Inter-agency collaboration on zoonoses and the One Health Sweden research network
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Inter-agency collaboration on zoonoses

Slides courtesy of

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Inter-agency collaboration on zoonoses

- The Swedish zoonoses “game board”
- Collaborative structures and fora
- Collaborative development
Swedish Civil Contingencies Agency

Ministry of Defense

Ministry for Rural Affairs
  - Board of Agriculture
  - National Veterinary Institute
  - National Food Agency

Ministry for Health and Social Affairs
  - National Board of Health and Welfare
  - Public Health Agency of Sweden

Ministry of Finance

Ministry for Employment
  - Swedish Work Environment Authority

Ministry of the Environment
  - Swedish Environmental Protection Agency
  - Swedish Agency for Marine and Water Management

National Regional Local Board of Agriculture
  - Municipalities (n=290)
  - County councils (n=20)
  - County Administrative Boards (n=21)
Collaborative functions

Zoonosis Council
"peace-time" forum with a strategic focus

Zoonotic incident collaboration
crisis/information management function

SUBU – for continuous exchange of information (primarily) regarding zoonotic outbreaks/incidents
Collaborative functions

Zoonosis Council
"peace-time" forum

Zoonotic incident collaboration
crisis/information management

SUBU – for continuous exchange (primarily) regarding zoonotic outbreaks/incidents

- Follow-up of developmental activities
- Information exchange with other collaborative platforms (AMR)
- Communication regarding changes in risk management of smuggled dogs concerning rabies
- Needs to produce joint guidelines for pregnant women
Collaborative functions

Zoonosis Council
“peace-time” forum with a strategic focus

Zoonotic incident collaboration
crisis/information management function

March: Ornithosis in Southern Sweden
April: Avian influenza (H7N9)
May: H1N1 in domestic pigs
Summer: Seoul hantavirus in domestic rats
Autumn: A case of anthrax in cattle
Collaborative functions

Zoonosis Council
“peace-time” forum

Zoonotic incident
crisis/information management

SUBU – for continuous exchange of information (primarily) regarding zoonotic outbreaks/incidents

• Family outbreak of EHEC caused by imported soft cheese
• Nordic (international) Hepatitis A outbreak
• Salmonellosis at a daycare facility
• Follow-up of outbreak routines (keep strains for typing etc)
Some of the challenges

- In general, collaboration between agencies is mandated and supported within the Swedish administration

But…
- Monetary resources are (largely) channeled by ministry
- Agencies have their individual priorities
- Even when priorities are similar, planning horizons and limited resources make it difficult to synchronise activities
- Legislation can be a constraint
Areas of current coordination

- Joint crisis management
- Joint incident (day-to-day) management
- Joint target setting and prioritisation
Future development

Joint crisis management

Joint incident (day-to-day) management

Integrated surveillance

Joint situation/threat assessments

Joint horizon scanning

Joint target setting and prioritisation
National strategies for zoonoses

National plan for inter-agency collaboration in serious zoonotic outbreaks

Zoonoses – Strategy for inter-agency collaboration in outbreaks of zoonotic disease

National strategic documents for:
Salmonella
Infection with Listeria monocytogenes
Infection with Yersinia enterocolitica
Infection with Cryptosporidium
Infection with Campylobacter
EHEC – update of previous issue
One Health Sweden –
a research network

www.onehealth.se

Composition:
David Stephansson
• Research network

• Started 2010 by researchers in Uppsala and Kalmar, Sweden including human and veterinary medicine, microbiology and ecology

• Today more than 300 registered members

www.onehealth.se
Annual scientific meetings

Research seminars
Infection Ecology and Epidemiology - The One Health Journal

Welcomes papers from studies where researchers from multiple medical and ecological disciplines are collaborating so as to increase our knowledge of the emergence, spread and effect of new and re-emerged infectious diseases in humans, domestic animals and wildlife.

- Peer-reviewed
- Open access
- No publication fee
  – until further noticed

http://www.infectionecologyandepidemiology.net/
Distribution and abundance of schistosomiasis and fascioliasis host snails along the Mara River in Kenya and Tanzania
(Published: 24 October 2014)

Molecular characterization and antibiotic resistance of Enterococcus species from gut microbiota of Chilean Altiplano camelids
Katheryne Guerrero-Olmos, John Báez, Nicomédes Valenzuela, Joselyne Gahona, Rosa del Campo, Juan Silva
(Published: 23 October 2014)

Assessing the utility of contact tracing in reducing the magnitude of tuberculosis
Saurabh R. Shrivastava, Prateek S. Shrivastava, Jegadeesh Ramasamy
(Published: 23 October 2014)

A serological survey of tick-borne pathogens in dogs in North America and the Caribbean as assessed by Anaplasma phagocytophilum, A. platys, Ehrlichia canis, E. chaffeensis, E. ewingii, and Borrelia burgdorferi species-specific peptides
Barbara A. Qurollo, Ramaswamy Chandrashekar, Barbara C. Hegarty, Melissa J. Beall, Brett A. Stillman, Jiayou Liu, et al.
(Published: 20 October 2014)

Overview of ESBL-producing Enterobacteriaceae from a Nordic perspective
Alma Brolund
(Published: 1 October 2014)
Spread the knowledge about One Health

- Public seminars
- Policymakers
- Educational activities

www.onehealth.se
International cooperation
Antibiotic resistance in different environments

Antarctic expedition 2012

E. coli, Campylobacter, Brachyspira, Yersinia, Salmonella

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Evolution of antibiotic resistance at sub-MIC

Bacteria
Antibiotics

Human medicine
Therapeutic use
Community 90%
Hospital 10%

Animal husbandry
Therapeutic use
Preventive use
Growth promotion

Plant production
Aquaculture
Fish, shrimp farming

Weak selective pressures (ng-pg/ml)

Food

Urine (feces)

Direct spread/runoff

Waste water/sludge
Manure

Lakes, rivers, soils

Environment

E-mail: dan.andersson@imbim.uu.se
Environmental resistance development of influenza A virus

Josef Järhult E-mail: jjarhult@hotmail.com
Ticks, birds and the spread of infectious diseases

Collection of ticks from migratory birds

E-mail: erik.salaneck@medsci.uu.se
Can cattle grazing close to water transmit zoonotic parasites?

Which subspecies of Cryptosporidium can be found in cattle?

In parallel: New rapid and sensitive methods to analyse water

E-mail: karin.troell@sva.se
Zoonotic bacteria in bulk tank milk

Unpasteurized milk:
- Staphylococcus aureus
- Listeria monocytogenes
- Campylobacter jejuni
- Yersinia enterocolitica
- EHEC O157:H7

E-mail: karin.artursson@sva.se
Genetic characterization of the most common VTEC/EHEC serotype (O157:H7) found in Swedish humans and cattle

VTEC “Clade 8” in Swedish cattle

Molecular typing of E. coli O157:H7 from Swedish cattle and human cases: population dynamics and Virulence. R. Söderlund, C. Jernberg, S. Ivarsson, I. Hedenström, E. Eriksson, E. Bongcam-Rudloff, A. Aspán. JCM, November 2014 52:3906-3912. E-mail: robert.soderlund@sva.se
Thank you for listening!

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