Data Collection

1. Assess needs for data collection systems
2. Use various data collection systems
3. Define data security measures
4. Differentiate data sources: records, surveys, demographic data
5. Consider data quality attributes: accuracy, timeliness, completeness, plausibility, reliability
6. Evaluate performance of data collection systems

Data Management

1. Assess needs for data management systems
2. Use database systems (e.g., Excel, SQL)
3. Use statistical software (e.g., R, STATA, SAS, Python)
4. Implement data security measures
5. Apply principles of data consistency and cleaning
6. Link datasets (demographic, epidemiological, laboratory)
7. Create visualizations to explore data
8. Develop data quality reports/feedback.
9. Assess and improve data quality attributes (accuracy, timeliness, completeness, reliability)

Data analysis

1. Create an analysis plan for surveillance data
2. Use database systems (e.g., Excel, SQL) for analysis
3. Use statistical software (e.g., R, STATA, SAS, Python)
4. Summarize data with visualizations (tables, graphs, charts)
5. Conduct routine basic analyses of data
6. Conduct advanced analyses of data
7. Visualize surveillance data with geographic information system
8. Use surveillance data for operational research

Data interpretation

1. Interpret surveillance data to detect outbreaks
2. Interpret surveillance data to detect demographic risk factors
3. Interpret surveillance data to detect geographic risk areas
4. Consider limitations of data

Data Management

1. Develop a communication plan targeted to various audiences
2. Summarize surveillance data in presentations and reports.
3. Summarize surveillance data in recurring epidemiological bulletin
4. Translate analysis results into public health recommendations
5. Use data visualization tools to present and report surveillance data