



Implementing One health surveillance systems :

What have we learnt from the One Health European Joint Project Matrix?



One Health European Joint Project





OHEJP MATRIX



MATRIX: Connecting dimensions in One Health surveillance



Major outputs

- Roadmap to develop National OHSS

<https://ohras.eu/page/home>

- OH-EpiCap Tool

https://onehealth.ejp.eu/wp-content/uploads/2022/11/OHEJP-MATRIX_OH-EpiCap-flyer.pdf

- Guidelines and checklists

- Step-wise guide to developing OHSS from existing structures

<https://ejp-matrix.eu/>

- Best practices to operationalise cross-sectoral collaborations

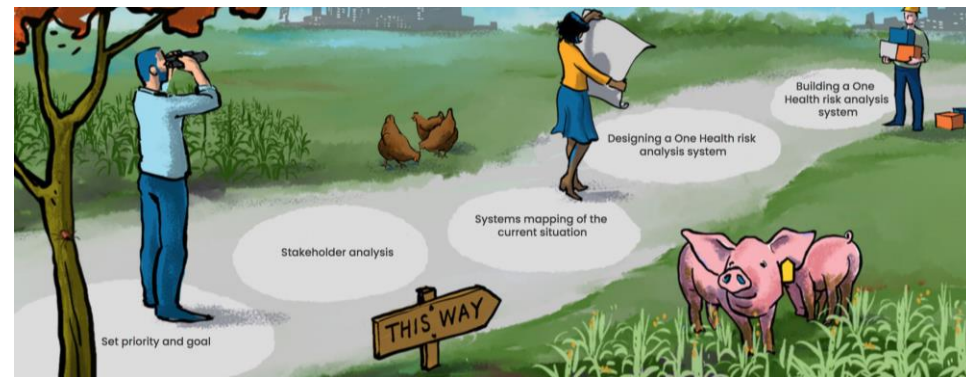
<https://zenodo.org/records/7053387#.Y5nYiHbMJPY>

- A guide to design, implement, and evaluate official controls within the food safety sector using output-based standards

<https://zenodo.org/records/7390006#.Y5nYjnbMJPY>

- Manual for OHSS dashboards

<https://sva-se.github.io/MATRIX-dashboards/>



(courtesy of: <https://ohras.eu/page/home>)



Step-wise guide to creating OHSS from existing structures

- Review existing structures
- Literature review
- Expert interview

shiny.fli.de/ife-apps/EJPOrion_WP2Epi/

Apps Reading li

ne HEALTHEJP OHEJP Knowledge Base: Inventory on Surveillance systems FRIEDRICH-LOEFFLER-INSTITUT FLI Bundesforschungsanstalt für Tiergesundheit Federal Research Institute for Animal Health

About Instruction Public health Animal health Feed & food Literature

CSV Excel Show 20 entries Search:

	Hazard	Subtype	Disease.or.syndrome	Year.start	Year.end	Country	Region	Disease.status	surveillance.objectives	
+	161	Listeria	Listeria monocytogenes	Listeriosis	37257	Ongoing	Italy	All regions	sporadic	case detection
+	162	Escherichia coli	Verocytotoxigenic E. coli (VTEC)	STEC/VTEC infection	32143	Ongoing	Italy	All regions	unknown	case detection
+	163	Salmonella	All Salmonella Serotype	Salmonellosis	30682	Ongoing	Italy	All regions	endemic	case detection
+	164	Campylobacter	Campylobacter, unspecified sp.	Campylobacteriosis	36526	Ongoing	Italy	All regions	endemic	case detection
+	165	Shigella	Shigella spp., unspecified	Shigellosis	39448	Ongoing	Italy	All regions	sporadic	case detection
+	166	Yersinia	Yersinia, unspecified sp.	Yersiniosis	39448	Ongoing	Italy	All regions	sporadic	case detection



