

Evidence-Based Public Health: Finding and Appraising Relevant Resources

Medical Library Association
Continuing Education Course

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Course Information

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Purpose

This course will provide an introduction to evidence-based public health for librarians and knowledge managers. An overview of primary resources in public health collection development will develop into a foundation of knowledge. Case-studies based on real public health questions will bring the participants face-to-face with a variety of resources. Lastly, critical appraisal of public health literature will build participants' confidence with evaluating the results of their searches and applying information to public health decision making.

Objectives

1. Understand the characteristics of evidence-based public health.
2. Be informed about the variety of resources available for evidence-based health practice.
3. Gain an awareness of tools available for collection development.
4. Know how to respond to information questions typical of those posed by public health workers, students and researchers, and know the types of resources available to help answer questions.
5. Identify types of evidence and methodologies for appraising the public health literature.

Agenda

- 1:00-1:10** Introductions and review of objectives
- 1:10-1:45** Overview of types of evidence and comparison of evidence-based medicine (EBM) and evidence-based public health (EBPH).
- 1:45-2:20** Presentation on the knowledge domains of public health; public health journals and databases; grey literature and collection development for specific public health disciplines.
- 2:20-2:25** Break

Break into groups for Public Health Searching Case Studies. Each group will formulate the PICO, background and foreground questions from the case as well as consider possible database and search terms.

- 2:25-3:30** Exploration of databases and websites for identifying evidence-based public health literature and sample search questions.
- 3:30-3:40** Snack Break
- 3:40-4:00** Discussion of resources/databases/search terms relevant to case studies.
- 4:00-5:00** Critical appraisal of public health literature – overview, and practice appraisal of public health studies
- 5:00-5:15** Wrap-up, course evaluation

MLA Continuing Education Credits

Participants will receive 4 contact hours of MLA CE credit for attending this course.

Funding

Course development was funded by NN/LM/NER, Lamar Soutter Library, University of Massachusetts Medical School, Worcester, MA, contract #N01-LM-1-3518, 2004. Materials in Section 1 are a product of the Evidence-Based Practice for Public Health Project, based at the Lamar Soutter Library, University of Massachusetts Medical School, Worcester, MA, funded by cooperative agreement between the Centers for Disease Control and Prevention and the Association of Teachers of Preventive Medicine, award number TS-0734, 2002-2004.

Characteristics of Evidence-Based Public Health

Definition of Evidence-based public health (EBPH)

Evidence-based public health has been defined as:

“the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of communities and populations in the domain of health protection, disease prevention, health maintenance and improvement ...the process of systematically finding appraising, and using contemporaneous research findings as the basis for decisions in public health.” (Jenicek, 1997).

“the development, implementation, and evaluation of effective programs and policies in public health through application of principles of scientific reasoning, including systematic uses of data and information systems, and appropriate use of behavioral science theory and program planning models.” (Brownson, 1999).

EBPH requires integrating public health practitioner expertise, accumulated knowledge, and regulatory requirements with the best evidence from systematic research. The best available evidence is selected, appraised, and used to make informed decisions for public health practice.

Process of Evidence-Based Practice

1. Define the problem: convert information needs into focused questions.
2. Find the best evidence from the literature.
3. Critically appraise the evidence for validity and relevance.
4. Apply the evidence to practice.
5. Evaluate the results.

(Adapted from Sackett and Rosenberg, 1995; Sibbald, 1998)

Why Evidence-Based Practice? The Need for Evidence-Based Public Health

During the last decade there has been an increasing push for clinicians to use the best evidence when making medical decisions. There has been a more recent emphasis for public health practitioners to use the best evidence when developing public health interventions. The need for evidence-based public health includes:

- Information overload – there is an increasing amount of relevant research in public health and related disciplines.
- There is a need for high quality, filtered information to make informed decisions.
- Practitioners and policy makers value scientific knowledge as a basis for decision making.
- Decisions cannot only be based on intuition, opinion or anecdotal information.
- In public health there are limited resources and increasing government downsizing. There is a strong need for public health practitioners to justify actions and to demonstrate the benefits of public health interventions.
- Politicians with limited health backgrounds need to be provided with evidence to make informed decisions about public health programs.
- The National Library of Medicine (NLM) held an invitational conference in 1995 and recognized the need for public health professionals to have access to high quality information to make informed decisions. The NLM has formed the Partners in Information Access for the Public Health Workforce

(<http://phpartners.org>) to help meet the information needs of public health practitioners.

Quotes from Public Health Professionals

From informant interviews with staff from the Massachusetts Department of Public Health, Bureau of Communicable Disease Control:

“Some things have simply always been done a certain way – are common practice, but there is really no research to back it up.”

“I make a lot of decisions about how money is going to be spent, and I would like to always be able to back it up and say that this is proven, or evidence-based.”

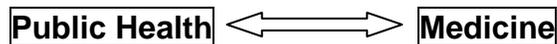
“Politics always overlays decision-making on everything that is not evidence-based in the public health world. Everything we do is imbued with political priorities and funding decisions.”

The Evidence-Based Movement: EBM to EBPH

During the last decade there has been an increasing push for clinicians to use the best evidence when making medical decisions. There has been a more recent emphasis for public health practitioners to use the best evidence when developing public health interventions.

Public Health	Medicine
<ul style="list-style-type: none"> • Focus on communities (populations) 	<ul style="list-style-type: none"> • Focus on individual patients
<ul style="list-style-type: none"> • Emphasis on prevention & health promotion: staying healthy 	<ul style="list-style-type: none"> • Diagnosis & treatment: getting healthy
<ul style="list-style-type: none"> • Interventions aimed at the environment and human behavior: care for the whole community 	<ul style="list-style-type: none"> • Interventions aimed at medical care of individual patients
<ul style="list-style-type: none"> • Diverse workforce, variable education & certifications 	<ul style="list-style-type: none"> • Well-established profession, standardized education and certification
<ul style="list-style-type: none"> • Social sciences integral; clinical sciences peripheral to education 	<ul style="list-style-type: none"> • Clinical sciences integral; social sciences less emphasized
<ul style="list-style-type: none"> • Observational and quasi-experimental research studies: case-control and cohort studies 	<ul style="list-style-type: none"> • Experimental research studies with control groups: Randomized control trials (RCTs)

(Adapted from Fineberg, 1990; Brownson, 2003)

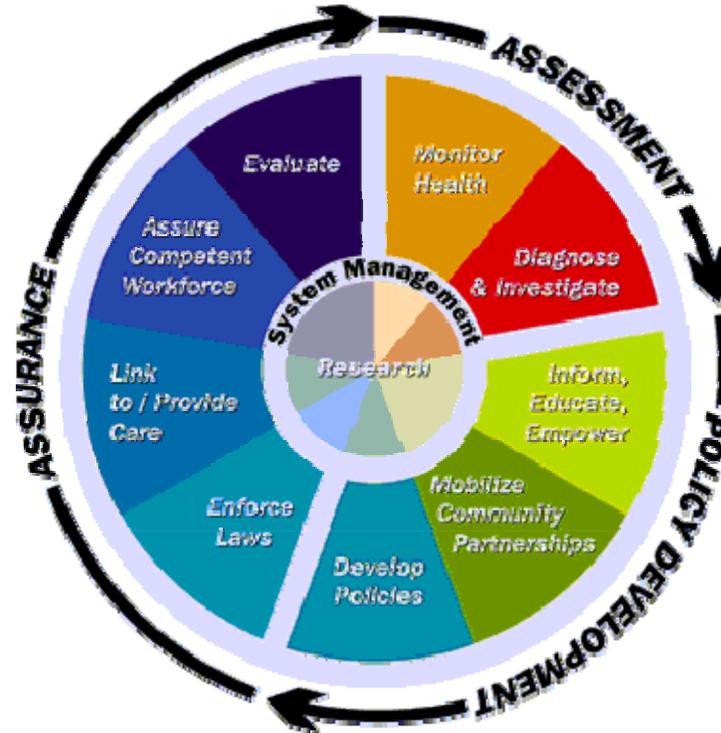


Interaction of Public Health and Medicine

Historically, public health and medicine developed as separate professions, with little interaction between clinicians and public health practitioners. Before the 1990's there was little interaction between American Public Health Association (APHA) and the American Medical Association (AMA). In the last decade steps have been taken to foster greater collaboration between public health and medicine.

- **Medical Care Section of APHA:**
Publishes the journal, *Medical Care*, which focuses on the research, planning, organization, financing, provision, and evaluation of health services.
- **Medicine/Public Health Initiative:**
Established in 1994 by the APHA and the AMA at the New York Academy of Medicine. A National Congress was jointly convened in 1996 and task forces representing the public health and medical professions developed an agenda for collaborative work on clinical, education, and research activities.
- **AAMC-CDC Cooperative Agreement:**
Agreement in 2000 between the Association of American Medical Colleges (AAMC) and the Centers for Disease Control and Prevention (CDC) to jointly develop prevention research strategies and medical education reform. Physicians now receive training in epidemiology, biostatistics, environmental health, behavioral science, and preventive medicine.
- **Collaboration on emerging health threats:**
Clinicians play a critical role in the recognition of diseases that impact the public's health. There are increasing partnerships among state and local health departments, academic medical centers, and schools of public health.
 - Bioterrorism (anthrax, 2001)
 - Emerging infections (SARS, 2003)
 - National Electronic Diseases Surveillance System (NEDSS): Collaborative project of the CDC and state and local public health partners. When fully implemented, it will be an integrated surveillance system to transfer appropriate public health, laboratory, and clinical data efficiently and securely over the Internet (<http://www.cdc.gov/nedss>).

The Ten Essential Public Health Services



Assessment

1. Monitor health status to identify community health problems.
2. Diagnose and investigate health problems and health hazards in the community.

Policy Development

3. Inform, educate, and empower people about health issues.
4. Mobilize community partnerships to identify and solve health problems.
5. Develop policies and plans that support individual and community health efforts.

