

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

Webinar November 10, 2014



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Uppsala, Sweden**

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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

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

County Administrative Boards (n=21)

County councils (n=20)

Municipalities (n=290)

Ministry for Employment

Swedish Work Environment Authority

Ministry of the Environment

Swedish Environmental Protection Agency

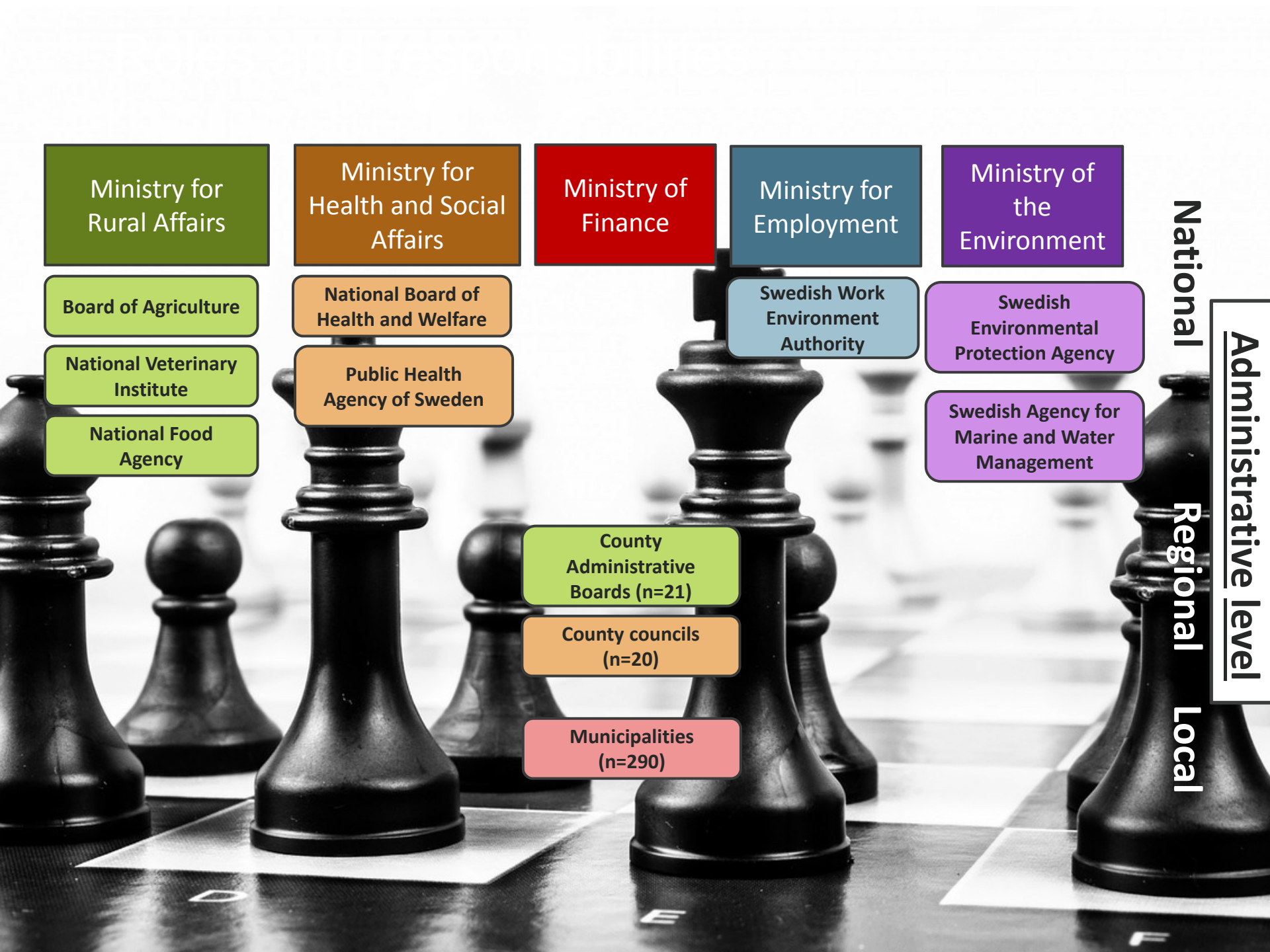
Swedish Agency for Marine and Water Management