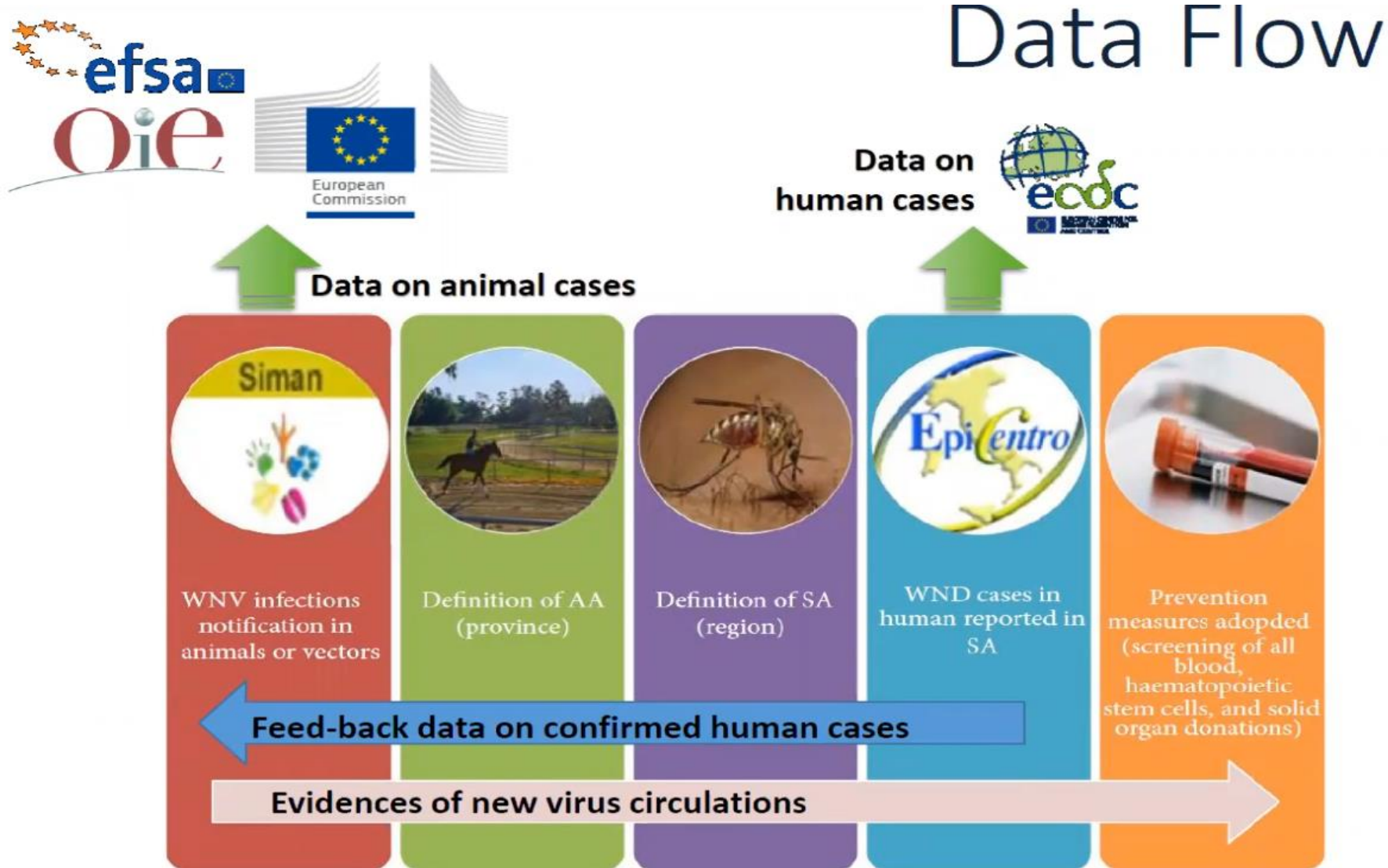
Existing OHSS

'a system in which collaborative efforts exist across at least two sectors (among human health, animal health, food safety and environment) in the surveillance process to produce and disseminate information with a purpose to improve any of human, animal or environmental health'

Country	Pathogen(s) under surveillance
Norway	Listeria
Italy	West Nile Virus
Austria	West Nile Virus
Greece	West Nile Virus
Portugal	Observatory of Taeniasis and Cysticercosis
Tanzania	Zoonotic pathogens
England	AMR
Denmark	AMR
France	Salmonella
Germany	Salmonella
England	Salmonella
Denmark	Campylobacter
The Netherlands	Campylobacter
Switzerland	Campylobacter
The Netherlands	Dutch zoonosis signalling platform



