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
A, part I		
A, part 2 (i)		X
A, part 2 (ii)		
A, part 2 (iii)		
B (i)		
B (ii)		
C		
D		
E		
F		X
G		X

(Please mark the appropriate box(es) for each measure, with a tick.)

Date: 15 *April 2011*

State Party to the Convention: ***Sweden***

DECLARATION FORM ON NOTHING TO DECLARE OR NOTHING NEW TO DECLARE FOR USE IN THE INFORMATION EXCHANGE

Attachment 1.1

Exchange of data on research centres and laboratories

Background information

Sweden has one containment unit that meets the criteria for a "maximum containment laboratory" as specified in the 1983 WHO Laboratory Biosafety Manual and it is located at the Swedish Institute for Communicable Disease Control (SMI) (# 2 in form A, part 1 below). In addition, information is provided regarding two other relevant facilities harbouring laboratories of the second highest containment level: the Swedish Defence Research Agency (FOI) and the National Veterinary Institute (SVA) (#1 and # 3 respectively in Form A, part 1 below).

Form A, part 1

Exchange of data on research centres and laboratories[1] #1

1.	Name(s) of facility[2]	**Swedish Defence Research Agency (FOI)** **Division of CBRN Defence and Security**
2.	Responsible public or private organization or company	**Swedish Defence Research Agency**
3.	Location and postal address	**Cementvägen 20, SE-901 82 Umeå, Sweden** **www.foi.se**

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

   FOI CBRN Defence and Security receives funding from the Ministry of Defence, the Ministry for Foreign Affairs, the Swedish Civil Contingencies Agency, research grants, and contracts from biotechnology companies.

5. Number of maximum containment units[3] within the research centre and/or laboratory, with an indication of their respective size (m^2)

[1]The containment units which are fixed patient treatment modules, integrated with laboratories, should be identified separately.
[2]For facilities with maximum containment units participating in the national biological defence research and development programme, please fill in name of facility and mark "Declared in accordance with Form A, part 2 (iii)".
[3]In accordance with the WHO Laboratory Biosafety Manual, 3rd ed. 2004 or equivalent

0

6. If no maximum containment unit, indicate highest level of protection

Two separate BSL-3 laboratories with a total floor space of 27 and 47 m^2 each including attached autoclaves and air-locks (changing rooms).

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

FOI CBRN Defence and Security provides knowledge on biological and toxic agents of concern for the Swedish Armed Forces (SAF), the Ministry for Foreign Affairs and the civilian community. The division pursues development of rapid molecular identification tools for the Swedish Armed Forces and civil preparedness agencies. The division also provides high-resolution genomic forensic analysis of biothreat agents, for verification purposes, and maintains reference collections of biothreat agents and related strains and species, investigates the ecology, epidemiology and evolution of model pathogens. On occasion, evaluation of novel therapeutics on behalf of external customers is performed. Work is performed regarding the following biological agents: *Fransicella tularensis, Coxiella burnetii, Clostridium botulinum, Bacillus anthracis,* Dengue virus 1, 2, 3, 4, Chikungunya virus prototype strain and new variant, Rift Valley fever virus, Puumala virus, Seoul virus, Hantaan virus, Dobrava virus and ricin toxin. Other activities include detection of BC-agents in order to discover the presence of health threatening levels of BC substances, before they have negative impact on mission effectiveness and provide timely information which will permit forces to adopt an appropriate level of individual and collective protection. The competence in the area of biological risk and threat assessments is also of value for civilian community preparedness.

Exchange of data on research centres and laboratories[4]**#2**

1.	Name(s) of facility[5]	**SMI:s säkerhetslaboratorium (BSL-3/BSL-4 Laboratory)**
2.	Responsible public or private organization or company	**Swedish Institute for Communicable Disease Control (SMI)**
3.	Location and postal address	**SMI, SE-171 82 Solna, Sweden www.smittskyddsinstitutet.se**

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 activities are funded mainly by the Swedish Civil Contingencies Agency, the National Board of Health and Welfare, the Swedish Research Council, and the European Union.

5. Number of maximum containment units[6] within the research centre and/or laboratory, with an indication of their respective size (m^2)

   Three separate BSL-4 units of 20, 24 and 47 m^2 respectively

6. If no maximum containment unit, indicate highest level of protection

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

   Risk group 3 agents
   In the BSL-3 containment units diagnostics of clinical specimens are performed as well as research studies on the mechanisms of pathogenesis of selected agents.

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[4]The containment units which are fixed patient treatment modules, integrated with laboratories, should be identified separately.

[5]For facilities with maximum containment units participating in the national biological defence research and development program, please fill in name of facility and mark "Declared in accordance with Form A, part 2 (iii)".

[6]In accordance with the WHO Laboratory Biosafety Manual, 3rd ed. 2004 or equivalent

Furthermore, applied research is performed to improve methods for detection of the following bacteria and viruses:

Bacteria
***Bacillus anthracis, Brucella* spp, *Burkholderia* spp, *Coxiella burnetii, Francisella tularensis, Mycobacterium tuberculosis* and *Yersinia pestis*.**

Viruses
A broad range of viruses, mainly within the families of Bunya, Flavi, Arena, Rabies, Pox and Paramyxo.

Risk group 4 agents
In the BSL-4 containment units diagnostics of clinical specimens are performed as well as research studies on the mechanisms of pathogenesis of selected agents. Furthermore, applied research is performed to improve methods for detection of the following bacteria and viruses:
Bunyaviruses, Flaviviruses, Arenaviruses, Paramyxovirus, Filoviruses, SARS CoV and highly pathogenic Avian influenza virus. Special emphasis is directed towards the Crimean-Congo Hemorrhagic fever virus, which is the only hemorrhagic fever virus that is endemic in Europe.

