Models of Information Summary, Synthesis, and Dissemination: Sources and Organization of Evidence-Based Knowledge

Evidence-Based Practice for Public Health Project

<table>
<tr><td colspan="4">Model Type: Reports of Original Research
• Original research studies published in journals, government reports, and books
• Bibliographic databases of citations to original studies
• Filtered searches of bibliographic databases</td></tr>
</table>

Clinical Model Example		**Model Sub-type**	**Page**
JAMA	**Clinical**	Peer-Reviewed Medical Journal, Including Systematic Reviews	4
MEDLINE	**Clinical & PH**	Bibliographic Database of Original Research Articles, Including Systematic Reviews	5
Medical Search Alerts	**Clinical**	E-Mail Delivery Service of Citations	6
Public Health Model Example			
American Journal of Public Health	**PH**	Peer-Reviewed Public Health Journal	17
MMWR	**PH**	Public Health Government Serial Reports	18
CHID, Combined Health Information Database	**PH**	Bibliographic Database of Health Information from Agencies of the Federal Government	19
(APHA) American Public Health Association Literature Review	**PH**	E-Mail Delivery Service of Citations	20
Healthy People 2010 Information Access Project	**PH**	Pre-formulated (filtered) Searches of a Bibliographic Database	21
Best Practice Initiative: ASHBESTPRACTICES Best Practices in Public Health from the ASH **(**Assistant Secretary for Health, U.S. Department of Health and Human Services)	**PH**	Best Public Health Practices with Successful and Measurable Outcomes	22

<table>
<tr><td colspan="4">Model Type: Summaries, Critiques and Commentaries
• Summaries of original studies
• Critiques of original studies
• Expert commentary and recommendations based on original studies</td></tr>
</table>

Clinical Model Example		**Model Sub-type**	**Page**
ACP Journal Club	**Clinical**	Summaries and Commentaries of Individual Articles	7
Clinical Evidence	**Clinical**	Summaries, Critiques and Recommendations Based on a Clinical Question	8
Journal Watch - General	**Clinical**	Summary and Commentaries of Very Current Articles	9
Faculty of 1000	**Science**	Critiques and Recommendations of Individual Research Papers	10
Public Health Model Example			
NHS Economic Evaluation Database (NHS EED)	**PH**	Summaries and Evaluations of Health Care Economic Interventions	23
Evidence-Based Healthcare	**PH**	Summaries and Commentaries	24

Model Type: Systematic Reviews, Meta-Analyses and Evidence-Based Guidelines • Systematic reviews with explicit criteria for identifying, selecting, and critically appraising studies • Meta-analyses of data from original research studies • Evidence-based guidelines based on original studies, systematic reviews, and meta-analyses			
Clinical Model Example		**Model Sub-type**	**Page**
Cochrane Database of Systematic Reviews	**Clinical & PH**	Systematic Reviews with Explicit Criteria	11
Guide to Clinical Preventive Services	**Clinical**	Systematic Reviews of Preventive Interventions	12
National Guideline Clearinghouse	**Clinical**	Evidence-Based Guidelines	13
Evidence-Based On-Call	**Clinical**	Critically Appraised Topic Reviews and Evidence-Based Guidelines	14
Public Health Example			
Cochrane Health Promotion and Public Health Field	**PH**	Systematic Reviews of Randomized Control Trials	25
Guide to Community Preventive Services	**PH**	Systematic Reviews and Evidence-Based Guidelines	26
CDC Recommends: The Prevention Guidelines System	**PH**	Recommendations and Evidence-Based Guidelines	27
EPPI (Evidence for Practice and Policy Information) Centre	**PH**	Systematic and Non-Systematic Reviews	28
The Effective Public Health Practice Project	**PH**	Systematic Reviews	29
Health Evidence Bulletins Wales	**PH**	Systematic Reviews	30
Evidence Based Health Promotion: Resources for Planning (Victorian Government Health Information)	**PH**	Systematic Reviews	31
Centers for Medicare & Medicaid Services (CMS) – Healthy Aging Initiative – Evidence Reports	**PH**	Systematic Reviews	32

Model Type: Comprehensive Knowledge Bases • Online textbooks with indices and search options • Collections of multiple online resources (books, journals, and reports) with comprehensive searching across texts • Collections of multiple, carefully selected databases with integrated search options			
Clinical Model Example		**Model Sub-type**	**Page**
UptoDate	**Clinical**	Online Text Book with Topic Reviews and Recommendations	15
TRIP Database	**Clinical**	Meta-Search Database of Evidence-Based Resources	16
Public Health Example			
Health Development Agency (HDA) Evidence Base	**PH**	Database of Systematic Reviews, Meta-Analyses, and Other Evidence	33

Clinical Model: Reports of Original Research and Reviews, Peer-Reviewed Medical Journal

Example	Format/Access	Inputs/Production/ Evidence Base	Search Options	Updating	Issues (Pros/Cons/Feasibility)
JAMA Website: http://jama.ama-assn.org/ Topics: Diverse range of medical topics	• 1883- • Available in print and online • Available only by subscription • Published in 12 languages • Included in TRIP Database	• Published by the American Medical Association, Chicago, IL • Each paper assessed by editorial staff to be eligible for publication • Material must be original, study methods appropriate, and data valid **Outputs** Categories of Articles: • Original Contributions • Reviews: Systematic, critical assessments of literature and data • Brief Reports • Letters to the Editor	• Word in text or title • Author's name • Volume number • Page number • Date • Author's Affiliation	• Published 4 times per month	• Audience: Physicians • Able to navigate to specific sections (*e.g.* Results) of a full text article

Clinical Model: Bibliographic Database of Original Research Articles

Example	Format/Access	Inputs/Production/ Evidence Base	Search Options	Updating	Issues (Pros/Cons/Feasibility)

MEDLINE
 	
Website:
http://www.nlm.nih.gov/nlmhome.html
 	
Topics:
• Medicine
• Nursing
• Dentistry
• Veterinary Medicine
• Allied Health
• Pharmacy
• The Health Care System
• The Preclinical Sciences
	• Online, 1966-
	• Available for free access through PubMed: http://www.ncbi.nlm.nih.gov/entrez/query.fcgi
	• Available by subscription from:
	    Cambridge Scientific Abstracts (CSA)
	    EBSCO
	    Knowledge Finder
	    Lexis-Nexis
	    OCLC FirstSearch
	    Ovid
	    Silver Platter
		• Produced by the National Library of Medicine, Bethesda, MD
		• Majority of the publications covered are scholarly journals; a small number of newspapers, magazines, and newsletters considered useful are also included
		
		Outputs
		
		• Bibliographic citations and author abstracts from more than 4,600 biomedical journals published in the United States and 70 other countries
		• Articles range from anecdotal reports to reports of large randomized-control trials to systematic literature reviews
		• Links to the full-text of articles at participating publishers' web sites
			• MeSH (Medical Subject Heading)
			• Author Names
			• Title Words
			• Text Words or Phrases
			• Journal Name
			• Volume number
			• Page number
			• Date
			• Other search fields
			• Limits (*e.g.* language, Human, age, publication type)
			• Related articles (PubMed)
			• Clinical queries (PubMed): built-in search research methodology filters is intended for clinicians. Four filters are provided: therapy, diagnosis, etiology and prognosis.
			• Systematic Reviews (PubMed)
			• Meta-analysis studies
				• Completed references are added daily each Tuesday through Saturday, January through October	• Filters focusing on particular types of studies and articles useful in selecting the most valid studies
					• Useful for searching historical, rare, or very current topics
					• Very large size of the database can be a disadvantage (information overload)
					• Optimal search results requires knowledge of MeSH terms, phrase lists, focusing and exploding
					• Primarily a medical database, but contains some social science citations
					• Limited to published research only
					• Score of 4/5 for "methods", and 3/5 for "clinical usefulness" in ACP Journal Club review (Booth and O'Rourke, 2000)
					• Rated 6th (lowest) of 6 for most useful information (Grandage, Slawson et al, 2002)

