“Surveillance is a public good” – but how public is it?

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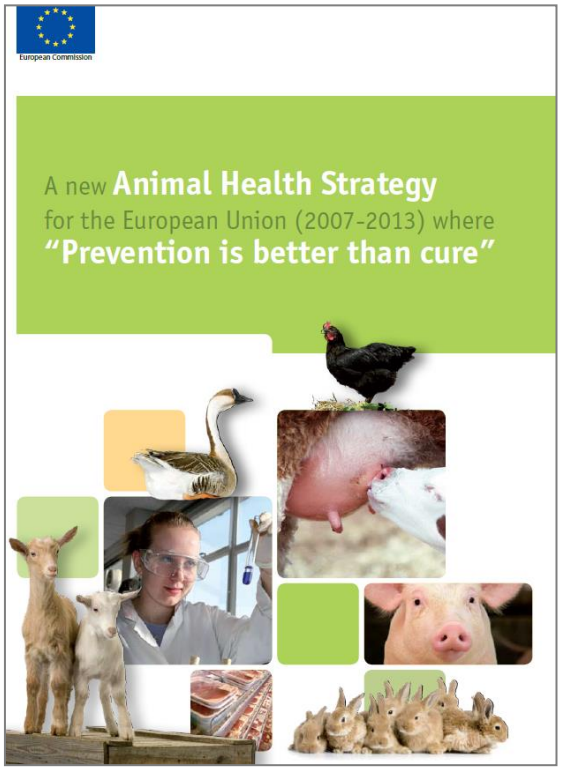
Food for thought



Page 14: "International organisations such as OIE and the World Bank consider Animal Health
[and surveillance]
as a **global public good**."

Example references:

- *OIE: OIE Brochure (2011)*
- *WB:* Jamison DT et al (2006), Garcia-Abreu et al (2002)
  - Zacher, MW (1999), United Nations Development programme
  - Institute of Medicine and National Research Council (2009), The National Academies Press

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Global public good – what does it mean?

In general	"Issues that are broadly conceived as important to the international community, … cannot or will not be adequately addressed by individual countries acting alone …" (International Task Force on Global Public Goods, 2006) Criterion: Strong qualities of publicness (non-rivalry, non-excludable, available worldwide) (Kaul, I., et al, 1999: "Global public goods", Oxford University Press)
Animal health	FAO Workshop (2011): "Disease surveillance designed to reduce disease burden and poverty is a global public good."

Hypothesis: Since animal health is a **public good**, information on surveillance activity is publicly available, at least for notifiable diseases

FAO workshop (2011) outcome:

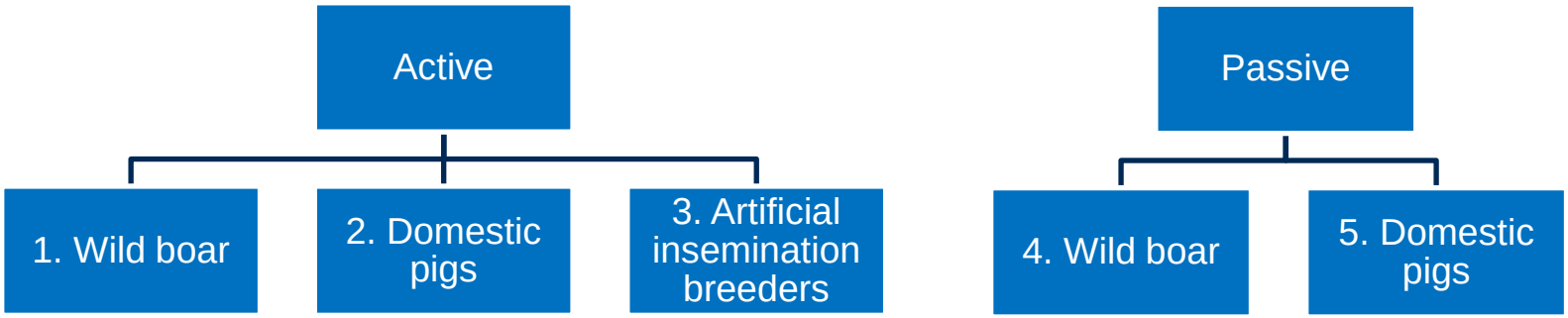
- "Reluctance of many national governments to share data (aside from obligatory reporting)"
- Top 4 limiting factor in conducting effective regional and international surveillance

Objective

- Describe the degree of publicly available information on surveillance designs in EU countries (considering regional, national and EU reporting)

