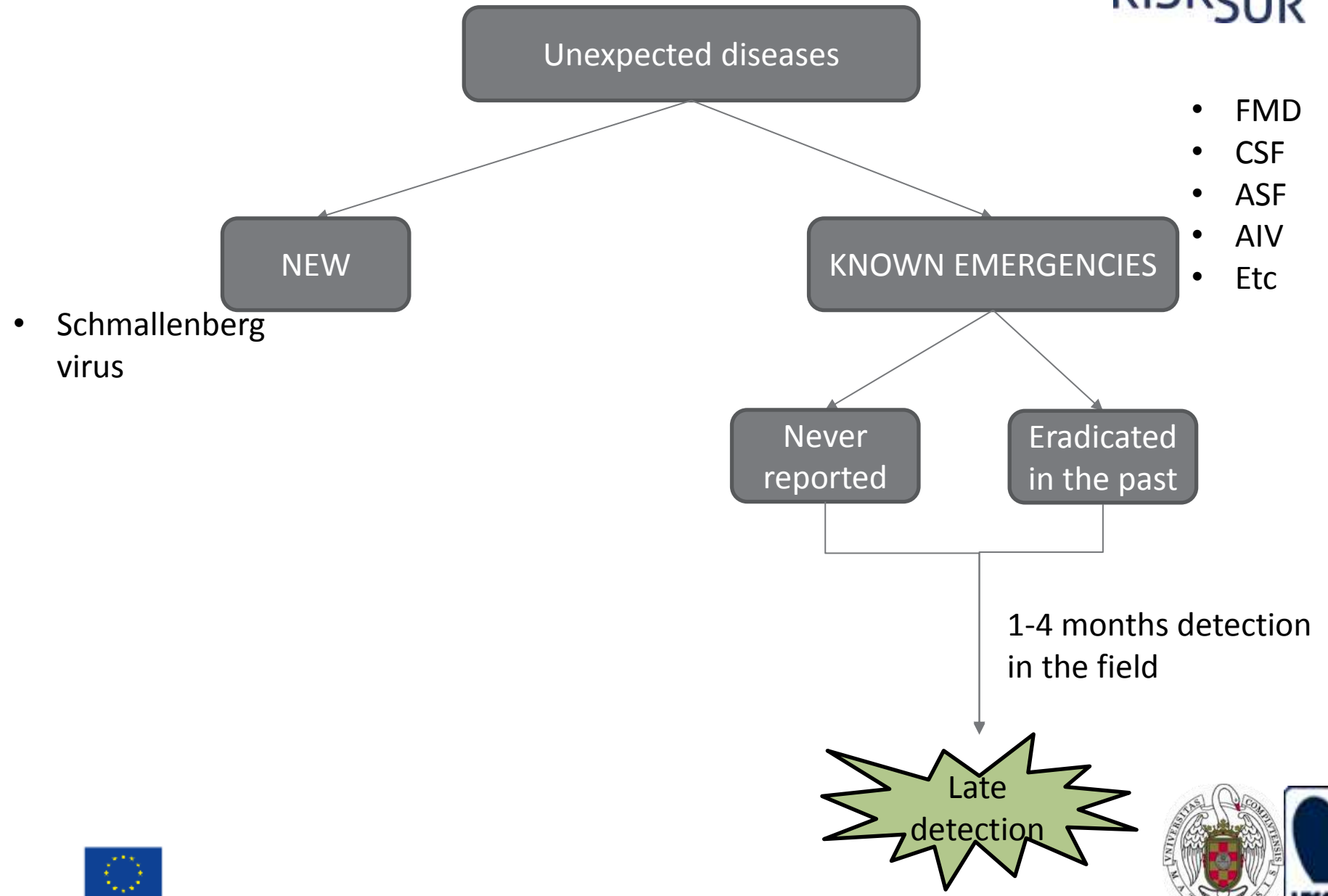
The known but unexpected

Best practice workshop by RiskSur

Early Detection of Emerging Diseases

Partner UCM

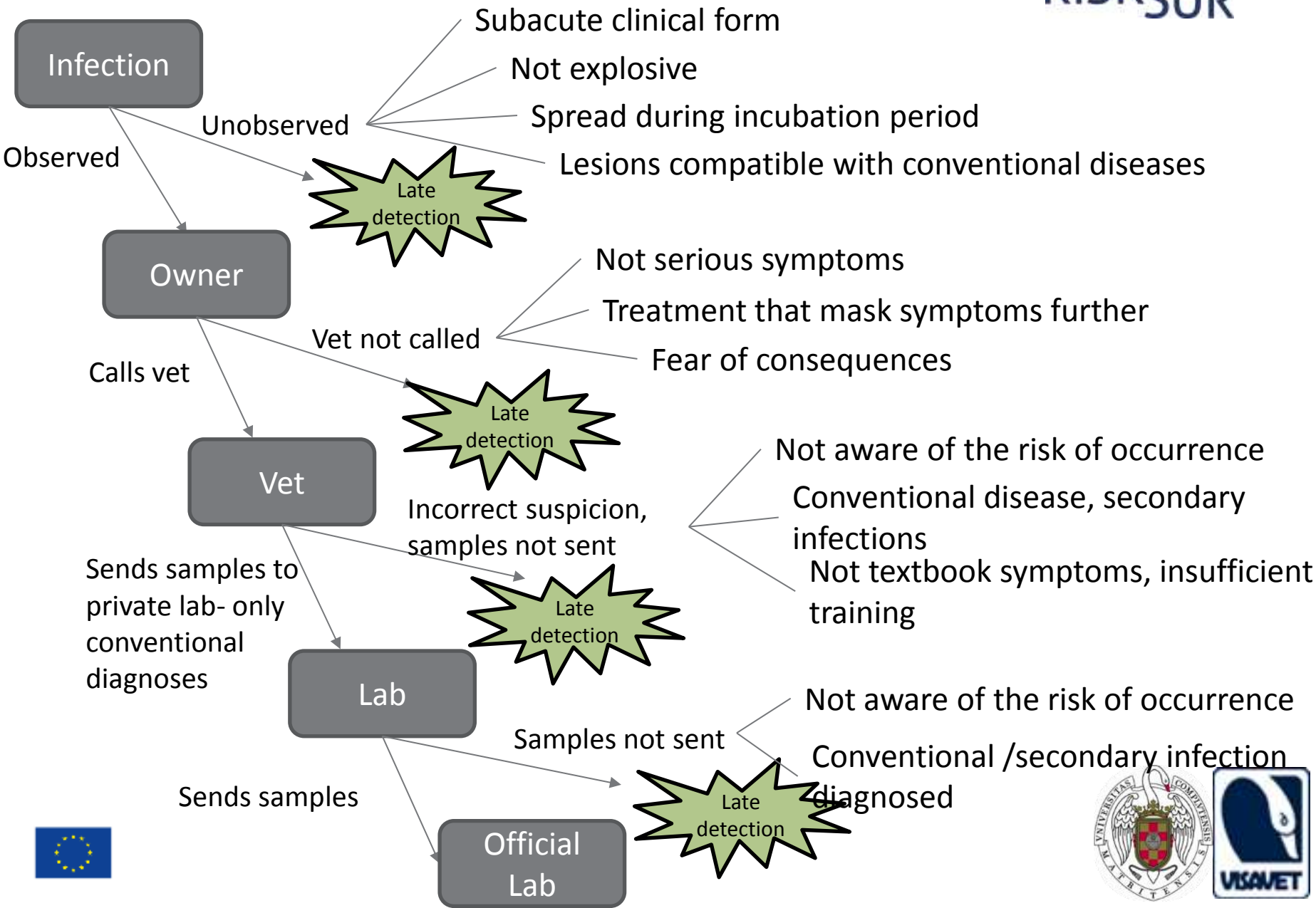
The research leading to these results has received funding from the European Community's Seventh Framework Programme (FP7/2007-2013) under grant agreement N° 305169.



