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

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

Date: *15 April 2009*

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

Form A, part 1

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

1. Name(s) of facility[2] — ***Swedish Defence Research Agency***
   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

   Ministry of Defence, Ministry for Foreign Affairs, Private Research Grants, Swedish Emergency Preparedness Agency

5. Number of maximum containment units[3] 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

   BSL3

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

Properties of potential biological weapons agents

The funding from the government via the MoD for the previous program on medical countermeasures against BW ended 2007. In a project initiated 2008 and funded by the Swedish Emergency Preparedness Agency (KBM) the properties of potential biological weapons agents with relevance for survival and persistence in the environment using Francisella tularensis subspecies holarctica and subspecies tularensis as model organisms are studied. The aim of the research is to support threat and risk assessments.
In a separate two-year project funded by KBM a chemical compound library has been screened for identification of novel compounds for treatment of bacterial infections.

[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

Methods for identification of potential biological weapons agents

Methods are developed for detection and identification of bacteria, viruses and toxins using laser-induced Fluorescence, chip array, a variety of PCR methods, immunological techniques, genome sequencing and masspectrometric methods. To be able to evaluate B-detection instruments using BW-stimulants, train NBC-company conscripts and to verify dispersion models field trial capacity for outdoor biological detection is established. The results are published in scientific journals.

Form A, part 1

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

1. Name(s) of facility[5] — ***SMI:s säkerhetslaboratorium (BSL3-BSL4 Laboratory)***

2. Responsible public or private organization or company — ***Swedish Institute for Infectious 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

   Ministry of Health and Social Affairs (additional grants from Swedish Emergency Management Agency)

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

   3 (20, 24 and 47)

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

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

[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 programme, 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

Work on BSL-3 agents

Bacteria. Containment units (BSL-3) are used for diagnostic and research work on bacteria: Bacillus anthracis, Brucella spp, Francisella tularensis, Mycobacterium tuberculosis and Yersinia pestis. Viruses. Containment units (BSL-3) are used for diagnostic and research work on virus: Bunyaviruses, Flaviviruses, Arenaviruses, Rabies viruses, Avian Influensa virus.

Work on BSL-4 agents

Containment units (BSL-4) are used for diagnostic and research work on virus: Bunyaviruses, Flaviviruses, Arenaviruses, Filoviruses, SARS CoV and highly pathogenic Avian influensa virus.

Methods for detection and evaluation of antibiotic resistance

National and international standard methods are used for detection. Cultivation, staining, ELISA, PCR, Q-PCR and microarrays are examples of methods in use. Development of diagnostic methods for BSL-3and BSL-4 agents is based on genetic techniques as well as recombinant technology.

The general goals are to: improve laboratory diagnostics and basic knowledge on highly pathogenic agents. The studies include, in addition to development of efficient and reliable diagnostics, e.g. virulence, pathogenesis, animal models and vaccine development.

The activities are funded mainly by the Swedish Emergency Management Agency, National Board of Health (SoS), Swedish Research Council, and the European Union.

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 Agriculture 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

4 different containment units are designed according to BSL 3 laboratory work 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 of 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 Emergency Management 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.

Work on BSL-3 micro-organisms

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 virus: Classical Swine Fever (CSF), Hanta virus, Heptatitis E virus, Lymphocytic choriomeningitis virus (LCM), High Pathogenic Avian Influenza (HPAI) virus, Rabies virus, Transmissible Spongiform Encephalopati (TSE), West Nile virus.

Methods for detection and evaluation of antibiotic resistance

National and international standard methods are used for detection. 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 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, toxinology, 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, toxinology, physical protection, decontamination and other related research.

Properties of potential biological weapons agents

The funding from the government via the MoD for the previous program on medical countermeasures against BW ended 2007. In a project initiated 2008 and funded by the Swedish Emergency Preparedness Agency (KBM) the properties of potential biological weapons agents with relevance for survival and persistence in the environment using Francisella tularensis subspecies holarctica and subspecies tularensis as model organisms are studied. The aim of the research is to support threat and risk assessments.
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2. State the total funding for the programme and its source.

