The AMR Global Health Academy

AMR in Practice #7: Decision Point
"Outbreak or Coincidence?"

Learning Pathway:
Healthcare-Associated Infections & Infection Prevention and Control (IPC)

The Scenario

Over the past ten days, three patients in the same hospital intensive care unit have developed bloodstream infections caused by *Klebsiella pneumoniae*. All three isolates are resistant to third-generation cephalosporins.

The patients were admitted for different conditions, and no obvious connection has been identified beyond their stay in the ICU. The infection prevention team is concerned about possible transmission, but the hospital has limited laboratory capacity and cannot perform molecular typing to determine whether the isolates are related.

The Decision Point

Would you initiate an outbreak investigation now — or wait for additional cases or laboratory confirmation?

How To Think It Through

Recognizing a possible healthcare-associated outbreak requires more than counting cases. The timing, location, organisms involved, and resistance patterns can provide early warning of potential transmission.

Three infections caused by the same bacterial species, with similar resistance patterns, in one ICU over a short period warrant further investigation. However, these findings alone do not establish that the infections are linked or that an outbreak has occurred.

Molecular typing can help establish whether isolates are genetically related, but it is not a prerequisite for initiating an investigation.

The immediate priority is to review the cases, establish whether the number exceeds what would normally be expected, examine possible shared exposures, and assess infection prevention practices. Enhanced surveillance and appropriate infection prevention measures can begin while additional evidence is collected.

Waiting for definitive laboratory confirmation may allow preventable transmission to continue.

Key Takeaway

Investigate a suspected outbreak when epidemiological and microbiological findings raise concern for transmission. Do not wait for molecular confirmation before taking appropriate initial action.

Why This Matters

Delayed recognition of healthcare-associated outbreaks can expose additional patients to infection, particularly in high-risk settings such as ICUs.

Early investigation, coordinated laboratory and infection prevention activities, and timely control measures can help identify potential transmission pathways and prevent further cases. A suspected outbreak is a signal to investigate — not a conclusion that transmission has been proven.

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