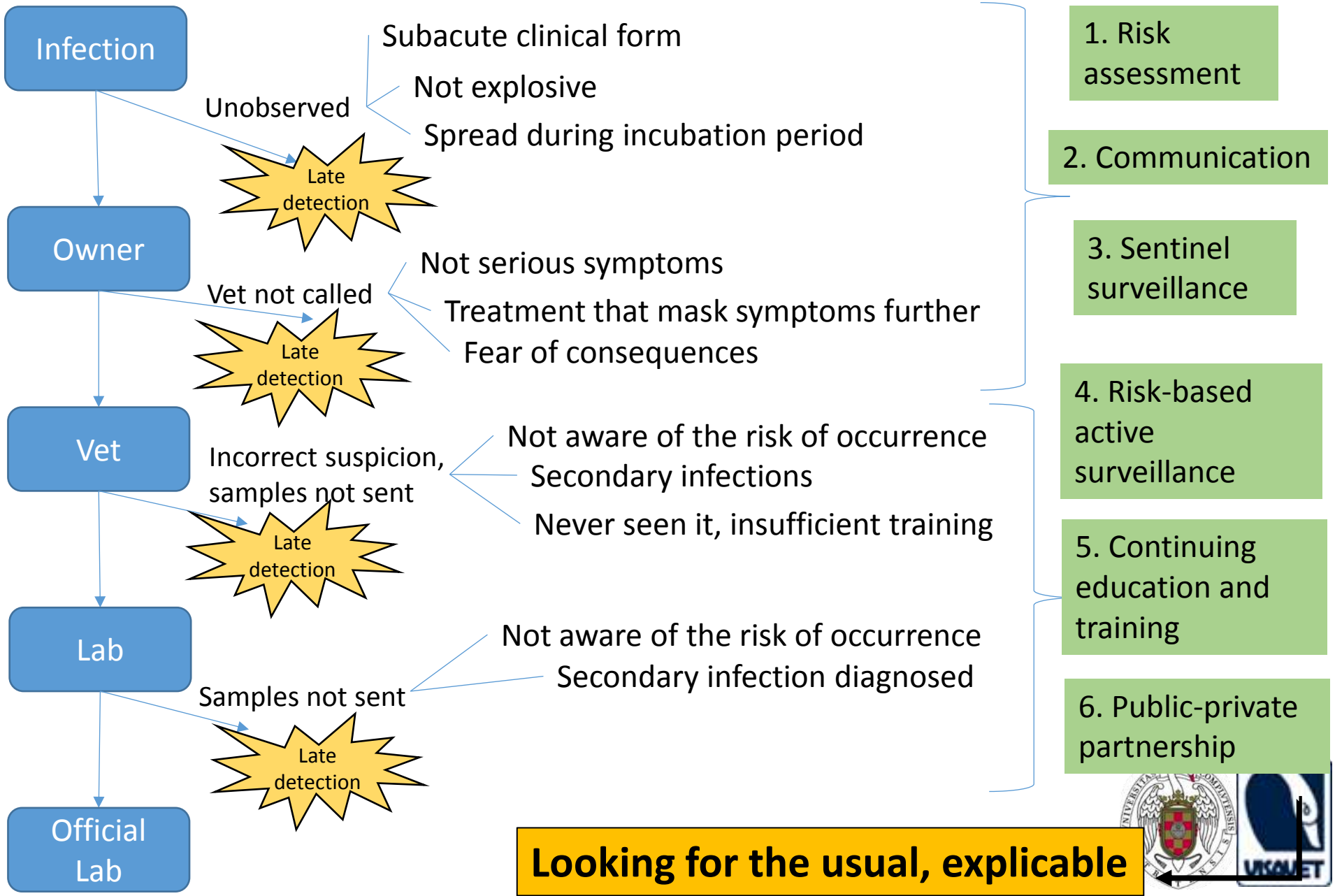
- FMD
- CSF
- ASF
- AIV
- Etc

- Schmallenberg virus

Late field detection

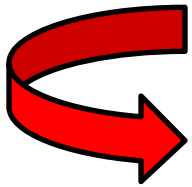


Early field detection

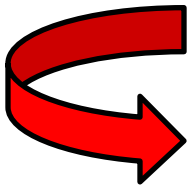


WHAT CAN WE DO?