Project task: Review of surveillance systems in the EU

Variable	Details
Aim	Describe basic epidemiological characteristics of surveillance systems
Reference year	2011
Who?	Surveillance experts from seven RISKSUR-partner countries. Partner institutes: CH: **Safoso**, DE: **FLI**, ES: **UCM**, FR: **CIRAD**, NL: **GD**, SE: **SVA**, UK: **AHVLA, RVC**
What?	All species, public and private surveillance, diseases and other health hazards (e.g. toxins, antibiotic resistance, welfare), syndromic surveillance, …
Sources of information	Government sources, laboratory reports, grey literature (internet search), in-country contacts
Level of data collection	Surveillance component E.g. CSF surveillance in DE was divided into 5 components as follows:



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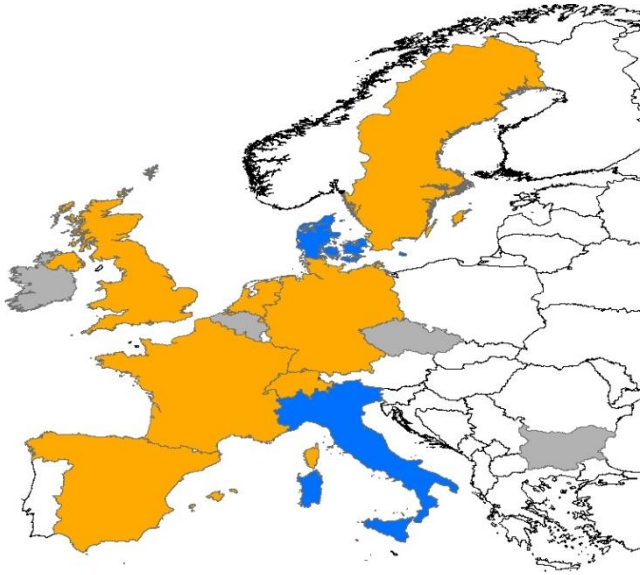
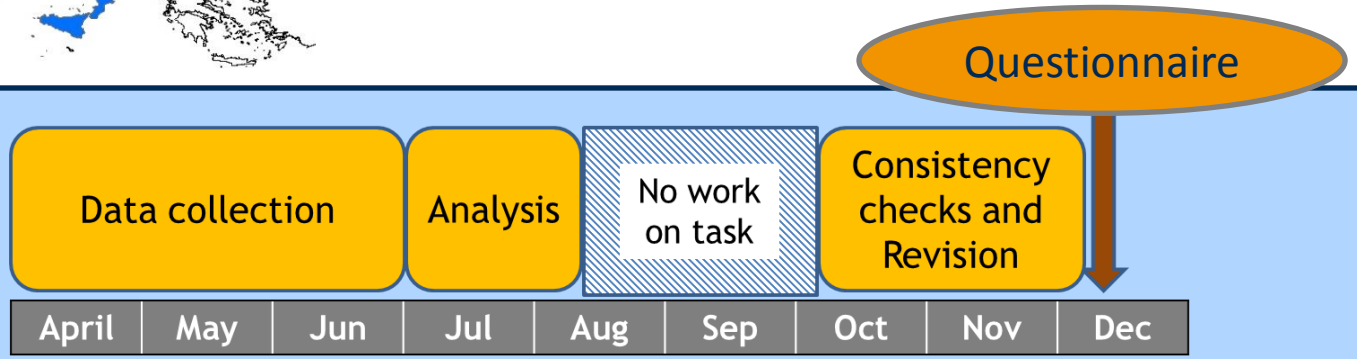
Data collection: Where and when?



Questionnaire covered nine countries:

7 partner countries collecting data: CH, DE, ES, FR, NL, SE, UK
2 non-partner countries providing data: DK (by SVA/SE), IT (by UCM/ES)
4 non-partner countries, for which data collection was ongoing at the time of the questionnaire



- 29 people from the 7 partners searched for relevant sources
- Data were collected over 3 months and revised over 2 months
- Identified active or enhanced passive surveillance components: 484 (median per country: 78; range: 19-121)

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Details on variables

Variable(s)*	No. of variables	Specification of variables or example categories
Target species, sector, criteria	4	E.g. chicken, layer, flock size > 1000
Surveillance purpose	1	E.g. early detection, disease freedom, …
Design	3	Study design, case definition, means of data acquisition
Sampling methods	2	Selection method, sample type
Risk-based (RB) surveillance	2	RB surveillance, RB sampling
Multi-objective surveillance	1	
Output-based standards	4	Input vs output based, design prevalence (2), confidence level
Size of target population	2	
No. of units required	3	
No. of units achieved	3	
Expenditure (Eur)	3	
Others	12	E.g. hazard, component, country, pooling, …
Total	**40**	

* Definitions based on Hoinville (2013): ICAHS workshop report, PVM

See Deliverable 1.5 on http://www.fp7-risksur.eu/ for details

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Current legal requirements

Information required to be reported for different disease groups and documented in publicly available resources.

