies elucidate the relationships between the species of the genus *Yersinia*. Research work is also conducted on the identification of *Y. pestis* specific bacteriophage receptors.

If no BSL4 facility is declared in Form A, part 1 (i), indicate the highest biosafety level implemented in facilities handling biological agents⁶ on a State Party's territory:

Biosafety level 3	no
Biosafety level 2 (if applicable)	yes

⁶ Microorganisms pathogenic to humans and/or animals

Exchange of Data on Research Centres and Laboratories #4:

1. Name(s) of the research centre and/or laboratory

Department of Virology

2. Responsible public or private organization or company

University of Helsinki

3. Location and postal address

P.O. Box 21
Haartman Institute
00014 University of Helsinki

4. Source(s) of financing of the reported activity, including indication if the activity is wholly or partly financed by the Ministry of Defence

In 2013 funding was received from Helsinki University Hospital EVO-fund, University of Helsinki, National Technology Agency of Finland, Academy of Finland, and Sigrid Jusélius Foundation. Previously, projects on detection of biothreat agents (RNA viruses) has been funded by the Centre for Military Medicine (Ministry of Defence), and a project on haemorrhagic fever diagnostic by the Finnish Advisory Board for Defence, however the fiscal year of these projects ended before the start of 2013.

5. Number of maximum containment units within the research centre and/or laboratory, with an indication of their respective size (m2)

There are no BSL-4 laboratories.

6. Scope and general description of activities, including type(s) of micro-organisms and/or toxins as appropriate

The Helsinki University Viral Zoonoses Group (HUVZG) conducts research on virology, cell biology, ecology and epidemiology of zoonotic viruses, especially hantaviruses and certain other rodent-borne and arboviruses occurring in Northern Europe. Typical viruses that we are growing are Puumala virus, tick-borne encephalitis virus and dengue viruses. The research group operates within the Faculty of Medicine, Haartman Institute Department of Virology, and partially the Department of Veterinary Biosciences at the Veterinary Faculty. There is a BSL-3 facility in both faculties. The Viral Zoonoses group is connected to the diagnostic laboratory of viral zoonoses at HUSLAB, Helsinki, and also acts as a WHO Collaborating Centre for Arbo- and Zoonotic Viruses. Principal investigators of the group are Alexander Plyusnin, Antti Vaheri and Olli Vapalahti.

If no BSL4 facility is declared in Form A, part 1 (i), indicate the highest biosafety level implemented in facilities handling biological agents⁷ on a State Party's territory:

Biosafety level 3	yes
-------------------	-----

⁷ Microorganisms pathogenic to humans and/or animals

Exchange of Data on Research Centres and Laboratories #5

- 1. Name(s) of the research centre and/or laboratory**
Department of Food and Environmental Sciences
- 2. Responsible public or private organization or company**
University of Helsinki
- 3. Location and postal address**
Department of Food and Environmental Sciences
P.O. Box 56 (Viikinkaari 9)
00014 University of Helsinki
- 4. Source(s) of financing of the reported activity, including indication if the activity is wholly or partly financed by the Ministry of Defence**
The funding was received from EU FP7 via the “Integrated Chikungunya Research” consortium.
- 5. Number of maximum containment units within the research centre and/or laboratory, with an indication of their respective size (m2)**
There are no BSL-4 laboratories.
- 6. Scope and general description of activities, including type(s) of micro-organisms and/or toxins as appropriate**
The research group carries out alphavirus research at the Department of Food and Environmental Sciences, University of Helsinki. The research focuses on the alphavirus (Semliki Forest virus, Sindbis virus and Chikungunya virus) replication mechanisms and antiviral development. Small molecular-weight inhibitors are searched against Chikungunya virus. The Chikungunya virus research is conducted in the BSL-3 laboratory of the Veterinary Faculty in the Viikki campus.

