# **OW CAN WE IMPRO**

USING MEAT INSPECTION DATA TO IDENTIFY BEEF CATTLE FARMS WITH POTENTIAL ANIMAL HEALTH AND WELFARE ISSUES



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# OBJECTIVE

### Assess the intercorrelation between lesions found at meat inspection and so identify latent factors potentially related to health and welfare on the farm

RESULTS

underutilized.

RATIONALE

Meat inspection data are

potential as a source of

collected routinely, but their

epidemiological information is still underestimated and

4 factors	- 2	4%	explained	variance	_	RMSR =	0.04

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#### Data

Meat inspection data 2014-2018

EFA

- Sweden's 8 biggest abattoirs
- Within-farm prevalence of recorded lesions adjusted by abattoir effect
- From 1100 beef farms slaughtering at least 20 animals/year

#### **Exploratory Factor Analysis**

- Generate hypotheses
- Variables with KMO > 0.5
- Principal axis factoring
- Oblique rotation (oblimin)
- Factor loadings > |0.30|
- **R**

SIGNIFICANT VARIABLES	FACTOR LOADINGS	EXTRACTED FACTORS	FACTOR INTERPRETATION
Sepsis Emaciation Pneumonia & peritonitis	<ul> <li>↓ 0.55</li> <li>↓ 0.34</li> <li>↓ 0.36</li> </ul>	Factor 1	Carcass unfit for consumption
Chronic injury Joint injury Abscesses	$\begin{array}{c} \bullet  0.76 \\ \bullet  0.52 \\ \bullet  0.41 \end{array}$	Factor 2	Animal welfare issues due to facilities
Liver abscesses Other liver damage Traumatic peritonitis Pneumonia Pleurisy / pericarditis	$ \begin{array}{c} 0.60 \\ 0.56 \\ 0.37 \\ 0.43 \\ 0.50 \\ \end{array} $	► Factor 3	Animal health issues due to diet, facilities, or management
Fasciola hepatica Dicrocoelium dendriticum	← 0.70 ← 0.35	Factor 4	Farms with grazi





azing peet cattle breeds

## CONCLUSIONS

- Despite very low within-farm prevalence of lesions, it was possible to identify latent factors potentially related to farm animal health and welfare issues
- → Such factors could have a potential use as a warning system to identify farms and so where to target veterinary advice and support

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