Clinical Model: E-Mail Delivery Service

Example	Format/Access	Inputs/Production/ Evidence Base	Search Options	Updating	Issues (Pros/Cons/Feasibility)
Medical Search Alerts Website: http://www.medinfonow.com/ Topics: Hundreds of topics related to medicine, including "public health"	• 1993- • Service sends user weekly e-mail updates • Full-text articles can be ordered online • Available by subscription only	• Produced by Divine, Inc., Chicago, IL • Service searches their database of books, software, and journal articles according to a user profile **Outputs** • Citations to articles • Links to abstracts if available • Summary of books, book reviews, and journal articles published in the user's area of interest • *Online Literature Review*: filtering of new articles added each week to MEDLINE and divine information Quest databases	• User constructs a profile on topics of interest • Personal journal list • Articles with abstracts only • Document type • Date	• Weekly searching of databases	• Audience: Busy health care professionals • Problems in customizing content of pushed information and avoiding information overload

Clinical Model: Summaries and Commentaries of Individual Articles

Example	Format/Access	Inputs/Production/ Evidence Base	Search Options	Updating	Issues (Pros/Cons/Feasibility)
ACP Journal Club Website: http://www.acpjc.org/shared/search.htm Topics: • Internal Medicine • Family Medicine • Pediatrics • OB/Gyn • Psychiatry • Surgery	• 1991- • Available online, on CD-ROM and bimonthly print by subscription • Included in Ovid's EBM Reviews, available by subscription	• Published by the American College of Physicians – American Society of Internal Medicine (ACP-ASM) • Editors identify high quality original studies and systematic reviews from selected medical journals (about 150 journals reviewed regularly) • One original paper reviewed for each article • Articles must meet specific criteria to be selected for review, see http://www.acpjc.org/shared/purpose_and_procedure.htm for more information • Studies are typically reviewed several months after their original publication **Outputs** • Concise, structured abstract of an individual published article that describe the objectives, methods, results, and evidence-based conclusions the original study • Brief expert commentary written for each article including methodological problems and recommendations for clinical application • One article per page	• OVID by subject and titles • Internet/CDROM index and keyword searches • CDROM has specialized Clinical Content Map	• Online content updated yearly • Recurrent weeding of out-of-date articles • New articles added every two months	• Audience: Physicians • Designed for use by clinicians seeking quick answers to clinical questions • Mostly internal medicine • Great potential as a model for structuring, critiquing and disseminating important new knowledge in a timely fashion • Multiple related disciplines can be included to achieve economy of scale in project • Works well as print or web-based • Structured approach promotes evidence-based thinking and learning • Serves a comprehensive, summarized update for practitioners in fields covered • Easily navigated • A single study often does not answer a question • Some lag time in information acquisition • *American Journal of Public Health* and *American Journal of Epidemiology* reviewed • Effective search tool • Quality of commentary is variable (Schmitt and Mehta, 2002) • Excellent methodology (Laval Univ., 2002) • Score of 57/60 for "content" and 28/40 for "design" by Laval University, 2002 • Rated 4th of 6 for most useful information (Grandage, Slawson et al, 2002)

Clinical Model: Summaries, Critiques and Recommendations Based on a Clinical Question

Example	Format/Access	Inputs/Production/ Evidence Base	Search Options	Updating	Issues (Pros/Cons/Feasibility)

Clinical Evidence
 	
Website:
http://www.clinicalevidence.com/
 	
Topics:
• Cardiovascular Disorders
• Child Health
• Digestive System Disorders
• Ear, Nose, and Throat Disorders
• Endocrine Disorders
• Eye Disorders
• Infectious Diseases
• Kidney Disorders
• Men's Health
• Musculoskeletal Disorders
• Neurological Disorders
• Oral Health
• Poisoning
• Perioperative Care
• Pregnancy and Childbirth
• Respiratory Disorders
• Sexual Health
• Skin Disorders
• Sleep Disorders
• Women's Health
• Wounds
	• 1999-
	• Full text (Updated every 6 months)
	• Excerpted text (handbook)
	• CD-ROM
	• Internet (Updated monthly)
	• Available by subscription only
		• Published by *BMJ* Publishing Group
		• Begins with clinical questions and searches for evidence to answer them
		• Questions selected for their relevance to clinical practice
		• Topics were chosen from national data on morbidity and mortality
		• Literature searched using the Cochrane Library, MEDLINE, Embase, and occasionally other databases
		• Search for systematic reviews of RCTs
		• Retrieved articles appraised by using validated methodological criteria
		• Peer review and editing of all selections
		
		Outputs
		
		• List of questions addressed
		• Structured summaries of evidence and recommendations with critiques
		• Treatments are listed and categorized as:
		  - *Beneficial*
		  - *Likely to be beneficial*
		  - *Trade-off between benefits and harms*
		  - *Unknown effectiveness*
		  - *Likely to be ineffective or harmful*
		• Available information on related topics presented
		• References to key reviews and primary studies
			• Health topic	• Print version updated every 6 months
				• Online version updated monthly
				• Contributors of each topic perform a complete revision of the text every 8 months
					• Audience: clinicians
					• Similar process to that used for Guide to Community Preventive Services but topics are narrower and summaries/ recommendations much more brief
					• Has significant potential for use in some areas of public health where there are many common practical questions that are addressed by some literature and for which there is no consensus on answer to the question
					• Does not do comprehensive update and review of all topics or relevant studies/ publications
					• Hundreds of common clinical medical issues covered, but not comprehensive
					• Limited searching
					• Well organized
					• Commentary is concise and useful (Schmitt and Mehta, 2002)
					• Excellent methodology (Laval Univ., 2002)
					• Score of 5/5 for "methods/ quality of information", and 5/5 for "clinical usefulness" in ACP Journal Club review (Polmear, 2000)
					• Score of 57/60 for "content" and 24/40 for "design" by Laval University, 2002
					• Rated 2nd of 6 for most useful information (Grandage, Slawson et al, 2002)

Clinical Model Summaries and Commentaries of Very Current Research Articles

Example	Format/Access	Inputs/Production/ Evidence Base	Search Options	Updating	Issues (Pros/Cons/Feasibility)
Journal Watch Website: http://www.jwatch.org/ Topics: • General • Cardiology • Dermatology • Emergency Medicine • Gastroenterology • Infectious Diseases • Neurology • Pediatrics • Psychiatry • Women's Health	• 1987- • Full current content by subscription only • Free online access to all content older than six months for registered users • Online • Print (Bimonthly) • Audio (Bimonthly) • Weekly updates by e-mail	• Published by the Massachusetts Medical Society • Regular review of articles as soon as they are published from about 60 journals (for *General* version) • Select most important, relevant articles for each version by editorial board • No specific review methodology **Outputs** • 50-55 summaries per month (for *General* version) • Brief unstructured summary created within days after publication of original article • Short unstructured commentary by a physician • Online links to the full-text of about 40% of original articles reviewed	• Word in title • Word in summary • Summary author • Word in citation of original article • Date • Journal Watch Publication (*e.g.* Neurology) • Article Type	• Updated several times each week • E-mail newsletters updated several times a month	• Audience: Medical professionals • Potentially useful approach for many public health disciplines to provide ongoing updates • Usefulness of the database of abstracts and commentaries somewhat less clear although could be one source for quick search on a topic of interest • Apparent market success suggests popularity among clinicians, which supports the effectiveness of this format • Absence of formal evidence-based methodology is a limitation • Reviews *MMWR* (for *General* Version)