WNV Surveillance Italy

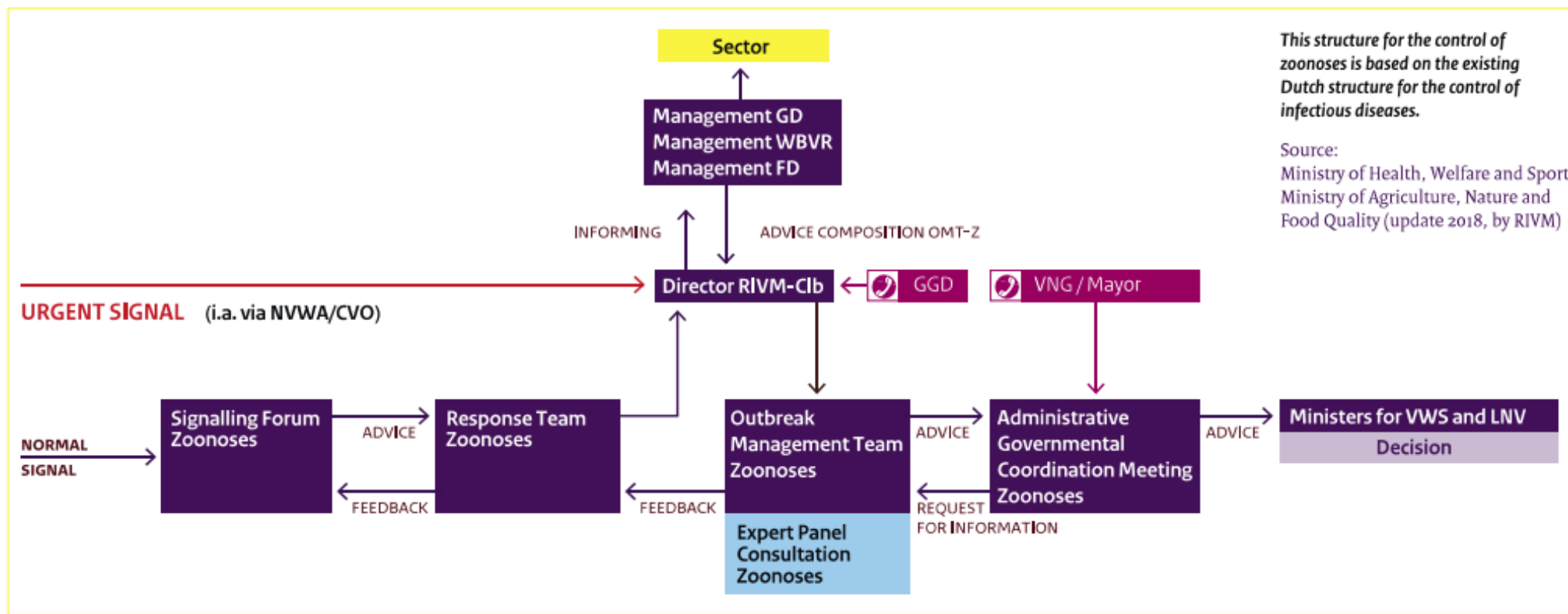


AA = affected area
SA = surveillance area

Courtesy of: Daria DiSabatino Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise "Giuseppe Caporale", Teramo, Italy