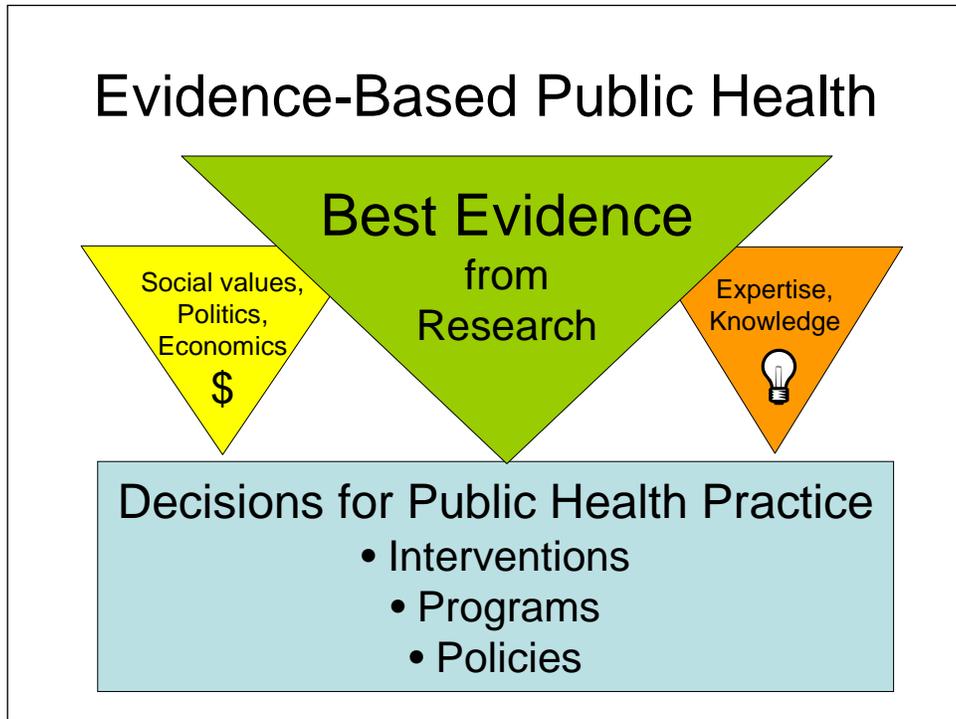
Assurance

6. Enforce laws and regulations that protect health and ensure safety.
7. Link people to needed personal health services and assure the provision of health care when otherwise unavailable.
8. Assure a competent public health and personal health care workforce.
9. Evaluate effectiveness, accessibility, and quality of personal and population-based health services.

All Functions

10. Research for new insights and innovative solutions to health problems.

Source: Public Health Functions Project, U.S. Dept. of Health and Human Services, 1995.



In summary, evidence-based public health involves integrating the best available evidence from research findings with professional expertise and knowledge. One must take into account the social, cultural, political, and economic environment of the community when developing and implementing public health interventions, programs, and policies. Using the best available evidence to make informed decisions helps to get support for public health programs from community leaders and the public.

Resources Available for Evidence-Based Health Practice

Traditional evidence-based practice derives evidence from the literature, and more narrowly to randomized-control trials (RCTs). However, evidence for public health interventions may not be available from RCTs or even published in peer-reviewed journals. Studies published in peer-reviewed journals have gone through a scientific review process that enhances the quality of the information. However, many research findings are published on the basis of the direction of their results which can lead to publication bias in which more studies with positive results are published than studies with negative results. Researchers and practitioners may fail to write up their research findings because of competing projects and other time demands. Evidence may be found in **grey literature** that includes technical reports, dissertations, conference proceedings, government documents, and other sources of alternative material.

Sources of “Evidence”

- Journal literature
- Books
- Conference proceedings & abstracts
- Dissertations & theses
- Unpublished scientific papers
- Government reports (federal, state and local)
- Policy statements, laws & regulations
- Surveillance data
- Newsletters
- Teleconferences & webcasts
- Alert systems
- Listservs
- Internet sources
- Expert opinion

Evidence Pyramid



The “Evidence Pyramid” represents different types of studies that can be used as evidence for evidence-based health practice. It is from an EBM course from the SUNY Downstate Medical Center (<http://servers.medlib.hscbklyn.edu/ebm/2100.htm>) and is meant to show “the least clinically relevant at the bottom and the most clinically at the top”. However, for evidence-based public health practice, the top of the pyramid does not represent the most relevant types of public health studies, but represents various study types found in the research literature, with the bottom representing the most numerous, and the top representing the least numerous. Observational or quasi-experimental studies are often more appropriate than randomized controlled trials (RCTs) for studying the effectiveness of complex programmatic public health interventions.

Models of Information: Sources of Evidence-Based Knowledge

1. Reports of Original Research

Original articles written by the authors who conducted the studies themselves and databases that cite these resources.

- Journal articles
- Book chapters
- Reports (government and other sources)
- Newsletter articles
- Conference proceedings and abstracts
- Bibliographic databases that cite the above
- Filtered searches of bibliographic databases

Examples:

- Articles from *JAMA*, *The American Journal of Public Health*, and *MMWR* (see list of public health journals)

- Citations and abstracts from MEDLINE and the Healthy People 2010 Information Access Project, <http://phpartners.org/hp> (pre-formulated PubMed searches).

2. Summaries, Critiques and Commentaries

Summaries and commentaries based on original studies that do not use a systematic approach to select and review relevant articles based on specific criteria. The summaries and reviews are often written by well-established experts in their fields. They are a good source for background information or a quick summary of information based on a research article.

- Narrative reviews and summaries of original studies
- Critiques of original studies
- Expert commentary based on original studies
- Structured abstracts of individual research articles

Examples:

- *Annual Review of Public Health*, <http://www.annualreviews.org/catalog/2006/pu27.asp>
- Journal Watch, <http://www.jwatch.org/>
- *Evidence-Based Healthcare & Public Health*, <http://www.harcourt-international.com/journals/ebhc/>

3. Systematic Reviews, Meta-Analyses, and Evidence-Based Guidelines

Systematic reviews and evidence-based guidelines are useful tools to help busy practitioners grasp important information about complex topics. A systematic approach to literature searching can increase the chances of finding pertinent information.

- Systematic reviews: review of the literature with specific methods and criteria to locate, appraise, and synthesize evidence from scientific studies.
- Meta-analyses: systematic reviews with quantitative analysis of multiple research studies. Findings of individual studies are integrated using statistical techniques.
- Evidence-based guidelines: formal statements based on original studies, systematic reviews, and meta-analyses that offer recommendations for practice. They may be developed by government agencies, institutions, or by convening expert panels; also called practice guidelines.

Examples:

- Cochrane Database of Systematic Reviews, <http://www.vichealth.vic.gov.au/cochrane/welcome/index.htm>
- Guide to Clinical Preventive Services, <http://www.ahrq.gov/clinic/cps3dix.htm>
- Guide to Community Preventive Services, <http://www.thecommunityguide.org>
- National Guideline Clearinghouse, <http://www.guideline.gov/>

4. Comprehensive Knowledge Bases

- Searchable online textbooks with up-to-date information
- Collections of multiple online resources:
 - Journal articles
 - E-textbook chapters
 - Guidelines
 - Recommendations
 - Patient handouts
 - Images
 - Multiple databases with integrated searching

Examples:

- Public Health Evidence Base, National Institute for Health and Clinical Excellence <http://www.publichealth.nice.org.uk/page.aspx?o=508295>
- MD Consult, <http://www.mdconsult.com>
- TRIP Database, (Turning Research Into Practice), <http://www.tripdatabase.com>
- UpToDate, <http://www.uptodate.com>

The Classification of Public Health Evidence: What are the Knowledge Domains of Public Health?

The field of public health is very broad and diverse. Activities range from disease control to health care financing.

The Public Health Workforce

<ul style="list-style-type: none">• Epidemiologists• Statisticians• Environmental Engineers• Animal Control Officers• Sanitarians• Food Scientists• Industrial Hygienists• Health Care Administrators• Health Economists• Politicians	<ul style="list-style-type: none">• Social Workers• Mental Health Workers• Substance Abuse Counselors• Doctors• Nurses• Teachers• Disaster Relief Workers• Nutritionists• Lab Technicians
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Public Health Sources Used to Identify the Knowledge Domains of Public Health

1. Public health accreditation criteria from Graduate Schools of Public Health, Council on Education for Public Health, <http://www.ceph.org/i4a/pages/index.cfm?pageid=3350>
2. Chapters from the academic public health reference book, Maxcy, Kenneth Fuller; Rosenau M.J.; Last, John M.; and Wallace, Robert B. *Maxcy-Rosenau-Last Public Health & Preventive Medicine*. Stamford, CT.: Appleton & Lange, 1998

3. Collection categories of the *American Journal of Public Health*, American Public Health Association, <http://www.ajph.org/collections>
4. Public health occupational categories: Gebbie, Kristine. *The Public Health Work Force: Enumeration 2000*. Washington, D.C.: U.S. Department of Health and Human Services, 2000
5. Bureaus and Programs from the Massachusetts Department of Public Health, <http://www.state.ma.us/dph>
6. Sections and special interest groups of the American Public Health Association (APHA), <http://www.apha.org/sections>
7. National health objectives from *Healthy People 2010*, McLean, VA: U.S. Department of Health and Human Services, 2000, <http://www.health.gov/healthypeople>
8. Public health guidelines from *The Guide to Community Preventive Services*, The Task Force on Community Preventive Services, <http://www.thecommunityguide.org>
9. Ten essential services of public health from the Public Health Functions Working Group, Public Health Functions Working Group and Steering Committee, 1994, <http://web.health.gov/phfunctions/public.htm>
10. Library indexes:
 - Journal subject headings from National Library of Medicine, *List of Journals Indexed in Index Medicus*. Bethesda, MD: U.S. Department of Health, Education, and Welfare, Public Health Service, National Institutes of Health, National Library of Medicine; Washington, D.C. 2001
 - National Library of Medicine, *Medical Subject Headings*. Bethesda, MD: U.S. Department of Health, Education, and Welfare, Public Health Service, National Institutes of Health, National Library of Medicine; Washington, D.C. 2002
 - Public health subject headings from *Library of Congress Subject Headings*. 24th Edition, Vol. IV. Washington, D.C.: Library of Congress, 2001 <http://catalog.loc.gov/>

REVIEW OF ONLINE MATERIALS

Evidence-Based Resources for Public Health Practice Available for Free Online Access
<http://library.umassmed.edu/ebpph/ebresources.cfm>

Public Health Journals
<http://library.umassmed.edu/ebpph/journallist.cfm>

Public Health Databases
<http://library.umassmed.edu/ebpph/dblist.cfm>

Evidence-Based Practice for Public Health Identified Knowledge Domains of Public Health

General Public Health

Epidemiology

- Risk Assessment
- Population-Based Health Research

Biostatistics

- Statistical Methods & Theory

Vital Statistics & Surveillance

- Public Health Data Collection & Storage
- Disease Reporting
- Health Registries

Environmental Health

- Toxicology
- Ecology
- Environmental Epidemiology
- Industrial & Land Pollution
- Outdoor Air Pollution
- Indoor Pollution
- Water Pollution
 - Safe Drinking Water
 - Waste Water Management
- Noise Pollution
- Housing & Health
- Buildings & Health
- Sanitary Engineering
- Food Protection

