Surveillance prioritisation and cost-effective delivery – the Swedish perspective

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Outline

• Background
• How is surveillance paid for in Sweden, and on what grounds?
  – How money is allocated
  – The prioritisation process
• How do we ensure surveillance is carried out in a cost-effective manner?
  – Surveillance ’toolbox’ mapping
  – Prioritisation of components, and their development
• Influence on how decisions are made
• Conclusions
SE - strengths and weaknesses

- Favourable animal health status
- Longstanding collaborative tradition based on a high degree of trust
- Centralised systems in place for collection of samples from livestock
- Ability to co-ride exotic disease surveillance on endemic disease control activities
- Cooperative structures are breaking up, the relationship between authorities and the industry is changing
- Access to cost-efficient surveillance tools rests upon informal agreements
- National eradication schemes concluded => downscaled
- Prioritisation pragmatic, but not very transparent
- More scrutiny of how governmental funds for animal health (in general) are used (O)
- Short financial planning horizon => difficult with developmental activities
- Evaluation not consistently a part of surveillance planning cycles

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Three strategic areas

- Prioritisation
- Surveillance delivery
- Methodological development

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Surveillance stakeholders

**Payers**
- Industry
- Board of Agriculture
- Swedish Civil Contingencies Agency
- (Funding bodies)

**Producers**
- Industry
- Nat Vet Institute
- (Academia)

**Users**
- Industry
- Nat Vet Institute
- Board of Agriculture
- Other authorities
- The public

**Other authorities**
- The public

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What is the process for allocating resources to surveillance in Sweden?

Is animal diseases a societal priority?

Ministry of Rural Affairs

Biosecurity, prevention

Zoonoses, outbreak management

Endemic disease control

Post-mortems

FFD, Additional guarantees

1.4 Mio €
5.4 Mio €
3.6 Mio €
0.8 Mio €
3.7 Mio €

Board of Agriculture

"Surveillance producers"

Speed of policy change

Low

High

What hazards and which development are our priorities?

How should prioritised hazards be investigated / controlled?
Does current legislation dictate the conduct of active surveillance?

- If yes, does the legislation in question under national control?
  - If yes, is there a need to evaluate the policy basis?
    - If yes, active surveillance to be implemented:
      - Evaluation subject to prioritisation
    - If no, active surveillance should be considered, subject to prioritisation, cat. A (endemic)
  - If no, is the disease present in Sweden?
    - If yes, active surveillance should be considered, subject to prioritisation, cat. B (exotic)
    - If no, active surveillance not to be conducted

- If no, is the disease an emerging threat for Sweden?
  - If yes, does (early) detection of the disease require active surveillance?
    - If yes, active surveillance to be implemented: Evaluation subject to prioritisation
    - If no, active surveillance not to be conducted
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    - If yes, active surveillance should be considered, subject to prioritisation, cat. B (exotic)
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Are there other reasons to consider active surveillance?

- If yes, has to be formally prioritised in order to be subject to active surveillance

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Consequence of categorisation

**SUBJECT TO PRIORITISATION**

- **CATEGORY 1**
  - Design and needs reassessed according to international requirements

- **CATEGORY 2**
  - Design and needs reassessed with 3 yr intervals

- **CATEGORY 3A**
  - Assess needs annually (unless self-prioritised)

- **CATEGORY 3B**

- **CATEGORY 4**
  - Needs assessed ad hoc

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Categories and criteria for prioritisation

- **Risk and epidemiology** (trend, infectious pressure, ability to prevent introduction, risk of silent spread, wildlife reservoir, prospects for control, potential for transmission)

- **Public health** (Incidence, absenteeism, healthcare needs, chronic sequelae, case fatality rate, preventive measures, trend, economic consequences of control, preventive needs, therapeutic needs)

- **Animal health and welfare** (Disease fatality rate, mortality, severity of welfare hazard, duration of welfare hazard)

- **Societal aspects incl. environmental** (economic consequences: industry, economic consequences of control: government, other consequences for the animal holder, effect on trade, effect on environment and biodiversity, driver of antimicrobial resistance)
Definition of surveillance

- ...the systematic ongoing collection, collation, and analysis of data related to animal health...

Number of actors involved

Collection

Transportation

Laboratory analyses

Analysis and interpretation

Secondary data sources

Decision making

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“How’s” that cost

• Sampling – organising the data collection, sample material, visits to farms (labour + transportation), postal fees...
• Laboratory analyses – processing the samples, reporting, billing
• Information management – access to data, compilation of results, analysis, interpretation, dissemination and communication

• Reduce number of samples
• Smarter ways => centralisation
• Utilise surveillance synergies
• Reproducible analysis and reporting
"Lean" surveillance philosophy

• "Expenditure of resources in any aspect other than the direct creation of value for the end customer is wasteful"

• Focus on smoothness of work processes

• 'Need' driven learning to improve

• Plan – Do – Study – Adjust

• Improvements identified and tested at the lowest possible level
Surveillance component mapping

Stakeholder groups

Actors
- Roles
- Existing agreements
- Financing

Sampling
- Sampling frame, species, coverage, accessibility
- Sample selection, representativity
- Type of samples, quality, traceability

Information management
- Data collection, how, what
- Communication
- Reporting, what, how and to whom

Analysis
- Strengths
- Weaknesses
- "Wish list"
- Recommendations
  - Organisation and management
  - Training needs
  - Data quality and coverage
  - Costs (per unit information)
  - Representativeness

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Prioritisation of development

• **Prioritised development (depending on current performance)**
  – Components that covers more than one species and/or contribute information on more than one disease
  – Components covering farmed animals (incl aquaculture)
  – Components that contribute to internationally compulsory surveillance
  – Components that contribute to early detection of exotic diseases
  – Components that are lacking – populations not covered

• **Prioritised actions**
  – Inefficiencies that are repeated in several processes
    • Register issues (development, quality)
    • Needs for changes / updates in legislation
    • Clarification of data ownership
    • Formalisation of agreements and responsibilities
  – Components with a high cost/unit information
Annual PDSA-cycle

Decision

Application deadline

Implementation of surveillance and development

Evaluation

NSP

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Some reflections

• Clarifying priorities helps in long-term planning and preparedness; should be applied both to hazards and to development and maintenance of surveillance.

• Analysing surveillance components from a lean perspective can help identifying inefficiencies such as work waste, overload and untimeliness, and subsequently help to reduce costs / quality loss.

• Applying a system’s perspective to the analysis of surveillance activities can help identifying reoccurring anomalies in the system, sometimes with the same source to solutions.

• Surveillance resource allocation occurs at several levels and is usually more flexible at the lower levels. Reassessment of allocation policies should be integrated into planning cycles in order to improve quality, preparedness and work satisfaction.
Thank you for your attention!