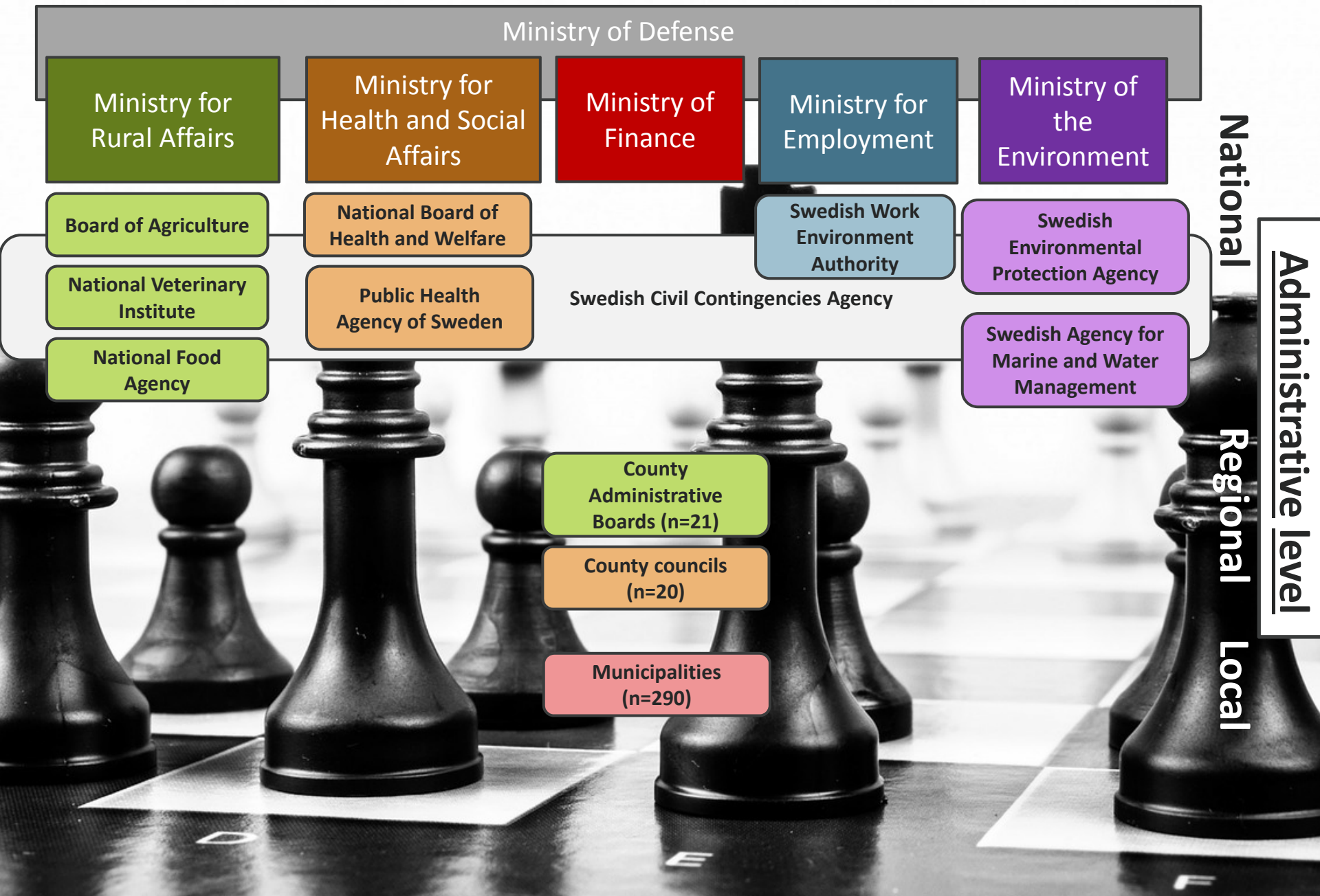
National

Regional

Local

Administrative level





Ministry of Defense

Ministry for Rural Affairs

Ministry for Health and Social Affairs

Ministry of Finance

Ministry for Employment

Ministry of the Environment

Board of Agriculture

National Board of Health and Welfare

National Veterinary Institute

Public Health Agency of Sweden

National Food Agency

Swedish Civil Contingencies Agency

Swedish Work Environment Authority

Swedish Environmental Protection Agency

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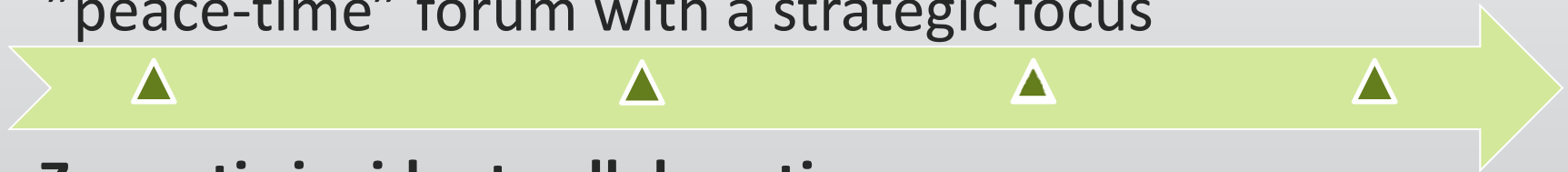
Local