Information	Level	Co-financed 2002/677/EC (2004/450/EC)*	Bovine and swine diseases (2003/886/EC)	Zoonoses (2003/99/EC)*	Notifiable diseases
Total no. of	Herds	(✓)	✓	(✓)	-
	Animals	(✓)	✓	(✓)	-
No. of tested	Herds	(✓)	✓	✓	-
	Animals	(✓)	✓	(✓)	-
No. of pos.	Herds	-	✓	✓	-
	Animals	-	✓	(✓)	✓
Costs		(✓)	-	-	-
Description of design		✓	-	(✓)	-

In brackets: Reporting is required, but results are not documented in publicly available resources.

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Questionnaire

Aim: To document input and experiences during data collection

Target group: Main data collector per partner institute (n = 7)

Five questions

1. Number of staff involved
2. Number of people contacted
3. Level of documentation
4. Understanding of instructions & definitions
5. Estimated completeness

Resources and contact

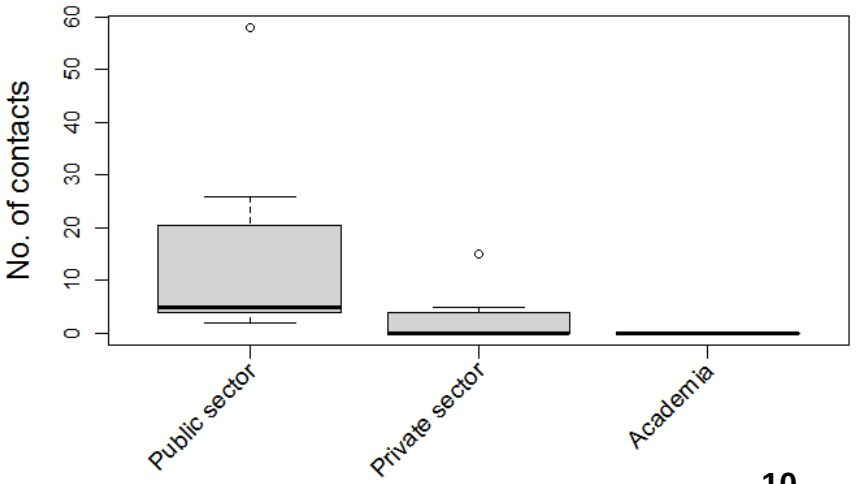
1. How many people in your institute contributed to the data collection?

Task	Median	IQR	Missing
Find source material	2.5	2.0 - 5.3	1
Extract data	2.0	1.0 - 3.5	2
Review database	1.0	1.0 - 2.0	0

IQR: Interquartile range

2. Please estimate the number of people, whom you tried to contact
- per email,
- per phone or
- met in person

to get additional information on surveillance systems.



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Documentation of surveillance systems

3. Please rank on a scale from 1 (not applicable) to 5 (highly applicable) to what extent the following statements are applicable regarding the documentation of surveillance systems in the respective **country (n = 9)**.

Group	Statement	Median	Range[b]
Public sector	The **existence of surveillance systems** is sufficiently documented	4	3 - 5
	Design details are sufficiently documented	3	2 - 5
	Results are sufficiently documented	4	1 - 5
	Expenditures are well documented [a]	2	1 - 3
Private sector	The **existence of surveillance systems** is sufficiently documented	2	1 - 4
	Design details are sufficiently documented	2	1 - 2
	Results are sufficiently documented	1	1 - 4
	Expenditures are well documented	1	1 - 4
Regional	**Regional differences** exist in the design of surveillance systems [c]	3	1 - 5