Science Model: Critiques and Recommendations of Individual Research Papers

Example	Format/Access	Inputs/Production/ Evidence Base	Search Options	Updating	Issues (Pros/Cons/ Feasibility)

Faculty of 1000
 	
Website: http://www.facultyof1000.com/
 	
Topics:
• Biology
• Biochemistry
• Bioinformatics
• Biotechnology
• Cell Biology
• Chemical Biology
• Developmental Biology
• Evolutionary Biology
• Genomics & Genetics
• Immunology
• Microbiology
• Molecular Biology
• Molecular Medicine
• Neuroscience
• Plant Biology
• Structural Biology
	• 2001-
	• Online by subscription
	• E-mail alerts tailored to interests (optional)
		• Produced by Biology Reports and published by BioMed Central, part of The Current Science Group
		• Highlights papers on the basis of their scientific merit
		• Systematically organizes and evaluates scientific literature
		• "Faculty members" evaluate, rate and comment on 2-4 papers per month
		
		Outputs
		
		• Consensus of recommendations from over 1000 leading scientists
		• Ratings of individual papers by "F1000 factors":
		  - *Exceptional*
		  - *Must read*
		  - *Recommended*
		• Brief structured comments from individual "Faculty members"
		• Papers classified as:
		  - *Novel finding*
		  - *Technical advance*
		  - *Interesting hypothesis*
		  - *Important confirmation*
		  - *Controversial Finding*
		• Links to PubMed and PubMed Central
		• Links to full text of journals if available
		• Ability to order full text of other articles for a fee
			• Field (Faculty)
			• Subtopic (Section)
			• F1000 Factor
			• Classification
			• Number of "Faculty members" who have selected paper
			• Text word
			• Date
			• Journal name
			• Author name
			• "Faculty member" name
			• Searches can be stored
			• Customization of home page available to reflect interests of user
				• Updated continuously
				• Each week lists top ten most highly rated papers over all areas and within subjects
					• Audience: Scientists
					• No mention of the qualifications of individual "faculty members" to select and review papers

Clinical Model: Systematic Reviews with Explicit Criteria

Example	Format/Access	Inputs/Production/ Evidence Base	Search Options	Updating	Issues (Pros/Cons/Feasibility)

Cochrane Database of Systematic Reviews
 	
Website:
http://www.cochrane.org/
 	
• Over 40 clinical specialties (reviewing group)
	• 1995-
	• Online
	• CDROM
	• OVID database
	• Full text of reviews available only by subscription
	• Abstracts available for free
	• Included in the TRIP Database
		• Produced by the Cochrane Collaboration, reviews available from Update Software
		• Volunteer topic-defined review groups with defined review process
		• Literature (including non-English) searched for randomized control trials and systematic reviews
		• Explicit quality criteria for review of RCTs set by methods groups
		• Standard methodology for assessing validity of source studies
		• Standard methodology for summarizing study results
		• Meta-analyses performed when possible
		
		Outputs
		
		• Standardized format for presenting evidence, summary and conclusions:
		  - Title and citation details
		  - Structured abstract
		  - Introduction
		  - Methods
		  - Results
		  - Discussion
		  - Implications for practice and research
		• Extensive descriptions of studies included and excluded
		• Detailed critical discussion of the evidence
		• MEDLINE citations to studies used if available
		• Full text links to citations if available
		• Citations to studies excluded by reviewers
		• Tables of characteristics of studies reviewed
		• Tables and graphs of results of reviews
			• Word in title, abstract, text
			• Author
			• Limits:
			  - Systematic Reviews
			  - Protocols (Review in process)
			  - New Reviews
			  - Recently Updated Reviews
				• Updated quarterly	• Deals mainly with evidence related to therapeutic interventions
					• Methodology similar to Guide to Community Preventive Services
					• Structure allows broad input into topic selection
					• Need for volunteers to do much of work is problematic
					• May replicate existing systematic reviews
					• Comprehensiveness of search required by methodology is a strength
					• Comprehensiveness can make reading summaries difficult
					• Focus on strict evidentiary criteria limits practical advise which may go beyond evidence
					• Groups/reviews in most clinical areas
					• Main practical application is in assisting clinicians making treatment decisions
					• High quality meta-analyses with details of methods given
					• Able to navigate to specific sections (*e.g.*, Objectives) of a review
					• Evidence limited to RCTs
					• Rated "*Poor*" in effectiveness and efficiency in white paper commissioned by UpToDate (Berkowitz, 2002)
					• Score of 4/5 for "methods/ quality of information", and 3/5 for "clinical usefulness" in ACP Journal Club review (Dawes, 2000)
					• Score of 60/60 for "content" and 32/40 for "design" by Laval University, 2002
					• Rated 1st (highest) of 6 for most useful information (Grandage, Slawson et al, 2002)

Clinical Model: Systematic Reviews of Preventive Interventions

Example	Format/Access	Inputs/Production/ Evidence Base	Search Options	Updating	Issues (Pros/Cons/Feasibility)

Guide to Clinical Preventive Services
 	
Website:
http://www.ahrq.gov/clinic/cps3dix.htm
See also:
http://hstat.nlm.nih.gov/
 	
Topics (3rd Edition):
• Screening
 - Cardiovascular Diseases
 - Hearing Disorders
 - Mental Disorders and Substance Abuse
 - Musculoskeletal Disorders
 - Neoplastic Diseases
  - Breast Cancer
  - Colorectal Cancer
  - Prostrate Cancer
  - Skin Cancer
 - Obstetrical and Gynecological Disorders
• Counseling
 - Healthy Diet
 - Physical Activity
• Chemoprevention
 - Hormone Replacement Therapy
 - Cardiovascular Diseases
 - Neoplastic Diseases
  - Breast Cancer
	• 2nd Edition, 1996, available online for free access
	• 3rd Edition, 2000-2003, available online for free access
	• Available in print by subscription
	• New recommendations available from the AHRQ Prevention Program Listserv
	• Guidelines included in the National Guidelines Clearinghouse (NGC)
		• Report of the U.S. Preventive Services Task Force (USPSTF), an independent panel of experts in primary health care and prevention
		• Sponsored by the Agency for Healthcare Research and Quality (AHRQ)
		• 3rd USPSTF convened in 1998 to update the recommendations of the 2nd Edition from 1996
		• Systematically reviews the evidence of effectiveness of preventive services
		• Systematic evidence reviews conducted by AHRQ-supported Evidence-based Practice Centers (EPCs)
		• Comprehensive analysis of the research literature
		• Evaluates clinical research and assesses the merits of preventive measures
		• Recommendations first published in *American Family Physician*, *American Journal of Preventive Medicine*, and *Annals of Internal Medicine*
		• Final recommendations are based on the quality of the evidence and balance of benefits and harms
		