Methods for identification and the evaluation of antibiotic resistance
National and international standard methods are used for identification of bacteria and viruses. These include molecular biological methods, serological methods and cultivation of microorganisms. The quality of diagnostic methods for many of the pathogens is assured via participation in ring trials within international networks funded via the European Commission. The general goals are to improve laboratory diagnostics and basic knowledge of highly pathogenic agents. This includes the development of platforms for broad, efficient and reliable diagnostic methods, studies of virulence and pathogenesis and the establishment and use of animal models for use in diagnostics and vaccine development.

Form A, part 1

Exchange of data on research centres and laboratories[7] **#3**

1. Name(s) of facility[8] **National Veterinary Institute**

2. Responsible public or private organization or company **National Veterinary Institute**

3. Location and postal address **Ulls väg 2 B, Ultuna Campus**
SE-751 89 Uppsala, Sweden
www.sva.se

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

Ministry of Rural Affairs and grants from the Swedish Civil Contingencies Agency

5. Number of maximum containment units[9] within the research centre and/or laboratory, with an indication of their respective size (m^2)

0

6. If no maximum containment unit, indicate highest level of protection

Four BSL-3 containment units with a total size of 296 m^2

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

[7]The containment units which are fixed patient treatment modules, integrated with laboratories, should be identified separately.
[8]For facilities with maximum containment units participating in the national biological defence research and development programme, please fill in name of facility and mark "Declared in accordance with Form A, part 2 (iii)".
[9]In accordance with the WHO Laboratory Biosafety Manual, 3rd ed. 2004 or equivalent

General description of activities of the National Veterinary Institute

The National Veterinary Institute (SVA) is a Swedish national authority that strives for good animal and human health, a good environment and sustainable food production. SVA is a national and international reference laboratory for some contagious and other serious infectious diseases of animals that may imply a threat to both animal and human health. SVA's most important task is to be well prepared in dealing with these diseases by rapid and reliable diagnosis in order to establish and limit possible outbreaks, to prevent the spread of infection, and to limit economic losses. Research and development is of the utmost importance for solving the tasks, and a publication list of relevant biological research can be obtained from SVA. Grants from the Swedish Civil Contingencies Agency are used for preparedness purposes applied to the development of diagnostic methods for an emergency situation such as natural outbreaks, accidents and/or deliberate release of BSL-3 agents.

In 2010 SVA became coordinator of an action grant from the Prevention of and Fight against Crime Programme of the European Union, European Commission, Directorate General Home Affairs. The AniBioThreat project with the title "Bio-preparedness measures concerning prevention, detection and response to animal bioterrorism threats" has a duration of three years and started the 1st of October 2010. The overall objective of the project is to improve the EU's capacity to counter animal bioterrorism threats in terms of awareness, prevention and contingency.

Work involving BSL-3 microorganisms

Containment units (BSL-3, 81 m^2) are used for diagnostic work on bacteria: *Bacillus anthracis, Brucella* spp, *Chlamydophila psittaci, Francisella tularensis, Mycobacterium bovis, Mycobacterium tuberculosis* and *Yersinia pestis.*

Containment units (BSL-3, 155 m^2) are used for diagnostic work on viruses: Classical Swine Fever Virus (CSFV), Hantavirus, Heptatitis E virus, Lymphocytic choriomeningitis virus (LCMV), High Pathogenic Avian Influenza (HPAI) virus, Rabies virus, Transmissible Spongiform Encephalopathies (TSE) virus, West Nile virus.

Methods for identification and evaluation of antibiotic resistance

National and international standard methods are used for identification. Cultivation, staining, ELISA and PCR are examples of methods in use. Development of diagnostic methods for BSL-3 agents is based on genetic techniques such as real-time PCR. Development of methods to characterise antibiotic resistance in BSL-3 agents is based on phenotypic micro dilutions methods such as VETmic™, and genetic methods such as PCR and DNA sequencing.

Form A, part 2 (i)

National biological defence research and development programme Declaration

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

YES

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

Form A, part 2 (ii)

National biological defence research and development programme

Description

1. State the objectives and funding of the programme and summarize the principal research and development activities conducted in the programme. Areas to be addressed shall include: prophylaxis, studies on pathogenicity and virulence, diagnostic techniques, aerobiology, detection, treatment, toxicology, physical protection, decontamination and other related research.

Methods for analysis and detection of potential biological warfare agents

Methods are developed for detection and/or identification of bacteria, viruses and toxins using laser-induced fluorescence, a variety of PCR methods, immunological techniques, genome sequencing and masspectrometric methods. Field trial capacity for outdoor biological detection is established in order to successfully evaluate B-detection instruments using BW-simulants, to educate CBRN units and to verify dispersion models.

More specifically:

Analysis of biological agents and toxins

The research activities focus on development of identification methods for biothreat agents, and primarily different types of DNA-based method are developed. Also high-resolution genomic forensic analysis of biothreat agents for verification purposes is performed. The scientific research focuses on understanding the interaction between *Francisella tularensis* and its environment (ecology), the movement of the pathogen and associated disease through a population and geography (epidemiology), and the changes associated with the propagation of the pathogen over time (evolution). Development of different DNA based methods has been performed in order to identify *Francisella tularensis, Coxiella burnetii* and *Bacillus anthracis* and also several viruses like; Dengue virus 1, 2, 3, 4, Chikungunya virus prototype strain and new variant, Rift Valley fever virus, Puumala virus, Seoul virus, Hantaan virus and Dobrava virus. Different biochemical and PCR methods have also been evaluated in order to classify *Clostridium botulinum* strains. In addition, analytical methods for analysis of the Ricin toxin and related toxins are developed, with an emphasis on forensic methods.