Occupational Health

- Industrial Hygiene
- Occupational Safety

Health Services Administration

- Planning
- Evaluation
- Health Policy
- Health Economics
- Health Financing
 - Managed Care
 - Government Health Insurance
- Health Care Access & Quality
- Regulation of Health Care
 - Services
 - Personnel
 - Facilities
 - Product Safety
- Training & Education of the Public Health Workforce
- Health Communication
 - Health Marketing
 - Public Relations
- Health Law
- Health Ethics
- Human Rights

Social & Behavioral Sciences

- Social Science & Medicine
- Health Behavior
- Mental Health
 - Psychiatry
 - Psychology
 - Family Counseling
- Substance Addiction & Abuse
 - Alcohol
 - Drug Abuse
 - Tobacco
- Responsible Sexual Behavior
 - Sexually Transmitted Disease Prevention
 - Unintended Pregnancy Prevention
- Violence Prevention & Intervention
 - Child Abuse
 - Elder Abuse
 - Domestic Violence
 - Sexual Assault & Rape
- Physical Activity

Health Promotion & Education

- Community Setting
- School Setting
- Worksite Setting

Community Health

- Community Health Centers
 - Public Hospitals & Facilities
 - Community Mental Health Centers
 - Community Pharmacy Services
- Community Health Workers
- Family Planning & Reproductive Health
- Women's Health
- Family Health
- School Health Services
- Home Health Services
- Hospice Services
- Men's Health
- Lesbian, Gay, Bisexual, Transgender Health
- Elder Health
- Minority Health & Cultural Diversity
- Refugee & Immigrant Health
- Urban Health
- Rural Health
- Homelessness, Health Aspects
- Military Medicine
- Prison Health
- Disability & Health

Maternal & Child Health

- Maternal & Infant Health
- Early Childhood Services
- Child Health
- Adolescent Health

Public Health Nursing

- Community Health Nursing
- Gerontological Nursing
- Home Health Care Nursing
- Maternal & Child Health Nursing
- Mental Health Nursing
- Nurse Epidemiologist
- Occupational Health Nursing
- School Nursing

Disaster Control & Emergency Services

- Emergency Health Services
- Disaster & Emergency Preparedness
- Bioterrorism
- Natural Disasters

Communicable Diseases

- Infectious Disease Epidemiology
- Disease Outbreaks
- Microbiology
- Virology
- Emerging Communicable Diseases
 - Antimicrobial Resistance
- HIV/AIDS
 - HIV Prevention
 - HIV Testing
 - Treatment & Support Services
- Immunization
 - Vaccine Safety
- Sexually Transmitted Diseases
- Tuberculosis
- Hepatitis
- Diseases Spread by Water
- Diseases Spread by Food
- International Communicable Diseases
 - Travelers' Health
- Control of Infections in Institutions
- Veterinary Public Health

Nutrition

- Obesity, Overweight, Underweight, & Eating Disorders

Chronic Diseases & Conditions

- Chronic Disease Epidemiology
- Pathology
- Cancer
 - Cancer Screening
 - Breast Cancer
 - Cervical Cancer
 - Colorectal Cancer
 - Prostate Cancer
 - Skin Cancer
 - Lung Cancer
 - Oropharyngeal Cancer
- Cardiovascular Diseases
 - Heart Disease
 - Hypertension
 - Stroke
- Endocrinology
 - Diabetes
- Musculoskeletal Disorders

- Osteoporosis
- Arthritis
- Renal & Urinary Tract Diseases
- Respiratory Health
 - Asthma
- Allergy
- Immunology
- Gastrointestinal Tract Disorders
- Oral Health, Public Health Dentistry
- Vision & Hearing
- Podiatric Health
- Neurology
- Genetics
- Accidents & Injuries

Public Health Laboratory Sciences

Public Health Informatics

Global Health

Public Health Bibliographic Databases

ABI/INFORM

Database of full-text business-related journals and newspapers. Available from ProQuest by subscription. \$

ABSEES, American Bibliography of Slavic and East European Studies

Covers North American scholarship on East-Central Europe, Russia, and the former Soviet Union. Contains bibliographic records for journal articles, books, book chapters, book reviews, dissertations, online resources, and selected government publications. Based at the University of Illinois Library at Urbana-Champaign. Available by subscription. \$

Abstracts in Anthropology

Covers a broad spectrum of significant, current anthropological topics from a vast number of periodicals. Available from Baywood Publishing by subscription. \$

Abstracts on Hygiene and Communicable Diseases

Abstracts of key papers on public health and disease. Coverage includes health and disease in temperate countries, the epidemiology and control of infectious diseases, community and environmental health, rural health and agricultural medicine. Other topics include chronic diseases, occupational health and toxicology. Available by subscription. \$

Academic Search Premier

Scholarly, multi-discipline, full text database designed specifically for academic institutions. Available from EBSCO by subscription. \$

Academic Universe

Access to full text articles and documents from news, legal, and business sources. Available from Lexis-Nexis by subscription. \$

Addiction Abstracts

Covers all addictive substances as well as other compulsive behaviors. Available from Taylor & Francis by subscription. \$

Adis Pharmacoeconomics and Outcomes News

Summaries of news from world pharmacoeconomic literature. More than 2,000 major international medical, biomedical and pharmacoeconomic journals are routinely scanned for inclusion. Available from Adis International Limited by subscription. \$

ADOLEC, Literature on Adolescence Health

Bibliographic database that contains articles related to adolescence. Produced by the Pan American Health Organization.

<http://www.bireme.br/bvs/l/ibd.htm> F

AEGIS (AIDS Education Global Information System)

This website is "the largest HIV/AIDS website in the world". It is a gateway to information about AIDS and HIV-its prevention, treatment and management that is updated hourly. It features links to daily news reports, fact sheets and personal stories. It offers a conference facility for HIV positive people to communicate with each other. It also offers a searchable database of nearly a million documents.

<http://www.aegis.com/> F

Ageline

Database containing detailed summaries of publications about older adults and aging, including books, journal and magazine articles, research reports, and videos. Produced by the AARP, the American Association of Retired Persons.

<http://research.aarp.org/ageline/> F

AGRICOLA

Bibliographic database of citations to agricultural literature created by the National Agricultural Library and its cooperators. The records describe publications and resources encompassing all aspects of agriculture and allied disciplines, including animal and veterinary sciences, entomology, plant sciences, forestry, aquaculture and fisheries, farming and farming systems, agricultural economics, extension and education, food and human nutrition, and earth and environmental sciences.

<http://agricola.nal.usda.gov/> F

AIM, African Index Medicus

International index to African health literature. Produced by the World Health Organization and the Association for Health Information and Libraries in Africa.

<http://www.who.int/library/country/regional/aim/index.en.shtml> F

Alcohol Studies Database

Database of citations for journal articles, books, book chapters, dissertations, conference papers, and audio-visual materials. Produced by the Center of Alcohol Studies at Rutgers University.

http://www.scc.rutgers.edu/alcohol_studies/alcohol/ F

Annual Review of Population Law

Database of summaries and excerpts of legislation, constitutions, court decisions, and other official government documents from every country in the world relating to population policies, reproductive rights and health, women's rights, HIV/AIDS and related topic Produced jointly by Harvard Law School and the United Nations Population Fund.

http://www.law.harvard.edu/programs/annual_review/annual_review.htm F

Aqualine

Comprehensive focus on trade, technical and scientific literature concerning all aspects of water resources. Major subjects of coverage include water resources and supplies management, water legislation, water quality, potable water distribution, wastewater collection, water treatment technologies, wastewater and sewage treatment, and ecological and environmental effects of water pollution. Available from CSA, Cambridge Scientific Abstracts, by subscription. \$

Aquatic Sciences and Fisheries Abstracts

Covers the field of aquatic resources. Available from CSA, Cambridge Scientific Abstracts, by subscription. \$

ASSIA, Applied Social Science Index and Abstracts

Covers health, social services, economics, politics, race relations and education. Available from CSA, Cambridge Scientific Abstracts, by subscription. \$

BCERF Environmental Risk Factor Database

Bibliographic database on breast cancer and environmental risk factors. Produced by Cornell University.

<http://envirocancer.cornell.edu/ERF/LibSearch.cfm> F

Best Practices Database

This searchable database contains over 1600 proven solutions from more than 140 countries to the common social, economic and environmental problems of an urbanizing world. It demonstrates the practical ways in which public, private and civil society sectors are working together to improve governance, eradicate poverty, provide access to shelter, land and basic services, protect the environment and support economic development. Produced by The Together Foundation and UN-Habitat. Available by subscription.

<http://www.bestpractices.org/> \$

Bibliography of Asian Studies

Western language records on subjects pertaining to Asia. Coverage includes articles, monographs, conference proceedings, anthologies, and book chapters. Available by subscription. \$

Biological Abstracts (BIOSIS)

Index to journals, books, and meeting abstracts in all areas of biology, including agriculture, biochemistry, biomedicine, biotechnology, genetics, botany, ecology, microbiology, pharmacology, and zoology. Available by subscription. \$

Bibliomap

Database of health promotion references. Produced by the Evidence for Policy and Practice (EPPI) Centre, based at the University of London, UK. Contains records on articles, books, reports, and studies. Compiled as a result of searching and coding research for inclusion in systematic reviews.

<http://eppi.ioe.ac.uk/EPPIWeb/home.aspx?Control=Search&SearchDB=bibliomap&page=/hp/> F

Biology Digest

Compilation of abstracts and indexes of domestic and international literature in the area of life sciences. It is primarily intended for an audience at the high school or undergraduate college level. Available from CSA, Cambridge Scientific Abstracts, by subscription. \$

CAB Abstracts

Covers the significant research and development literature in the fields of agriculture, forestry, aspects of human health, human nutrition, animal health and the management and conservation of natural resources. Available from CABI Publishing by subscription. \$

Campbell Collaboration (C2)

Systematic reviews and trials of interventions in the social, behavioral and educational arenas. The Campbell Library includes the Social, Psychological, Educational, and Criminological Trials Register (C2-SPECTR) and the Register of C2 Systematic Reviews of Interventions and Policy Evaluation (C2-RIPE).

<http://www.campbellcollaboration.org/> F

Canary Database

Bibliographic database that contains studies in the biomedical literature that explore the use of wildlife, domestic, and companion animals as "sentinels" for the effects of chemical, biological, and physical hazards in the environment that may be a risk to human health. Available from Yale University.

<http://canarydatabase.org/> F

CANCERLIT

Bibliographic database specifically designed for cancer from the National Cancer Institute.

http://www.cancer.gov/cancer_information/cancer_literature/ F

Catalog of United States Government Publications

Bibliographic records of U.S. Government information products. Available through GPO access.