Administrative level

Collaborative functions

Zoonosis Council

"peace-time" forum with a strategic focus

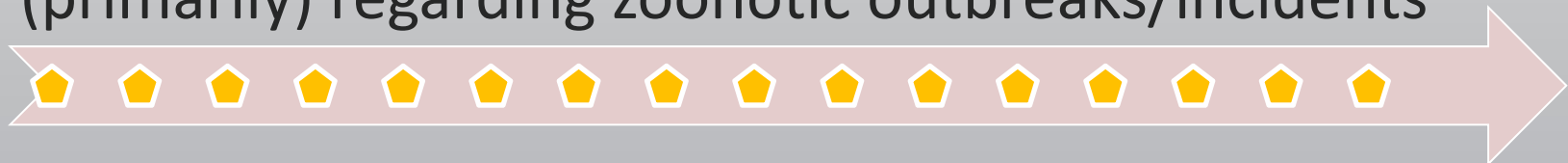


Zoonotic incident collaboration

crisis/information management function



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



Collaborative functions

Zoonosis Council
"peace-time" forum



Zoonotic incident collabor
crisis/information manage



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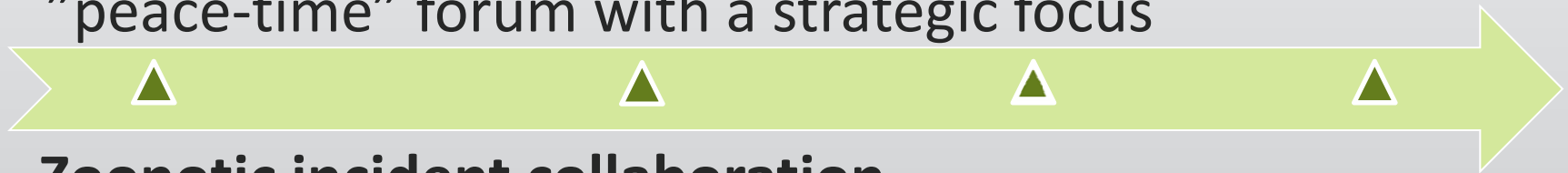


- Follow-up of developmental activities
- Information exchange with other collaborative platforms (AMR)
- Communication regarding changes in risk management of smuggled dogs concerning rabies
- Needs to produce joint guidelines for pregnant women