These activities are funded by the Swedish Armed Forces, the Ministry for Foreign Affairs (MFA) and the Swedish Civil Contingencies Agency (MSB).

Detection of BC-agents

Here the objective is to discover the presence of health threatening levels of BC substances in the air (Alerting), before they have negative impact on mission effectiveness, and to provide timely information which will permit forces to adopt an

appropriate level of individual and collective protection (Warning). The need for close to real-time, automatic measurements excludes the requirement for characterisation of the hazard substances.

A Laser Induced Fluorescence (LIF) based biodetector has been developed and work is initiated on Laser Induced Breakdown Spectroscopy (LIBS). The LIBS system is a component in an EU FP7-project that aims to build a demonstrator of a combined detection and identification system. Also test and evaluation facilities have been developed in order to continuously evaluate the different steps of the biodetector development and also to be able to evaluate commercial biodetectors.

Together with the Swedish Armed Forces National CBRN Defence Centre, Umeå, development of a specific outdoor facility suitable for large scale field trials has been performed. In this facility bioaerosols of simulant agents can be studied under field conditions, and field trials with participants from many different countries are regularly arranged at this facility.

The detection activities are mainly funded by the SAF and the European Commission. The concept of BC- alerting and warning has been proclaimed by the European Defence Agency (EDA), and the research group is involved in the Research and Development Advisory board in the BioEDEP program.

Properties of potential biological warfare agents

A project initiated in 2008 investigates the properties of potential biological warfare agents with relevance for virulence, survival and persistence in the environment using *Francisella tularensis* subspecies *holarctica* and subspecies *tularensis* as model organisms. Virulence properties are evaluated in cell and animal infection models. One objective is to increase the understanding of the conditions that are required for establishment of pathogens in the environment, for instance after a deliberate or accidental release of a pathogen in a specific milieu. Such knowledge will in turn provide a basis for related threat and risk assessments for civilian preparedness.

These activities are funded by the Swedish Civil Contingencies Agency.

2. State the total funding for the programme and its source.

31,5 MSEK

Swedish Armed Forces (18,9 MSEK),
Ministry for Foreign Affairs (4.1 MSEK),
Swedish Civil Contingencies Agency (4,2 MSEK),
European Union (2 MSEK)
Contracts from civil companies (2,3 MSEK).

3. Are aspects of this programme conducted under contract with industry, academic institutions, or in other non-defence facilities?

No

4. If yes, what proportion of the total funds for the programme is expended in these contracted or other facilities?

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5. Summarize the objectives and research areas of the programme performed by contractors and in other facilities with the funds identified under paragraph 4.
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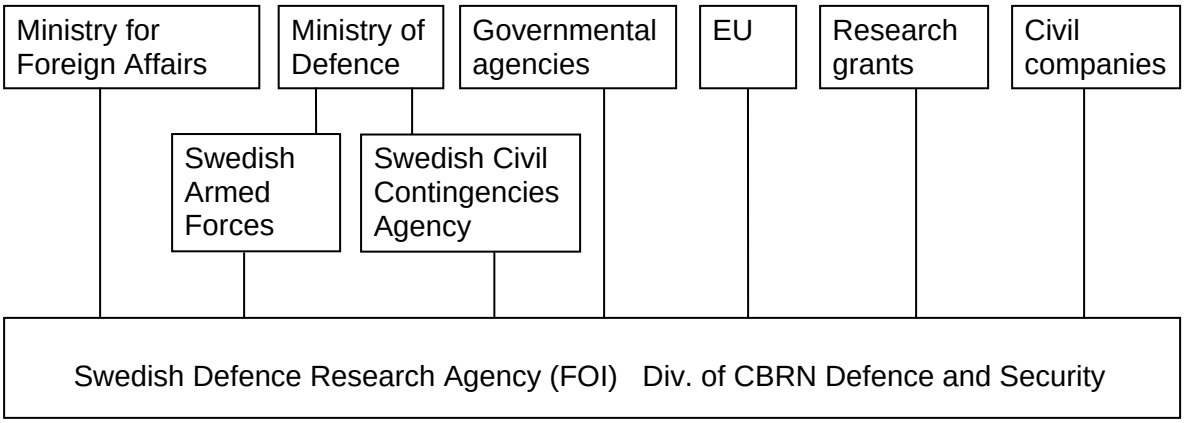
6. Provide a diagram of the organizational structure of the programme and the reporting relationships (include individual facilities participating in the programme).



7. Provide a declaration in accordance with Form A, part 2 (iii) for each facility, both governmental and non-governmental, which has a substantial proportion of its resources devoted to the national biological defence research and development programme, within the territory of the reporting State, or under its jurisdiction or control anywhere.

The only Swedish facility which has a substantial proportion of its resources devoted to the national biological defence research and development programme is the Swedish Defence Research Agency (FOI), Division for CBRN Defence and Security, for which a declaration is made on Form A Part 2(iii).

Form A, part 2 (iii)

National biological defence research and development programme

Facilities

Complete a form for each facility declared in accordance with paragraph 7 in Form A, part 2 (ii).

In shared facilities, provide the following information for the biological defence research and development portion only.

1. What is the name of the facility?

Swedish Defence Research Agency (FOI), Division of CBRN Defence and Security

2 Where is it located (include both address and geographical location)?

Cementvägen 20, SE-901 82 UMEÅ, Sweden
Lat: N 63^{o} 50', Long: E 20^{o} 19'

3. Floor area of laboratory areas by containment level:

BL2 515 (sqM)

BL3 74 (sqM)

BL4 0 (sqM)

Total laboratory floor area 589 (sqM)

4. The organizational structure of each facility:

A number of research groups are working in the Areas of Operation covering the previously described activities: analysis, detection and properties of putative biological warfare agents. The figures below include all personnel working in/together with the relevant R&D groups.

