



Advanced HAI Surveillance and Applied Epidemiology Course

7 – 11 February 2027
Muscat

Advanced HAI Surveillance and Applied Epidemiology Course

Ref: 1487_209815 **Date:** 7 – 11 February 2027 **Location:** Muscat **Fees:** 5700 Euro

Overview

Advanced HAI Surveillance and Applied Epidemiology Course is a one-week advanced course for infection preventionists, epidemiology personnel, surveillance officers, public health practitioners, quality analysts, and healthcare professionals, who leave with an HAI Surveillance and Investigation Pack. The course connects healthcare infection case definitions, infection surveillance denominator data, HAI rate and trend analysis, and healthcare outbreak signal verification to prevention decisions. Agile Leaders Training Center presents HAI surveillance and applied epidemiology across healthcare settings.

Who Should Attend

- Teams responsible for healthcare-associated infection surveillance
- Personnel responsible for hospital epidemiology and outbreak assessment
- Functions responsible for public health surveillance and response
- Teams responsible for healthcare quality and infection data
- Managers responsible for surveillance reporting and prevention feedback

The course assumes practical experience with infection prevention, epidemiology, or healthcare data and excludes bedside diagnosis, treatment decisions, and regulatory reporting authority.

Departments and Industries

The course supports organizations that collect, analyze, interpret, and act on healthcare infection information.

- Hospital infection prevention and epidemiology functions
- Ambulatory and long-term care quality teams
- Public health surveillance and response services
- Diagnostic laboratory and health-information interfaces
- Academic, research, and healthcare improvement units

Learning Objectives

By the end of this course, participants will be able to:



- Apply surveillance objectives and case definitions consistently
- Evaluate numerator, denominator, exposure, and data-quality controls
- Analyze incidence, prevalence, rates, trends, and comparisons
- Build signal-verification, line-list, and epidemic-curve tools
- Compare descriptive and analytic epidemiology options
- Prioritize findings, feedback, and prevention actions

Course Agenda

Day 1: Surveillance Design and Case Definitions

- Surveillance Objective and Scope Charter
- Healthcare Infection Case Definition Decision Guide
- Case Finding Source and Ascertainment Map
- Inclusion, Exclusion, and Classification Record
- Surveillance Governance and Responsibility Matrix

Day 2: Denominators, Data Quality, and Rates

- Numerator and Denominator Specification Sheet
- Patient-Time and Device-Exposure Data Plan
- Surveillance Data Validation Checklist
- Incidence and Prevalence Calculation Workbook
- Rate Comparison and Interpretation Guardrail

Day 3: Signals and Descriptive Epidemiology

- Baseline and Expected-Occurrence Review
- Infection Signal Verification Decision Tree
- Case Line List Variable Dictionary
- Time, Place, and Person Analysis Grid
- Epidemic Curve Construction and Reading Method

Day 4: Investigation, Analysis, and Feedback

- Outbreak Investigation Question Framework
- Hypothesis and Exposure Comparison Matrix
- Analytic Study Design Selection Guide
- Control Measure and Continuing Surveillance Tracker
- Surveillance Report and Prevention Feedback Template



Day 5: Surveillance and Epidemiology Practice

- Suggested Exercise: Case Definition Application
- Suggested Exercise: Denominator and Rate Validation
- Suggested Exercise: Line List and Epidemic Curve Analysis
- Suggested Exercise: Signal and Investigation Decisions
- Capstone Exercise: HAI Surveillance and Investigation Pack

Practical Exercises

The course uses suggested activities with fictional hospital, ambulatory, long-term care, and public health surveillance data.

- Suggested activity: classify cases and document evidence, exclusions, and unresolved data.
- Suggested activity: validate denominator sources, calculate measures, and interpret rate changes.
- Suggested activity: organize a line list and describe cases by time, place, and person.
- Suggested activity: verify a signal, frame hypotheses, select an analysis, and plan feedback.

FAQs

Who should attend advanced HAI surveillance and applied epidemiology training, and what does it assume?

Infection prevention, epidemiology, surveillance, public health, quality, and healthcare data personnel should attend; the course assumes experience with infection information or prevention work.

How does HAI surveillance differ from a general infection prevention course?

HAI surveillance focuses on case definitions, systematic case finding, denominators, data quality, measures, signals, trends, investigation evidence, and feedback rather than the full range of operational prevention precautions.

How are healthcare infection surveillance rates made comparable?

Comparability requires consistent definitions, observation periods, populations, exposure denominators, data sources, validation rules, calculation methods, and contextual interpretation of changes in case finding or service activity.

How is a healthcare outbreak signal verified?

Verification checks the case definition, data completeness, duplicates, laboratory or record changes, expected occurrence, time-place clustering, exposure patterns, and alternative explanations before escalating an investigation.



What do line lists and epidemic curves contribute to applied epidemiology?

Line lists organize case variables for review, while epidemic curves display occurrence over time; together they support descriptive analysis, hypothesis development, case finding, exposure review, and response monitoring.

Conclusion

Participants leave with an HAI Surveillance and Investigation Pack containing scope tools, definition guides, denominator plans, validation checks, rate workbooks, line lists, epidemic curves, investigation matrices, and feedback templates. The pack connects surveillance evidence to defensible action. It helps teams separate routine variation, data artifacts, and signals requiring investigation.