<http://catalog.gpo.gov/F> F

CDC Recommends: The Prevention Guidelines System

Contains up-to-date and archived guidelines and recommendations approved by the Centers of Disease Control and Prevention (CDC) for the prevention and control of disease, injuries, and disabilities.

<http://www.phppo.cdc.gov/cdcRecommends/AdvSearchV.asp> F

CDC Wonder

Searchable compilation of Centers of Disease Control and Prevention (CDC) reports, guidelines, and numeric public health data.

<http://wonder.cdc.gov/> F

Chemical Abstracts

Comprehensive coverage of the world's chemical literature, including biochemistry, organic chemistry, macromolecular chemistry, applied chemistry and chemical engineering, physical, inorganic, and analytical chemistry. Produced by CAS, a division of the American Chemical Society. Available by subscription. \$

Chemical Safety NewsBase

Information on health and safety issues affecting the chemical and allied industries, plus health and safety aspects relevant to laboratories. Available from the Royal Society of Chemistry by subscription. \$

Chicano Database

Bibliographic resource for information about Mexican-American topics and specialized for Chicano reference. Also includes the broader Latino experience of Puerto Ricans, Cuban Americans, and Central American immigrants. Produced by RLG, Research Libraries Group. Available by subscription. \$

CHID, Combined Health Information Database

Bibliographic database produced by health-related agencies of the Federal Government. Provides titles, abstracts, and availability information for health information and health education resources. <http://chid.nih.gov/> F

CIESIN, Consortium for International Earth Science Information Network

Data and information on human interactions in the environment, global environmental change, and sustainable development. Produced by Columbia University. <http://www.ciesin.org/> F

CINAHL, Cumulative Index to Nursing & Allied Health

Covers literature related to nursing and allied health, including consumer health, biomedicine, health education, and health sciences librarianship. Additional citations for selected books, dissertations, and conference proceedings are included. Available by subscription. \$

CISILO

Bilingual bibliographic database that provides references to international occupational health and safety literature. Created by the International Occupational Safety and Health Information Centre in Geneva. Available by subscription. \$

Cochrane Central Register of Controlled Trials (CENTRAL)

A bibliography of controlled trials identified by contributors to the Cochrane Collaboration and others, as part of an international effort to hand search the world's journals and create an unbiased source of data for systematic reviews. CENTRAL includes reports published in conference proceedings and in many other sources not currently listed in MEDLINE or other bibliographic databases. Available by subscription. \$

Cochrane Database of Systematic Reviews

Evidence-based database of full text articles reviewing the effects of healthcare prepared by the Cochrane Collaboration. The reviews are highly structured and systematic, with evidence included or excluded on the basis of explicit quality criteria. Included in the Cochrane Library and indexed in MEDLINE. Full text reviews are available by subscription and abstracts are available for free.

<http://www.thecochranelibrary.com> \$

<http://www.thecochranelibrary.com> F

Compumath Citation Index

Bibliographic information and author abstracts from scholarly journals in computers and mathematics. Available from ISI, the Institute for Scientific Information, by subscription. \$

Congressional Universe

Provides full-text and bibliographic access to Congressional Publications including House and Senate Reports and Documents, Hearings, Committee Prints, bills, laws, and legislative histories. Available from Lexis-Nexis by subscription. \$

CPBD, Carcinogenic Potency Database

Resource on the results of chronic, long-term animal cancer tests. Includes experimental results reported in the general literature and in the Technical Reports of the National Cancer Institute/National Toxicology Program (NCI/TP).

<http://potency.berkeley.edu/cpdb.html> F

Criminal Justice Abstracts

Criminology database of international journals, books, reports, dissertations and unpublished papers on criminology and related disciplines. Available by subscription. \$

Current Advances in Cancer Research

Literature searching service that provides a subject categorized listing of titles, authors, bibliographic details and authors' addresses. Coverage includes epidemiology of cancer; etiology of cancer; cancer genetics and cytogenetics; diagnosis and prognosis; and comparative assessments of therapies. Available from Elsevier by subscription. \$

Current Advances in Ecological and Environmental Sciences

Literature searching service that provides a subject categorized listing of titles, authors, bibliographic details and authors' addresses. Covers the ecological and environmental sciences. Available from Elsevier by subscription. \$

Current Contents

Provides access to complete bibliographic research information from articles, editorials, meeting abstracts, commentaries, letters, book reviews, and all other significant items in recently published editions of scholarly journals and books. Available from ISI, the Institute for Scientific Information, by subscription. \$

Current Index to Statistics

Bibliographic index to publications in statistics and related fields. Produced by the American Statistical Association and the Institute of Mathematical Statistics, available by subscription. \$

Current Issues Universe

Provides access to “gray literature” publications on current social, political, economic, health, environmental, and science and technology issues. Available from Lexis-Nexis by subscription. \$

CWI, Contemporary Women’s Issues

Provides full-text access to global information on women in over 150 countries. Indexes books, journals, newsletters, research reports from non-profit groups, government and international agencies, and fact sheets. Produced by the Gale Group. Available by subscription. \$

Dairy Science Abstracts

Information on all aspects of milk production, secretion, processing, and milk products. Available from CABI Publishing by subscription. \$

DARE, Database of Abstracts of Reviews of Effectiveness

Systematic research reviews of the effectiveness of health care intervention that have been critically appraised by reviewers at the National Health Service (NHS) Centre for Reviews and Dissemination at the University of York, England. Included in the Cochrane Library.

<http://www.crd.york.ac.uk/crdweb/> F

DART/ETIC, from TOXNET

Literature on developmental and reproductive toxicology. Produced by the Developmental and Reproductive Toxicology and Environmental Teratology Information Center.

<http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?DARTETIC.htm> F

Database of Promoting Health Effectiveness Reviews (DoPHER)

Centre Contains references to approximately 700 reviews of health promotion effectiveness. Contains references to both systematic and non-systematic reviews (around a third are coded as systematic). Produced by the Evidence for Policy and Practice Information (EPPI) Centre, based at the University of London

<http://eppi.ioe.ac.uk/webdatabases/Intro.aspx?ID=2> F

Department of Energy (DOE) Information Bridge

Source to full-text and bibliographic records of research and development reports from the Department of Energy (DOE) in physics, chemistry, materials, biology, environmental sciences, energy technologies, engineering, computer and information science, renewable energy, and other topics.

<http://www.osti.gov/bridge/> F

DESASTRES, Disaster Documentation Center Collection

Bibliographic references resulting from analyses of United Nations agencies' publications, books or chapters of books, non conventional literature, such as technical information, congress presentations, theses, emergency plans, etc., and scientific articles from specialized journals. Produced by the Disaster Documentation Center, of the Pan American Health Organization.
<http://www.bireme.br/bvs/I/ibd.htm> F

Dissertation Abstracts

Offers access to more than 90 percent of the doctoral dissertations accepted each year in North America. The database also covers thousands of dissertations and theses from around the globe. Subjects covered include agriculture & food science, architecture, art, bioscience and biotechnology, business, chemistry, economics, education, history, geoscience, law and political science, mathematics, music, pharmaceuticals, psychology, social science, veterinary sciences, zoology and more. Available by subscription. \$

EconLit

Contains bibliographic references and some abstracts for journal articles, books, articles in collective volumes and dissertations, and conference proceedings in economics. Produced by the American Economic Association. Available by subscription. \$

ECOTOX

Source for locating single chemical toxicity data for aquatic life, terrestrial plants and wildlife. Created by the U.S. EPA, Office of Research and Development and the National Health and Environmental Effects Research Laboratory.
<http://www.epa.gov/ecotox/> F

EMBASE (Excerpta Medica)

Comprehensive pharmacological and biomedical database. Available from Elsevier by subscription. \$

Environmental Abstracts

Database with article references on environmental issues including acid rain, ecology, human ecology, environmental studies, energy, natural resources and pollution. Produced by CIS, Congressional Information Services. Available by subscription. \$

Environmental Sciences and Pollution Management

Multidisciplinary database of the environmental sciences. Abstracts and citations from scientific journals and other sources including conference proceedings, reports, monographs, books and government publications. Available from CSA, Cambridge Scientific Abstracts, by subscription. \$

ERIC Database

Database of education information with citations to journal articles and other research literature in education. Produced by the Education Resources Information Center, a federally funded national information system.
<http://www.eric.ed.gov/> F

Ethnic News Watch

Full-text general reference database of ethnic, minority and native newspapers, magazines and journals. In English and Spanish. Available from Softline Information by subscription. \$

EthnoMed

Medical and cultural information on immigrant and refugee groups. Produced by the University of Washington and Harborview Medical Center.

<http://ethnomed.org/> F

ETOH, Alcohol and Alcohol Problems Science Database

Covers all aspects of alcohol abuse and alcoholism. Includes abstracts and bibliographic references to journal articles, books, dissertation abstracts, conference papers and proceedings, reports and studies, and chapters in edited works. Produced by the NIAAA, the National Institute on Alcohol Abuse and Alcoholism until December 2003.

<http://etoh.niaaa.nih.gov/> F

EurasiaHealth Knowledge Network Multilingual Library

Database of health education materials available in the languages of Central and Eastern Europe and the former Soviet Union. The primary focus is in 10 subject areas—community health, emergency medicine, health management, HIV/AIDS, infection control, maternal and child health, medical informatics, nursing, primary healthcare, and women's health. Produced by the American International Health Alliance.

<http://www.eurasiahealth.org/index.jsp?sid=1&id=3542&pid=3540> F

Expanded Academic ASAP

Database for the research needs of all academic disciplines, from arts and the humanities to social sciences, science and technology. Access to scholarly journals, news magazines, and newspapers. Available from Gale Group by subscription. \$

Family Index Database

Database of family studies and family-related articles from the areas of psychology, sociology, medicine, nursing, education, and religion. Available from Family Scholar Publications by subscription. \$

Forest Products Abstracts

Covers all aspects of wood processing from harvesting to marketing, as well as non-timber forest resources. Available from CABI Publishing by subscription. \$

Forestry Abstracts

Covers the world literature on all aspects of forestry, including land use and conservation. Available from CABI Publishing by subscription. \$

FTSA, Food Science and Technology Abstracts

Source of information on food science, food technology and human nutrition. Indexes journals, books, conference proceedings, theses, patents, standards, and legislation. Produced by IFIS, the International Food Information Service. Available by subscription. \$

GenderWatch

Full text database of publications that focus on the impact of gender across a broad spectrum of subject areas. Publications include magazines, academic journals, newspapers, newsletters, books, pamphlets, conference proceedings, and government reports. Available from Softline Information by subscription. \$

General Reference Center

General interest database of articles from magazines, reference books, and newspapers. Available from Gale Group by subscription. \$

Genetics Abstracts

Genetics database from microbes to plants to humans. Molecular genetics is emphasized, with information on DNA, differentiation and development, RNA, protein synthesis, ribosomes, nuclear proteins and chromatin, enzymes, and gene regulation. Available from CSA, Cambridge Scientific Abstracts, by subscription. \$

Geographical Abstracts

Coverage of the literature associated with Earth studies. Available from Elsevier by subscription. \$

Global NewsBank

Access to fully indexed articles taken from international news sources including newspapers, broadcasts, newswires, and wire services. Available from NewsBank, Inc. by subscription. \$

GPO Access

Service of the U.S. Government Printing Office (GPO) that provides free electronic access to databases produced by the Federal Government. Searches can be performed in a single database or across multiple databases.

