



# **Endemic disease surveillance -surveillance approaches and data collection**

# Endemic disease surveillance

Endemic disease = endemic condition

## Objectives

- Provide baseline knowledge of epidemiology of condition/disease in a population
  
- Monitor trends to identify changes
  - In prevalence/occurrence/incidence
  - In affected populations (age/species)
  - In spatial or temporal patterns (seasonality)

## **Justifications for endemic disease surveillance**

Detection of changes in disease epidemiology allows:

- Early intervention
- Adjustment of risk communication
- Periodic review of the surveillance system
- Impact assessments
- Cost/benefit assessments of intervention
- Identification of benefactors to enable resource management

## Discussion groups

### Considerations for selection of approaches

- Choice of approach depends on
  - Disease manifestation
  - Susceptible population at risk
  - Affected population
  - Prevalence/occurrence/incidence
  - Availability of sampling frame
  - Availability of technology, communication/reporting channels
  - Impact on industry/production/trade
  - Impact on public (health/economy)
  - Welfare/ethics
  - National policies, cultural norms, values and priorities

## **Specifying objective**

- Target population
  - Species, age, region, season, commercial etc.
- Outcome measure
  - Prevalence, incidence, occurrence, numbers
- Unit of interest
  - Animal, batch, farm, region etc

## Consider methodologies

- Data collection point
  - Abattoir, livestock gatherings, laboratories, industry, drug companies, veterinary practices, head of village, electronic databases, slaughter slabs
- Data type
  - Clinical, laboratory, husbandry, production etc.
- Study design
  - Structured survey, continuous monitoring, sentinel, existing data, case reporting, expert opinion

## **Characterise selected approaches**

- Objective
  - Unit of interest, outcome, target population
- Study design
- Sampling strategy
  - Random, convenience, risk-based, participatory, systematic
- Data collected
  - Point of collection
  - Type of data for case identification
  - Collection method
  - Reporting method

## **Value of approach**

- Dis/advantages
- Representativeness/coverage
- Repeatability
- Sensitivity
- Specificity
- Predictive values
- Timeliness
- Logistic/compliance/feasibility/economics

## **Design of surveillance schemes for:**

- Lameness in sheep
- Campylobacter in poultry
- Clinical coccidiosis in calves
  - In developed countries
  
- Anthrax
- Bovine TB
- Tick-borne diseases
  - In developing countries