1. Good Risk analysis and Risk based surveillance program



2. Good Sentinel Farms model



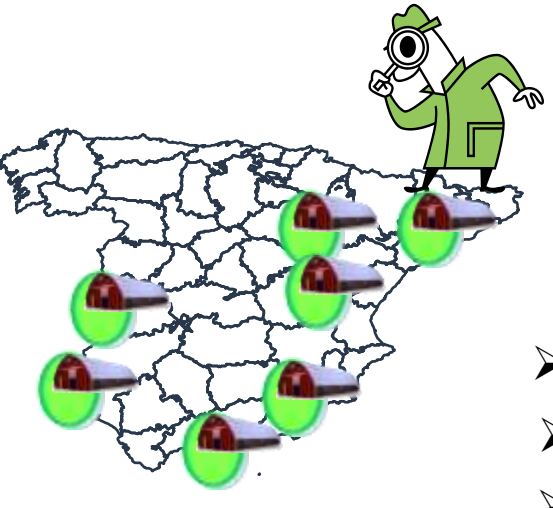
3. Good Monitoring system (Real Time)

Looking for the explicable

- Where is the disease of concern circulating and what probability is there that the disease spreads out of the affected region??
- By what routes can the disease spread into the unaffected region??
- What characteristics are there in the unaffected region that can complicate control??

Monitoring of sentinel farms

Even if selected in high risk periods and areas, it can still be costly



DISADVANTAGES

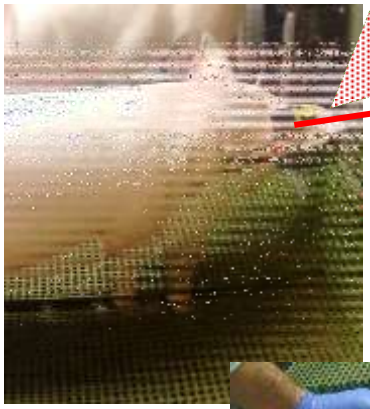
High economic impact

- Sampling and analysis ⟶ Too many samples
  High number of samples from healthy animals
- High logistic needs (too many samples)
- Payment to farmers and technician

15-30 days without sanitary information??

Looking for the usual I

Real-time monitoring of sentinel animals



Fever + decreased movements

Central computer

- Control, processing and real-time data analysis.
- System management
- Alert settings

Notifications and alerts

- SMS/e-mail alerts
- Direct data control
- Warnings submitted to qualified staff.

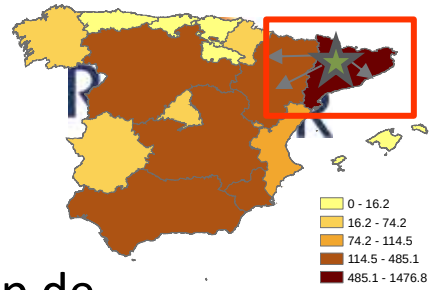
Looking for the usual II

Public-private partnerships: Private lab- Public oficial vet services

- 48 notifiable diseases are diagnosed by private labs in Spain, distributed across Spain (see map)
- Around 30% of the notifiable diseases diagnosed by private labs are equine diseases (piroplasmosis, rhinoneumonitis, infectious anemia, viral arteritis, WNV)

