

Principles and Concepts of Evidence-Based Practice

Objectives

- Describe evidence-based public health concepts
- Identify online resources that support research for evidence-based literature
- Create effective search strategies for retrieving relevant public health literature
- Apply evidence-based concepts to searching and evaluating public health literature

What is Evidence-Based Public Health?

The process of systematically finding, appraising, and using contemporaneous clinical and community research findings as the basis for decisions in public health.

The goal is the best possible management of health and disease and their determinants at the community level.

Source: Jenicek, Milos and Sylvie Stachenko. 2003. Evidence-based public health, community medicine, preventive care. Medical Science Monitor: 9(2): p, SR2.

The EB Process

- ASK: Formulate/clarify/categorize the question
ACQUIRE: Choose information sources; search for best available evidence
APPRAISE: Evaluate/Verify the information gathered
APPLY: Apply your new knowledge and evaluate outcomes

Sources of Evidence include:

- Original research reports
- Summaries, critiques, commentaries
- Systematic reviews, meta-analyses, guidelines
- Comprehensive knowledge bases

PICO – a technique to aid in focusing your question

Population or Problem
Intervention (e.g., program, screening test)
Comparison intervention (if any)
Outcome of interest

Putting it all together...

Evidence available + Professional Experience + Population Values/Preferences
= Evidence-Based Public Health Practice (Interventions/Programs/Policies)

Key Concepts in Evidence-Based Public Health

Systematic Review: critical assessment and evaluation of research that attempts to address a focused question using methods designed to reduce the likelihood of bias. The process of conducting a systematic review includes a comprehensive search of the literature, sometimes including unpublished studies.

Meta-Analysis: overview that incorporates a quantitative strategy for combining the results of several studies into a single pooled or summary estimate.

Risk Assessment: systematic approach to characterizing the risks posed to individuals and populations by environmental pollutants and other potentially adverse exposures.

Decision Analysis: systematic approach to decision making under conditions of uncertainty; involves identifying all available alternatives and estimating the probabilities of potential outcomes associated with each alternative, valuing each outcome, and, on the basis of the probabilities and values, arriving at a quantitative estimate of the relative merit of the alternatives.

Economic Evaluation: comparative analysis of alternative courses of action in terms of both their costs and consequences.

Expert Panels and Consensus Conferences: examination of research studies and their relevance to health conditions, diagnostic and therapeutic procedures, planning and health policy, and community interventions. Typically the panels of experts are convened by government agencies or specialized health organizations.

Practice Guidelines: systematically developed statements to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances; may be developed by government agencies, institutions, or by the convening of expert panels.

Source: Brownson et al. 2003. Evidence-Based Public Health, p. 45+ and JAMA. (2002). Users' Guides to the Medical Literature, Glossary.