(i)	Total number of personnel	**24**
(ii)	Division of personnel:	
	Military	**0**
	Civilian	**24**

(iii) Division of personnel by category:

Scientists	**13**
Engineers	**5**
Technicians	**4**
Administrative and support staff	**2**

(iv) List the scientific disciplines represented in the scientific/engineering staff.

Physics, analytical chemistry, chemistry, biophysical chemistry, bacteriology, virology, genetics, immunology, microbiology, biochemistry, molecular biology, ecology, forensic science, information science, bioinformatics, toxicology, veterinary medicine, meteorology, mathematics.

(v) Are contractor staff working in the facility? If so, provide an approximate number.

No

(vi) What is (are) the source(s) of funding for the work conducted in the facility, including indication if activity is wholly or partly financed by the Ministry of Defence?

FOI CBRN Defence and Security receives funding from the Ministry of Defence, the Ministry for Foreign Affairs, the Swedish Civil Contingencies Agency, the European Union, research grants and from commercial companies.

(vii) What are the funding levels for the following programme areas:

Research	**30,8 MSEK**
Development	**0**
Test and evaluation	**0.7 MSEK**

(viii) Briefly describe the publication policy of the facility:

The recommendation for publication at the Swedish Defence Research Agency, is to publish results of biological research in international peer review journals. Some results are published as publicly available FOI-reports, abstracts of which are submitted to the National Technical Information Service database. Reprints of scientific papers and FOI-reports can be requested from: Swedish Defence Research Agency, SE-901 82 Umeå, Sweden.

(ix) Provide a list of publicly-available papers and reports resulting from the work during the previous 12 months. (To include authors, titles and full references.)

Relevant list of publications

Broman T., Thealaus J., Andersson A-C., Bäckman S., Wikström P., Larsson E., Granberg M., Karlsson L., Bäck E.,.Eliasson H., Mattsson R., Sjöstedt A., and Forsman M. 2011. Molecular detection of persistent Francisella tularensis subspecies holarctica in natural waters. Int. J Microbiol. pii: 851946. Epub 2010 Sep 8

Forslund Anna-Lena, Näslund Salomonsson Emelie, Golovliov Igor, Kuoppa Kerstin, Michell Stephen, Titball Richard, Oyston Petra, Noppa Laila, Sjöstedt Anders, Forsberg Åke. 2010. The type IV pilin, PilA, is required for full virulence of *Francisella tularensis* subspecies *tularensis*. BMC Microbiol, 10:227

Johansson A, Celli J, Conlan W, Elkins KL, Forsman M, Keim PS, Larsson P, Manoil C, Nano FE, Petersen JM, Sjöstedt A. 2010. Objections to the transfer of *Francisella novicida* to the subspecies rank of *Francisella tularensis*. Int J Syst Evol Microbiol. 60:1717-8.

Johansson A., and Petersen J. 2010. Genotyping of *Francisella tularensis*, the causative agent of tularemia. J AOAC Int. 93:1930-43.

Sjödin A.,Svensson K., Lindgren M., Forsman M., and Larsson P. 2010. Whole genome sequencing reveals distinct mutational patterns in closely related laboratory and naturally propagated *Francisella tularensis* strains. PLoS One, 5 (7): e11556.

Susanna Sternberg Lewerin, Marianne Elvander, Therese Westermark, Lisbeth Nisu Hartzell3,
Agneta Karlsson Norström, Sara Ehrs, Rickard Knutsson, Stina Englund, Ann-Christin Andersson, Malin Granberg, Stina Bäckman, Per Wikström, Karin Sandstedt. 2010. Anthrax outbreak in a Swedish beef cattle herd 1st case in 27 years: Acta Veterinaria Scandinavica , 52:7

Form B (i human)

Background information on cases of reportable infectious human diseases

Disease	2010	2009	2008	2007	2006	2005	2004
Population	*9 408 320*	*9 345 135*	*9256347*	*9182927*	*9113257*	*9047752*	*9011392*
Amoeba infection	205	184	266	321	259	304	416
Atypical mycobacteria	374	410	398	388	348	348	269
Botulism	0	1	0	0	2	1	2
Campylobacter infection	8001	7179	7692	7106	6078	6796	7149
Diphteria	0	1	1	o	0	0	0
EHEC	334	228	304	263	265	368	73
Giardiosis	1312	1211	1529	1419	1282	1151	1360
Gonorrhoea	842	611	724	642	677	691	596
Yellow fever	0	0	0	0	0	0	0
Haemophilus infl. type b	-	-	-	-	123	34	23
Hepatitis A	85	154	78	69	80	93	122
Hepatitis B	1598	1534	1525	1465	1208	1438	1940
Hepatitis C	1944	2213	2523	2134	1976	2610	3222
Hepatitis D	29	32	33	23	22	11	6
Hepatitis E	13	10	7	8	5	10	3
HIV infection	496	450	448	576	390	392	379
HTLV	7	4	6	10	5	7	6
Pertussis	266	281	459	689	795	1360	664
Chlamydia	36814	37788	42001	47101	32518	33060	26803