		Outputs
		
		• Recommendations on preventive interventions: screening tests, counseling, immunizations, and chemoprevention
		• Background information and summaries of supporting evidence
		• Recommendations of services that clinicians should routinely provide as part of primary health care
			• Searchable through the Library of Medicine (NLM)'s Health Services Assessment Technology Text (HSAT) Database by text word **http://hstat.nlm.nih.gov/**
			• Browse by topic at AHRQ website for PDF documents
				• The 3rd Edition updates some recommendations from the 2nd Edition and evaluates some new topics
				• Recommendations from the Task Force are being released incrementally as they become available
					• Audience:
					 - Clinicians
					 - Professional societies
					 - Health plans
					 - Insurers
					 - Policy makers
					 - Students
					 - Trainees
					 - Health Educators
					 - Researchers
					• Recommendations have formed the basis of clinical standards for professional societies, health care organizations, and medical quality review groups
					• Limited applicability to public health as topics are primarily clinical
					• Able to navigate to specific sections (*e.g.*, Scientific Evidence) of a recommendation
					• Excellent methodological quality (Laval Univ., 2002)
					• Best references for the evaluation of preventive interventions (Laval Univ., 2002)
					• Score of 57/60 for "content" and 34/40 for "design" by Laval University, 2002

Clinical Model: Evidence-Based Guidelines

Example	Format/Access	Inputs/Production/ Evidence Base	Search Options	Updating	Issues (Pros/Cons/Feasibility)

National Guideline Clearinghouse
 	
Website: http://www.guideline.gov/
 	
• Practice guidelines related to health care for specific clinical circumstances
	• 1998-
	• Available online for free public access
	• Weekly electronic mailing of new guidelines and updates through *NGC Update Services*
	• Included in TRIP Database
	• Free CD-ROM tutorial on accessing and using NGC available
		• 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)
		• Comprehensive database of evidence-based clinical practice guidelines from U.S. government agencies and health care organizations
		• Describes and compares guideline statements with respect to objectives, methods, outcomes, evidence rating scheme, and major recommendations
		• Guidelines must meet specific criteria:
		  - Systematically developed
		  - Produced under a relevant professional organization
		  - Include systematic literature search and review of evidence from peer-reviewed journals
		  - Current, developed, reviewed, or revised within the last 5 years
		
		Outputs
		• Structured, standardized abstracts about each guideline and its development
		• Utility for comparing guidelines side-by-side
		• Guideline synthesis for some diseases/ conditions
		• Links to full-text guidelines if available
		• Ordering information for print copies of guidelines
		• Annotated bibliographies on guideline development methodology, implementation, and use
			• Text word
			• Disease/ Condition
			• Treatment/ Intervention
			• Guideline category
			• Organization
			• Organization type
			• Intended users
			• Clinical specialty
			• Age of target population
			• Sex of target population
			• Publication year
			• Browse by Disease/Condition using MeSH
			• Browse by Treatment/ Intervention
				• Updated weekly with new and changed guidelines
				• All guidelines included must be current within the last five years
					• Audience:
					  - Clinicians
					  - Health care organizations
					  - Medical specialty and professional societies
					  - Employers and other large purchasers of health care benefits
					  - Educational institutions
					  - State and local government
					• Great variation in how well existing guidelines meet proposed standards
					• Can compare guidelines side-by-side
					• Detailed search engine
					• Includes only current guidelines
					• Cannot navigate to specific sections of a summary
					• Methodological quality of the content varies from one guideline to another (Laval Univ., 2002)
					• Key guidelines are sometimes absent (Schmitt and Mehta, 2002)
					• Score of 51/60 for "content" and 36/40 for "design" by Laval University, 2002

Clinical Model: Critically Appraised Topic Reviews and Evidence-Based Guidelines

Example	Format/ Access	Inputs/Production/ Evidence Base	Search Options	Updating	Issues (Pros/Cons/Feasibility)
Evidence-Based On-Call Website: http://www.eboncall.co.uk/ Topics: • Allergy & Immunology • Cardiology • Endocrine & Metabolic Disorders • Gastroenterology • Haematology • Infectious Disease • Neurology • Oncology • Pulmonary Medicine • Rheumatology • Renal Medicine • Toxicology	• 1997- • Available for free online access	• Supported by the National Health Service (NHS) Electronic Library for Health • Editorial board members from the Centre for Evidence-based Medicine, Oxford and the Centre for Evidence-based Medicine, Toronto • Topics selected if they commonly present in the emergency department, require early effective management, or often confuse or perplex doctors • Literature searched using Best Evidence, the Cochrane Library, MEDLINE, and other databases • Explicit selection and appraisal criteria • Each article summarized into a structured critically-appraised topic (CAT) • Each CAT peer-reviewed by clinical expert • CATs used to create clinical guides • Evidence used in guidelines is ranked, see http://www.eboncall.co.uk/content/levels.html **Outputs** • Article summaries (CATs) • Clinical Guides with recommendations and supporting levels of evidence • Recommendation grades from A to D • Links to the supporting evidence • Links to CATs from Guides • Links to further information • Glossary of epidemiology and EBM terms	• Keyword searching of entire site • Medical condition (38 listed in alphabetical order)	• All CATs and clinical guides have expiration dates • At expiration date literature is searched and information updated	• Audience: Hospital clinicians • Editors recommend that product be used as a decision support tool • Well organized • Limited searching capabilities • Able to navigate to specific sections (*e.g.*, Prevention) of a guide

Clinical Model: Online Medical Text Book with Topic Reviews and Recommendations

Example	Format/Access	Inputs/Production/ Evidence Base	Search Options	Updating	Issues (Pros/Cons/Feasibility)
UpToDate Website: http://www.uptodate.com Topics: • Adult Primary Care • Allergy and Immunology (in development) • Cardiology • Critical Care • Drug Information • Endocrinology • Family Practice • Gastroenterology • Gynecology • Hematology • Hepatology • Infectious Diseases • Nephrology • Neurology • Obstetrics • Oncology • Pediatrics • Pulmonary • Rheumatology • Women's Health	• 1992 – • Online • CD-ROM • Handheld computers (Pocket PC PDA) • Available by subscription only • Topic reviews can be e-mailed to a colleague	• Topic reviews created by consulting staff of >7000 content experts • Extensive editing for consistency by in-house staff of physicians and editors • Monthly review of 300 key journals by in-house staff • Content experts receive any important new studies and must update their reviews • Authors/editors encouraged to use evidence-based methodologies and cite high quality references but no specific evidence criteria **Outputs** • Outline of topic reviews displayed in left column of screen • Abstracts to all references linked from point of reference in text with links to MEDLINE citations • Many tables, graphs, pictures open in separate window from link in text • Moving images and recorded sounds on CD-ROM • Links to related topics • Specific recommendations with areas of controversy or limited evidence noted • Comprehensive drug database	• Text word • Links to subtopics and related topics after initial search	• Updated every 4 months • Important medical findings are added to relevant topic reviews • Date displayed shows the last date when new information was added • New information is highlighted in each new edition of the CD-ROM	• Audience: Physicians • Very costly production process • Regular expert input, editorial consistency, and frequent updates • No explicit methodological criteria • Can use feature accessing new input to provide selected updates • CME options • Limited searching options • Easy and quick to use • Well-organized • Able to navigate to specific sections (*e.g.*, Recommendations) of a topic review • Rated "*Excellent*" in "effectiveness" and "efficiency" in white paper commissioned by UpToDate (Berkowitz, 2002) • Score of 4/5 for "methods", and 5/5 for "clinical usefulness" in ACP Journal Club review (Jaeschke, 2000) • Rated 5th of 6 for most useful information (Grandage, Slawson et al, 2002)