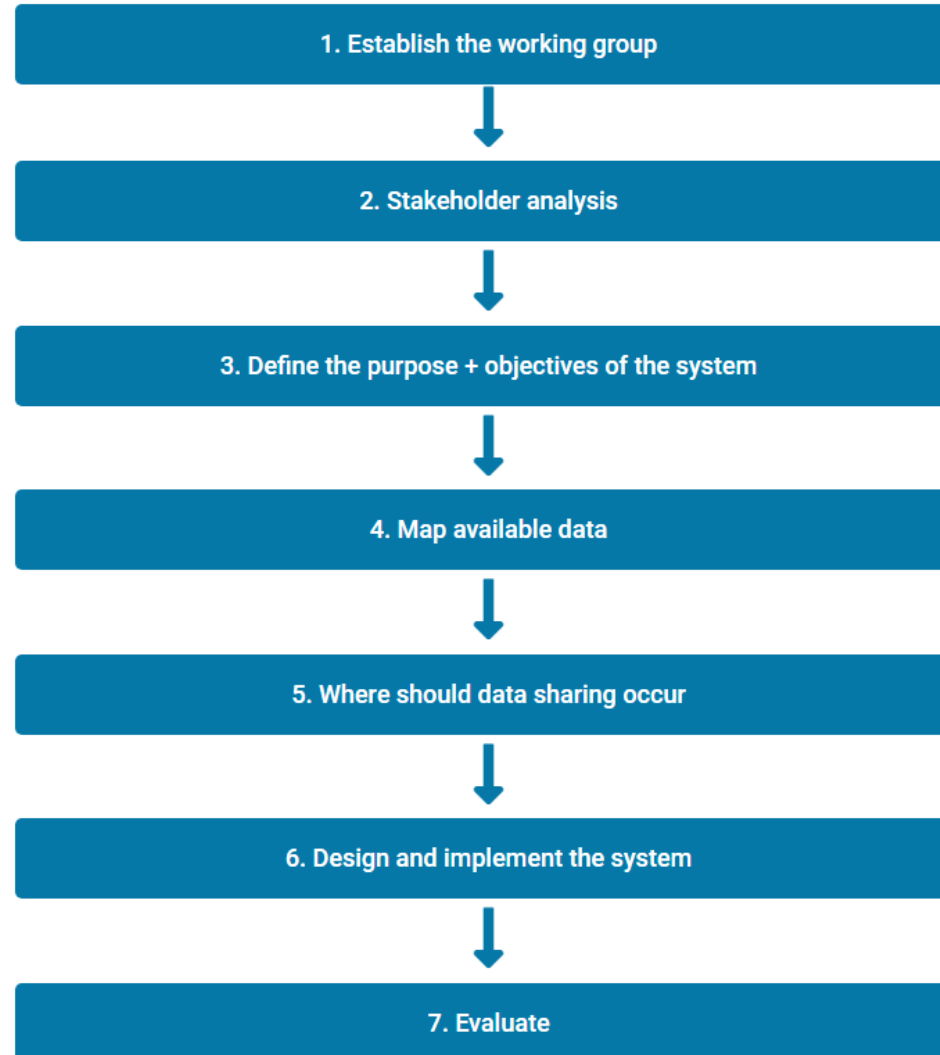


Dutch Signalling Forum Zoonoses





Step-by-step guide to creating OHSS from existing structures





1. Establish the working group

- **Who:**
 - One representative from each sector
 - an IT specialist/ programmer
 - a social scientist
 - a person with appropriate legal training to identify and interpret laws relevant to the project
- Assign members to a *'core'* or *'support'* function
- **Establish trust between members – each member should actively seek to better understand the other sectors**



Stakeholder analysis

1. Identify stakeholders



- With decision making power from each sector
- With access to, or power over resources from each sector
- Who represent the regulatory sectors
- Who are respected persons, or person perceived as champions within a field

2. Characterise stakeholders

3. Engage with stakeholders

Estimated influence and interest

Influence	Interest
High	High
Low	High
High	Low
Low	Low



3. Define the purpose and objectives of the system

- Frames the design of the system and subsequently the data needed
- Common purpose and common objectives
 - Developed jointly with all stakeholders

Benefits of creating a common purpose and objectives:

1. Creates a clear and unified vision
2. Improves the likelihood of stakeholder buy-in and subsequent success of the project as each stakeholder has the chance to express the needs of their sector
3. Supports improved inter-sectoral understanding and subsequently builds trust between the stakeholders due to the interactive nature of the activity