<http://www.gpoaccess.gov/index.html> F

HAPI, Hispanic American Periodicals Index

Bibliographic citations to articles, book reviews and other material relating to Central and South America, Mexico, the Caribbean basin, the United States border region, and Hispanics in the United States. Available by subscription. \$

Health and Psychosocial Instruments (HAPI)

Provides access to information on measurement instruments (i.e., questionnaires, interview schedules, checklists, index measures, coding schemes/ manuals, rating scales, projective techniques, vignettes/scenarios, tests) in the health fields, psychosocial sciences, organizational behavior, and library and information science. Available from Ovid by subscription. \$

Health and Safety Sciences Abstracts

Database of recent work relating to public health, safety, and industrial hygiene Published in association with the University of Southern California's Institute of Safety and Systems Management. Available from CSA, Cambridge Scientific Abstracts, by subscription. \$

Health Communication Materials Databases

The Media/Materials Clearinghouse (M/MC) is an international resource for health professionals

who seek samples of pamphlets, posters, videos, and many other media/materials designed to promote public health. The M/MC is part of the Johns Hopkins University Center for Communication Programs, which is a Center within the Johns Hopkins Bloomberg School of Public Health.

<http://www.m-mc.org/> F

Health Education and Promotion System (HEAPS)

The Heaps website contains a valuable and extensive database listing of Australian and New Zealand health promotion projects. Contains over 6,000 records of programs, projects and resources.

<http://www.prometheus.com.au/heaps/heaps.html> F

Healthy People 2010 Information Access Project

Developed by the National Library of Medicine and the Public Health Foundation (PHF). Provides links to pre-formulated (filtered) PubMed searches for selected *Healthy People 2010* objectives, links to chapters in *Healthy People 2010*, relevant guidelines, and MEDLINEplus topics. *Healthy People 2010* is a prevention agenda for the United States composed of national health objectives designed to establish goals to reduce significant preventable threats to health.

<http://phpartners.org/hp/> F

Healthy Start Collection Database

See **Maternal and Child Health Library** for description.

<http://www.mchlibrary.info/databases/search.lasso> F

Helminthological Abstracts

Covers the literature on all parasitic helminthes. Available from CABI Publishing by subscription. \$

History of Science, Technology and Medicine

International bibliography for the history of science, technology, and medicine and their influence on culture, from pre-history to the present. Available from RLG, Research Libraries Group, by subscription. \$

HLAS, Handbook of Latin American Studies

Bibliography on Latin America consisting of works selected and annotated by scholars. Produced by the Hispanic Division of the Library of Congress.

<http://lcweb2.loc.gov/hlas/> F

HRSA, Health Resources and Services Administration, Information Center Publications, resources, and referrals on health care services for low-income, uninsured individuals and those with special health care needs. Key programs areas of the HRSA are HIV/AIDS services; primary health care; maternal and child health; health professions; rural health policy, and organ and marrow donation. The database provides citation information, abstracts, and information on how to order publications.

<http://www.ask.hrsa.gov/search.cfm> F

HSTAT, Health Services/Health Technology Assessment Text - NCBI Bookshelf

Searchable collection of full-text clinical practice guidelines, technology assessments and health information. Also provides links to external databases, including PubMed, the Centers of Disease Control and Prevention (CDC) Prevention Guidelines Database, and the National Guideline Clearinghouse. Developed by the National Library of Medicine.

<http://www.ncbi.nlm.nih.gov/books/bv.fcgi?rid=hstat> F

IBIDS, International Bibliographic Information on Dietary Supplements

Database of published, international, scientific literature on dietary supplements, including vitamins, minerals, and botanicals from the National Institutes of Health and Food and Nutrition Information Center of the National Agricultural Library.

<http://ods.od.nih.gov/databases/ibids.html> F

IMEMR, Index Medicus for the Eastern Mediterranean Region

Indexes and disseminates health and biomedical information originating in the Eastern Mediterranean Region. Produced by the World Health Organization.

<http://www.who.int/library/country/regional/imemr/index.en.shtml> F

IMSEAR, Index Medicus for the South-East Asian Region

Database of articles published in selected journals within the World Health Organization (WHO) South-East Asia Region. It is a collaborative effort of participating libraries in the Health Literature, Library and Information Services (HELLIS) network.

<http://www.who.int/library/country/regional/imsear/index.en.shtml> F

Index to Scientific Reviews

Multidisciplinary coverage of the world's most recently published scientific and technical reviews. Available from ISI, the Institute for Scientific Information, by subscription. \$

Index Veterinarius

Comprehensive monthly subject and author index to the world's veterinary literature. Available from CABI Publishing by subscription. \$

IndMED

Bibliographic database of Indian biomedical journals. Produced by the National Informatics Centre, India.

<http://indmed.nic.in/> F

INIS, International Nuclear Information System

Bibliographic database covering the worldwide published literature in nuclear research and technology. Available from STN, Scientific and Technical Information Network, by subscription. \$

Inpharma

Summaries of research published in the world's biomedical literature concerning drug therapy and disease management. Available from SilverPlatter by subscription. \$

International Bibliography of the Social Sciences

Covers the core disciplines of anthropology, economics, political science and sociology, and also includes related subjects such as archeology, demography, foreign affairs, government, history, international relations, law, psychology, public administration and social issues. Produced by the British Library of Political and Economic Science of the London School of Economics and Political Science. Available from SilverPlatter by subscription. \$

International Development Abstracts

Bibliographical reference source on topics and issues relating to developing countries as well as the fields of Earth sciences and human geography. Available from Elsevier by subscription. \$

IPA, International Pharmaceutical Abstracts

Information from pharmaceutical, medical, and health-related journals published worldwide. Produced by the American Society of Health-System Pharmacists. Available by subscription. \$

Journal Watch Infectious Diseases

Information on clinical research in infectious disease. Reviews of the most important studies from over 40 of the top general and specialty medical journals. Produced by the Massachusetts Medical Society. Available by subscription. \$

Journal Watch Women's Health

Information on research appearing in the women's health literature. Reviews of the most important studies from over 40 of the top general and specialty medical journals. Produced by the Massachusetts Medical Society. Available by subscription. \$

Laboratory Hazards Bulletin

Provides comprehensive coverage of laboratory hazards information. Covers over 150 international scientific and trade journals, plus press releases, technical reports and books. Available from the Royal Society of Chemistry by subscription. \$

LegalTrac

Database for government regulations, international law, and case law. Available by subscription. \$

LILACS, Latin American and Caribbean Health Science

Covers literature related to the health sciences that has been published in countries of Latin America and the Caribbean. Produced by the Latin American and Caribbean Center on Health Sciences Information.

<http://www.bireme.br/bvs/l/ibd.htm> F

Maternal and Child Health Library

Includes MCH (Maternal and Child Health) Line, MCH Organizations Database, MCH Projects Database, and Healthy Start Collection Database. **MCHLine** is a bibliographic database that lists materials held in the Mary C. Egan Maternal and Child Health Library at Georgetown University. The library focuses on publications from federal and state agencies, from grantees of federal and state agencies, and from professional and voluntary agencies. It contains unique materials on the history of MCH in the United States, policy papers, reports, conference proceedings, manuals, survey instruments, guidelines, and curricula. The **Healthy Start Collection Database** is an online catalog of items developed by Healthy Start sites, including brochures, bylaws, curricula, marketing materials, policies, and reports, along with other material related to maternal and infant health.

<http://www.mchlibrary.info/databases/search.lasso> F

MathSciNet

Comprehensive database covering the world's mathematical literature since 1940. Reviews of mathematical research literature contained in the Mathematical Reviews Database. Produced by the American Mathematical Society. Available by subscription. \$

MCH (Maternal and Child Health) Line

See **Maternal and Child Health Library** for description.

<http://www.mchlibrary.info/databases/search.lasso> F

MEDLINE (Index Medicus)

National Library of Medicine's premier bibliographic database covering the fields of medicine, nursing, dentistry, veterinary medicine, the health care system, and the preclinical sciences.

<http://www.ncbi.nlm.nih.gov/PubMed/> F

MEDLINEplus

Health resources selected by the National Library of Medicine for healthcare consumers.

<http://medlineplus.gov/> F

Mental Measurements Yearbook

Contains full-text information on and reviews of all English-language standardized tests covering educational skills, personality, vocational aptitude, psychology, and related areas. Produced by the Buros Institute. Available by subscription. \$

Microbiology Abstracts

Covers research in microbiology and related fields, including basic biochemistry, genetics, immunology and ecology of microorganisms. Available from CSA, Cambridge Scientific Abstracts, by subscription. \$

Micromedex

Clinical information on toxicology, drugs, drug interactions, alternative medicine, and reproductive risks. Available by subscription. \$

National Center for Health Statistics

Data on vital events as well as information on health status, lifestyle and exposure to unhealthy influences, the onset and diagnosis of illness and disability, and the use of health care.

<http://www.cdc.gov/nchs> F

National Criminal Justice Reference Service Abstracts Database: NCJRS

Contains abstracts and links to full-text criminal justice publications from NCJRS sponsoring agencies -- the National Institute of Justice, the Office of Juvenile Justice and Delinquency Prevention, the Office for Victims of Crime, the Bureau of Justice Statistics, and the Bureau of Justice Assistance, all part of the Office of Justice Programs, U.S. Department of Justice, and the Office of National Drug Control Policy.

Abstracts available at: http://abstractsdb.ncjrs.org/content/AbstractsDB_Search.asp F

Full-text publications available at: <http://www.ncjrs.gov/app/search/advancedsearch.aspx> F

National Guideline Clearinghouse

Comprehensive database of evidence-based clinical practice guidelines and related documents produced by the Agency for Healthcare Research and Quality (AHRQ), in partnership with the American Medical Association (AMA) and the American Association of Health Plans (AAHP).