Recently in Spain: also porcine

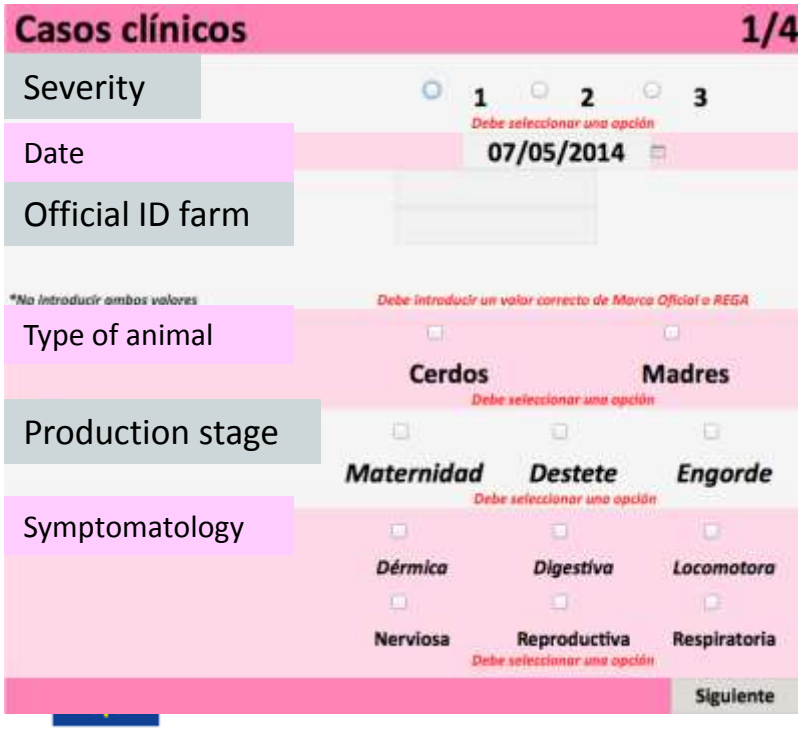
Pork meat in Spain



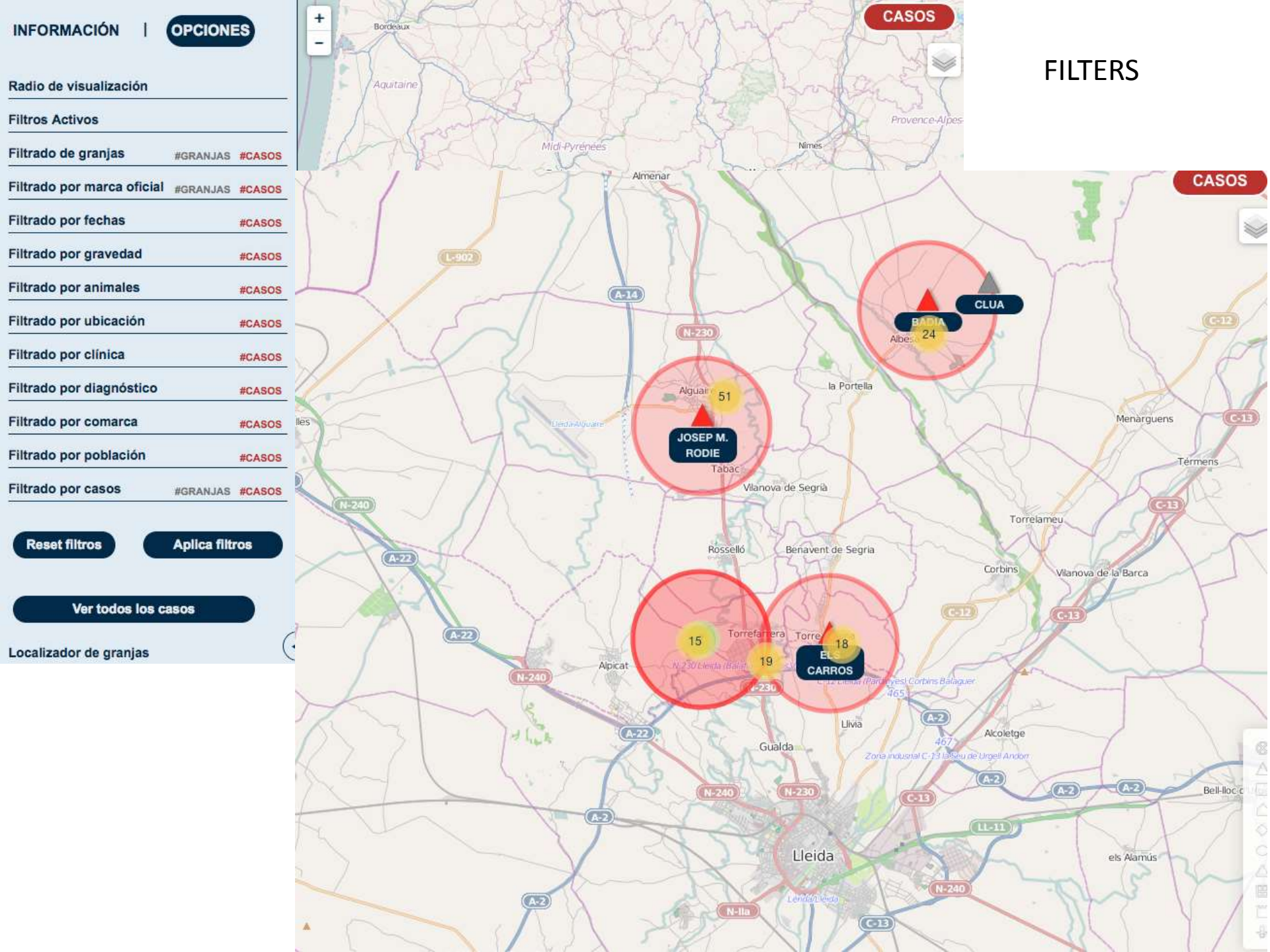
Looking for the usual II

Public-private partnerships: the example of the laboratory Grup de Sanejament Porcí (Lleida, Spain)

User enters clinical cases filtered by symptomatology: Dermic; Digestive; Locomotive ; Nervous; Reproductive; Respiratory



Also lesions at necropsy, vaccine information and a list of usual diseases that could be suspected


INFORMACIÓN | OPCIONES
Radio de visualización
Filtros Activos
Filtrado de granjas #GRANJAS #CASOS
Filtrado por marca oficial #GRANJAS #CASOS
Filtrado por fechas #CASOS
Filtrado por gravedad #CASOS
Filtrado por animales #CASOS
Filtrado por ubicación #CASOS
Filtrado por clínica #CASOS
Filtrado por diagnóstico #CASOS
Filtrado por comarca #CASOS
Filtrado por población #CASOS
Filtrado por casos #GRANJAS #CASOS
Reset filtros
Aplica filtros
Ver todos los casos
Localizador de granjas
CASOS
Bordeaux
Aquitaine
Midi-Pyrénées
Provence-Alpes
Nîmes
Almenar
CLUA
BADIA
24
51
JOSEP M. RODIE
Tabac
la Portella
Vilanova de Segrià
Menarguens
Térmens
Torrelameu
Rosselló
Benavent de Segria
Corbins
Vilanova de la Barca
15
19
18
ELS CARROS
Torrefarrera
Alpicat
Llivia
Alcoletge
Gualda
Lleida
els Alamús
Bell-lloc
L-902
A-14
N-230
C-12
C-13
N-240
A-22
A-2
LL-11
N-IIa