29.8 mSEK Swedish Armed Forces, Ministry for Foreign Affairs, Swedish Emergency Preparedness Agency, Innate and Dstl

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

YES

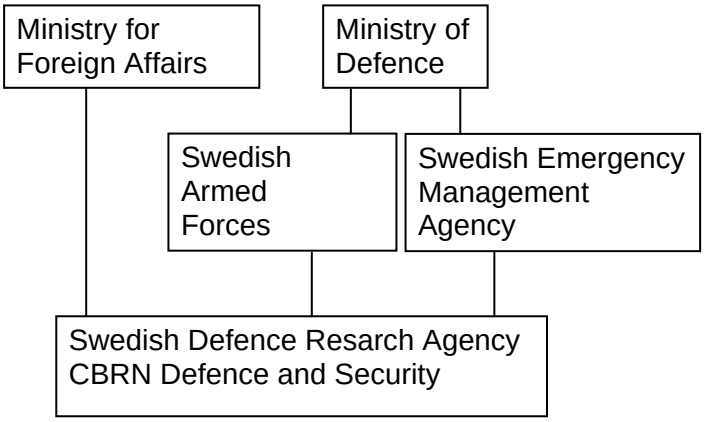
4. If yes, what proportion of the total funds for the programme is expended in these contracted or other facilities?

2%

5. Summarize the objectives and research areas of the programme performed by contractors and in other facilities with the funds identified under paragraph 4.

New vaccine candidates and drug candidates for treatment of bacterial infections are evaluation of and method for identification of bacteria and viruses are developed.

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.

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, 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 850 (sqM)

BL3 72 (sqM)

BL4 0 (sqM)

Total laboratory floor area 922 (sqM)

4. The organizational structure of each facility.

(i) Total number of personnel 31

(ii) Division of personnel:

Military	0
Civilian	31

(iii) Division of personnel by category:

Scientists	14
Engineers	5
Technicians	10
Administrative and support staff	2

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

Physics, bacteriology, virology, genetics, immunology, medicine, veterinary science, microbiology, biochemistry, molecular biology, ecology, forensic science, information science, bioinformatics, chemistry

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

Yes, a small number of contractors work on the programme occationally. Mainly specific medical expertise.

(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?

CBRN Defence and Security is the main facility for Biological Defence research on behalf of the Swedish Armed Forces. Approximately 42% of the funding is received from other governmental and commercial customers.

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

Research	29.0 mSEK
Development	0
Test and evaluation	0.8 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 journals. Some results are published as public FOI-reports, abstracts of which are submitted to the NTIS Database (National Technical Information Service). Reprints of scientific papers and FOI-reports can be ordered by writing to: 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.)

List of publications for 2008
Publication of relevant biological research*, at the Swedish Defence Research Agency, CBRN Defence and Security,*

Salomonsson, Emelie. The role of the Type IV pili system in the virulence of Francisella tularensis. PhD thesis Umeå University. ISBN 978-91-7264-553-0

Thelaus J, Forsman M, Andersson A. 2008. Role of productivity and protozoan abundance for the occurrence of predation-resistant bacteria in aquatic systems. Microb Ecol. 56(1):18-28.

Kullander Fredrik, Olofsson Göran, Tjärnhage Torbjörn (2008) Slutrapportering projekt 26.2 : fluorescenstekniker för B-detektion. (FOI Memo 2294):

Wästerby Pär, Tjärnhage Torbjörn, Optimering av alarmalgoritmer för FLAPS. (2008) (FOI Memo 2223)

Kullander Fredrik, Gustafsson Ove, Steinvall Ove, Olofsson Göran, Jonsson Per (2008) Statusrapport: B AWARE - demonstrator avståndsindikering Etapp 1.(FOI Memo 2484)

Wästerby Pär, Nyholm Sune, Tjärnhage Torbjörn, Sammanställning av B- och C-detektorer : redovisning av omvärldsbevakning inomdetektionsområdet.(2008) (FOI Memo 2684)

Form A, part 2 (iii)

National biological defence research and development programme #2

Information under paragraph IX for year 2008 (list of publicly-available papers and reports resulting from the work during the previous 12 months)

Publication of relevant biological research at Swedish Institute for Infectious Disease Control (SMI)

The recommendation for publication, at the Swedish Institute for Infectious Disease Control, is to publish results of biological research in international journals. Reprints of scientific papers can be ordered by writing to:

Centre for microbiological preparedness and Swedish Institute for Infectious Diseases Control, SE-171 82 Solna, Sweden.

Abd H., Wretlind B., Saeed A., Idsund E., Hultenby K. and Sandström G. Pseudomonas aeruginosa utilises its Type III Secretion System to Kill the Free-Living Amoeba Acanthamoeba castellanii. 2008. Journal of Eukaryotic Microbiology 55(3):235-243.