<http://www.guideline.gov> F

National Laboratory Training Network (NLTN) Lending Library

Includes training and educational materials available for loan, free of charge, to laboratory scientists. Lending library items include videotapes, printed manuals, and electronic media. Searchable by topic, material type, and distribution date. Topics include bioterrorism, microbiology, hematology, phlebotomy, and quality assurance and safety. Also contains links to Centers of Disease Control and Prevention (CDC) on-line training resources and NLTN laboratory training products.

<http://www.phppo.cdc.gov/libnltn/AdvSearchV.asp> F

National Memorial Institute for the Prevention of Terrorism (MIPT) Library

Catalog of the MIPT Library located in Oklahoma City. The MIPT Library is a clearinghouse for terrorism related information, and seeks to identify and acquire original manuscript collections, photographs, videotapes, posters and electronic information. The library contains information on emergency health and response issues, public health policy, bioterrorism, and other types of terrorism related issues.

<http://library.mipt.org> F

National Newspaper Index

Indexes the following newspapers: Christian Science Monitor (National edition), Los Angeles Times (Home edition), Wall Street Journal (Eastern and Western editions), New York Times (Late and National editions), New York Times Book Review, New York Times Magazine, and Washington Post (Final edition). Available from the Gale Group by subscription. \$

Native Health Research Database

Bibliographic database pertaining to health and medical issues of the American Indian and Alaska Native (AI/AN) and Canadian First Nations populations. Produced by the University of New Mexico Health Sciences Library and the University of New Mexico Health Sciences Center Library.

<http://hsc.unm.edu/library/nhd> F

Neuroscience Citation Index

Bibliographic information and author abstracts from scholarly journals in neuroscience. Available from ISI, the Institute for Scientific Information, by subscription. \$

NewsBank NewsFile

Full-text news resource consisting of articles selected from regional, national and international sources. Available from NewsBank, Inc. by subscription. \$

NHS Economic Evaluation Database (NHS EED)

Database of structured abstracts that assess and summarize published economic health care evaluations. Includes cost-benefit analyses, cost-utility analyses, cost-effectiveness analyses, cost-minimization analyses, and cost-consequence analysis. Produced by the National Health Service (NHS) Centre for Reviews and Dissemination at the University of York, York, UK.

<http://www.crd.york.ac.uk/crdweb/> F

NIOSHTIC (National Institute for Occupational Safety and Health Technical Information Center)

The National Institute for Occupational Safety and Health's (NIOSH) electronic, bibliographic database of literature in the field of occupational safety and health. About 160 current, English language technical journals provide approximately 35 percent of the additions to NIOSHTIC annually. Retrospective information, some of which is from the 19th century, is also acquired and entered. NIOSHTIC is updated quarterly and is available on-line and on compact disk by subscription from SilverPlatter. \$

NIOSHTIC-2 is a bibliographic database of occupational safety and health publications, documents, grant reports, and other communication products supported in whole or in part by the National Institute for Occupational Safety and Health

<http://www2a.cdc.gov/nioshtic-2/nioshtic2.htm>

NLM Gateway (MEDLINE, OLDMEDLINE, LOCATORplus, MEDLINEplus, DIRLINE, AIDS Meetings, Health Services Research Meetings, Space Life Sciences Meetings, HSRProj)

A single web interfaces that searches multiple retrieval systems at the National Library of Medicine (NLM).

<http://gateway.nlm.nih.gov/gw/Command> F

NTIS, National Technical Information Service

Central resource for scientific, technical, engineering and business information. Covers reports describing research conducted or sponsored by federal agencies and their contractors; statistical and business information; audiovisual products; computer software and electronic databases developed by federal agencies; and technical reports prepared by foreign research organizations. Produced by the National Technical Information Service.

<http://www.ntis.gov/> F

Nutrition Abstracts and Reviews

Covers information on nutrition, including techniques, food composition and nutritive value, human health and nutrition, disease and therapeutic nutrition, and physiology and biochemistry of nutrients. Available from CABI Publishing by subscription. \$

Nutrition Research Literature

Literature-survey service covering more than 400 scientific journals. Provides summaries with full citations and author's addresses plus a listing of reviews in nutrition and clinical nutrition. Published by Technical Insights. Available for free from FindArticles.com.

http://www.findarticles.com/cf_0/m0887/mag.jhtml F

Oceanographic Literature Review

Annotated bibliography to the international research literature in all fields of oceanography including science, mathematics, and methods as well as policy, laws, economics, and resource management. Available from Elsevier by subscription. \$

OCLC's WorldCat

Catalog of books, web resources, and other material worldwide. Available from OCLC, Online Computer Library Center, by subscription. \$
Open World Cat through Google and Yahoo! Search.

OncoLink

Comprehensive information about specific types of cancer, updates on cancer treatments and news about research advances. Links to full-text documents and related websites. Produced by the University of Pennsylvania.

<http://oncolink.upenn.edu/> F

OSH-ROM Occupational Safety and Health Databases (NIOSHTIC, HSELINE, CISDOC, MHIDAS, MEDL-OEM, RILOSH)

Six databases covering critical international occupational health and safety information. Available from SilverPlatter by subscription. \$

PAIS, Public Affairs Information Service

Bibliographic database on public affairs, public and social policies, international relations, and world politics. Indexed materials include books, journal articles, government documents, serials, gray literature, pamphlets, reports of public and private organizations, and Internet materials. From CSA, Cambridge Scientific Abstracts, by subscription. \$

Physical Education Index

Covers physical education curricula, sports medicine, dance, health education, physical therapy, sports law, kinesiology, motor learning, recreation, standardized fitness tests, sports equipment, business and marketing, coaching and training, and sport sociology/psychology. Available from CSA, Cambridge Scientific Abstracts, by subscription. \$

PILOTS Database

An electronic index to the worldwide literature on post-traumatic stress disorder (PTSD) and other mental-health consequences of exposure to traumatic events. It is produced by the National Center for PTSD, and is available to the public on computer systems maintained by Dartmouth College.

<http://www.ncptsd.org/publications/pilots/> F

Policy Information Exchange (PIE)

Source for information related to mental health, substance abuse, and disability policy, including a searchable database of over 5,000 documents. A service of the Missouri Institute of Mental Health. No longer being maintained as of 2005.

<http://mimh200.mimh.edu/mimhweb/pie/> F

PolicyFile

Indexes and abstracts public policy literature from think tanks, university research programs, research organizations and publishers. Available from ProQuest by subscription. \$

Pollution Abstracts

Covers topics related to pollution from the standpoints of atmosphere, emissions, mathematical models, effects on people and animals, and environmental action in response to global pollution issues. Available from CSA, Cambridge Scientific Abstracts, by subscription. \$

POPLINE

Database of citations and abstracts of published and unpublished international reproductive health literature. Subject coverage includes family planning, population law and policy, and primary health care, including maternal/child health in developing countries. Maintained by the Population Information Program at the Johns Hopkins School of Hygiene and Public Health.

<http://db.jhuccp.org/popinform/basic.html> F

Population Index on the Web

Annotated bibliography of recently published books, journal articles, working papers, and other materials on population topics. Produced by the Office of Population Research, Princeton University.

<http://popindex.princeton.edu/> F

Poultry Abstracts

Covers Worldwide scientific information on all aspects of Poultry breeding and production. Available from CABI Publishing by subscription. \$

Protozoological Abstracts

Covers all parasitic protozoa, many endemic to the tropics, affecting man and animals. Available from CABI Publishing by subscription. \$

PsycInfo (Psychological Abstracts)

Citations and abstracts of international journal articles in psychology and related disciplines. Coverage includes journals, books, dissertations, and reports. Available by subscription. \$

Psychology and Behavioral Science Collection

Comprehensive database with full text titles covering topics such as emotional and behavioral characteristics, psychiatry & psychology, mental processes, anthropology, and observational and experimental methods. Available from EBSCO by subscription. \$

Public Health Excellence at NICE

A searchable database of electronically available systematic reviews of effectiveness, literature reviews, meta-analyses, expert group reports and other review-level information about what works to improve health and reduce health inequalities. This database contains summaries of reviews and full reports commissioned or carried out by the HDA, as well as links to reviews and reports elsewhere on the World Wide Web.

<http://www.publichealth.nice.org.uk/page.aspx?o=home> F

RAND's Publication Database

Produced by a RAND, a non-profit research organization. Searchable database of abstracts of publicly releasable RAND publications.

<http://www.rand.org/Abstracts/> F

Reactions Weekly

Information on adverse drug reactions. Available from SilverPlatter by subscription. \$

REPIDISCA, Sanitary Engineering and Environmental Sciences

Bibliographic references on literature in the field of sanitary engineering and environment sciences. Coordinated by CEPIS, Pan-American Center of Sanitary Engineering and Environment Sciences, located in Lima, Peru.

<http://www.bireme.br/bvs/l/ibd.htm> F

Reports of the Surgeon General

Official reports, conference and workshop reports, and proceedings from the Office of the Surgeon General. Digitized and made available by the National Library Association.

<http://sgreports.nlm.nih.gov/NN/> F

Reproductive Health Online (ReproLine)

Tailored to the needs of reproductive healthcare providers, trainers, and faculty. Includes course and workshop materials, presentation graphics, full-text reproductive health reference manuals, and articles on key topics in reproductive health. Available in English, Spanish, French, Portuguese, and Russian. Developed by JHPIEGO, an affiliate of Johns Hopkins University.
<http://www.reproline.jhu.edu/> F

Resource Guide for Public Health Preparedness

A project of the New York Academy of Medicine Library and the National Library of Medicine. Provides access to documents and guideline related to disaster preparedness and bio-terrorist threats
<http://www.phpreparedness.info/phdb/index.php> F

Review of Agricultural Entomology

Abstracts of the world's literature on insects and other arthropods as pests of cultivated plants, forest trees and stored products. Available from CABI Publishing by subscription. \$

Review of Medical and Veterinary Mycology

Covers mycoses of man and domestic and wild animals, allergic disorders associated with fungi and poisoning by fungi or mold-contaminated foods. Available from CABI Publishing by subscription. \$

Review of Plant Pathology

Covers diseases of crop plants, ornamental plants, and forest trees caused by fungi, bacteria, viruses, mycoplasma-like organisms, non-parasitic diseases, and Mycorrhizas. Available from CABI Publishing by subscription. \$

Risk Abstracts

Multidisciplinary coverage of risk-related concerns ranging from public and environmental health to social issues and psychological aspects. Covers risk arising from industrial, technological, environmental, and other sources, with an emphasis on assessment and management of risk. Available from CSA, Cambridge Scientific Abstracts, by subscription. \$

Rural Development Abstracts

Covers all economic and social aspects of Third World rural development. Available from CABI Publishing by subscription. \$

SafetyLit

Abstracts of injury prevention literature. Produced by the Center for Injury Prevention Policy and Practice, San Diego State University, Graduate School of Public Health. SafetyLit staff and volunteers regularly examine more than 200 journals and scores of reports from government agencies and organizations. Users can subscribe to receive e-mail notices of SafetyLit weekly updates. Abstracts can be viewed in chronological order and can also be searched by text word or author.
<http://safetylit.org/> F

Sage Family Studies Abstracts

Abstracts articles, reports, books, and other materials on policy, theory, and research relating to the family, traditional and alternative lifestyles, therapy and counseling. Available from Sage Publications by subscription. \$

Sage Race Relations Abstracts

Source of current information in the area of race relations. Issues covered include discrimination, education, employment, health, politics, law, and legislation. Available from Sage Publications by subscription. \$

Science Citation Index (Web of Science)

Multidisciplinary database covering the journal literature of the sciences. Available from ISI, the Institute for Scientific Information, by subscription. \$

SEER, Surveillance, Epidemiology and End Results

Source of information on cancer incidence and survival in the United States. Produced by the National Cancer Institute.