FILTERS

Known unexpected diseases

Identification of areas at high risk of introduction and exposure

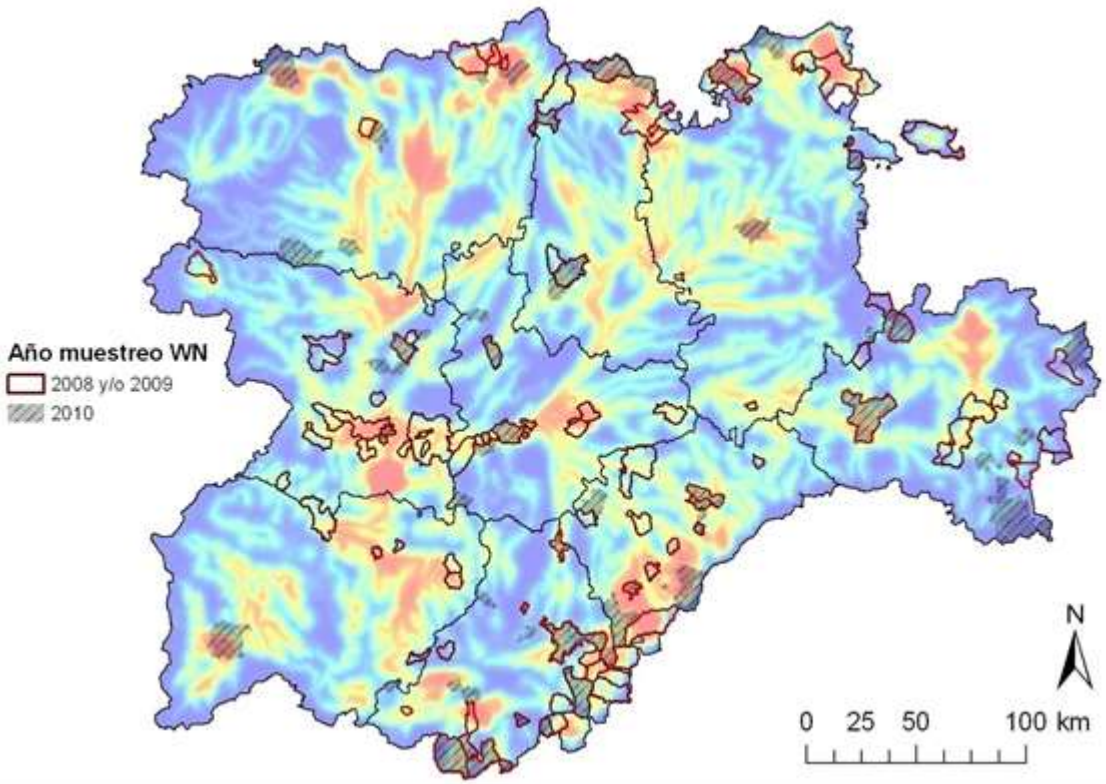
AND

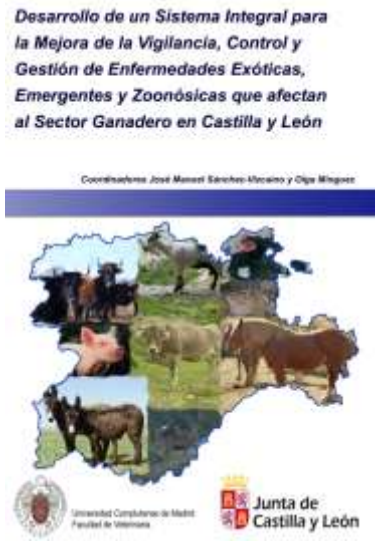
Investigating atypical symptoms with atypical patterns, i.e. clustered in time and space

OR

Investigating typical symptoms with typical patterns, i.e. changes (different from baseline levels) of early stage disease-related behaviour

West Nile sampling in a region in Spain (Castile-Leon)





Risk-based contingency plans

Transboundary and Emerging Diseases

ORIGINAL ARTICLE

Association Between Number of Wild Birds Sampled for Identification of H5N1 Avian Influenza Virus and Incidence of the Disease in the European Union