If no BSL4 facility is declared in Form A, part 1 (i), indicate the highest biosafety level implemented in facilities handling biological agents⁸ on a State Party’s territory:

Biosafety level 3	yes
-------------------	-----

⁸ Microorganisms pathogenic to humans and/or animals

Exchange of Data on Research Centres and Laboratories #6

1. Name(s) of the Facility

Clostridium botulinum laboratory

2. Responsible public or private organization or company

University of Helsinki

3. Location and postal address

Department of Food Hygiene and Environmental Health

Faculty of Veterinary Medicine

Agnes Sjöbergin katu 2

P.O. Box 66

00014 University of Helsinki, Finland

4. Source(s) of financing of the reported activity, including indication if the activity is wholly or partly financed by the Ministry of Defence

The laboratory is financed by the University of Helsinki. External research funding is received from various sources, including the Academy of Finland, the Finnish Foundation for Veterinary Research, and the Walter Ehrström Foundation. The laboratory was a partner in the EU FP7 Marie Curie ITN project 'CLOSTNET' in 2010-2013. The laboratory is currently participating in the EU FP7 collaboration 'AntiBotABE' (2010-2015).

5. Number of maximum containment units within the research centre and/or laboratory, with an indication of their respective size (m2)

No BSL-4 laboratories.

6. Scope and general description of activities, including type(s) of micro-organisms and/or toxins as appropriate

Scientific research on the prevalence, epidemiology, genetic heterogeneity, and regulatory mechanisms in *Clostridium botulinum*. Diagnostic services for confirmation of suspected human botulism outbreaks and food safety testing.

If no BSL4 facility is declared in Form A, part 1 (i), indicate the highest biosafety level implemented in facilities handling biological agents⁹ on a State Party's territory:

Biosafety level 3	no
Biosafety level 2 (if applicable)	yes

⁹ Microorganisms pathogenic to humans and/or animals

Exchange of Data on Research Centres and Laboratories #7

1. **Name(s) of the Facility**
Finnish Food Safety Authority (Evira)
2. **Responsible public or private organization or company**
Finnish Food Safety Authority under the Ministry of Agriculture and Forestry
3. **Location and postal address**
Mustialankatu 3
FI-00790 Helsinki
4. **Source(s) of financing of the reported activity, including indication if the activity is wholly or partly financed by the Ministry of Defence**
Financing from the Ministry of Agriculture and Forestry
5. **Number of maximum containment units within the research centre and/or laboratory, with an indication of their respective size (m2)**
None
6. **Scope and general description of activities, including type(s) of micro-organisms and/or toxins as appropriate**
Diagnostics, surveillance and reference laboratory activities of animal diseases, zoonotic agents and foodborne pathogens, for example rabies, avian influenza, swine influenza (including pandemic H1N1 in pigs), Newcastle disease, foot and mouth disease, classical swine fever, anthrax, tuberculosis, verotoxic *E. coli*.

If no BSL4 facility is declared in Form A, part 1 (i), indicate the highest biosafety level implemented in facilities handling biological agents¹⁰ on a State Party's territory:

Biosafety level 3	yes
-------------------	-----

¹⁰ Microorganisms pathogenic to humans and/or animals

Exchange of Data on Research Centres and Laboratories #8

1. Name(s) of the Facility

The Defence Forces Research Agency (DFRA) = (Former Finnish Defence Forces Technical Research Centre (PVTT))

2. Responsible public or private organization or company

The Defence Forces Research Agency (DFRA), Finnish Defence Forces under the Ministry of Defence.

3. Location and postal address

P.O. Box 5 (Paroistentie 20)
FI-34111 Lakiala
Finland

4. Source(s) of financing of the reported activity, including indication if the activity is wholly or partly financed by the Ministry of Defence

Finnish Defence Forces

5. Number of maximum containment units within the research centre and/or laboratory, with an indication of their respective size (m²)

No BSL-4 laboratories.