Collaborative functions

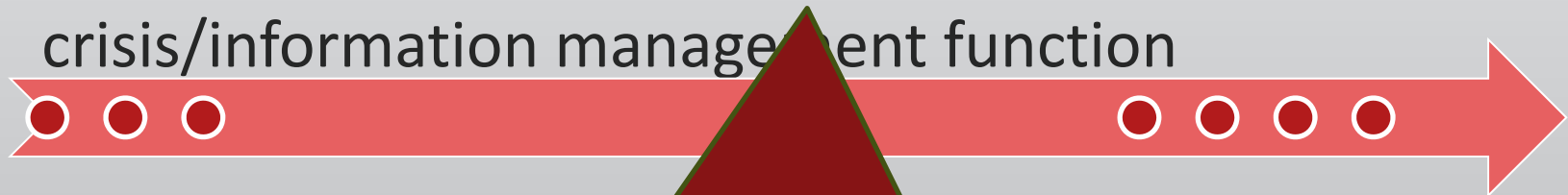
Zoonosis Council

"peace-time" forum with a strategic focus

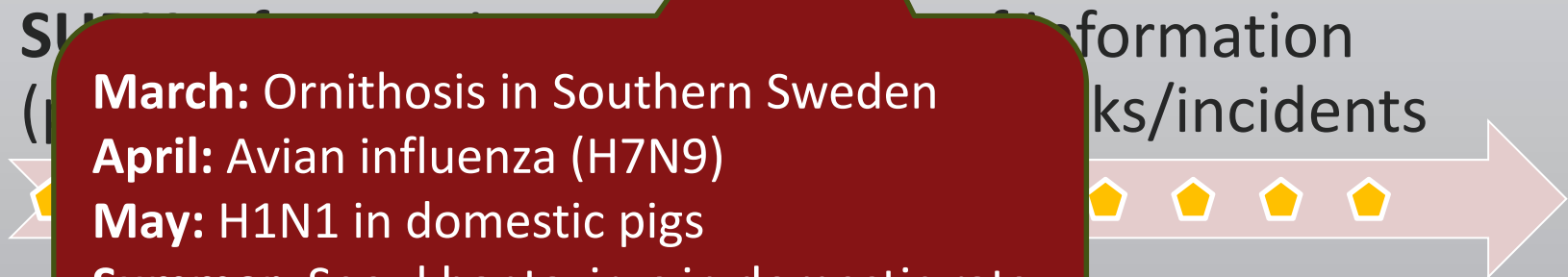


Zoonotic incident collaboration

crisis/information management function



SVU (SVA) information
links/incidents



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

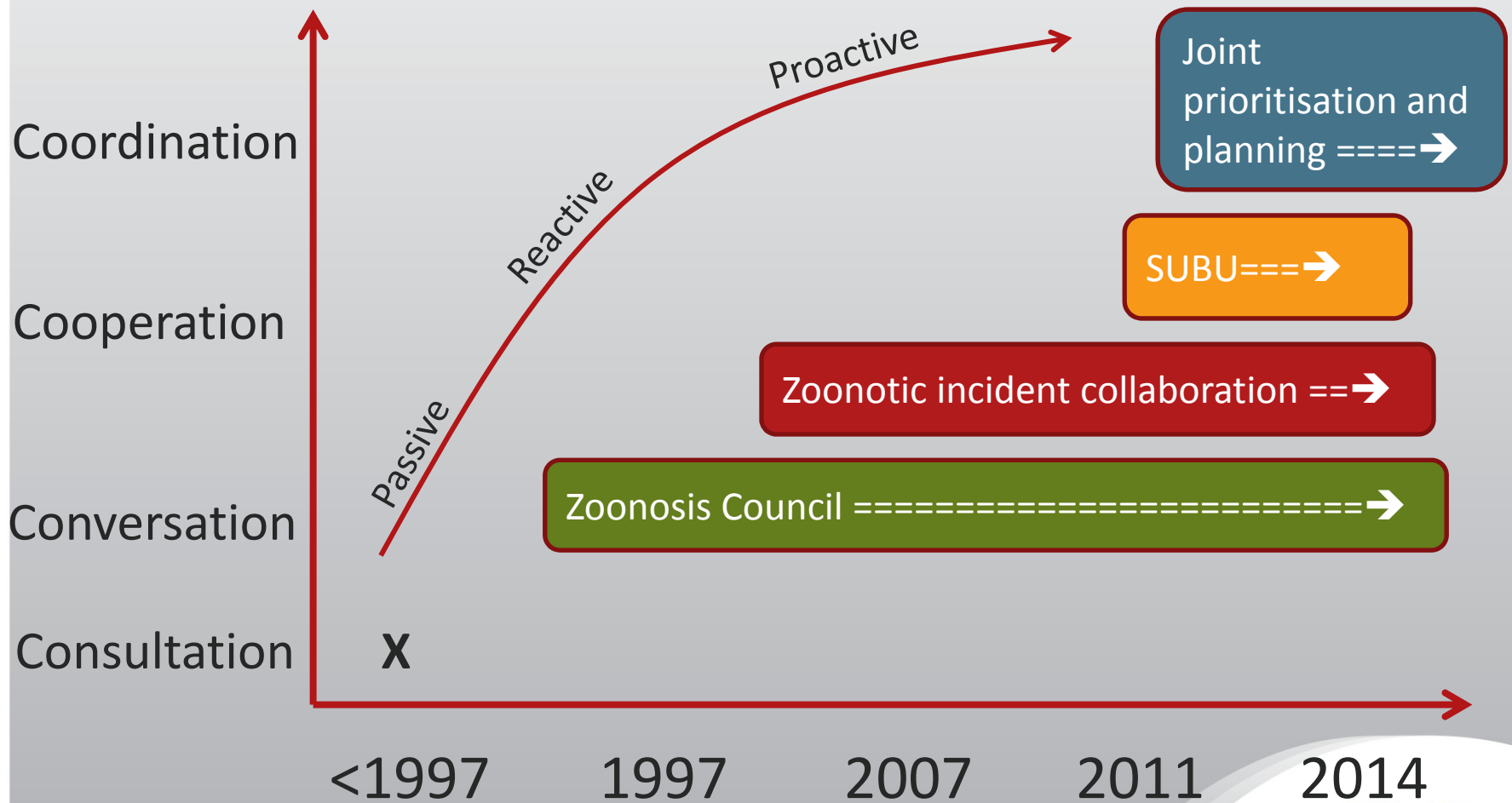


SUBU – for continuous exchange of information
(primarily) regarding zoonotic outbreaks/incidents



- 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)