Rahman M., Abd H., Sandström G., Romling U., Möllby R. Aeromonas-Acanthamoeba interaction and early shift to a viable but non-culturable state of Aeromonas by Acanthamoeba. 2008 Journal of Applied Microbiology 104(5):1449-57

Hellgren U., Wahab T. Consider brucellosis if the patient suffers of protracted fever! Visiting Middle East a high-risk factor. Läkartidningen 2008 Feb 27-Mar 4; 105(9)638-9

la Scola B., Elkarkouri, K., Li W., Wahab T., Fournos, G., Rolain J-M., Biswas S., Drancourt M., Robert C., Audic S., Löfdahl S., Raoult, D. Rapid comparative genomic analysis for clinical microbiology: the Francisella tularensis paradigm. Genome Res. 2008 18:742-750; originally published online April 11, 2008

Weber, F., Mirazimi A. Interferon and cytokine responses to Crimean Congo hemorrhagic fever virus; an emerging and neglected viral zoonosis. Cytokine Growth Factor. Rev. 2008 Oct-Dec; 19(5-6):395-404. E-pub. 2008 Nov. 21

Andersson I., Karlberg H., Mousavi-Jazi M., Martinez-Sobrido, L., Weber, F., Mirazimi, A. Crimean-Congo hemorrhagic fever virus delays activation of the innate immune response. Journal of Med. Viorlogy. 2008, Aug:80 (8):1397-404

Habajan M., Andersson I., Klingström, J., Schümann M., Martin A., Zimermann, P., Wagner V., Pichlmair A., Schneider U., Mühlberger E., Mirazimi A., Weber F. Processing of genome 5' termini as a strategy of negative-strand RNA viruses to avoid RIG-I-dependent interferon induction. PLoS ONE. 2008 Apr 30;3(4):e2032

Hardestam J., Pettersson L., Ahlm C., Evander M., Lundkvist Å., Klingström J. Antiviral effect of human saliva against hantavirus. Journal of Med. Virology 2008, Dec;80 (12):2 2122-6

Sironen T., Klingström J.,Vaheri A., Andersson LC., Lundkvist Å., Plyusnin A., Pathology of Puumala hantavirus infection in macaques. PLoS ONE. 2008 Aug 21;3(8):e3035

Hardestam J., Karlsson M., Falk KI., Olsson G., Klingström J., Lundkvist Å., Puumala hantavirus excretion kinetics in bank voles (Myodes glareolus). Emerging Infectious Diseases 2008, Aug;14(8):1209-15

Klingström J., Stoltz M., Hardestam J., Ahlm C., Lundkvist Å. Passive immunization protects cynomolgus macaques against Puumala hantavirus challenge. Antiviral Therapy 2008;13(1):125-33.

Klingström J., Lindgren T., Ahlm C. Sex-dependent differences in plasma cytokine responses to hantavirus infection. Clin. Vaccine Immunol. 2008 May;15(5):885-7. E-pub. 2008 March 19.

Pettersson L., Klingström J., Hardestam J., Lundkvist Å., Ahlm C., Evander M. Hantavirus RNA in saliva from patients with hemorrhagic fever with renal syndrome. Emerging Infectious Dis. 2008 Mar;14(3):406-11.

Kroneman A. Harris J. Vennema H. Duizer E. van Duynhoven Y. Gray J. Iturriza M. Bottiger B. Falkenhorst G. Johnsen C. von Bonsdorff CH. Maunula L. Kuusi M. Pothier P. Gallay A. Schreier E. Koch J. Szucs G. Reuter G. Krisztalovics K. Lynch M. McKeown P. Foley B. Coughlan S. Ruggeri FM. Di Bartolo I. Vainio K. Isakbaeva E. Poljsak-Prijatelj M. Grom AH. Bosch A. Buesa J. Fauquier AS. Hernandez-Pezzi G. Hedlund KO. Koopmans M. Data quality of 5 years of central norovirus outbreak reporting in the European Network for food-borne viruses. Journal of Public Health. 30(1):82-90, 2008.

Rodriguez-Diaz J. Rubilar-Abreu E. Spitzner M. Hedlund KO. Liprandi F. Svensson L. Design of a multiplex nested PCR for genotyping of the NSP4 from group A rotavirus. Journal of Virological Methods. 149(2):240-5, 2008.

Johansen K. Mannerqvist K. Allard A. Andersson Y. Burman LG. Dillner L. Hedlund KO. Jonsson K. Kumlin U. Leitner T. Lysen M. Thorhagen M. Tiveljung-Lindell A. Wahlstrom C. Zweygberg-Wirgart B. Widell A. Norovirus strains belonging to the GII.4 genotype dominate as a cause of nosocomial outbreaks of viral gastroenteritis in Sweden 1997-2005. Arrival of new variants is associated with large nation-wide epidemics. Journal of Clinical Virology. 42(2):129-34, 2008.