6. Scope and general description of activities, including type(s) of micro-organisms and/or toxins as appropriate

The objective of the research work has been in the development of detection and identification methods for biological warfare agents; microbes and toxins. A deployable CBRN field laboratory participated in international military exercises. The BSL-3 level CBRN field laboratory was operated as BSL-2 containment facility during 2013.

If no BSL4 facility is declared in Form A, part 1 (i), indicate the highest biosafety level implemented in facilities handling biological agents¹¹ on a State Party's territory:

Biosafety level 3	yes
-------------------	-----

¹¹ Microorganisms pathogenic to humans and/or animals

Part 2 Exchange of information on national biological defence research and development programmes

Form A, part 2 (i)

National biological defence research and development programmes Declaration

Are there any national programmes to conduct biological defence research and development within the territory of the State Party, under its jurisdiction or control anywhere? Activities of such programmes would include prophylaxis, studies on pathogenicity and virulence, diagnostic techniques, aerobiology, detection, treatment, toxinology, physical protection, decontamination and other related research.

yes / no

If the answer is Yes, complete Form A, part 2 (ii) which will provide a description of each programme.

Form A, part 2 (ii, iii)

National biological defence research and development programmes

The Finnish Strategy to Secure Vital Functions of Society (2003 and 2006), as well as The Security Strategy for Society (2010) have defined vital functions of Finnish society and established targets and development policies that guide each administrative branch of the government in dealing with its strategic tasks. These strategies called for co-operation between each government sector in combating against new threats towards society. According to the Government Reports on Finnish Security and Defence Policy of 2004 and 2009, terrorism and epidemics caused by infectious diseases were listed as key threats affecting national security.

Based on the above resolutions The Centre for Biothreat Preparedness started operations in Helsinki in May 2005. The Centre combines Finnish scientific and laboratory knowhow on biological defence, as well as on biothreat assessment and preparedness. The Centre has actively sought domestic and international collaboration, especially in the field of rapid detection and identification methodologies of selected biological agents. The Centre is composed of two units: the Biological Defence Unit of the Finnish Defence Forces, and the Department of Infectious Disease Surveillance and Control at the National Institute of Health and Welfare (THL). Scientific work is carried out at a biological safety level 3 laboratory at the THL facilities. In addition, the Centre functions within the Biomedicum Helsinki Institute, where work is carried out in close contact with the CB Defence and Environmental Health Centre of the Centre for Military Medicine.

Confidence-Building Measure "B"

Exchange of information on outbreaks of infectious diseases and similar occurrences caused by toxins

Form B

Information on outbreaks of infectious diseases and similar occurrences, that seem to deviate from the normal pattern¹²

No unusual human or animal disease outbreaks were detected.

¹² See paragraph 2 of the chapeau to Confidence-Building Measure B.

Confidence-Building Measure "C"

Encouragement of publication of results and promotion of use of knowledge

Antonen J, Leppänen I, Tenhunen J, Arvola P, Mäkelä S, Vaheri A, Mustonen J. 2013. A severe case of **Puumala hantavirus** infection successfully treated with bradykinin receptor antagonist icatibant. *Scand J Infect Dis.* Jun 45:494-6.

Dahlsten E, Kirk D, Lindström M, Korkeala H. 2013. Alternative sigma factor SigK has a role in stress tolerance of group I *Clostridium botulinum* strain ATCC 3502. *Appl Environ Microbiol.* 79:3867-3869.

De Castro C, Kenyon JJ, Cunneen MM, Molinaro A, Holst O, Skurnik M and Reeves PR. 2013. The O-specific polysaccharide structure and gene cluster of serotype O:12 of the *Yersinia pseudotuberculosis* complex, and the identification of a novel L-quinovose biosynthesis gene. *Glycobiology.* 23:346-353.