Evolution of degree of interaction

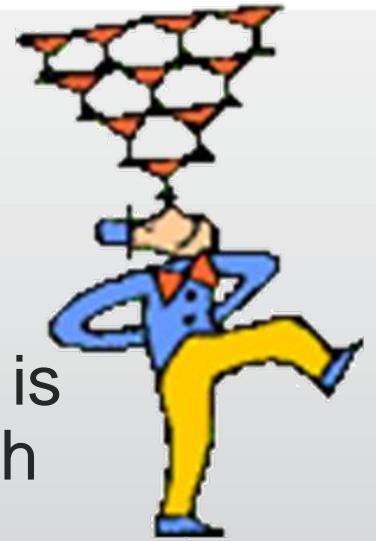


Some of the challenges

- 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

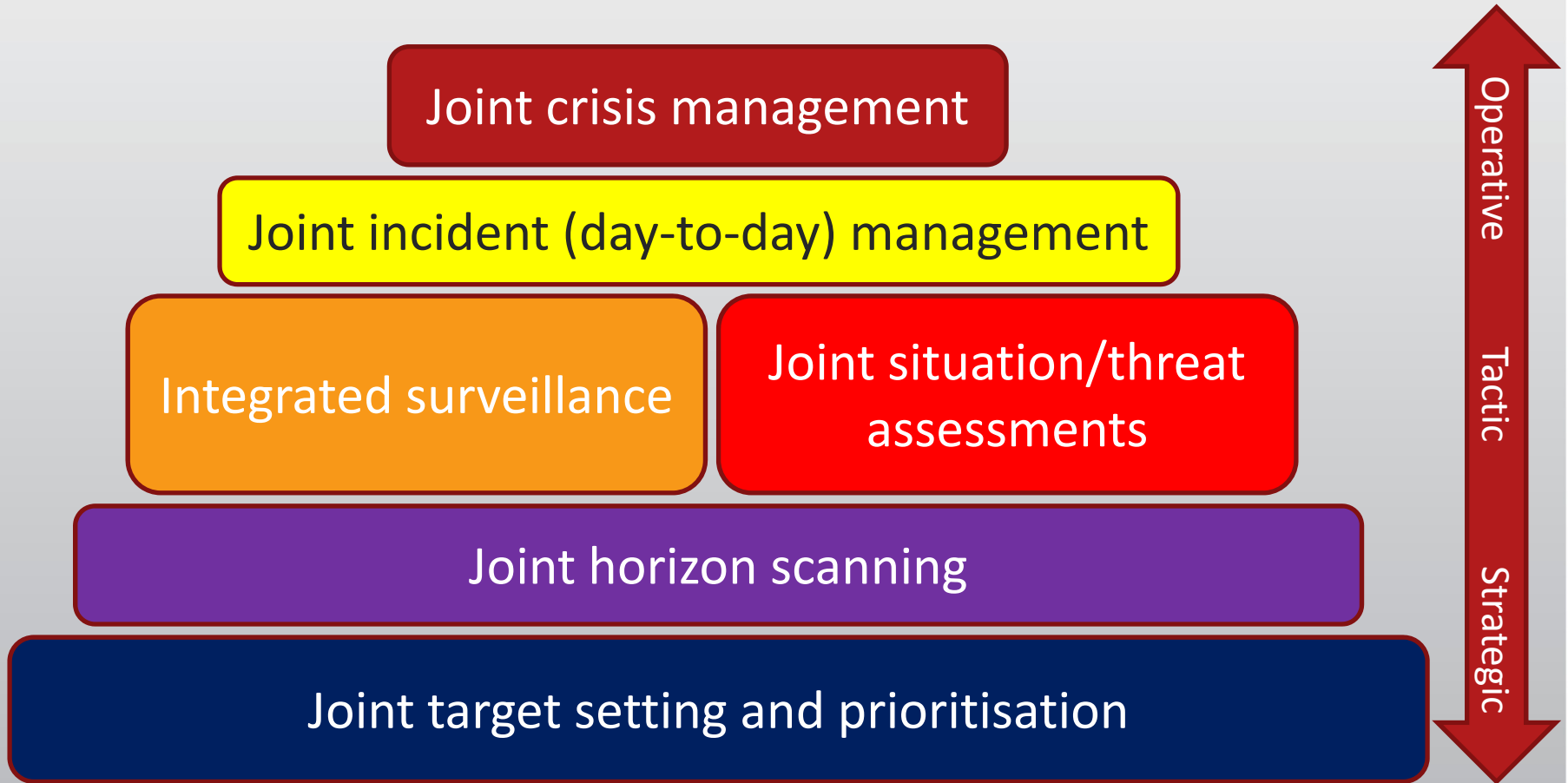
Joint target setting and prioritisation

Operative

Tactic

Strategic

Future development



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*

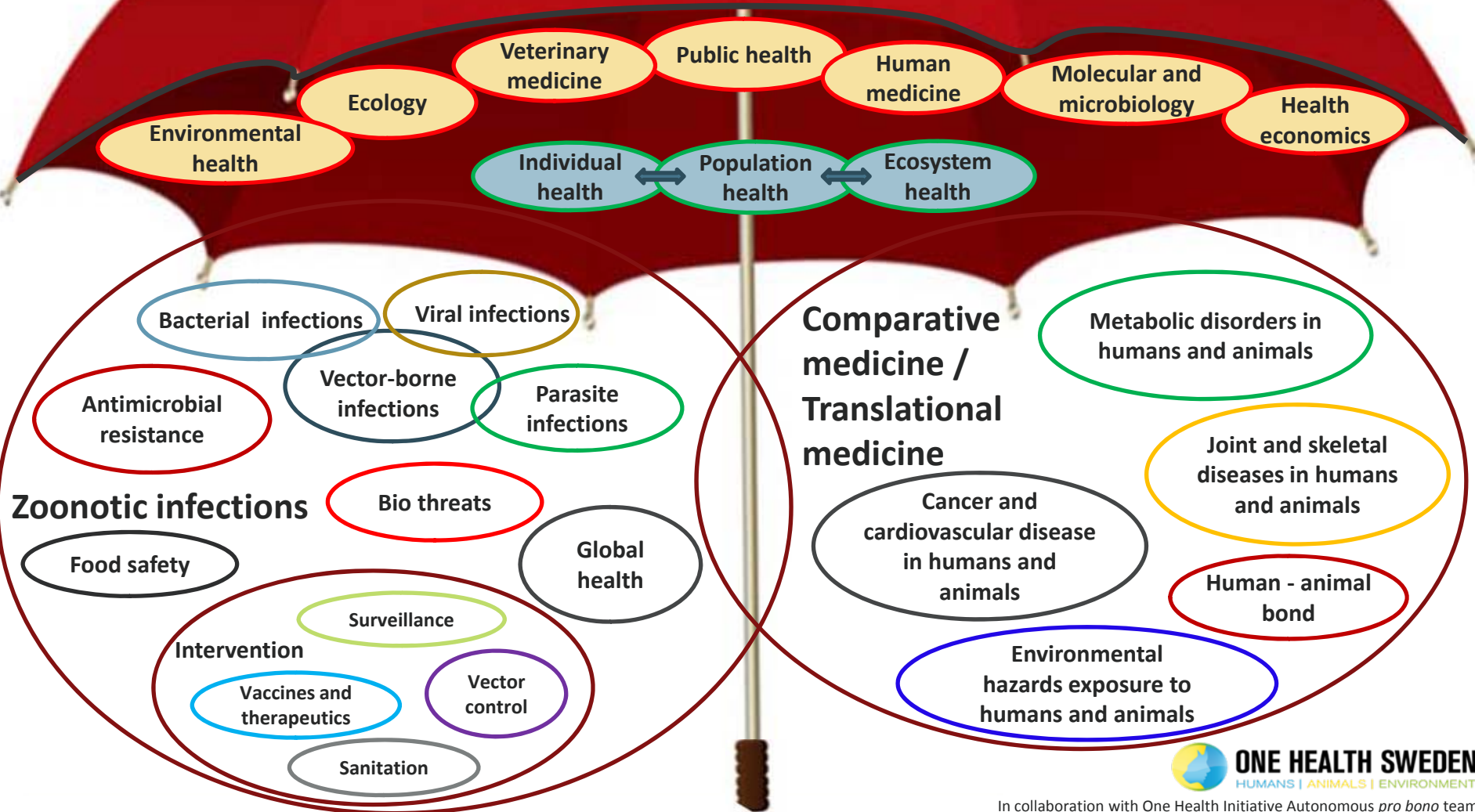
EHEC – update of previous issue

One Health Sweden – a research network



www.onehealth.se

One Health





ONE HEALTH SWEDEN

HUMANS | ANIMALS | ENVIRONMENT