<http://seer.cancer.gov/> F

SIGLE (System for Information on Grey Literature in Europe)

Bibliographic database covering European non-conventional (so-called grey) literature in the fields of pure and applied natural sciences and technology, economics, social sciences, and humanities. Includes reports, dissertations, books, conference proceedings, and non-conventional literature. Available from STN, Scientific and Technical Information Network, by subscription. \$

Smoking and Health Database

Contains abstracts of journal articles, books and book chapters, dissertations, reports, conference proceedings and conference papers, government documents, policy and legal documents, editorials, letters, and comments on articles. Produced by the Office on Smoking and Health (OSH), a division within the National Center for Chronic Disease Prevention and Health Promotion, a center within the Centers for Disease Control and Prevention (CDC).

<http://www.cdc.gov/tobacco/search/> F

Social Science Citation Index (Social SciSearch)

Multidisciplinary database covering the journal literature of the social sciences. Available from ISI, the Institute for Scientific Information, by subscription. \$

Social Services Abstracts

Bibliographic coverage of current research focused on social work, human services, social welfare, social policy, and community development. Includes abstracts of journal articles and dissertations, and citations to book reviews. Available from CSA, Cambridge Scientific Abstracts, by subscription. \$

Social Work Abstracts

Contains information on the fields of social work and human services from 1977 to present. Citations from journal articles and dissertations. Available from SilverPlatter by subscription. \$

Sociological Abstracts

International coverage of sociology literature and related disciplines in the social and behavioral sciences. Includes abstracts of journal articles, books, book chapters, dissertations, and conference papers. Available from CSA, Cambridge Scientific Abstracts, by subscription. \$

South Pacific Periodicals Index

Index to articles on the South Pacific identified from a core list of periodicals. Available from the University of the South Pacific by subscription. \$

Statistical Universe

Indexes federal, state, local, and international statistical publications as well as selected business and professional publications containing statistics. Available from Lexis-Nexis by subscription. \$

Sugar Industry Abstracts

Covers scientific information on all aspects of sugar processing technology and related subjects. Available from CABI Publishing by subscription. \$

TOXLINE (from TOXNET)

Extensive array of references to literature on biochemical, pharmacological, physiological, and toxicological effects of drugs and other chemicals.

<http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?TOXLINE> F

TOXNET

Produced by the National Library of Medicine. For databases of toxicology literature, see **DART**, **EMIC**, and **TOXLINE**.

<http://toxnet.nlm.nih.gov/> F

TRI, Toxics Release Inventory

Publicly available EPA database that contains information on toxic chemical releases and other waste management activities reported annually by certain covered industry groups as well as federal facilities. [Also available through TOXNET].

<http://www.epa.gov/tri/> F

Trials Register of Promoting Health Interventions (TRoPHI)

Database holds all the randomized controlled trials and controlled trials (non-randomized) in the Cochrane Health Promotion and Public Health Field identified as a result of conducting systematic reviews within the Evidence for Policy and Practice (EPPI) Centre. Contains over 1,000 trials and is regularly updated. The constituent trials are submitted regularly to the Cochrane Central Register of Controlled Trials to be included in the Cochrane Library. Produced by the EPPI-Centre based at the University of London, UK.

<http://eppi.ioe.ac.uk/webdatabases/Intro.aspx?ID=5> F

TRIP, Turning Research into Practice

Collection of titles and hyperlinks from a large number of leading internet publishers of evidence-based material and premier on-line medical journals. Produced by the National Health Service, Wales.

<http://www.tripdatabase.com/> F

TRIS (Transportation Research Information Service)

Bibliographic database of published transportation research. Provides links to full text and to resources for document delivery or access to documents where such information is available. These may include links to publishers, document delivery services and distributors. Funded by sponsors of the Transportation Research Board (TRB). TRIS Online is hosted by the National Transportation Library under a cooperative agreement between the Bureau of Transportation Statistics and TRB.

<http://199.79.179.82/sundev/search.cfm> F

Tropical Diseases Bulletin

Covers all aspects of tropical diseases, tropical medicine, international health, and health in developing countries. Available from CABI Publishing by subscription. \$

Veterinary Bulletin

Abstracts of the core literature in the field of animal health. Available from CABI Publishing by subscription. \$

Violence and Abuse Abstracts

Abstracts and extended bibliography of recent literature on all types of interpersonal violence, including sexual, physical and psychological child abuse, domestic violence, rape, sexual assault and harassment, hate crimes, workplace violence, gang violence, elder abuse and neglect. Available from Sage Publications by subscription. \$

Virology and AIDS Abstracts

Coverage of the world literature on every aspect of virology in humans, animals, and plants, with topics ranging from replication cycles to oncology. Available from CSA, Cambridge Scientific Abstracts, by subscription. \$

Water Resources Abstracts

Abstracts to professional papers, water-supply papers, water-resources investigations, Hydrologic Atlas, and circular series. Produced by the U.S. Department of the Interior, U.S. Geological Survey.

<http://water.usgs.gov/swra/> F

Weed Abstracts

Abstracts on weeds, weed control and allied subjects. Available from CABI Publishing by subscription. \$

Wilson Business Abstracts

Covers general business periodicals and trade journals. Topics include management, accounting, advertising and marketing, construction, entertainment and media, information technology, mergers and acquisitions, occupational health and safety, public relations, small business, and a great deal of corporate information. Available from OCLC, Online Computer Library Center, by subscription. \$

Wilson General Science Index

Covers popular and professional science journals published in the United States and Great Britain, and the Science section of *The New York Times*. Subjects covered include biology, chemistry, astronomy, conservation, earth science, medicine, nutrition, oceanography, and zoology. Produced by the H.W. Wilson company. Available by subscription. \$

WRI, Women's Resources International

Covers the core disciplines in Women's Studies to the latest scholarship in feminist research. Sources include journals, newspapers, newsletters, bulletins, books, book chapters, proceedings, reports, dissertations, NGO studies, important websites & web documents, and grey literature. Available from NISC, National Information Services Corporation, by subscription. \$

Zoological Record

Covers all aspects of zoology, from biodiversity and the environment to taxonomy and veterinary sciences. Available from BIOSIS by subscription. \$

Case Study Exercises

Structure:

Participants will form groups of 2-4 members. Each group will select one case study question (have alternates in case your choice is taken by another group). No question will be assigned to more than one group.

Task:

The task is to prepare and present an analysis of the information needed using the worksheet included in the manual.

The group will have ___ minutes to collaborate on completing the worksheet. The group will formulate the PICO, background and foreground questions from the case. Then they will decide on the resources/databases to investigate and think of potential search terms.

Feedback:

Each group will have the opportunity to share its investigation to the class participants.

At the end of the class, participants will receive a handout with sample strategies and teaching points for all the case studies.

Worksheet:

Case selected:

P (Population or Patient or Problem)

I (Intervention)

C (Comparison, if one)

O (Outcome(s))

Background questions:

Foreground question (searchable):

Database(s) or resources that you would search:

Terms that you would use in the searching:

List of Cases

Case: Community Care for the Aging

Care of the aging population in the community is currently provided by a variety of government, for-profit, not-for-profit and religious organizations, as well as individuals. A recent think-tank report shows that many elders are falling through the cracks and recommends that local elder care organizations form a coalition to address these elders who are not receiving services. Before investing the time and energy to build such a coalition, the think-tank is asked by the government to provide some examples of similar collaborative programs for aging services that are effective.

Case: Correctional Health

You are the recently-hired health administrator at a large urban jail on the West Coast. Inmate suicide is a huge problem at your new institution. You've been called into to collaborate with the counseling and guard representatives on a plan to prevent inmate suicides while reducing the costs associated with suicide watches.

Case: Public Health Dentistry

Your patron is practicing dentist in the community. She receives government subsidies to supply dental care to low-income clients. The city's public hospital is perplexed by an increase in the number of cases of fluoride poisoning annually. Your patron has been appointed to a task force to address whether the amount of fluoride in the water supply needs to be adjusted. Before the first meeting, she would like to read about other cases of fluoride poisoning resulting from excess fluoride in the water supply and any attempts to defluoridate the water, preferably in the United States.

Case: Emergency Preparedness

You are a regional EMS commander attending a state-level emergency preparedness meeting. Your workgroup has been charged to develop a training program for emergency preparedness, particularly pre-hospital decontamination protocols, that utilizes the information garnered from the effective and not-effective programs already out there.

Case: Epidemiology - Counting the Homeless

The State Assembly is trying to address the issue of how many homeless are in the communities. One particular concern is accurately counting the number of homeless who die each year. You are the director of the state Vital Statistics program who is being asked to report this data on homelessness and you want to find best practice examples of the most accurate method(s) of obtaining this data.

Case: Public Health Laboratories

You are a microbiologist at a large public health reference laboratory. Now that your institution has prepared a level three biohazard laboratory, you've been asked to consider the sensitivity and specificity of rapid tests to detect anthrax.

Case: Public Health Law

Many city and states public health laws include a provision for detention of people with infectious disease, such as tuberculosis, if necessary to ensure treatment or halt further spread of a condition. Much of the literature around this issue is on the ethics of detention. You are hoping to find evidence that detention is an effective public health practice or case law supporting detention that you can use to justify your agency's use of this strategy.