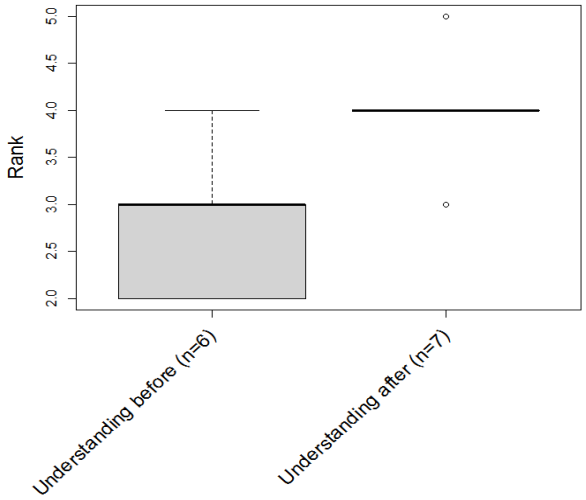
[a] One missing value

[b] Range: Minimum - maximum

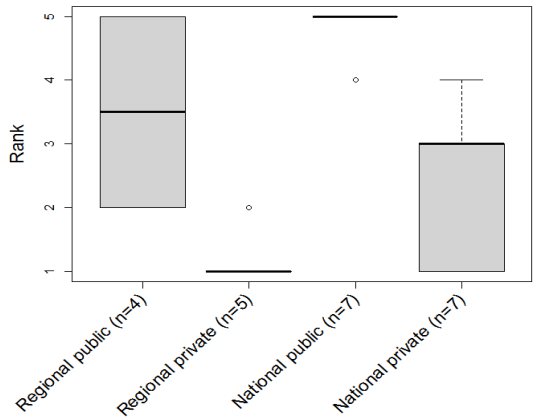
[c] Regional differences were ranked high in FR, DE (rank 5), IT, CH (rank 4) and ES (rank 3)

Level of understanding

4. Please rank on a scale from 1 (not confident) to 5 (highly confident) how confident you feel that you clearly understood the instructions and definitions of variables before and after consistency checks.



5. Please rank the completeness of components on a scale from 1 (highly incomplete) to 5 (highly complete) for each group.



Summary

- Large amounts of money are spent on surveillance
- But design and achievements are generally not well (publicly) documented in Europe: Lack of
  - Detail
  - Consistency
  - Transparency
  - Open access
- Details on the extent and design of surveillance are needed to
  - Assess the quality of a given surveillance system
  - Estimate the disease risk and thus risk of introduction from other countries / regions
  - Learn from experience

Expected benefit of transparent information

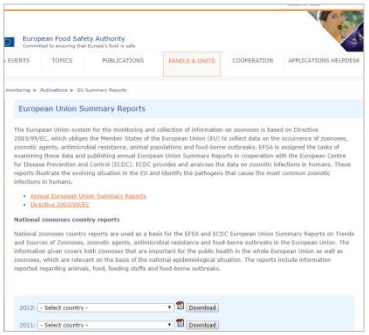
- Provides overview of public & private surveillance efforts
- Allows better regional and international coordination regarding
  - Surveillance
  - Prevention and
  - Control
- Improves knowledge of disease patterns and related risks (geographical, temporal, other)
- Conclusion: Transparent information sharing of design details and annual aggregated numbers
  - Would benefit both parties (donor and receiver)
  - Does not require major efforts

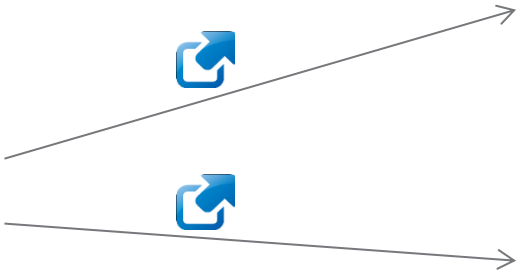
Potential ways forward (I)

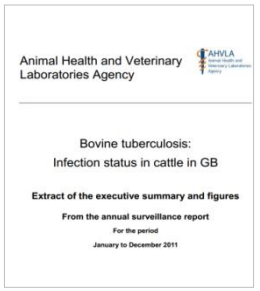
- Outcomes of 2011 FAO workshop to promote data-sharing
  - Standardise data-sharing technology and terminology
  - Training
  - Capacity building
  - Inventory of databases
- Recommendations in Deliverable 1.5 of RISKSUR
  - Possibly centralise registrations of surveillance efforts at national level
  - Identify key variables to describe a surveillance systems depending on the purpose

Potential ways forward (II)