- 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





ONE HEALTH SWEDEN

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Annual scientific meetings



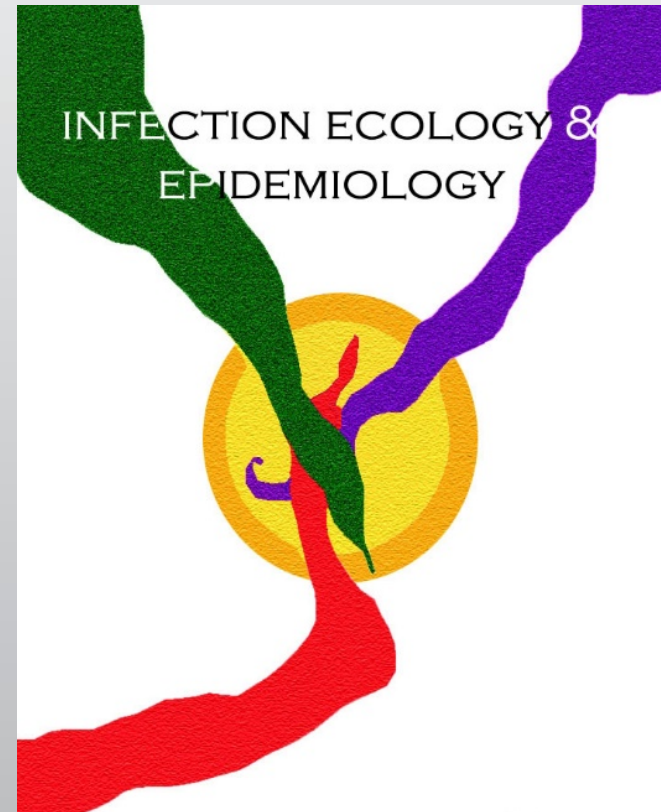
Research seminars

SVA

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/>



IEE journal - Recent publications

Distribution and abundance of schistosomiasis and fascioliasis host snails along the Mara River in Kenya and Tanzania

Gabriel O. Dida, Frank B. Gelder, Douglas N. Anyona, Ally-Said Matano, Paul O. Abuom, Samson O. Adoka, et al.