Derman, Y., Isokallio, M., Lindström, M., & Korkeala, H. 2013. The two-component system CBO2306/CBO2307 is important for cold adaptation of *Clostridium botulinum* ATCC 3502. *Int J Food Microbiol.* 167:87-91.

Erra EO, Askling HH, Yoksan S, Rombo L, Riutta J, Vene S, Lindquist L, Vapalahti O, Kantele A. 2013. Cross-protective capacity of **Japanese encephalitis (JE)** vaccines against circulating heterologous JE virus genotypes. *Clin Infect Dis.* Jan 56:267-70.

Erra EO, Askling HH, Yoksan S, Rombo L, Riutta J, Vene S, Lindquist L, Vapalahti O, Kantele A. 2013. Cross-protection elicited by primary and booster vaccinations against **Japanese encephalitis**: a two-year follow-up study. *Vaccine.* Dec 17;32:119-23.

Erra EO, Korhonen EM, Voutilainen L, Huhtamo E, Vapalahti O, Kantele A. 2013. **Dengue** in travelers: kinetics of viremia and NS1 antigenemia and their associations with clinical parameters. *PLoS One.* Jun 3;8:e65900.

Fisher, M, Wernike K, Freuling C, Muller T, Aylan O, Brochier B, Cliquet F, Vázquez-Morón S, Hostnik P, Huovilainen A, Isaksson M, Kooi E, Mooney J, Turcitu M, Rasmussen T, Revilla-Fernández S, Smreczak M, Fooks A, Marston D, Beer M, Hoffmann B. 2013. A step forward in molecular diagnostics of **Lyssaviruses** - results of a ring trial among European laboratories. *Plos One:* 8:e58372.

Forbes KM, Huitu O, Sironen T, Voutilainen L, Stuart P, Niemimaa J, Vapalahti O, Henttonen H. 2013. Experimental investigation of a **hantavirus** host-switch between arvicoline rodents *Lemmus lemmus* and *Myodes glareolus*. *J Vector Ecol.* Dec 38:408-10.

Hautala T, Partanen T, Sironen T, Rajaniemi SM, Hautala N, Vainio O, Vapalahti O, Kauma H, Vaheri A. 2013. Elevated cerebrospinal fluid neopterin concentration is associated with disease severity in acute **Puumala hantavirus** infection. *Clin Dev Immunol.* 2013:634632.

Huhtamo E, Korhonen E, Vapalahti O. 2013. Imported **dengue virus** serotype 1 from Madeira to Finland 2012. *Euro Surveill.* Feb 21;18.

