Food and Agriculture Organization
of the United Nations

# Guidelines for designing animal disease surveillance plans

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# Introduction

Strong surveillance systems are essential to provide decision-makers with quality and timely information on the status of animal diseases in a country, enabling them to develop effective disease control programmes and respond rapidly to emerging threats to livestock and public health.

FAO Animal Health developed this guideline to support national veterinary services in designing comprehensive animal disease surveillance plans by highlighting some of the most important components that should be incorporated. Countries can use this document as a basis for the development of their own plans while ensuring it is adapted to their specific circumstances. Finalised disease surveillance plans should be tested, approved and actively communicated and disseminated to all actors of the surveillance system within a country. Steering and/or technical committees in charge of national animal health surveillance should review and update these plans on a regular basis (every 1-2 years) to ensure their effectiveness and relevance to the country.

# Definitions

**Surveillance plans.** Operational documents that define all aspects of how surveillance is conducted for one or more diseases, including case definitions, protocols for data management, sampling, communications, investigation and more. Surveillance plans are used by all actors of a surveillance system so that activities are conducted in a standardised manner throughout the system to ensure quality and timely data.

**Surveillance strategies.** Strategic, forward-looking documents focusing on what a country wishes to achieve to improve their surveillance capacities over the course of several years (usually 5 years).

**Steering committee.** Group that defines the orientations and objectives of the surveillance system and makes the strategic decisions. The main decision-makers of surveillance are part of this committee.

**Technical committee.** Also known as scientific committee. It involves all the scientists and technicians able to define, elaborate and evaluate the surveillance protocols to implement according to the objectives of the surveillance system.

# Contents of a surveillance plan

## 1. Description of the hazard

- Description of the pathogen and its epidemiology: species affected, clinical signs, transmission
- Risk factors at population-, herd- and animal-level
- Description of the disease in the target population: distribution/state of the disease in the country (including prevalence/incidence), prevention/control strategies, production systems affected, socio-economic impact
- Legal framework

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| 2. Rationale for surveillance | • Surveillance purpose (i.e. protect animal health and/or public health, protect the economy or facilitate trade, etc.)<br>• Benefits and implications for public and private partners |
| 3. Surveillance objectives | • Primary/secondary surveillance objectives, including surveillance outputs and follow-up actions when positives are detected (agreed with all stakeholders) |
| 4. Geographical area covered by surveillance | • National, regional, local level, cross border aspects |
| 5. Susceptible population monitored | • Targeted species, sentinel species (if applicable), concerned production systems/commodities |
| 6. Case definitions of disease(s) under surveillance | • Suspected, probable, confirmed |
| 7. Institutional levels involved | • Central, subnational and field units |
| 8. Surveillance methods and protocols | • Surveillance methods: active, passive, participatory and/or syndromic surveillance<br>• Outbreak investigations<br>• Site-specific: border posts, markets, abattoirs and other value chain nodes |
| 9. Sampling strategy | • Selection of: site, epidemiological unit, animals/environmental/ commodities sampling, sample size/frequency (e.g. random, risk-based, convenience, consultative workshop, etc.) |
| 10. Biosecurity/biosafety and public health considerations in the field | • Measures to prevent spread of infection during surveillance and personal protection (e.g. carcass/waste disposal, disinfection, personal protective equipment) |
| 11. Laboratory analysis | • Laboratory network involved (regional, central, sub-national)<br>• Sample collection, (including sampling method, pooling strategy, preservation, identification transport, storage)<br>• Laboratory assays to be used and rationale (e.g. molecular/serological assays, tissue culture, biochemical assays, etc.) |

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| 12. Data collection, management and storage | • Field data collection tool<br>• Laboratory results collection procedure<br>• Data entry and validation<br>• Data management and safety<br>• Data analysis and interpretation |
| 13. Communication and reporting | • Reporting at central level<br>• Feedback to the stakeholders<br>• Communication to the public<br>• Communication to neighbouring countries, regional bodies (e.g. Regional Economic Communities or the African Union for Africa)<br>• Scientific publications |
| 14. Structures responsible for the development and maintenance of the system | • Ministry (line)<br>• Scientific/steering committee<br>• Technical committee<br>• Frequency of meetings |
| 15. Staffing and training | • Directors, coordinators, subnational units, field agents (including paraveterinarians or community animal health workers) |
| 16. Timelines | • For: data management (collection, entry, validation and analysis), communication and reporting, staff training frequency |
| 17. Resources allocated | • Human, financial, material |
| 18. Monitoring and evaluation of the surveillance system | • Performance indicators used for regular/internal monitoring<br>• External evaluations (frequency, methodology, people involved, etc.) |
| 19. Intersectoral collaboration (One Health) | • Public health, Environmental Health, others |
| 20. References | |
| 21. Appendix (examples) | • Definitions<br>• Timeline of activities<br>• Team composition and affiliations<br>• Data collection questionnaires (e.g. disease reporting & laboratory forms)<br>• Details on pre-surveillance scoping visits and/or pre-test tools and strategy/ies – questionnaires, data collection and tools, etc. |