Kroneman A. Verhoef L. Harris J. Vennema H. Duizer E. van Duynhoven Y. Gray J. Iturriza M. Bottiger B. Falkenhorst G. Johnsen C. von Bonsdorff CH. Maunula L. Kuusi M. Pothier P. Gallay A. Schreier E. Hohne M. Koch J. Szucs G. Reuter G. Krisztalovics K. Lynch M. McKeown P. Foley B. Coughlan S. Ruggeri FM. Di Bartolo I. Vainio K. Isakbaeva E. Poljsak-Prijatelj M. Grom AH. Mijovski JZ. Bosch A. Buesa J. Fauquier AS. Hernandez-Pezzi G. Hedlund KO. Koopmans M. Analysis of integrated virological and epidemiological reports of norovirus outbreaks collected within the foodborne viruses in Europe Network from 1 July 2001 to 30 June 2006. Journal of Clinical Microbiology. 46(9):2959-65, 2008.

Johansen K. Hedlund KO. Zweygberg-Wirgart B Bennet R. Complications attributable to rotavirus-induced diarrhoea in a Swedish pediatric population - report from an 11-year surveillance. Scandinavian Journal of Infectious Diseases. 40(11-12):958-64, 2008.

Brinkley, C., Nolskog, P., Golovljova, I., Lundkvist, Å. & Bergström, T.: Tick-borne encephalitis virus natural foci emerge in western Sweden. Int. J. Med. Microbiol. 298 S1:73-80, 2008

Coutard, B., Gorbalenya, A.E., Snijder, E.J., Leontovich, A.M., Poupon, A., De Lamballerie, X., Charrel, R., Gould, E.A., Gunther, S., Norder, H., Klempa, B., Bourhy, H., Rohayem, J., L'hermite, E., Nordlund, P., Stuart, D.I., Owens, R.J., Grimes, J.M., Tucker, P.A., Bolognesi, M., Mattevi, A., Coll, M., Jones, T.A., Åqvist, J., Unge, T., Hilgenfeld, R., Bricogne, G., Neyts, J., La Colla, P., Puerstinger, G., Gonzalez, J.P., Leroy, E., Cambillau, C., Romette, J.L. & Canard, B.: The VIZIER project: Preparedness against pathogenic RNA viruses. Antiviral Res. 78:37-46, 2008

Ellström, P., Latorre-Margalef, N., Griekspoor, P., Waldenström, J., Olofsson, J., Wahlgren, J. & Olsen, P.: Sampling for low-pathogenic avian influenza A virus in wild Mallard ducks: Oropharyngeal versus cloacal swabbing. Vaccine 26:4414-4416, 2008

Golovljova, I., Katargina, O., Geller, J., Tallo, T., Mittzenkov, V., Vene, S., Nemirov, K., Kutsenko, A., Kilosanidze, G., Vasilenko, V., Plyusnin, A. & Lundkvist, Å.: Unique signature amino acid substitution in Baltic tick-borne encephalitis virus (TBEV) strains within the Siberian TBEV subtype. Int. J. Med. Microbiol. 298 S1:108-120, 2008

Haemig, P.D., Lithner, S., Sjöstedt de Luna, S., Lundkvist, Å., Waldenström, J., Hansson, L., Arneborn, M. & Olsen, B.: Red fox and tick-borne encephalitis (TBE) in humans: Can predators influence public health? Scand. J. Infect. Dis. 40:527-532, 2008

Hardestam, J., Karlsson, M., Falk, K.I., Olsson, G., Klingström, J. & Lundkvist, Å.: Puumala hantavirus excretion kinetics in bank voles (Myodes glareolus). Emerg. Infect. Dis. 14:1209-1215, 2008

Hardestam, J., Petterson, L., Ahlm, C., Evander, M., Lundkvist, Å. & Klingström, J.: Antiviral effect of human saliva against hantavirus. J. Med. Virol. 80:2122-2126, 2008

Heyman, P., Vaheri, A. & the ENIVD members (incl Lundkvist, Å.): Situation of hantavirus infections and haemorrhagic fever with renal syndrome in European countries as of December 2006. Eurosurveillance 13:1-7, 2008

Johansson, P., Olsson, G.E., Low, H-T., Bucht, G., Ahlm, C., Juto, P. & Elgh, F.: Puumala hantavirus genetic variability in an endemic region (Northern Sweden). Infect. Gen. Evol. 8:286-296, 2008