- Huhtamo E, Comach G, Sierra G, Camacho DE, Sironen T, Vapalahti O, Uzcátegui NY. 2013. Diversity and composition of **dengue virus** type 2 in Venezuela. *Epidemiol Infect.* Sep 141:1816-22.
- Kallio ER, Henttonen H, Koskela E, Lundkvist A, Mappes T, Vapalahti O. 2013. Maternal antibodies contribute to sex-based difference in **hantavirus** transmission dynamics. *Biol Lett.* Dec 18;9:20130887.
- Kinnunen PM, Palva A, Vaheri A, Vapalahti O. 2013. Epidemiology and host spectrum of **Borna disease virus** infections. *J Gen Virol.* 94:247-262.
- Kinnunen PM, Haataja T, Hemmilä H, Maatela P, Teho K, Elo M, Raijas T, Nikkari S. 2013. **Mobile diagnostic CBRN field laboratory**: NATO evaluated Finnish design. Challenge.
- Klempa B, Avsic-Zupanc T, Clement J, Dzagurova TK, Henttonen H, Heyman P, Jakab F, Kruger DH, Maes P, Papa A, Tkachenko EA, Ulrich RG, Vapalahti O, Vaheri A. 2013. Complex evolution and epidemiology of **Dobrava-Belgrade hantavirus**: definition of genotypes and their characteristics. *Arch Virol.* Mar 158:521-9. Review.
- Kotila SM, Pitkänen T, Brazier J, Eerola E, Jalava J, Kuusi M, Könönen E, Laine J, Miettinen IT, Vuento R, Virolainen A. 2013. **Clostridium difficile** contamination of public tap water distribution system during a waterborne outbreak in Finland. *Scand J Public Health.* Jul 41:541-5.
- Lederer S, Lattwein E, Hanke M, Sonnenberg K, Stoecker W, Lundkvist Å, Vaheri A, Vapalahti O, Chan PK, Feldmann H, Dick D, Schmidt-Chanasit J, Padula P, Vial PA, Panculescu-Gatej R, Ceianu C, Heyman P, Avšič-Županc T, Niedrig M. 2013. Indirect immunofluorescence assay for the simultaneous detection of antibodies against clinically important old and new world **hantaviruses**. *PLoS Negl Trop Dis.* Apr 4;7:e2157.
- Lindström, M., & Korkeala, H. 2013. Food-borne pathogenic **Clostridia**. In W. Tham, & M-L. Danielsson-Tham (Eds.), *Food Associated Pathogens*. (pp. 67-87). Boca Raton, FL: CRC Press, Taylor & Francis Group.
- Lundkvist A, Verner-Carlsson J, Plyusnina A, Forslund L, Feinstein R, Plyusnin A. 2013. Pet rat harbouring **Seoul hantavirus** in Sweden, June 2013. *Euro Surveill.* Jul 4;18.
- Mustonen J, Mäkelä S, Outinen T, Laine O, Jylhävä J, Arstila PT, Hurme M, Vaheri A. 2013. The pathogenesis of **nephropathia epidemica**: new knowledge and unanswered questions. *Antiviral Res.* Dec 100:589-604.
- Muszyński A, Rabsztyń K, Knapska K, Duda K, Duda-Grychtoł K, Kasperkiewicz K, Radziejewska-Lebrecht J, Holst O, Skurnik M. 2013. Enterobacterial common antigen and O polysaccharide coexist in the lipopolysaccharide of **Yersinia enterocolitica** serotype O:3. *Microbiology.* 159:1782-1793.
- Nokireki T, Huovilainen A, Lilley T, Kyheröinen E-M, Ek-Kommonen C, Sihvonen L, Jakava-Viljanen M. 2013. **Bat rabies** surveillance in Finland. *BMC Vet Res.* Sep 8;9:174.
- Nokireki T, Laine T, London L, Ikonen N, Huovilainen A. 2013. The first detection of **influenza** in the Finnish pig population: a retrospective study. *Acta Vet Scand.* Sep 18:55-69.

Outinen TK, Tervo L, Mäkelä S, Huttunen R, Mäenpää N, Huhtala H, Vaheri A, Mustonen J, Aittoniemi J. 2013. Plasma levels of soluble urokinase-type plasminogen activator receptor associate with the clinical severity of acute **Puumala hantavirus** infection. *PLoS One*. Aug 21;8:e71335.

Palonen, E, Kangas S, Somervuo P, Lindström M, Fredriksson-Ahomaa M, Skurnik M, Korkeala H. 2013. Sequencing of virulence genes shows limited genetic variability in *Yersinia pseudotuberculosis*. *Foodborne Pathog Dis*. 10: 21-27.

Pounder KC, Begon M, Sironen T, Henttonen H, Watts PC, Voutilainen L, Vapalahti O, Klempa B, Fooks AR, McElhinney LM. 2013. Novel **hantavirus** in field vole, United Kingdom. *Emerg Infect Dis*. Apr 19:673-5.

Razzauti M, Plyusnina A, Henttonen H, Plyusnin A. 2013. Microevolution of **Puumala hantavirus** during a complete population cycle of its host, the bank vole (*Myodes glareolus*). *PLoS One*. May 22;8:e64447.