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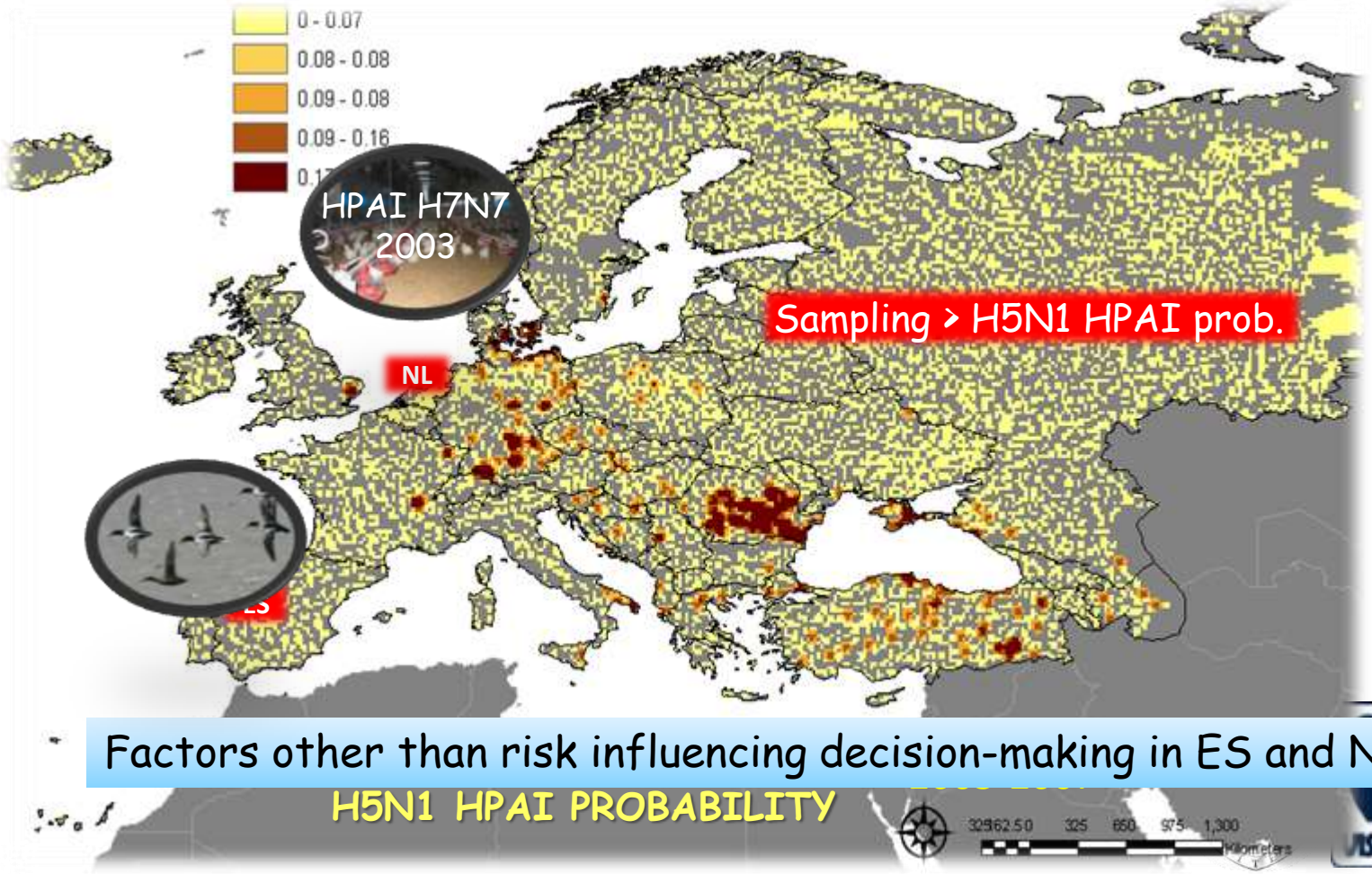
RISKSUR



Solutions for best practice

Early detection discussion:

- ❑ Is passive surveillance enough on its own ?
- ❑ How can passive surveillance be enhanced?
- ❑ Cost-effective active surveillance: when is it also necessary?

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