Cholera	1	1	0	0	1	1	1
Legionellosis	125	126	153	130	105	107	80
Listeriosis	64	73	60	56	42	40	48
Malaria	118	81	91	88	93	114	113
Meningococcal infection	68	65	49	49	52	58	56
MRSA	1580	1480	1306	1128	1057	975	549
Anthrax	0	0	0	0	0	0	0
Measels	6	3	25	1	20	13	3
Puumala virus infection (HFRS)	416	53	569	2195	213	329	180
Ornithosis	5	10	11	9	2	5	12
Paratyphoid	19	21	17	27	31	21	16
Plague	0	0	0	0	0	0	0
Pc-resist. Pneumococci	409	446	565	672	631	664	562
Polio	0	0	0	0	0	0	0
Mumps	24	32	51	46	60	81	8
Rabies	0	0	0	0	0	0	0
Rubella	3	1	0	2	3	0	0
Salmonellosis (total)	3606	3055	4182	3933	4056	3571	3794
Salmonellosis (domestic)	830	594	669	944	1010	655	805
Shigellosis	557	469	596	470	429	571	372
Tetanus	0	3	0	0	1	1	0
Syphilis	199	181	172	239	172	99	179
Toxoplasmosis	-	-	-	-	-	-	17
Trichinosis	0	0	0	1	0	0	0
Tuberculosis	683	643	554	508	498	575	445
Tularemia	484	244	382	174	241	246	698
Typhoid	23	18	32	19	12	8	14
Ulcus molle	-	-	0	0	0	2	0

VRE	214	402	618	53	24	33	46
Viral hemorragic fevers	0	0	0	0	0	0	0
Yersiniosis	282	398	546	567	558	742	714
Relapsing fever	0	-	0	0	0	0	0

Brucellosis	12	7	8	8	4	10	3
Cryptosporidiosis	392	159	148	110	103	69	47
Dengue fever	151	100	73	59	54	62	24
Echinococcosis	30	15	13	24	7	12	9
Entamoeba histolytica	205	184	266	319	253	303	360
Streptococcal infection, group A	361	442	461	410	321	252	119
Haemophilius influenzae invasive	179	146	163	144	120	118	80
Leptospiriosis	4	4	6	1	2	3	2
Pneumococcal infection, invasive	1457	1618	1789	1441	1331	1419	420
Q fever	11	7	7	3	1	3	1
Total	64838	62778	71576	76044	57540	59836	52810

Form B (ii human)

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

There are no cases or outbreaks of infectious human diseases and similar occurrences for the reporting period that seem to significantly deviate from the normal pattern. The relative increase in the total number of reported cases of infectious disease between 2006 and 2007 is largely explained by an increase in Chlamydia infection in the younger population (15-24 years) and the introduction of a new diagnostic method in 2006 that made it possible to detect a new clone of the bacterium.

Hantavirus (Puumala virus) infections showed a dramatic increase (913%) between 2006 (213 cases) and 2007 (2195 cases). It is believed that special climatic circumstances during the spring of 2007, favoring the bank vole population that spreads the disease, led to the marked increase in Puumala infections observed that year. Through 2008 and 2009, however, there has been an apparent decline in the number of cases of Puumala virus infections. The prevalence and distribution of insect-borne diseases world-wide and in Sweden has changed for a number of zoonotic and/or arthropod-borne infectious diseases possibly because of a changing climate but also because of globalization.

Furthermore, it is worthwhile mentioning the emergence of antibiotic resistant bacteria as an important and growing health risk. While Extended Spectrum Beta-Lactamase (ESBL)-producing bacteria have only been observed in Sweden since 1 February 2007, they are considered as an important health care problem. The number of reported cases of infections caused by ESBL-producing bacteria has increased from 2957 in 2008 to 3755 in 2009.

From 2006 to 2009 between 100 and160 cases of infections with Cryptosporidium were reported annually in Sweden. However, during 2010 there was an increase in the number of cases to 393 with around 65% being domestic due to three foodborne outbreaks with *C. parvum* and one waterborne outbreak with *C. hominis*. A total of 130 cases were reported in the foodborne outbreaks and 180 cases were diagnosed in the waterborne outbreak. Interestingly, in a web based questionnaire 12700 persons reported that they had gastrointestinal symptoms during the waterborne outbreak.

Form B (i animal)

Background information on outbreaks of notifiable animal diseases in Sweden Jan - Dec 2009[10]

	2010	2009	2008
MULTIPLE SPECIES DISEASES			
Anthrax (Cattle)	-	-	1
Botulism (Poultry)	2	4	16
Blackleg (Cattle)	6	16	10
Bovine malignant catarrhal fever (MCF) (Cattle)	-	1	6
Bluetongue, BTV (Cattle)	-	-	25
Bluetongue, BTV (Sheep)	-	-	3
Enterohaemorrhagic E. Coli (EHEC) (Cattle)	-	-	3
Echinococcos, hydatidosis (horse)	1	-	-
Echinococcos, hydatidosis (fox)	1	-	-
European Bat Lyssa Virus (bat)[11]	3	-	-
Leptospirosis (Dog)	18	12	10
Leptospirosis (Horse)	3	-	5
Leptospirosis (Pig)	1	2	-
Listeriosis (Cattle)	3	6	39
Listeriosis (goat)	1	31	-
Listeriosis (dog)	1	-	-
Listeriosis (monkey)	1	-	-
Listeriosis (Sheep)	32	-	-
Lymphoma other than EBL (Cattle)	13	22	127
Lymphoma other than FeLV (Cat)	15	25	-
Lymphoma (Dog)	31	50	-
Lymphoma (Horse)	4	9	-
Lymphoma (Sheep)	4	2	-
Lymphoma (Pig)	58	47	-
Lymphoma (Polecat)	-	4	-
Lymphoma (Squirrel)	-	1	-
Lymphoma (Gerbil)	1		
Lymphoma (Guineapig)	1		
Lymphoma (Alpaca)	1		
Lymphoma (Rabbit)	2		
Lymphoma (Reindeer)	1		
Q fever (Cattle)	6	29	-

[10] Only the first confirmed case of a disease in a herd, flock or corresponding is reported (index case). The diagnosis may be based on serological, microbiological, parasitological or histo-pathological examination.