Rosow H, Ollgren J, Klemets P, Pietarinen I, Saikku J, Pekkanen E, Nikkari S, Syrjälä H, Kuusi MJ, Nuorti P. 2013. Risk factors for pneumonic and ulceroglandular **tularaemia** in Finland: a population-based case-control study. *Epidemiol Infect*. 2:1-10.

Shahrbabak SS, Khodabandehloo Z, Shahverdi AR, Skurnik M, Ackermann H-W, Sepehrizadeh Z. 2013. Isolation, characterization and complete genome sequence of PhaxI: an **anti-Escherichia coli** O157:H7 phage. *Microbiology*. 159:1629-1638.

Smit PW, Haanperä M, Rantala P, Couvin D, Lyytikäinen O, Rastogi N, Ruutu P, Soini H. 2013. Molecular epidemiology of **tuberculosis** in Finland, 2008-2011. *PLoS One*. Dec 26;8:e85027.

Strandin T, Hepojoki J, Vaheri A. 2013. Cytoplasmic tails of **bunyavirus** Gn glycoproteins-Could they act as matrix protein surrogates? *Virology*. Mar 15;437:73-80. Review.

Söderholm, H., Jaakkola, K., Somervuo, P., Laine, P., Auvinen, P., Paulin, L., Lindström, M., & Korkeala, H. 2013. Comparison of *Clostridium botulinum* genomes shows the absence of cold shock protein coding genes in type E neurotoxin producing strains. *The Botulinum Journal*. 2: 189-207.

Tonteri E, Kipar A, Voutilainen L, Vene S, Vaheri A, Vapalahti O, Lundkvist Å. 2013. The three subtypes of **tick-borne encephalitis** virus induce encephalitis in a natural host, the bank vole (*Myodes glareolus*). *PLoS One*. Dec 13;8:e81214..

Vaheri A, Strandin T, Hepojoki J, Sironen T, Henttonen H, Mäkelä S, Mustonen J. 2013. Uncovering the mysteries of **hantavirus** infections. *Nat Rev Microbiol*. Aug 11:539-50. Review.

Wang W, Wang MR, Lin XD, Guo WP, Li MH, Mei SH, Li ZM, Cong ML, Jiang RL, Zhou RH, Holmes EC, Plyusnin A, Zhang YZ. 2013. Ongoing spillover of **Hantaan** and **Gou hantaviruses** from rodents is associated with hemorrhagic fever with renal syndrome (HFRS) in China. *PLoS Negl Trop Dis*. Oct 17;7:e2484.

Zhang, Z., Hintsala, H., Chen, Y., Korkeala, H., & Lindström, M. 2013. Plasmid-borne type E neurotoxin gene clusters in *Clostridium botulinum* strains. *Appl Environ Microbiol.* 79: 3856-3859.

Zhang, Z., Korkeala, H., Dahlsten, E., Sahala, E., Heap, J. T., Minton, N. P., & Lindström, M. 2013. Two-component signal transduction system CBO0787/CBO0786 represses transcription from botulinum neurotoxin promoters in *Clostridium botulinum* ATCC 3502. *PLoS Pathog.* 9:e1003252.

Confidence-Building Measure "E"

Form E

Declaration of legislation, regulations and other measures

Relating to	Legislation	Regulations	Other measures ¹³	Amended since last year
(a) Development, production stockpiling, acquisition or retention of microbial or other biological agents, or toxins, weapons, equipment and means of delivery specified in Article I	<input checked="" type="checkbox"/> Yes/ <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes/ <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes/ <input type="checkbox"/> No	Yes/ <input checked="" type="checkbox"/> No
(b) Exports of micro-organisms ¹⁴ and toxins	<input checked="" type="checkbox"/> Yes/ <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes/ <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes/ <input type="checkbox"/> No	Yes/ <input checked="" type="checkbox"/> No
(c) Imports of micro-organisms ¹¹ and toxins	<input checked="" type="checkbox"/> Yes/ <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes/ <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes/ <input type="checkbox"/> No	Yes/ <input checked="" type="checkbox"/> No
(d) Biosafety ¹⁵ and biosecurity ¹⁶	<input checked="" type="checkbox"/> Yes/ <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes/ <input type="checkbox"/> No	Yes/ <input checked="" type="checkbox"/> No	Yes/ <input checked="" type="checkbox"/> No