(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)





ONE HEALTH SWEDEN

HUMANS | ANIMALS | ENVIRONMENT

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

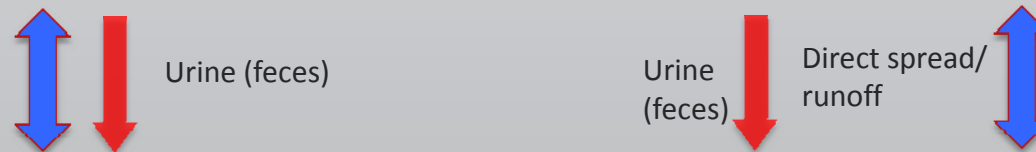
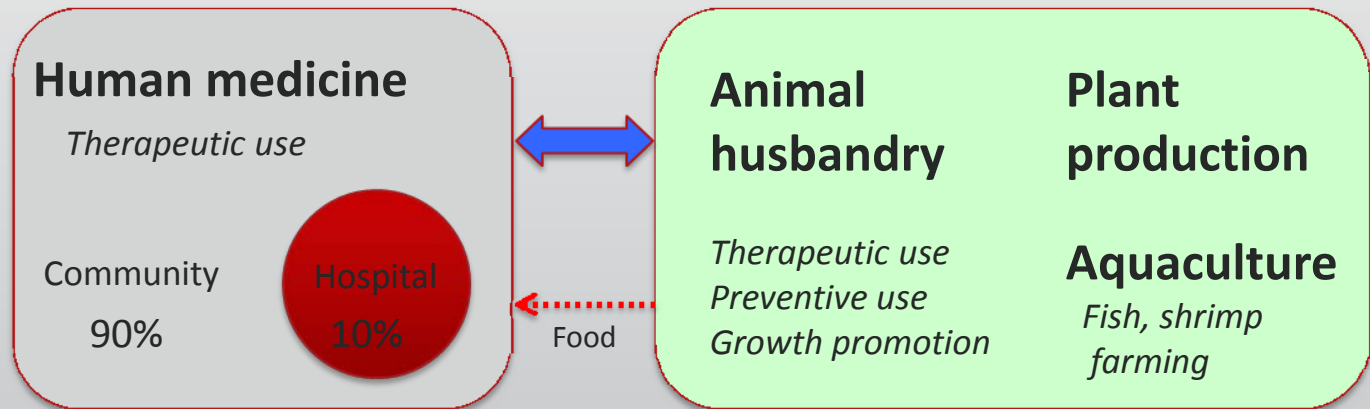
E-mail: bjorn.olsen@medsci.uu.se