Clinical Model: Meta-Search Database of Evidence-Based Resources

Example	Format/Access	Inputs/Production/ Evidence Base	Search Options	Updating	Issues (Pros/Cons/Feasibility)

TRIP Database (Turning Research Into Practice)
 	
http://www.tripdatabase.com
 	
Topics (clinical areas):
• Cancer
• Cardiovascular
• Child health
• Endocrinology
• Gastrointestinal
• HIV/AIDS
• Infectious Diseases
• Mental Health
• Musculoskeletal
• Neurology
• Pregnancy and childbirth
• Respiratory care
• Women's health
	• 1997-
	• Available online for free access
		• Hosted by the Centre for Research Support in Wales
		• Searches over 55 sites of high-quality medical information, including Cochrane Database of Systematic Reviews (CDSR), National Guideline Clearinghouse (NGC), ACP Journal Club, Evidence-Based Medicine, DARE, POEMS, and peer-reviewed journals including BMJ, JAMA, and NEJM
		• Resources selected because they offer free access to high-quality content
		• Website does not report criteria used to determine whether information is of high quality
		
		Outputs
		• Access to a large collection of "evidence-based" material online as well as articles from premier online peer-reviewed journals
		• Links organized into clinical areas
		• Search results color-coded by types of resources:
		  - Evidence based
		  - Guideline
		  - Query-answering services
		  - General peer-reviewed journals
		  - Specialist peer-reviewed journals
		  - E-textbooks
		  - Medical images
		  - PubMed's clinical queries
		• Title, URL, and date of publication of resources
		• Self-directed learning area that offers online continuing medical education
			• Word in title or text
			• Boolean searching
			• No phrase searching
			• Year
			• Publication category (type of resource)
			• Troubleshooting guide to improve searching
			• Search terms can be stored to run periodically and can have the results e-mailed
				• Updated and expanded monthly	• Audience: Health professionals, particularly primary care physicians
					• Does not report criteria used to select high quality resources
					• Easy to use
					• Effective search tool
					• Very diverse cross-section of the literature of evidence-based medicine
					• Score of 1/5 for "methods/ quality", and 3/5 for "clinical usefulness" in ACP Journal Club review (Montori and Ebbert, 2002)
					• Score of 45/60 for "content" and 34/40 for "design" by Laval University, 2002

Public Health Model: Reports of Original Research, Peer-Reviewed Public Health Journal

Example	Format/Access	Inputs/Production/ Evidence Base	Search Options	Updating	Issues (Pros/Cons/Feasibility)
American Journal of Public Health Website: http://www.ajph.org/ Topics: • Public Health • Environmental Health • Maternal And Child Health • Health Promotion • Epidemiology • Health Administration • Occupational Health • Health Education • International Health • Statistics	• 1911- • Available in print and online • Available only by subscription	• Published by the American Public Health Association, Washington, DC • Journal adheres to the criteria of the International Committee of Medical Journal Editors, www.icmje.org **Outputs** • Original unpublished research, research methods, and program evaluation in the field of public health • Social science analyses • Scholarly essays • Critical commentaries • Policy papers • Letters to the editor • Health policy and ethics forum • Field actions reports • Profiles of public health leaders • Public health history	• Word in text or title • Author's name • Volume number • Page number • Date	• Published once a month	• Audience: Public health professionals: - Administrators and planners - Educators and information specialists - Physicians - Epidemiologists - Nurses - Scientists - Consultants - Researchers - Dieticians - Environmentalists • Able to navigate to specific sections (*e.g.* Results) of an article

Public Health Model: Public Health Government Serial Reports

Example	Format/Access	Inputs/Production/ Evidence Base	Search Options	Updating	Issues (Pros/Cons/Feasibility)
MMWR. Morbidity and Mortality Weekly Report Website: http://www.cdc.gov/mmwr/mmwr_wk.html Topics: • Infectious Diseases • Chronic Diseases • Environmental Hazards • Natural or Human-Generated Disasters • Occupational Diseases and Injuries • Intentional and Unintentional Injuries	• 1976- • Available in print and online • Available for free public access	• Published by the Centers for Disease Control and Prevention (CDC), Atlanta, GA • Contributors must be able to defend the design, execution, and conclusions of the report • Must contain science-based public health information • Recommendations must be from CDC, federally sanctioned advisory committees, or other public health agencies or organizations **Outputs** • Data on specific diseases as reported by state and territorial health departments • Reports on infectious and chronic diseases, environmental hazards, disasters, and injuries • Reports on topics of international interest • Notices of events of interest to the public health community	• Word in text or title • Volume number • Page number • Date	• Published once a week	• Audience: The Public Health Community

Public Health Model: Bibliographic Database of Health Information from Agencies of the Federal Government

Example	Format/Access	Inputs/Production/ Evidence Base	Search Options	Updating	Issues (Pros/Cons/Feasibility)
CHID, Combined Health Information Database Website: http://chid.nih.gov Topics: • AIDS, STD and TB Education • Alzheimer's Disease • Arthritis and Musculoskeletal and Skin Diseases • Cancer Prevention and Control • Complementary and Alternative Medicine • Deafness and Communication Disorders • Diabetes • Digestive Diseases • Epilepsy Education and Prevention Activities • Health Promotion and Education • Kidney and Urologic Diseases • Maternal and Child Health • Medical Genetics and Rare Disorders • Oral Health • Prenatal Smoking Cessation • Weight Control	• 1985- • Available for free online access	• Cooperative effort between the National Institutes of Health (NIH), the Centers for Disease Control and Prevention (CDC), and Health Resources and Services Administration **Outputs** • Provides titles, abstracts, and availability information for health information and health education resources • Formats of resources include brochures, fact sheets, reports, journal articles, books, posters, information packages, CD-ROMs, and video recordings • Links to some full-text articles	• Keyword • Topic • Author • Audience • Source or Availability • Boolean searching • Guide to searching with search tips	• Updated 4 times per year • New records added quarterly • Current listings are checked regularly to ensure that entries are up-to-date and still available from their original sources • Some older records are retained for archival purposes	• Contains health information and health education resources that may not be indexed elsewhere • Content determined by the participating Federal agencies

Public Health Model: E-Mail Delivery Service

Example	Format/Access	Inputs/Production/ Evidence Base	Search Options	Updating	Issues (Pros/Cons/Feasibility)
APHA (American Public Health Association) Literature Review Website: http://www.doody.com/s7.asp?DSLID=1139 Public Health Topics: • Aging • Biological Warfare • Bioterrorism • Chemical Warfare • Child & Adolescent Health • Chronic Disease • Disability • Disaster Planning • Disease Elimination & Eradication • Emergency Care • Ethics • Family Planning • Food & Nutrition • Global Health • Health Education • Health Promotion • Homelessness • Infectious Diseases • HIV/AIDS • Injury/Violence • Maternal & Infant Health • Mental Health • Nuclear Warfare • Preventive Medicine • Public Health History & Practice • Public Health Professions • Race/Ethnicity • Rural Health • Screening • Socioeconomic Factors • Special Groups • Substance Use • Surveillance • Terrorism • Urban Health • Women's Health	• 1999- • Service sends user weekly e-mail updates • Available by subscription only	• Produced by Divine, Inc., Chicago, IL in conjunction with Doody's Book Review Service • Filters new articles added to MEDLINE according to user's topical areas of interest • Service searches their database of books, software, and journal articles according to a user profile **Outputs** • Summary of books, book reviews, and journal articles published in the user's area of interest • Online Literature Review filtering of new articles added each week to MEDLINE and divine information Quest databases	• User constructs a profile on topics of interest • Core journals • Personal journal list • Date	• Weekly searching of databases	• Audience: Health care professionals • Problems in customizing content of pushed information and avoiding information overload