Kindberg, E., Mickiené, A., Ax, C., Åkerlind, B., Vene, S., Lindquist, L., Lundkvist, Å. & Svensson, L.: A deletion in the chemokine receptor 5 (CCR5) gene is associated with tickborne encephalitis. J. Infect. Dis. 197:266-269, 2008

Kiss, I., Gyarmati, P., Zohari, S., Wilbe Ramsay, K., Metreveli, G., Weiss, E., Brytting, M., Stivers, M., Lindstrom, S., Lundkvist, Å., Nemirov, K., Thoren, P., Berg, M., Czifra, G. & Belak, S.: Molecular characterization of highly pathogenic H5N1 avian influenza viruses isolated in Sweden in 2006. Virol. J. 5:113, 2008

Klingström, J., Stoltz, M., Hardestam, J., Ahlm, C. & Lundkvist, Å.: Passive immunization protects cynomolgus macaques against Puumala hantavirus challenge. Antivir. Ther. 13:125-133, 2008

Lindgren, E., Albihn, A., Forsberg, B., Olsson, G. & Rocklöv, J.: Ändrat klimat får konsekvenser för hälsoläget I Sverige. Värmeböljor och smittspridning oroar mest. Läkartidn. 105:2018-2023, 2008

Plyusnina, A., Laakkonen, J., Niemimaa, J., Nemirov, K., Muruyeva, G., Pohodiev, B., Lundkvist, Å., Vaheri, A., Henttonen, H., Vapalahti, O. & Plyusnin, A.: Genetic analysis of hantaviruses carried by Myodes and Microtus rodents in Baryatia. Virol. J. 5:4- , 2008

Sironen, T., Kallio, E.R., Vaheri, A., Lundkvist, Å. & Plyusnin, A.: Quasispecies dynamics and fixation of a synonymous mutation in hantavirus transmission. J. Gen. Virol. 89:1309-1313, 2008

Sironen, T., Klingström, J., Vaheri, A., Andersson, L.C., Lundkvist, Å. & Plyusnin, A.: Pathology of Puumala hantavirus infection in macacues. PLoS ONE 3:e3035, 2008

Färnert A, Lebbad M, Faraja L, Rooth I. (2008): Extensive dynamics of Plasmodium falciparum densities, stages and genotyping profiles. Malar J. 2008 Nov 21;7:241.

Leiva, B., Classdoter, E., Linder, E., and Winiecka-Krusnell, J. (2008): Free-living Acanthamoeba and Naegleria spp. amoebae in water sources of Leon, Nicaragua. Revista de Biologia Tropical 56, 439-446.

Lindstrom, I., Sundar, N., Lindh, J., Kironde, F., Kabasa, J. D., Kwok, O. C., Dubey, J. P., and Smith, J. E. (2008): Isolation and genotyping of Toxoplasma gondii from Ugandan chickens reveals frequent multiple infections. Parasitology 135, 39-45.

Mok, B. W., Ribacke, U., Rasti, N., Kironde, F., Chen, Q., Nilsson, P., and Wahlgren, M. (2008a): Default Pathway of var2csa switching and translational repression in Plasmodium falciparum. PLoS ONE 3, e1982.

Mok, B. W., Ribacke, U., Sherwood, E., and Wahlgren, M. (2008b): A highly conserved segmental duplication in the subtelomeres of Plasmodium falciparum chromosomes varies in copy number. Malar J 7, 46.

Mphande, F. A., Ribacke, U., Kaneko, O., Kironde, F., Winter, G., and Wahlgren, M. (2008): SURFIN4.1, a schizont-merozoite associated protein in the SURFIN family of Plasmodium falciparum. Malar J 7, 116.

Soderstrom, A., Osterberg, P., Lindqvist, A., Jonsson, B., Lindberg, A., Blide Ulander, S., Welinder-Olsson, C., Lofdahl, S., Kaijser, B., De Jong, B., Kuhlmann-Berenzon, S., Boqvist, S., Eriksson, E., Szanto, E., Andersson, S., Allestam, G., Hedenstrom, I., Ledet Muller, L., and Andersson, Y. (2008): A large Escherichia coli O157 outbreak in Sweden associated with locally produced lettuce. Foodborne Pathog Dis 5, 339-49.

Winiecka-Krusnell, J., Dellacasa-Lindberg, I., Dubey, J. P., and Barragan, A. (2008): Toxoplasma gondii: uptake and survival of oocysts in free-living amoebae. Exp Parasitol (accepted).