Evolution of antibiotic resistance at sub-MIC

Bacteria
Antibiotics

About 1/3

About 2/3



Waste water/sludge

Manure

Lakes, rivers, soils

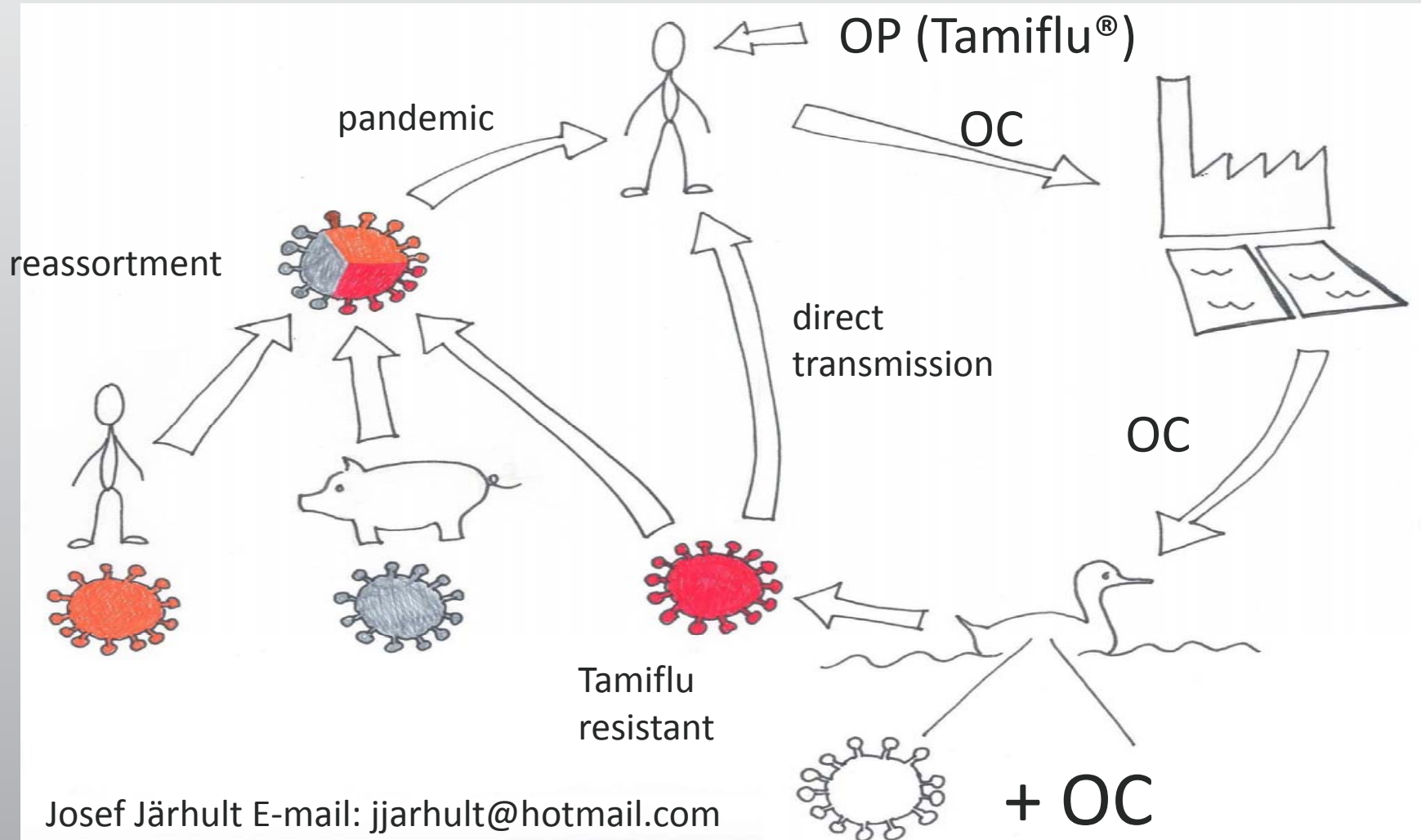
Environment

Weak selective pressures (ng-pg/ml)

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

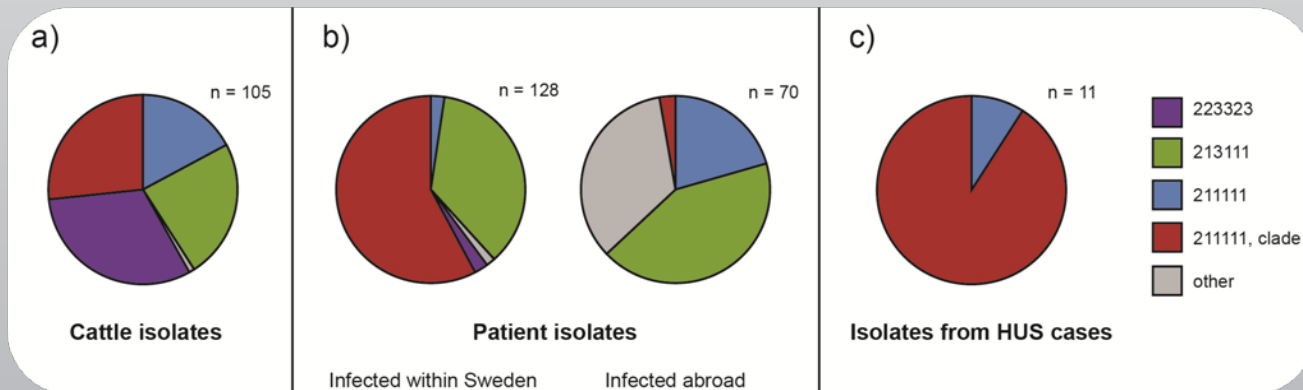
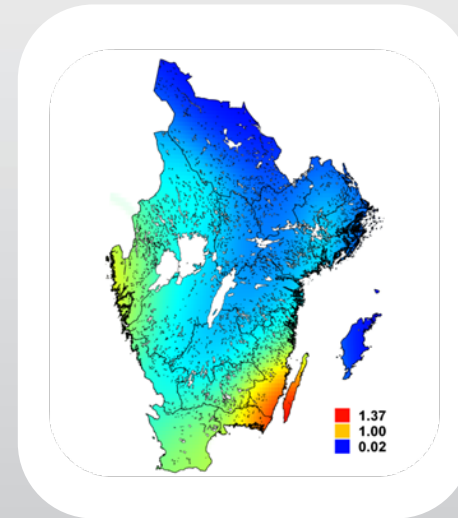


Unpasteurized milk:

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

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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