[11] Antibodies of European Bat Lyssavirus have been detected in Sweden. According to Article 8.10.2 of the OIE Terrestrial Animal Health Code, the rabies free status of a country is not affected by the isolation of Bat Lyssavirus.

Trichinellosis (Fox)	-	1	10
Trichinellosis (Bear)	-	1	-
Trichinellosis (Wolf)	-	2	-
Trichinellosis (Boar)	2	1	-
VTEC (Elk)	-	-	2
MRSA (Dog)	5	2	3
MRSA (Cat)	3	2	-
MRSA (Horse)	6	2	7
MRSA (Pig)	1	-	-
MRSP/I (Dog)	100	122	73
MRSP/I (Cat)	5	7	5
MRSP/I (Horse)	-	1	1
Salmonellosis (poultry)	21	14	-
Salmonellosis (sheep)	-	1	-
Salmonellosis (pig)	7	3	-
Salmonellosis (horse)	2	8	-
Salmonellosis (cattle)	13	19	-
Salmonellosis (pet birds)	-	5	-
Salmonellosis (dog)	1	4	-
Salmonellosis (polecat)	-	1	-
Salmonellosis (cat)	7	115	-
Salmonellosis (reptile)	3	5	-
Salmonellosis (wild mammals)	1	3	-
Salmonellosis (wild birds)	4	18	-
Salmonellosis (other)	4	3	-
VTEC/STEC (cattle)	1	-	-

CATTLE DISEASES

	2010	2009	2008
Bovine viral diarrhoea (BVD)	1	4	4
Bovine malignant catarrhal fever (MCF)	6	-	-
Cysticerosis (C.Bovis)	2	1	

EQUINE DISEASES

	2010	2009	2008
Contagious eguine metritis	2	4	-
Equine influenza (virus type A)	2	8	41
EHV-1-associated abortion	9	22	21

Infectious arteritis of horses	4	3	2
Strangles	41	28	79

POULTRY AND OTHER BIRD DISEASES

	2010	2009	2008
Avian chlamydiosis (Psittacosis)	-	2	3
Avian infectious bronchitis	-	-	2
Avian tuberculosis (M.avium)	1	1	2
Infectious laryngotracheitis (ILT)	6	10	8
PPMV-1 (Wild pigeon)	1	-	-
Mycoplasma gallisepticum	-	1	-
Newcastle disease (poultry)	-	1	1
Fowl cholera	-	2	-
Marek's disease	-	1	-

PIG DISEASES

	2010	2009	2008
Influenza	3	1	-
Pasteurela multocida	-	2	-

SHEEP AND GOAT DISEASES

	2010	2009	2008
Caprine arthritis encephalitis	9	5	6
Dichelobacter nodosus	22	65	62
TSE (NOR 98) (sheep)	4	-	-
Nematodirosis	1	1	-

PET AND FURRED ANIMAL DISEASES

	2010	2009	2008
Canine distemper (Dog)	-	1	1
FeLV (Cat)	7	2	22
FIV (Cat)	6	8	6
Babesiosis (dog)	2	2	1
Brucella Canis	-	-	1
Hepatitis contagiosa canis (HCC) (Dog)	-	5	3
Leishmaniosis (Dog)	32	32	24
Canine monocytic ehrlichiosis (Dog)	-	1	1
Tritrichomonas foetus (cat)	-	1	-
Monocytic ehrlichiosis (dog)	2	-	-

OTHER DISEASES

	2010	2009	2008
Dirofilariosis (Dog)	3	3	1
Angiostrongylus vasorum (fox)	-	1	-
Aelurostrongylus falciformis (badger)	-	1	-
Viral haemorrhagic disease (Rabbit)	-	1	-
Enzootic bovine leukosia (EBL)	-	-	1
Furunculosis	-	-	1
Myxomatosis (rabbit)	2	-	-
Tularemia (wild mammals)	3	-	-

FISH, AMPHIBIANS AND MOLLUCS DISEASES

	2010	2009	2008
Koi Herpes Virus	-	1	1
Proliferative kidney disease (PKD)	4	2	-
Renibacteriosis (BKD)	-	4	1
Yersiniosis (ERM)	-	1	5
Rhabdovirus infection other than VHS	2	-	-
Batrachochytrium dendrobatidis (toad)	1		

NATIONAL CONTROL PROGRAMMES12

	2010	2009	2008
Bovine viral diarrhoea (BVD)	2	9	4
Maedi-Visna	13	28	20

Form B (ii animal)

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

There are no cases for the reporting period on outbreaks of infectious animal diseases and similar occurrences that seem to deviate from the normal pattern.

[12] Detected cases within the framework of a national control programme

4. **CONFIDENCE-BUILDING MEASURE "C":**

- **Encouragement of publication of results and promotion of use of knowledge**

Publication during year 2010 of relevant biological research at Swedish Institute for Communicable Disease Control (SMI)

The recommendation for publication, at the Swedish Institute for Communicable Disease Control, is to publish results of biological research in international journals.