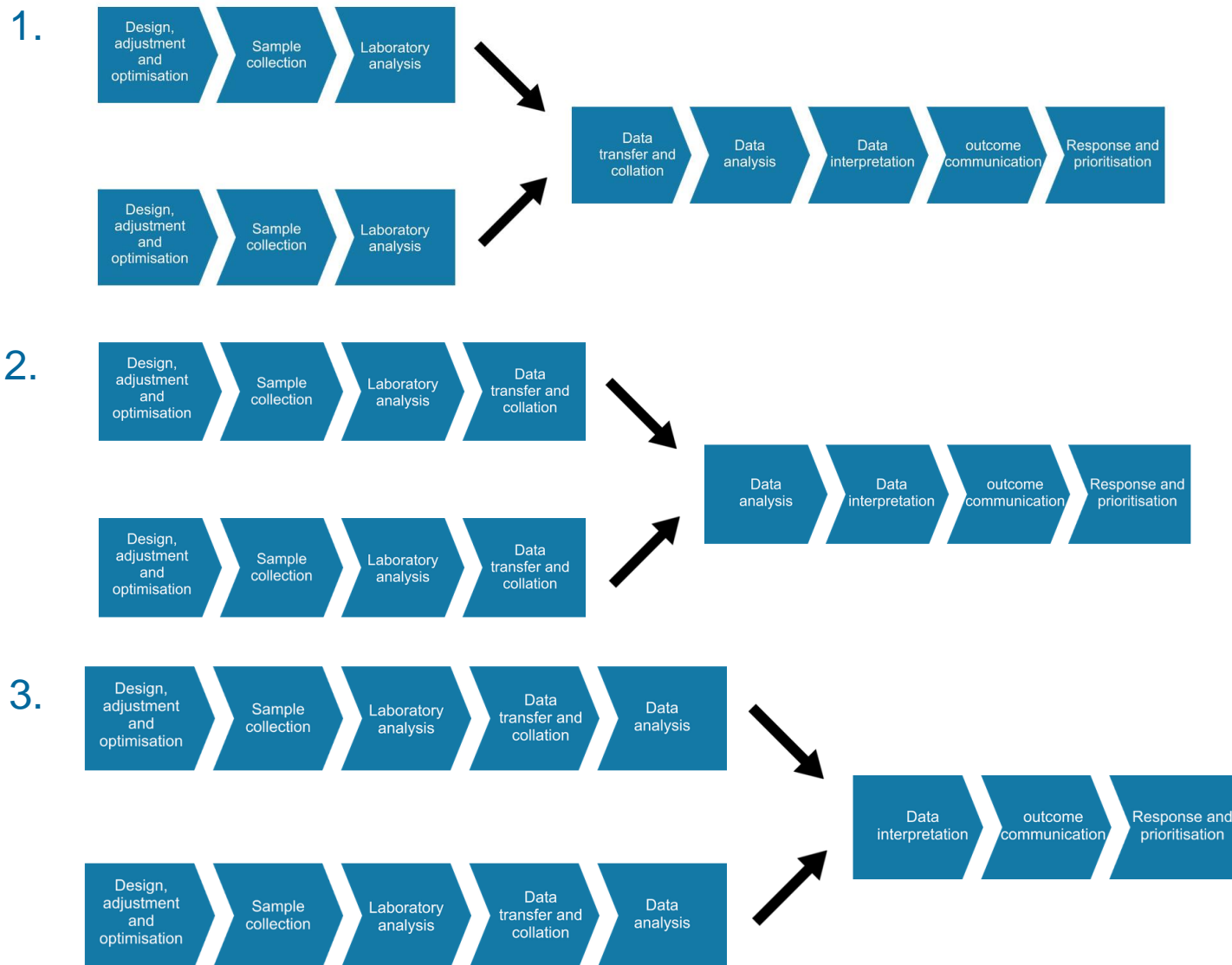
5. Where should data sharing occur

1. Where along the surveillance pathway do data NEED to be shared
2. Where along the surveillance pathway CAN data be shared
 - Technically
 - Legally





6. Design and implement the system





7. Evaluate the system

Evaluation framework, guideline or tool	Comments	Access
NEOH	An evaluation framework based on a systems approach to evaluate the 'One Health-ness' of OH initiatives	Wageningen Academic Publishers
OHEpiCap	An evaluation tool to assess the OH capacity in an existing OH surveillance system	Beta version
ISSEP	The added value for integrated surveillance of AMR	paper
CDC Guide to evaluating public health surveillance systems		CDC Guidelines
EcoSur	multisectoral collaboration	EcoSur
Framework for evaluating public health surveillance systems for early detection of outbreaks	mostly for syndromic surveillance systems	CDC
Joint External Evaluation tool	country capacity to prevent, detect and rapidly respond to public health threats	WHO pdf



Summary

- MATRIX outputs
- Review of existing OH systems
- Step-by-step guide to creating OHSS from existing structures

Thank you for your attention!



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What are the commonalities and differences: Hazards?

Hazard or Syndrome/Disease	Animal health	Public health	Food safety
*Anthrax	✓	✓	
*Brucellosis	✓	✓	
*Psitticosis	✓	✓	
*Ebola	✓	✓	
*Echinococcosis	✓	✓	
Enterococcus		✓	✓
*Escherichia coli		✓	✓
Influenza	✓	✓	
*Leptospirosis	✓	✓	
*Prion diseases	✓	✓	
*Q Fever	✓	✓	
*Rabies	✓	✓	
*Toxoplasmosis	✓	✓	
*Tularemia	✓	✓	
*West Nile	✓	✓	
*Campylobacteriosis	✓	✓	✓
*Listeriosis	✓	✓	✓
*Methicillin-resistant Staphylococcus aureus	✓	✓	✓
*Salmonellosis	✓	✓	✓
*Trichinosis	✓	✓	✓