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Form A, part 2 (iii)

National biological defence research and development programme #3

Information under paragraph IX for year 2008 (list of publicly-available papers and reports resulting from the work during the previous 12 months)

Publication of relevant biological research at the National Veterinary Institute:

A list of relevant publications 2008 at the National Veterinary Institute is available for downloading at: http://www.sva.se/sv/navigera/Forskning/Publikationer/

Form B (i)

Background information on outbreaks of reportable infectious human diseases

Disease	2008	2007	2002	2003	2004	2005	2006
Population	*9256347*	*9182927*	*8940788*	*8975670*	*9011392*	*9047752*	*9113257*
Amoeba infection	266	321	419	416	416	304	259
Atypical mycobacteria	398	388	250	269	269	348	348
Botulism	0	0	0	2	2	1	2
Campylobacter infection	7692	7106	7137	7149	7149	6796	6078
Diphteria	1	o	0	0	0	0	0
EHEC	304	263	129	73	73	368	265
Giardiosis	1529	1419	1436	1360	1360	1151	1282
Gonorrhoea	724	642	505	596	596	691	677
Yellow fever	0	0	0	0	0	0	0
Haemophilus infl. type b	-	-	21	23	23	34	123
Hepatitis A	78	69	76	122	122	93	80
Hepatitis B	1525	1465	1734	1940	1940	1438	1208
Hepatitis C	2523	2134	3382	3222	3222	2610	1976
Hepatitis D	33	23	12	6	6	11	22
Hepatitis E	7	8	5	3	3	10	5
HIV infection	448	576	287	379	379	392	390

HTLV	6	10	7	6	6	7	5
Pertussis	459	689	1350	664	664	1360	795
Chlamydia	42001	47101	24692	26803	26803	33060	32518
Cholera	0	0	0	1	1	1	1
Legionellosis	153	130	94	80	80	107	105
Listeriosis	60	56	40	48	48	40	42
Malaria	91	88	140	113	113	114	93
Meningococcal infection	49	49	47	56	56	58	52
MRSA	1306	1128	442	549	549	975	1057
Anthrax	0	0	0	0	0	0	0
Measels	25	1	9	3	3	13	20
Puumala virus infection (HFRS)	569	2195	262	180	180	329	213
Ornithosis	11	9	13	12	12	5	2
Paratyphoid	17	27	25	16	16	21	31
Plague	0	0	0	0	0	0	0
Pc-resist. Pneumococci	565	672	525	562	562	664	631
Polio	0	0	0	0	0	0	0
Mumps	51	46	15	8	8	81	60
Rabies	0	0	0	0	0	0	0
Rubella	0	2	1	0	0	0	3
Salmonellosis (total)	4182	3933	3894	3794	3794	3571	4056
Salmonellosis (domestic)	669	944	819	805	805	655	1010

Shigellosis	596	470	379	372	372	571	429
Tetanus	0	0	0	0	0	1	1
Syphilis	172	239	128	179	179	99	172
Toxoplasmosis	-	-	10	17	17	-	-
Trichinosis	0	1	0	0	0	0	0
Tuberculosis	554	508	418	445	445	575	498
Tularemia	382	174	160	698	698	246	241
Typhoid	32	19	12	14	14	8	12
Ulcus molle	0	0	1	0	0	2	0
VRE	618	53	19	46	46	33	24
Viral hemorragic fevers	0	0	0	0	0	0	0
Yersiniosis	546	567	610	714	714	742	558
Relapsing fever	0	0	0	0	0	0	0

Brucellosis	8	8	-	-	3	10	4
Cryptosporidiosis	148	110	-	-	47	69	103
Dengue fever	73	59	-	-	24	62	54
Echinococcosis	13	24	-	-	9	12	7
Entamoeba histolytica	266	319	417	416	360	303	253
Streptococcal infection, group A	461	410	-	-	119	252	321
Haemophilius influenzae invasive	163	144	22	23	80	118	120
Leptospiriosis	6	1	-	-	2	3	2
Pneumococcal infection, invasive	1789	1441	-	-	420	1419	1331

Q fever	7	3	-	-	1	3	1
Total	71576	76044	49944	52184	52810	59836	57540

Form B (ii)

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

There are no cases for the reporting period on outbreaks of infectious human diseases and similar occurrences that seem to deviate from the normal pattern in any significant way. 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 a new diagnostic method- introduced in 2006 - that captured a new clone of the bacterium. Other areas of interest are hantavirus infections that showed a dramatic increase (913%) between 2006 (213 cases) and 2007 (2195 cases). Global warming has affected the prevalence and distribution of insect-borne diseases world-wide and this is seen in Sweden for a number of zoonotic and/or arthropod-borne infectious diseases. It is believed that special climatic circumstances during the spring 2007 led to the marked increase in Hantavirus infection (Puumala) during that year. For 2008 the reported levels were more moderate (569 cases) however still indicating an upward trend.

