

Disease Surveillance and Outbreak

Disease Surveillance and Outbreak Investigation

1. Introduction

- Surveillance is the ongoing, systematic collection and analysis of health data to guide action.
- Outbreak investigation responds to a sudden rise in cases above expected levels.

2. Surveillance Systems

- **Passive surveillance:** routine reporting by providers and laboratories.
- **Active surveillance:** health authorities actively seek case data.
- **Sentinel surveillance:** selected sites monitor trends for early warning.

3. Outbreak Investigation Steps

- Confirm the outbreak and verify the diagnosis.
- Develop a case definition and identify cases.
- Describe data by person, place, and time, then form and test hypotheses.

4. Tools and Measures

- **Epidemic curve:** graph of cases over time showing pattern and possible source.
- Attack rates compare illness across exposure groups.

5. Control and Communication

- Implement control measures to stop transmission and protect the public.
- Timely communication with stakeholders supports response and prevention.