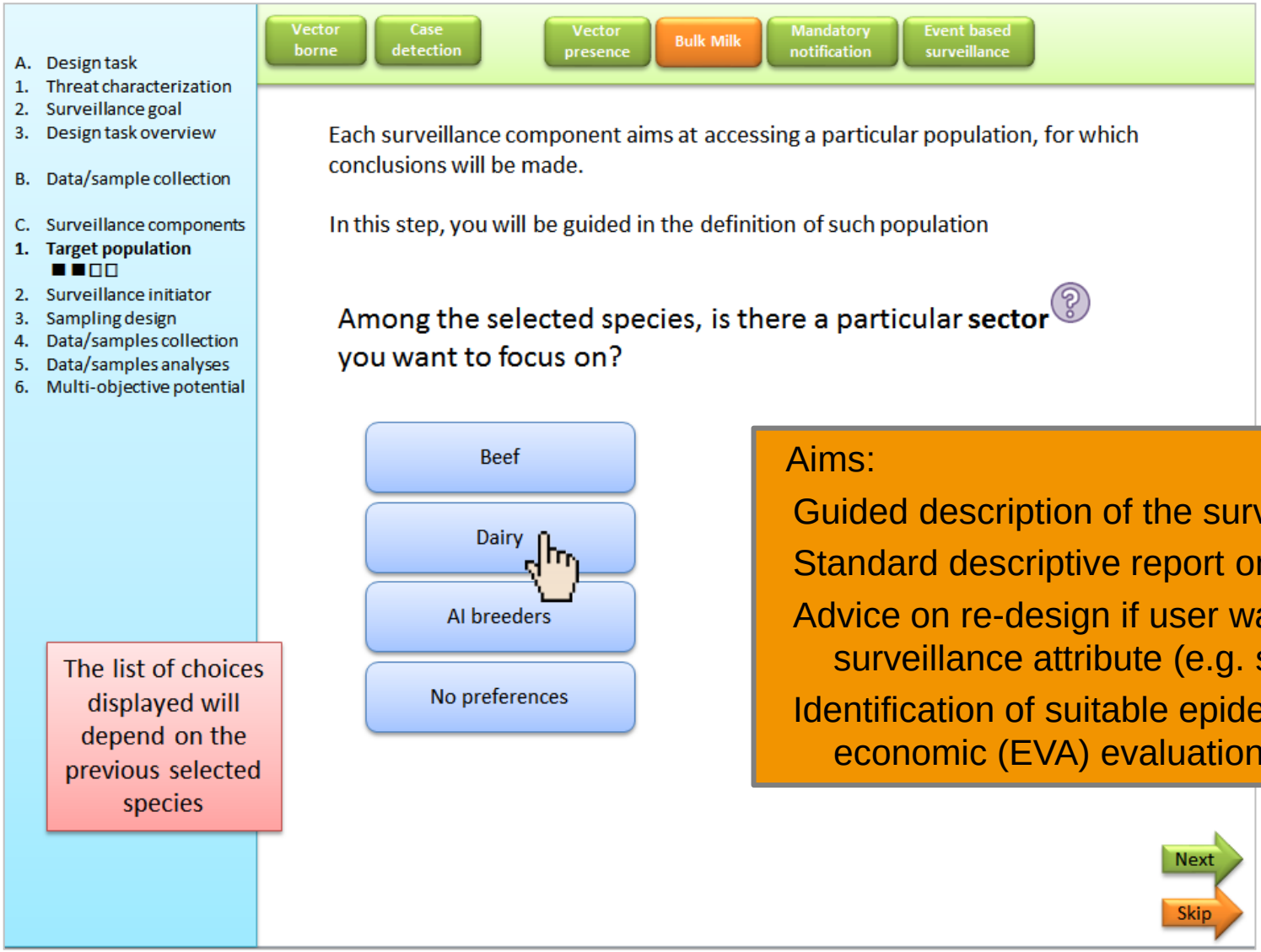
- Transparency: Details needed to adequately interpret surveillance results:
  - Surveillance design
  - Size of the target population (herds and animals)
  - No. of herds / animals tested
  - No. of positive herds / animals
- Timeliness: Annual national reports
- Consistency: Reporting standards / templates
- Ease of access: EU website could provide external links to national reports







RISKSUR: Development of a surveillance design framework



Aims:

- Guided description of the surveillance design
- Standard descriptive report on the design
- Advice on re-design if user wants to change a surveillance attribute (e.g. sensitivity, cost)
- Identification of suitable epidemiological and economic (EVA) evaluation tools

Conclusion / more to think about

- The current documentation of animal health surveillance for notifiable diseases **does not fulfil** the criteria of a global public good (non-rivalrous, non-excludable, and available worldwide)
- Food-for-thought:
  - What hinders effective information sharing?
  - What are the options to promote information sharing?
  - Approach to developing standards / best practice guidelines?

Thank you for your attention!

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