

# **Epidemiology 101 Curriculum Framework**

## **I. History, Philosophy, and Uses of Epidemiology**

1. Historical contributions of epidemiology
2. Current uses of epidemiology
3. Ethics and philosophy of epidemiology

## **II. Descriptive Epidemiology**

1. Course of Disease/Condition  
Case definition and Populations; Incidence, Prevalence, Case-Fatality
2. Data and Disease - Vital statistics, surveillance and measures of health status
3. Generating hypotheses; Patterns of Disease - person, place, time; changes and difference in rates; exposure; incubation period; disease spread

## **III. Associations and Causation**

1. Estimation - measures of the strength of the association, graphical display of data; risk, attributable risk
2. Inference - concepts of statistical significance and confidence intervals
3. Adjustment - controlling for confounding (bias and chance) and effect modification
4. Causation and determinants of chronic and infectious diseases
5. Efficacy of interventions

## **IV. Analytical Epidemiology**

1. Ecologic/Population Comparison - comparison of rates
2. Case-control and cross-sectional
3. Cohort - prospective and retrospective
4. Experimental studies - randomized clinical trials and community trials

## **V. Evidence-Based Public Health- Evidence-Based Recommendations**

1. Harms and Benefits - Decision analysis and perceptions of risk
2. Cost-Effectiveness

## **VI. Applications to Policy, Basic and Clinical Sciences**

1. Outbreak investigation
2. Testing and Screening
3. Public health policy
4. Special Applications- Molecular/genetic epidemiology, Environmental/Occupational, Behavioral