1. **Abd H., Valeru SP., Sami SM., Saeed A., Raychaudhuri S., Sandström G.** ***Interaction between Vibrio mimicus and Acanthamoeba castellanii.*** **Environ Microbiol Rep. 2010 Feb;2(1):166-171.**

2. **Bereczky S.,Lindegren G., Karlberg H., Åkerström S., Klingström J., Mirazimi A.** ***Crimean Congo hemorrhagic fever virus infection is lethal for adult type I interferon receptor-knockout mice.*** **Journal of General Virology 91:1473-1477. 2010.**

3. **Björkström NK, Lindgren T, Stoltz M, Fauriat C, Braun M, Evander M, Michaëlsson J, Malmberg KJ, Klingström J, Ahlm C, Ljunggren HG. Rapid expansion and long-term persistence of elevated NK cell numbers in humans infected with hantavirus. J Exp Med. 2011 Jan 17;208(1):13-21. Epub 2010 Dec 20.**

4. **Cakici B, Hebing K, Grünewald M, Saretok P, Hulth A (2010)** ***CASE: a framework for computer supported outbreak detection.*** **BMC Med Inform Decis Mak. 10(14).**

5. **Guivier E, Galan M, Malé PJ, Kallio ER, Voutilainen L, Henttonen H, Olsson GE, Lundkvist A, Tersago K, Augot D, Cosson JF, Charbonnel N.** ***Associations between MHC genes and Puumala virus infection in Myodes glareolus are detected in wild populations, but not from experimental infection data.*** **J Gen Virol. 2010 Oct;91(Pt 10):2507-12. Epub 2010 Jun 23.**

6. **Hjertqvist M., Ahlm C., Klingström J.** ***Sex patterns in diagnoses of tularaemia, Sweden 1997-2008.*** **Journal of Infection 60:186-187. 2010.**

7. **Hjertqvist M., Klein SL., Ahlm C., Klingström J.** ***Mortality rate patterns for hemorrhagic fever with renal syndrome caused by Puumala virus*****. Emerging Infectious Diseases, 16:1584-1586. 2010.**

8. **Hu Z., Nordström H., Nowotny, N., Falk, KI., Sandström, G.** ***Anchored Pan Dengue RT-PCR and Fast Sanger Sequencing for Detection of Dengue RNA in Human Serum*****. J Med Virol. 2010 Oct;82(10):1701-10**

9. **Hulth A, Andrews N, Ethelberg S, Dreesman J, Faensen D, van Pelt W, Schnitzler J (2010)** ***Practical usage of computer-supported outbreak detection in five European countries*****. Euro Surveill. 15(36):pii=19658.**

10. **Jourdain E., Olsen B., Lundkvist Å, Hubálek Z., Šikutová S., Waldenström J., Karlsson M., Surveillance for West Nile virus in wild birds from northern Europe. Vector Borne Zoonotic Dis. 2011 Jan;11(1):77-9. Epub 2010 Jun 2.**

11. **Jourdain E, Gunnarsson G, Wahlgren J, Latorre-Margalef N, Bröjer C, Sahlin S, Svensson L, Waldenström J, Lundkvist A, Olsen B.** ***Influenza virus in a natural host, the mallard: experimental infection data.*** **PLoS One. 2010 Jan 28;5(1):e8935.**

12. **Karlberg H., Lindegren G., Mirazimi A.** ***Comparison of Antiviral Activity of Recombinant and Natural Interferons Against Crimean-Congo Hemorrhagic Fever Virus,*** **Open Virology J, 2010.**

13. **Karlberg H., Tan Y., Mirazimi A.** ***Induction of caspase activation and cleavage of the viral nucleocapsid protein in different cell types during Crimean-Congo haemorrhagic fever virus infection,*** **J. Biol. Chem. Accepted, 2010.**

14. **Keng CT., Åkerström S., Leung CS., Poon LL., Peiris JS., Mirazimi A., Tan YJ.** ***SARS coronavirus 8b reduces viral replication by down-regulating E via an ubiquitin-independent proteasome pathway.*** **Microbes Infect. 2010 Oct 28.**

15. **Kindberg E., Vene S., Mickiene A., Lundkvist Å., Lindquist L., Svensson S.** ***A functional toll-like receptor 3 gene (TLR3) may be a risk factor for tick-borne encephalitis virus (TBEV) infection.*** **2011. J Inf Dis 203:523-528.**

16. **Klingström J., Ahlm C.** ***Hantavirus protein interactions regulate cellular functions and signaling responses*****. Expert Review of Anti-infective Therapy, 9: 33-47. 2011.**

17. **Kraus AA., Mirazimi A.** ***Molecular biology and pathogenesis of Crimean–Congo hemorrhagic fever virus,*** **Future Virology, July 2010, Vol. 5, No. 4, Pages 469-479.**

18. **Levin LI., Munger KL., O`Reilly EJ., Falk KI., Ascherio.** ***A Primary infection with the Epstein-Barr virus and risk of multiple sclerosis*****. Ann. Neurology. 2010, Jun; 67 (6) : 824-30**

19. **Malmberg KJ., Klingström J., Ahlm C., Ljunggren H G.** ***Rapid expansion and long-term persistence of elevated NK cell numbers in humans infected with hantavirus.*** **Journal of Experimental Medicine, 17:13-21. 2011.**

20. **Mild M., Simon M., Albert J., Mirazimi A.** ***Towards an understanding of the migration of Crimean-Congo hemorrhagic fever virus.*** **J Gen Virol. 2010 Jan;91(Pt 1):199-207.**

21. Nemirov K, Leirs H, Lundkvist A, Olsson GE. ***Puumala hantavirus and Myodes glareolus in northern Europe: no evidence of co-divergence between genetic lineages of virus and host.*** **J Gen Virol. 2010 May;91(Pt 5):1262-74. Epub 2010 Jan 27.**

22. Oh H-L. J., Åkerström S., Shen S., Bereczky S., Karlberg H., Klingström J., Lal SK., Mirazimi A., Tan Y.-J. An ***antibody against a novel and conserved epitope in the HA1 subunit neutralizes numerous H5N1 influenza viruses.*** **Journal of Virology, 84:8275-8286. 2010.**

23. Petersson P, Hedenskog M, Alves D, Brytting M, Schröder U, Linde A, Lundkvist A. ***The Eurocine L3 adjuvants with subunit influenza antigens induce protective immunity in mice after intranasal vaccination.*** **Vaccine. 2010 Sep 7;28(39):6491-7. Epub 2010 Jul 15.**