Additional information to form E

Finland's legislation on biological weapons is based on the Biological Weapons Act 257/1975 and Decree 258/1975. Corresponding penal provisions were included in the Penal Code, chapter 11, section 7 b (Breach of the prohibition of biological weapons), with amendment 17/2003. Penal Code (39/1889) chapter 11, section 1 (War Crime), chapter 5, section 3 (Complicity in an offence) and section 6 (Abetting), chapter 34, sections 4 (Health endangerment) and 5 (Aggravated health endangerment), and chapter 34 a (Terrorist offences) are also applicable.

¹³ Including guidelines.

¹⁴ Micro-organisms pathogenic to man, animals and plants in accordance with the Convention.

¹⁵ In accordance with the latest version of the WHO Laboratory Biosafety Manual or equivalent national or international guidance.

¹⁶ In accordance with the latest version of the WHO Laboratory Biosecurity Guidance or equivalent national or international guidance.

Exports of micro-organisms and toxins are regulated by the Act on the Control of Export of Dual-Use Goods (562/1996, as amended by Acts 891/2000, 884/2001 and 581/2003), Government Decree on the Control of Export of Dual-Use Goods (924/2000 as amended by Decree 924/2000) and EC Council Regulation 1334/2000. Corresponding penal provisions were incorporated in the Penal Code (39/1889), chapter 46, sections 1-3 by Acts 769/1990, 1522/1994 and 706/1997. Since 2003, the authority responsible for export controls of micro-organisms and toxins is the Ministry for Foreign Affairs (Export Control Unit).

Exports of biological toxic agents "adapted for use in war" and related equipment, components and materials as listed in the EU Common Military List are regulated by the Act on the Export of Defence Materiel (282/2012). The authority responsible for export controls of the above mentioned biological toxic agents and related equipment, component and materials is the Ministry of Defence.

Imports of micro-organisms and toxins are regulated by the Biological Weapons Act 257/1975 and Decree 258/1975. Transports of micro-organisms and toxins are also regulated by the EC Council Directives 94/55/EEC and 96/49/EEC, the Communicable Diseases Act 583/1986 (as amended), section 33; Communicable Diseases Decree 786/1986 (as amended); Act on the Transport of Dangerous Goods (719/1994 as amended) and related decrees, Act on Protecting Plant Health (702/2003), section 7, and related decrees, Act on Animal Diseases (55/1980 as amended) and related decrees, Act on Veterinary Border Control (1192/1996 as amended) and related decrees. The corresponding penal provisions are included in the Penal Code (39/1889 as amended), chapter 44, section 2 (Health protection violation), chapter 44, section 13 (Transport of dangerous substances offence) and chapter 46, section 4 (Smuggling).

Biosafety is regulated by the Occupational Safety and Health Act (738/2002), as amended by the Government Decision for Protecting Employees from Work-related Threat Caused by Biological Agents (1155/1993), and Decision of the Ministry of Social Affairs and Health on the Classification of Biological Agents (921/2010). Furthermore, regulations concerning biosafety are included in the Communicable Diseases Act (583/1986) and Decree (786/1986), as well as Gene Technology Act (377/1995) and Government Decree on Gene Technology (928/2004). These biosafety regulations partly overlap with biosecurity; no specific biosecurity legislation exists.

Confidence-Building Measure "F"

Form F

Declaration of past activities in offensive and/or defensive biological research and development programmes

Nothing to declare.

Confidence-Building Measure "G"

Form G

Declaration of vaccine production facilities

There are no vaccine production facilities in Finland.