Public Health Model: Pre-formulated PubMed Searches on Public Health Topics

Example	Format/Access	Inputs/Production/ Evidence Base	Search Options	Updating	Issues (Pros/Cons/Feasibility)
Healthy People 2010 Information Access Project Website: http://phpartners.org/hp/ Topics: • Access to Quality Health Services • Disability and Secondary Conditions • Food Safety • Public Health Infrastructure • Respiratory Diseases • Environmental Health • Hearing Objectives	• Searches PubMed from 1998 to present • Available for free online access	• Developed by the National Library of Medicine and the Public Health Foundation • *Healthy People 2010* focuses on public and private sector efforts to promote health and prevent diseases • All pre-formulated searches are reviewed by Public Health Foundation staff or external subject matter experts • Ongoing project with goal to cover additional *Health People 2010* focus areas **Outputs** • Provides pre-formulated PubMed searches for selected Health People 2010 objectives • Links to Healthy People 2010 chapters: http://www.healthypeople.gov/ • Links to relevant guidelines and to MEDLINEplus topics	• Focus Area • Further search options in PubMed	• No mention of how often project website is updated, PubMed is updated daily	• Audience: Public health professionals • Currently only 7 of the 28 Health People 2010 focus areas are covered

Public Health Model: Best Practices with Successful and Measurable Outcomes

Example	Format/Access	Inputs/Production/ Evidence Base	Search Options	Updating	Issues (Pros/Cons/Feasibility)
Best Practice Initiative ASHBESTPRACTICES Best Practices in Public Health Website: http://www.osophs.dhhs.gov/ophs/BestPractice/ Or: http://list.nih.gov/archives/ashbestpractices.html Topics (as of January 2003): • Organ donation • Suicide Prevention • Substance Abuse • Blood Lead Screening • Defense • Breastfeeding • Managing Public Health Impacts of Hosting Winter Olympics • Tobacco Control • Diabetes Control • Communication with Primary Care Providers During an Emergency	• 2002- • Available for free online access • Automatic delivery through free subscription to an e-mail listserv • Published once a month	• From the Assistant Secretary for Health (ASH), U.S. Department of Health and Human Services (HHS) • E-mail list hosted by LIST.NIH.GOV • Short reports on project accomplishments are reviewed by a Regional Health Administrator and then by HHS staff • The approved reports (Best Practices) are posted on the Internet • Reports must follow standardized format, see http://phs.os.dhhs.gov/ophs/BestPractice/guidelines.htm **Outputs** • "Best Practices" from the U.S. that have successful and measurable outcomes in public health • Public health initiatives, programs, projects and policy • Reports are less than 2,000 words • Author's email address	• Text word • Subject • Author • Date • Archives can be browsed by date	• No mention of the reports being updated • New reports (Best Practices) added once a month	• Broad public health audience • Aim is to foster an environment of peer learning and collaboration • No restriction on who can submit a report • Cannot navigate to specific sections of a report • Best practices may not qualify as "evidence-based" if not supported by a systematic review of the literature

Public Health Model: Summaries and Evaluations of Health Care Economic Interventions

Example	Format/Access	Inputs/Production/ Evidence Base	Search Options	Updating	Issues (Pros/Cons/Feasibility)

NHS Economic Evaluation Database (NHS EED)
 	
Website: http://agatha.york.ac.uk/nhsdhp.htm
 	
Topics are related to the economics of health care interventions:
• Cost-Benefit Analyses
• Cost-Utility Analyses
• Cost-Effectiveness Analyses
• Cost-Minimization Analyses
• Cost-Consequence Analysis
	• 1994-
	• Available for free online access
	• Included in the Cochrane Library (2000-)
	• Included in the TRIP Database
	• Included in National Electric Library for Health (NeLH):http://www.nelh.nhs.uk/
		• Produced by the National Health Service (NHS) Centre for Reviews and Dissemination (CRD) at the University of York, York, UK
		• Funded by the NHS Executive and the Health Departments of Wales and Northern Ireland
		• Comparison of two or more treatments or care alternatives
		• Examine costs and outcomes
		• Identify studies of economic evaluation by searching Current Contents-Clinical Medicine, MEDLINE, CINAHL, and EMBASE
		• Over 77 journals hand-searched
		• Examine working papers from research centers specializing in health economics
		• Examine health technology assessments (HTAs) from technology assessments centers
		• Strict process of quality control
		• Abstracts checked and edited by a health economist
		• Inclusion criteria, see: http://agatha.york.ac.uk/nfaq4.htm
		
		Outputs
		• Database of structured abstracts that assess and summarize published economic evaluations
		• Citation information only (if abstract not available)
		• Related publications
		• Subjects
		• Cost, review and methodology records
			• Title
			• Author
			• Title/ Abstract
			• MeSH terms
			• Date of publication
			• Search terms combined
			• Limit to:
			  - Abstracts of reviews
			  - Cochrane reviews
			  - Unevaluated reviews
			  - Economic evaluations
			  - Cost, review, methodology studies
			  - HTA reports
			  - HTA projects
			• Sort options
			• Saving search options
			• Search other NHS CRD Databases: Database of Abstracts of Reviews of Effects) (DARE) and Health Technology Assessment Database (HTA)
				• Database is updated monthly	• Audience:
					  - Health care professionals
					  - Purchasers
					  - Providers
					  - NHS managers
					  - Information providers
					  - Health service researchers
					  - Decision makers
					  - Consumer organizations
					• Many public health journals hand-searched to identify studies, including *American Journal of Public Health*
					• No research centers in U.S. (UK, Australia, New Zealand, Sweden, and Canada)
					• Technology assessment centers from around the world include U.S. Agency for Healthcare Research and Quality (AHRQ) and U.S. Department of Veterans Affairs

Public Health Model: Summaries and Commentaries

Example	Format/Access	Inputs/Production/ Evidence Base	Search Options	Updating	Issues (Pros/Cons/Feasibility)
Evidence-Based Healthcare Website: http://www.harcourt-international.com/journals/ebhc/ Topics: • Management of Health Care • Health Care Financing • Organization of Health Care • Patient and Public Choice • Health Economics • Health Technology Assessment • Public Health Policy • Purchasing	• 1999- • Available online (ScienceDirect) and in print by subscription	• Published by Harcourt International • Chief editorial advisor: Dr. Muir Gray, Director of Research and Development, National Health Service (NHS) Executive, Oxford, UK • Key articles are selected from over 70 of the most authoritative and respected journals in the field of health care management **Outputs** • Evidence about the financing, organization and management of healthcare • Structured abstracts: - Background - Objective - Method - Search strategy - Inclusion/ Exclusion Criteria - Outcomes - Analysis - Main Results - Authors' Conclusions • Expert commentary • References to literature cited	• Online searching from ScienceDirect • Title • Abstract • Keyword • Author • References • Subject • Year	• Published four times a year	• Audience: Health managers and policy makers • Covers articles in *American Journal of Public Health* and *European Journal of Public Health* • Short abstract and commentary, easy to read • Able to navigate to the Commentary and Literature Cited sections of an article • Not currently indexed in MEDLINE