24. Rydgård-Andersson C., Vene S., Insulander M., Lindquist L., Lundkvist Å., Günther G. ***Vaccine failures after active immunisation against tick-borne encephalitis.*** **2010. Vaccine. 28(16):2827-31.**

25. Sandström G., Saeed A., Abd H. ***Acanthamoeba polyphaga is a possible host for Vibrio cholerae in aquatic environments.*** **Exp Parasitol. 2010 Sep;126(1):65-8. Epub 2009 Oct 6.**

26. Severinsson K., Jaenson TG., Pettersson J., Falk KI., Nilsson K., ***Detection and prevalence of Anaplasma phagocytophilum and Rickettsia helvetica in Ixodes ricinus ticks in seven study areas in Sweden.*** **Parasites & Vectors 2010, 3:66.**

27. Stoltz M., Klingström J. ***Alpha/beta interferon (IFN- /)-independent induction of IFN- 1 (interleukin-29) in response to Hantaan virus infection*****. Journal of Virology, 84:9140-9148. 2010.**

28. Sundström KB., Stoltz M., N. Lagerqvist, Å. Lundkvist, K. Nemirov and J. Klingström. ***Characterization of two substrains of puumala virus that show phenotypes that are different from each other and from the original strain*****. Journal of Virology, 85:1747-1756. 2011.**

29. Tan Z., Åkerström S., Wee BY., Lal SK., Mirazimi A., Tan YJ. ***A new panel of NS1 antibodies for easy detection and titration of influenza A virus.*** **J Med Virol. 2010 Mar;82(3):467-75.**

30. Tuiskunen A., Leparc-Goffart I., Boubis L., Monteil V., Klingström J, Tolou HJ., Lundkvist Å., Plumet S. ***Self-priming of reverse transcriptase impairs strand specific detection of dengue RNA*****. Journal of General Virology 91:1019-1027. 2010.**

31. **Wahab T., Ankarklev J., Lebbad M., Glavas S., Svärd S., Palm D.** ***Real-time polymerase chain reaction followed by fast sequencing allows rapid genotyping of microbial pathogens.*** **Scand J Infect Dis. 2011 Feb;43(2):95-9.**

32. **Wahlström M., Jozan M., Falk K.I.** ***Surveillance for West Nile Virus in Wild Birds from Northern Europe.*** **Vector Borne and Zoonotic Dis. Jan;11(1):77-9. Epub 2010 Jun 2.**

Publication of relevant biological research at the National Veterinary Institute:

A list of relevant publications 2010 at the National Veterinary Institute is available for downloading at: http://www.sva.se/upload/pdf/Forskning/SVA_publikationer_2010.pdf

Form D

Active promotion of contacts

1. Planned international conferences, symposia, seminars, and other similar forums for exchange

Nordic Biosafety Network – annual meeting

Arranged by SMI in the Autumn of 2011 in one of the Baltic states

Purpose: Information sharing, networking and scientific update on biosafety and biosecurity issues related to handling e..g human and animal pathogens in laboratories.

Members of the Nordic Biosafety Network will be invited to participate

Point of contact for further information:
Åsa Szekely Björndal, SMI (asa.bjorndal@smi.se)

EQADeBa Project meeting and workshop in Subject Highly Pathogenic Bacteria

Arranged by the Robert Koch Institute (Germany) in April 2011 in Brussels

Main subject for the conference: Diagnostic methods for highly pathogenic bacteria

Major part of the meeting is open only for project members and one day open workshop

Point of contact for further information:
Daniela Jacob, Robert Koch Institute (JacobD@rki.de)

QANDHIP Project meeting

Arranged by the Robert Koch Institute (Germany) 22nd-23rd of June 2011 in Berlin.

Main subject for the conference: Diagnostic methods for highly pathogenic bacteria

Major part of the meeting is open only for project members and probably one day open workshop
Point of contact for further information:
Daniela Jacob, Robert Koch Institute (JacobD@rki.de)

Form E

Declaration of legislation, regulations and other measures

Relating to		Legislation	Regulations	Other measures	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	**YES**	**YES**	**YES**	**YES**
(b)	Exports of micro-organisms* and toxins	**YES**	**YES**	**YES**	**NO**
(c)	Imports of micro-organisms* and toxins	**YES**	**YES**	**YES**	**NO**

Comments: A list of Swedish laws and regulations can be found in BTWC National Implementation Database, NID:

http://www.unog.ch/80256EDD006B8954/(httpAssets)/BBCCCC514AA386A3C1257355003AA13D/$file/BWC_NID_Report-070912.htm#swe

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

Form F

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

1. Date of entry into force of the Convention for the State party.

   5 February 1976

   (The Convention was signed by Sweden on 27 February 1975. The Convention was ratified by Sweden on 5 February 1976 and entered into force for Sweden the same date. The text of the Convention is published in the Swedish Treaty Series, SÖ 1976:18)

2. Past offensive biological research and development programmes:

   - **NO**

3. Past defensive biological research and development programmes:

   - **NO**

Form G

Declaration of vaccine production facilities#1

1. Name of facility:

   SBL Vaccin AB (Solna)

2. Location (mailing address):

   SE-105 21 Stockholm, Sweden

3. General description of the types of diseases covered:

   Diarrhoea caused by ETEC/*V. cholerae* (one vaccine component for pooling with other components)

Form G

Declaration of vaccine production facilities#2

1. Name of facility:

   UniTech Biopharma

2. Location (mailing address):

   Box 219, SE-864 31 Matfors, Sweden

3. General description of the types of diseases covered:

   Diarrhoea caused by ETEC/*V. cholerae* (culturing on commission)