Furthermore, it is worthwhile mentioning the emergence of antibiotic resistant bacteria as an important growing health threat. While ESBLs have only been notifiable in Sweden since 1 February 2007, they are seen as an important health care problem. The number of reported ESBLs have increased from 2100 in 2007 to 2957 in 2008.

Form B (i)

Background information on outbreaks of reportable infectious animal diseases[10]

	SUM
	2008
Bluetongue, BTV (Cattle)	**25**
Bluetongue, BTV (Sheep)	**3**
Botulism[11]	**16**
Blackleg (Cattle)	**10**
Bovine malignant catarrh (MCF) (Cattle)	**6**
Brucella canis	**1**
Dirofilarios (Dog)	**1**
Enterohaemorrhagic E. Coli (EHEC) (Cattle)	**3**
Leptospirosis (Dog)	**10**
Leptospirosis (Horse)	**5**
Listeriosis[12] (Cattle)	**39**
Lymphoma[13] (Cattle) other than EBL	**127**
Anthrax (cattle)	**1**
Trichinellosis[14] (Fox)	**10**
VTEC (Elk)	**2**
MRSA (Dog)	**3**
MRSA (Horse)	**7**
MRSI (Dog)	**73**
MRSI (Cat)	**5**
MRSI (Horse)	**1**

[10] Number of reported cases of notifiable animal diseases (except Salmonellosis) in Sweden, The Agency for Agriculture has covered more diseases than e.g. 2007 which is the reason for using a separate table for 2008

[11] The cases originate from cattle, poultry, horse

[12] The cases originate from cattle, dog, goat, horse, sheep

[13] The cases originate from cattle, dog, goat, horse, sheep, pig

[14] The cases originate from fox, lynx, wolf, boar

Babesiosis	**1**
Bovine viral diarrhoea (BVD)	**4**
Equine influenza (virus type A)	**41**
Equine rhinopneumonitis / Virusabort	**21**
Infectious arteritis of horses	**2**
Leishmaniosis (Horse)	**0**
Strangles	**79**
Avian chlamydiosis *(Psittacos)*	**3**
Avian infectious bronchitis	**2**
Avian tuberculosis	**2**
Infectious laryngotracheitis (ILT)	**8**
Mycoplasma infections	**1**
Newcastle disease	**1**
Clostridium perfringens typ C	**1**
Caprine arthritis/encephalitis	**6**
Dichelobacter nodosus	**62**
Canine distemper (Dog)	**1**
FeLV (Cat)	**22**
FIV (Cat)	**6**
Immunbristvirusinfektion hos katt (katt)	**1**
Hepatitis contagiosa canis (HCC) (Dog)	**3**
Leishmaniosis (Dog) /	**24**
Monocytär ehrlichios/ (dog)	**1**
Myxomatos (Rabbit)	**2**
Transmissible veneral tumor	**1**
Tularemia[15]	**10**
Furunculosis	**1**
Koi Herpes Virus	**1**
Renibacteriosis (BKD)	**1**
Yersinosis	**5**
Bovine viral diarrhoea (BVD)	**4**
Enzootic bovine leukosia (EBL)	**1**
Maedi-visna (sheep)	**20**

[15] The cases originate from European rabbit

Background information on outbreaks of reportable infectious animal diseases 2001-2007

Disease		Number of outbreaks per year					
	2001	2002	2003	2004	2005	2006	2007[16]
Listeriosis (sheep)	-[17]	-	-	-	-	-	28
Listeriosis (cattle)	-	-	-	-	-	-	4
Listeriosis (Fallow deer)	-	-	-	-	-	-	1
Lymphoma (other than EBL) (Cattle)	-	-	-	-	-	-	18
Lymphoma (Pig)	-	-	-	-	-	-	39
Lymphoma (Ovine)	-	-	-	-	-	-	4
Lymphoma (Dog)	-	-	-	-	-	-	38
Lymphoma (Horse)	-	-	-	-	-	-	6
Lymphoma (Roe deer)	-	-	-	-	-	-	1
VTEC[18]	4	2	0	1	4	1	1
Botulims[19]	0	3	4	5	2	5	4
Blackleg (Cattle)							7
Bovine Malignant catarrh[20]	9	7	7	5	8	2	3
Leptospirosis (Dog)	-	-	-	-	-	-	4
Leptospirosis (Horse)	-	-	-	-	-	-	2
Babesiosis	-	-	-	-	-	-	2
Strangles	-	-	-	-	-	-	82
Equine rhinopneumonitis	-	-	-	-	-	-	6
Contagious eguine metritis / CEM	-	-	-	-	-	-	4
Equine influenza (virus type A)	-	-	-	-	-	-	82
Infectious arteritis of horses	-	-	-	-	-	-	1
Infectious laryngotracheitis (ILT)	-	-	-	-	-	-	12
Avian chlamydiosis (Psittacos)[21]	1	4	3	5	1	5	4

[16] From January – September 2007

[17] Several of the diseases that are reported for 2007 have occurred in past years. They have until now however not been included in this report.