Public Health Model: Systematic Reviews of Randomized Control Trials

Example	Format/Access	Inputs/Production/ Evidence Base	Search Options	Updating	Issues (Pros/Cons/Feasibility)
Cochrane Health Promotion and Public Health Field Website: http://www.vichealth.vic.gov.au/cochrane/welcome/index.htm • Groups/reviews of particular **public health relevance**: - Cardiovascular Health - Consumers & Communication - Developmental, Psychosocial and Learning Problems - Diabetes - Drugs and Alcohol - Effective Practice and Organization of Care Infectious Diseases - HIV/AIDS - Infectious Diseases - Injuries - Mental and Social Health - Musculoskeletal Injuries - Neonatal - Nutrition, Overweight and Obesity - Occupational Health and Safety - Oral Health - Population - Pregnancy and Childbirth - Respiratory - Sexually Transmitted Diseases - Tobacco Control - Wounds	• 1996- • Online • CDROM • OVID database • Full text of reviews available only by subscription • Abstracts available for free • Included TRIP Database	• Seeks to represent the needs and concerns of health promotion and public health practitioners in the work of the Cochrane Collaboration • Promotes systematic reviews of effectiveness of health promotion and public health interventions • Identifies ongoing and completed systematic reviews of relevance to health promotion/public health • Tags studies within the Cochrane Library databases • Assists in the development of methodologies and guidelines for undertaking reviews which are specific to the needs of health promotion and public health practitioners • Facilitates links between the Cochrane Review Groups and those with expertise in the health promotion/public health topic of review • For more information on Cochrane systematic reviews, see **Cochrane Database of Systematic Reviews** (p. 11) **Outputs** • See **Cochrane Database of Systematic Reviews** (p. 10) • Directs people to other sources of systematic reviews when topics have not been covered in the *Cochrane Library*	• Word in title, abstract, text • Author • Limits: - Systematic Reviews - Protocols (Review in process) - New Reviews - Recently Updated Reviews	• Updated quarterly	• See **Cochrane Database of Systematic Reviews** (p.11) for more information on issues **Cochrane Health Promotion and Public Health Field** • Audience: Health promotion and public health practitioners • Provides a forum in which to debate the issues associated with acquiring and effectively using evidence in health promotion and public health • Liaises with The Effective Public Health Practice Project and the Evidence for Policy and Practice Information (EPPI) Centre Register of Reviews of Effectiveness in Health Promotion

Public Health Model: Systematic Reviews and Evidence-Based Guidelines

Example	Format/Access	Inputs/Production/ Evidence Base	Search Options	Updating	Issues (Pros/Cons/Feasibility)

Guide to Community Preventive Services
 	
Website:
http://www.thecommunityguide.org
 	
Topics:
• Alcohol
• Cancer
• Mental Health
• Diabetes
• Substance Abuse
• Motor Vehicle
• Nutrition
• Oral Health
• Physical Activity
• Pregnancy
• Tobacco
• Sexual Behavior
• Sociocultural
• Vaccines
• Violence
	• 1999-
	• Available online for free access
	• Full-text reviews are published in *The American Journal of Preventive Medicine* and *MMWR/ Recommendations and Reports*
	• Available in Spanish
		• Work-in-progress, produced by the Task Force on Community Preventive Services, an independent group appointed by the Director of the Centers for Disease Control and Prevention (CDC)
		• Task Force reviews and assesses the quality of available evidence on the effectiveness of essential community preventive health services
		• Uses explicit rules to conduct systematic literature reviews with the support of experts, methodologists, and scientific staff
		• Summarizes what is known about the effectiveness and cost-effectiveness of population-based interventions
		
		Outputs
		• Released topic by topic and organized as a "chapter"
		• One page summary of findings in PDF format
		• Links to full-text publications in PDF format
		• Recommendations on interventions and methods for delivery
		• Economic effectiveness findings
		• Information about additional benefits and harms of the interventions
		• Effectiveness ratings: strongly recommended, recommended, and insufficient evidence
		• Identifies prevention research agenda where gaps exist
		• Evidence tables
		• Links to additional sources
			• No search tool provided, although the website can be searched	• Existing chapters will be updated and additional topics addressed over time	• Audience:
					  - Practitioners of public health
					  - Managed care executives
					  - Health policy makers
					  - Payers for health care
					• Applicability of findings to diverse populations
					• Online links vary in success
					• Able to navigate to specific sections (*e.g.* Interventions) of a topic summary
					• Not a searchable database, listed by topic

Public Health Model: Recommendations and Evidence-Based Guidelines

Example	Format/Access	Inputs/Production/ Evidence Base	Search Options	Updating	Issues (Pros/Cons/Feasibility)
CDC Recommends: The Prevention Guidelines System Website: http://www.phppo.cdc.gov/cdcRecommends/AdvSearchV.asp Topics: • Infectious and Chronic Diseases • Environmental Hazards • Natural or Human-Generated Disasters • Occupational Diseases and Injuries • Intentional and Unintentional Injuries and Disabilities • Other Public Health Conditions	• 1996- • Available online for free access	• Produced by the Centers for Disease Control and Prevention (CDC), Atlanta, Georgia • Team of health scientists reviews documents already cleared by the CDC publication process • Over two-thirds of documents originally published in *Morbidity and Mortality Weekly Report (MMWR)* • Documents that convey some elements of guidance in public health practice are selected for inclusion **Outputs** • Published articles, monographs, brochures, and Web-based fact sheets • Structured guidelines with references • Most current CDC recommendations and guidelines for the prevention, control, and treatment of public health conditions • Guidelines recommend some kind of action to prevent or control a public health problem in a defined population • Recommendations are graded by the strength of the supporting evidence • Full text documents or Internet links to available documents • Limited number of documents from outside the CDC	• Text word • Title word • Date • Relevance-ordered searching	• When a new document is added to the system, a search for older, out-dated guidelines is performed and those documents are either removed from the system or archived for research or historical purposes	• Audience: Public health practitioners • Up-to-date guidance on many public health issues • Sophisticated search engine • Able to navigate to specific sections of some guidelines; but for some guidelines there is no navigation tool • Methodological quality varies greatly from one document to another, the most recent being of better quality (Laval Univ., 2002) • Limited to guidelines published under the auspices of the CDC • Score of 45/60 for "content" and 34/40 for "design" by Laval University, 2002

Public Health Model: Systematic and Non-Systematic Reviews

Example	Format/Access	Inputs/Production/ Evidence Base	Search Options	Updating	Issues (Pros/Cons/Feasibility)
EPPI-Centre Database of Promoting Health Effectiveness Reviews (DoPHER) Website: http://eppi.ioe.ac.uk/EPPIWeb/home.aspx?Control=Search&SearchDB=rore&page=/hp/ Topics: Wide range of health promotion and public health topics	• 1998- • Available for free online access	• Produced by the Evidence for Policy and Practice Information (EPPI) Centre, based at the University of London • EMBASE, ERIC, MEDLINE, PsychInfo, Social Science Citation Index, Sociological Abstracts, and Social Services Abstracts searched to locate reviews of effectiveness • Cochrane Library, DARE, National Research Register, and Bibliomap hand-searched for completed effectiveness reviews relevant to health promotion • Reference lists of identified reviews scanned • Promotional agencies involved in effectiveness reviews contacted • Reviews are categorized according to health focus, population group, type of review and methodological attributes of review **Outputs** • Database 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")	• Word in text • Kind of material • Focus (public health topic) • Status of report • Language • Type of study • Country where study carried out • Characteristics of study population • Cost • Intervention site • Person(s) providing intervention • Type(s) of intervention • Other databases from EPPI can be searched: - **Bibliomap**, bibliographic database of references located during the process of systematic reviews - **EPIC**, data set for reviews - **Trials Register of the Cochrane Health Promotion and Public Health Field**, database of randomized and controlled trials (non-randomized)	• The database is updated on a regular basis • Searches for reviews of effectiveness updated	• Audience: Practitioners and researchers in health promotion and public health • The EPPI Centre is a collaborating partner of the Cochrane Health Promotion and Public Health Field • Uses health promotion-specific vocabulary • Cannot search by date • Does not provide abstract of reviews • Does not provide full text of reviews; but the site does provide full-text to EPPI systematic reviews, **Health Promotion Reviews**, available at: http://eppi.ioe.ac.uk/EPPIWeb/home.aspx?page=/hp/reviews.htm • Cannot navigate to specific sections of a review