Case: Maternal, Infant and Reproductive Health

You are the head of the Maternal, Infant and Reproductive Health program in a city with a high rate of adolescent pregnancy. Many of these teenagers do not receive prenatal care until late in the pregnancy. You are working with community-based organizations that serve teens to come up with some strategies to increase the uptake of prenatal care. Your group wants to look into the role of the male partner and whether the male partner's involvement affects prenatal care.

Case: Restaurant Inspections and Foodborne Illness

The question of whether restaurant inspections actually curtail foodborne illness outbreaks has been raised in your local press. The restaurant inspection program is one of the largest and most visible components of your county health department. You want to find out what inspection strategies are most predictive of outbreaks and how you might ensure that your program reflects these practices.

Case: School Obesity Prevention

You are a member of the school board for an inner city middle school. You've heard your daughter and other girls talking about how fat some of the students are getting. The school barely offers gym classes and everywhere you look there are vending machines. You want to make an impact, but you don't know where to start. You want to get some evidence about what works and at what cost in order to prepare for a meeting with the principal and superintendent.

Case: Sexual Education Programs

You are the health teacher in a rural Southern high school. You've heard girls talking about what sound like STD symptoms and you want to start teaching safer sex education. Your principal espouses abstinence-only education. You want to compile some evidence about the effectiveness of sex education curricula to bring to a discussion with the superintendent.

Case: Substance abuse programs

You are part of the utilization oversight team for a mid-sized city's state-funded substance abuse programs. There has been a lot of press about the use of buprenorphine in heroin addiction treatment. Your team wants to come up with some guidance for the programs about adding buprenorphine to their programs.

Case: Workplace Health

You are the recently-hired health educator at a large customer service center in the suburban Midwest providing phone and email support to a worldwide audience. You were hired to develop interventions to improve ergonomics for your mostly middle-aged, white, overweight co-workers and to boost morale through a healthier work environment. You've been asked to justify the continuation of your position by providing data that workplace wellness interventions like the ones you're considering will increase productivity and reduce absenteeism and turnover.

Worksheet:

Case selected:

P (Population or Patient or Problem)

I (Intervention)

C (Comparison, if one)

O (Outcome(s))

Background questions:

Foreground question (searchable):

Database(s) or resources that you would search:

Terms that you would use in the searching:

Critical Appraisal Exercises

The first step to identifying articles or reports for complete critical appraisal is to be able to critically appraise abstracts and decide their relevance to the search question. Reports will often have executive summaries on which initial screening can take place.

It is always better to appraise the full-text of materials on which decisions will be based.

The questions in this session are from the Centre for Health Evidence of the University of Alberta and are based on the Users' Guides to Evidence-based Medicine from JAMA. Copyright 1995, American Medical Association.

Most evidence-based medicine questions fall into one of these four categories:
Therapy Diagnosis Prognosis Harm/Etiology

Questions in public health, particularly in occupational and environmental health, frequently deal with the issue of harm so that will be our first example.

Do workers exposed to PCBs die more of cancer than those who are not exposed?

Mortality among workers exposed to polychlorinated biphenyls (PCBs) in an electrical capacitor manufacturing plant in Indiana: an update.

Ruder AM, Hein MJ, Nilsen N, Waters MA, Laber P, Davis-King K, Prince MM, Whelan E. Environ Health Perspect. 2006 Jan;114(1):18-23.

<http://www.ehponline.org/members/2005/8253/8253.pdf>

An Indiana capacitor-manufacturing cohort (n=3,569) was exposed to polychlorinated biphenyls (PCBs) from 1957 to 1977. The original study of mortality through 1984 found excess melanoma and brain cancer; other studies of PCB-exposed individuals have found excess non-Hodgkin lymphoma and rectal, liver, biliary tract, and gallbladder cancer. Mortality was updated through 1998. Analyses have included standardized mortality ratios (SMRs) and 95% confidence intervals (CIs) using rates for Indiana and the United States, standardized rate ratios (SRRs), and Poisson regression rate ratios (RRs). Estimated cumulative exposure calculations used a new job-exposure matrix. Mortality overall was reduced (547 deaths; SMR, 0.81; 95% CI, 0.7-0.9). Non-Hodgkin lymphoma mortality was elevated (9 deaths; SMR, 1.23; 95% CI, 0.6-2.3). Melanoma remained in excess (9 deaths; SMR, 2.43; 95% CI, 1.1-4.6), especially in the lowest tertile of estimated cumulative exposure (5 deaths; SMR, 3.72; 95% CI, 1.2-8.7). Seven of the 12 brain cancer deaths (SMR, 1.91; 95% CI, 1.0-3.3) occurred after the original study. Brain cancer mortality increased with exposure (in the highest tertile, 5 deaths; SMR, 2.71; 95% CI, 0.9-6.3); the SRR dose-response trend was significant ($p=0.016$). Among those working ≥ 90 days, both melanoma (8 deaths; SMR, 2.66; 95% CI, 1.1-5.2) and brain cancer (11 deaths; SMR, 2.12; 95% CI, 1.1-3.8) were elevated, especially for women: melanoma, 3 deaths (SMR, 5.99; 95% CI, 1.2-17.5); brain cancer, 3 deaths (SMR, 2.87; 95% CI, 0.6-8.4). These findings of excess melanoma and brain cancer mortality confirm results of the original study. Melanoma mortality was

not associated with estimated cumulative exposure. Brain cancer mortality did not demonstrate a clear dose-response relationship with estimated cumulative exposure.

MeSH Terms:

- Adult
- Cause of Death
- Cohort Studies
- Electronics
- Female
- Humans
- Indiana
- Male
- Manufactured Materials
- Occupational Diseases/chemically induced
- Occupational Diseases/mortality*
- Occupational Exposure*
- Polychlorinated Biphenyls/toxicity*
- Research Support, N.I.H., Extramural

Substances:

- Polychlorinated Biphenyls

Here are questions for analyzing an article about harm.

[Based on *How to Use an Article about Harm* from
<http://www.cche.net/usersguides/harm.asp>]

I. Are the results of the study valid?

Were there clearly identified comparison groups that were similar with respect to important determinants of outcome, other than the one of interest?

Were the outcomes and exposures measured in the same way in the groups being compared?

Was follow-up sufficiently long and complete?

Is the temporal relationship correct?

Is there a dose-response gradient?

II. What are the results?

How strong is the association between exposure and outcome?

How precise is the estimate of the risk?

III. Will the results help to improve the health of my community?

Can the results be applied to caring for people in the community?

What is the magnitude of the risk?

Should there be an attempt to stop the exposure?

Strengths and weaknesses for different study designs.

Design	Starting Point	Assessment	Strengths	Weaknesses
Randomized Controlled Trial (RCT)	exposure status	adverse event status	internal validity	feasibility, generalizability
Cohort	exposure status	adverse event status	feasible when randomization of exposure not possible	susceptible to threats to internal validity
Case-Control	adverse event status	exposure status	overcomes temporal delays, may only require small sample size	susceptible to threats to internal validity

Analyzing a Systematic Review Abstract

Does regular helmet wearing reduce the number of head or facial injuries in urban children or adults?

Helmets for preventing head and facial injuries in bicyclists.

Thompson DC, Rivara FP, Thompson R.

Cochrane Database Syst Rev. 2000;(2):CD001855.

Comment in: Ann Emerg Med. 2003 May;41(5):738-40.

BACKGROUND: Each year, in the United States, approximately 900 persons die from injuries due to bicycle crashes and over 500,000 persons are treated in emergency departments. Head injury is by far the greatest risk posed to bicyclists, comprising one-third of emergency department visits, two-thirds of hospital admissions, and three-fourths of deaths. Facial injuries to cyclists occur at a rate nearly identical to that of head injuries. Although it makes inherent sense that helmets would be protective against head injury, establishing the real-world effectiveness of helmets is important. A number of case-control studies have been conducted demonstrating the effectiveness of bicycle helmets. Because of the magnitude of the problem and the potential effectiveness of bicycle helmets, the objective of this review is to determine whether bicycle helmets reduce head, brain and facial injury for bicyclists of all ages involved in a bicycle crash or fall. **OBJECTIVES:** To determine whether bicycle helmets reduce head, brain and facial injury for bicyclists of all ages involved in a bicycle crash or fall. **SEARCH STRATEGY:** We searched The Cochrane Controlled Trials Register, MEDLINE, EMBASE, Sport, ERIC, NTIS, Expanded Academic Index, CINAHL, PsycINFO, Occupational Safety and Health, and Dissertations Abstracts. We checked reference lists of past reviews and review articles, studies from government agencies in the United States, Europe and Australia, and contacted colleagues from the International Society for Child and Adolescent Injury Prevention, World Injury Network, CDC funded Injury Control and Research Centers, and staff in injury research agencies around the world. **SELECTION CRITERIA:** Controlled studies that evaluated the effect of helmet use in a population of bicyclists who had experienced a crash. We required that studies have complete outcome ascertainment, accurate exposure measurement, appropriate selection of the comparison group and elimination or control of factors such as selection bias, observation bias and confounding. **DATA COLLECTION AND ANALYSIS:** Five published studies met the selection criteria. Two abstractors using a standard abstraction form independently abstracted data. Odds ratios with 95% CI were calculated for the protective effect of helmet for head and facial injuries. Study results are presented individually. Head and brain injury results were also summarized using meta-analysis techniques. **MAIN RESULTS:** No randomized controlled trials were found. This review identified five well conducted case control studies which met our selection criteria. Helmets provide a 63%-88% reduction in the risk of head, brain and severe brain injury for all ages of bicyclists. Helmets provide equal levels of protection for crashes involving motor vehicles (69%) and crashes from all other causes (68%). Injuries to the upper and mid facial areas are reduced 65%. **REVIEWER'S**

CONCLUSIONS: Helmets reduce bicycle-related head and facial injuries for bicyclists of all ages involved in all types of crashes including those involving motor vehicles.

Publication Types:

Review

Review, Academic

MeSH Terms:

Bicycling/injuries*

Craniocerebral Trauma/prevention & control*

Head Protective Devices*

Human

Questions to consider:

[Based on *How to Use an Overview* from

<http://www.cche.net/usersguides/overview.asp>]

I. Are the results of the study valid?

Did the overview address a focused question?

Were the criteria used to select articles for inclusion appropriate?

Is it unlikely that important, relevant studies were missed?

Was the validity of the included studies appraised? [Appropriate study designs?]

Were assessments of studies reproducible?

Were the results similar from study to study?

II. What are the results?

What are the overall results of the review?

How precise were the results? [Statistical measures]

III. Will the results help to improve the health of my community?

Can the results be applied to caring for people in the community?

Were all clinically and socially important outcomes considered?

Are the benefits worth the harms and costs?

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