[18] Infections caused by Verocytotoxic E. coli 0157 (often referred to EHEC in many reports) are notifiable in animal if there is an epidemiological link to human infection. Animal species: cattle, goat, elk.

[19] The cases originate from cattle, poultry, mallard, jackdaw, dog, gull

[20] The cases originate from following animals: cattle, sheep

[21] The cases originate from following animals: birds, partridge, parrot

Avian tuberculosis	-	-	-	-	-	-	2
Newcastle disease[22]	1	0	1	1	2	1	1
Post-weaning multisystemic wasting syndrome	-	-	-	-	-	-	37
Porcine reproductive and respiratory syndrome	-	-	-	-	-	-	8
Caprine arthritis/encephalitis	-	-	-	-	-	-	14
TSE in sheep-NOR 98	-	-	-	-	-	-	2
Hepatitis contagiosa canis (HCC) (Dog)	-	-	-	-	-	-	1
Leishmaniosis (Dog)	-	-	-	-	-	-	24
Leishmaniosis (Horse)	-	-	-	-	-	-	1
FeLV (Cat)	-	-	-	-	-	-	19
FIV (Cat)	-	-	-	-	-	-	7
Tularemia[23]	0	4	11	2	5	4	2
Myxomatos (Rabbit)	-	-	-	-	-	-	1
Salmonella infection (Salmonellosis)[24]	-	-	-	-	-	-	
Renibacteriosis (BKD)	-	-	-	-	-	-	2
Infectious pancreatic necrosis (serotype ab)	-	-	-	-	-	-	1
Infectious pancreatic necrosis (other than serotype ab)	-	-	-	-	-	-	2
Other rhabdovirusinfection than VHS	-	-	-	-	-	-	1
Furunculosis	-	-	-	-	-	-	2
Yersinosis	-	-	-	-	-	-	2
Proliferative kidney disease	-	-	-	-	-	-	1
Koi Herpes Virus	-	-	-	-	-	-	4
Epizootic bovine leukosis	-	-	-	-	-	-	1
Maedi-visna	-	-	-	-	-	-	51
Bovine viral diarrhoea	-	-	-	-	-	-	4
Tuberculosis[25]	1	0	0	1	1	0	0

[22] The cases originate from following animals: poultry, fowls, pigeon

[23] The cases originate from following animals: hare, squirrel, monkey

[24] Any findings of Salmonella in animals, humans, feed and food of animal origin is notifiable. Reprints of the annual report “Trends and sources of zoonotic infections recorded in Sweden” can be obtained from the Swedish Zoonosis Center at SVA, which includes Salmonella cases in animals, humans, feed and food.

[25] The cases originate from following animals: elephant. The outbreak of 2004 was diagnosed and confirmed during 2005.

Form B (ii)

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.

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

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

See under Form A, part 2 (iii), information provided under paragraph IX.

Form D

Active promotion of contacts #1

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

   For each such event, the following information should be provided:

   - name of the conference, etc.
   - arranging organization(s), etc.
   - time

   - place
   - main subject(s) for the conference, etc.
   - conditions for participation

   - point of contact for further information, registration, etc.

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***	***NO***
(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 documents:

BWC/MSP.2003/MX/WP.62 of 4 September 2003
(BTWC and related legislation prepared by Austria, Belgium, Finland, France, Germany, Ireland, Italy, The Netherlands, Portugal, Spain, Sweden and the United Kingdom).

"Provisions of the Swedish Work Environment Authority on Microbiological Work Environment Risks – Infection, Toxigenic Effect, Hypersensitivity" (AFS 2005:1). Regulate biosafety at work including laboratory safety and classification of biological agents (based on Directive 2000/54/EC).

BWC/MSP/2004/MX/WP.17 of 16 July 2004
(A short introduction to the Swedish system to manage outbreaks of infectious diseases among humans and animals).

* 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, ETEC/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, ETEC/Cholerae (culturing on commission)