Public Health Model: Systematic Reviews

Example	Format/Access	Inputs/Production/ Evidence Base	Search Options	Updating	Issues (Pros/Cons/Feasibility)
The Effective Public Health Practice Project Website: http://www.city.hamilton.on.ca/sphs/ephpp/ Topics: • Tuberculosis • Elderly Care • Heart Health Promotion • Tobacco Use Reduction • Injury Prevention • Cancer Screening • Day Care Center Infection Control • Asthma • Environmental Awareness • Parenting • Food Safety • Spousal Abuse • Eating Disorders • Obesity • Physical Activity • Suicide Prevention • Adolescent Risk Behavior	• Available for free online access • Disseminated in print at provincial, national, and international conferences	• An initiative of the Public Health Research, Education and Development (PHRED) Program in Canada, funded by the Public Health Branch of the Ontario Ministry of Health • Conducts systematic reviews on the effectiveness of public health interventions • Summarizes recent, high quality reviews produced by others • Focus on public health interventions • On-going consultation with health units within Ontario • Collaboration with other evidence-based practice groups **Outputs** • Resources for evidence-based decision-making in public health in Ontario and greater Canada • Summary statements of systematic reviews in PDF format - Public Health Mandate - Background - Issue - Finding the Answers - Evidence - Implications for Practice and Research - More sources of Information • Policy statements • Links to full-text of reviews in PDF format	• No search tool provided, titles of reviews displayed in alphabetical order	• Approximately 4 new reviews and at least 4 new summary statements are completed annually • No mention of the reviews being updated	• Audience: - Public health practitioners - Policy makers - Consumers • Linked with the Cochrane Collaboration • Systematic reviews completed by this research project are submitted for inclusion in the Cochrane Library • No search tool provided • Cannot navigate to specific sections of a summary or a review

Public Health Model: Systematic Reviews

Example	Format/Access	Inputs/Production/ Evidence Base	Search Options	Updating	Issues (Pros/Cons/Feasibility)
Health Evidence Bulletins – Wales Website: http://hebw.uwcm.ac.uk/ Topics: • Cancers • Cardiovascular Diseases • Health Environments • Health Living • Injury Prevention • Learning Disabilities • Maternal and Early Child Health • Mental Health • Oral Health • Osteoporosis • Respiratory Diseases	• 1998- • Available for free online access • Included in the TRIP Database	• Maintained by the Health Promotion Division of the National Assembly for Wales • Objective of the bulletins is to assist health authorities with the planning and commissioning of health care • Systematic approach to identify evidence • Includes information from randomized controlled trials (RCTs) if available • If information not available from RCTs, then information from observational and other studies is included • Methodology details at: http://hebw.uwcm.ac.uk/projectmethod/methodology.htm#STAGE%201:%20DEFINING%20THE%20TASK **Outputs** • Summary statements of current research in a subject area • Details of the supporting evidence in chart format • Online links to the evidence if it is available for free • Summary charts with references and grades of evidence	• Keyword • Alphabetical listing of bulletins	• Updating published bulletins is part of the project methodology, but no time frame is given	• Audience: Health authorities, clinicians, educators, and researchers • Cannot navigate to specific sections of a health evidence bulletin • Very good methodology (Laval Univ., 2002) • Score of 51/60 for "content" and 30/40 for "design" by Laval University, 2002

Public Health Model: Systematic Reviews

Example	Format/Access	Inputs/Production/ Evidence Base	Search Options	Updating	Issues (Pros/Cons/Feasibility)
Evidence Based Health Promotion: Resources for Planning From the Victorian Government Health Information Website: http://www.dhs.vic.gov.au/phb/ebhp/index.htm Topics: • Oral Health • Adolescent Health • Falls Prevention • Child Injury Prevention • Body Image	• 2000- • Available for free online access	• Produced by the Victorian Government Health Information, Australia, Public Health Group • Identifies the most effective and efficacious interventions • Systematic review of the literature • Reviewed local and national health promotion activities **Outputs** • Links to full-text of reports in PDF format • Executive summary available online • Critical appraisal of the findings • Recommendations for implementations • Evidence tables for comparison of strategies	• Not searchable	• No mention of the reports being updated	• Reviews are targeted to those needing to make decisions about the type of programs that should be developed and implemented • Advice should be seen as complementary to practical experience and critical judgment of planners and practitioner • Reports are lengthy • Able to link to specific sections (*e.g.*, Methods) of a report • Not a searchable database, a listings of reports by topic

Public Health Model: Systematic Reviews

Example	Format/Access	Inputs/Production/ Evidence Base	Search Options	Updating	Issues (Pros/Cons/Feasibility)

Centers for Medicare & Medicaid Services (CMS) – Healthy Aging Initiative – Evidence Reports
 	
Website: http://cms.hhs.gov/healthyaging/EvidReports.asp
 	
Topics are related to the delivery and quality of preventive health care for older people:
• Influenza immunizations
• Pneumococcal vaccinations
• Mammography
• Pap tests
• Colon cancer screening
• Promotion of smoking cessation
• Health risk appraisals
• Falls Prevention Interventions
	• 1998-
	• Available online for free access
		• Produced by RAND, a private healthcare research organization, under contract from CMS as part of the Health Aging Project
		• Conducted in collaboration with the Agency for Healthcare Quality and Research (AHRQ), the Centers for Disease Control and Prevention (CDC), the Administration on Aging, and the National Institutes of Health
		• Synthesizes the evidence on how to promote health and prevent functional decline in older adults
		• Systematic review of the evidence
		
		Outputs
		• Links to full-text of 4 reports in PDF format available (as of January 2003)
		• Other reports in various stages of the evidence review process
			• Not searchable	• No mention of the reports being updated	• Audience:
					  - Peer review organizations
					  - Health plans
					  - Providers and purchasers of health care, including Medicare and Medicaid
					• Not a searchable database, a listings of reports by title
					• Reports are lengthy
					• Able to link to specific sections (*e.g.*, Evidence Tables) of a report

Public Health Model: Database of Systematic Reviews, Meta-Analyses, and Other Evidence

Example	Format/ Access	Inputs/Production/ Evidence Base	Search Options	Updating	Issues (Pros/Cons/Feasibility)
Health Development Agency (HDA) Evidence Base Website: http://www.hda-online.org.uk/evidence/ Topics: • More than 140 public health topics that span a wide range, from bio-medical interventions to the impact of social factors on public health	• 2001- • Available for free online access	• Developed by the Health Development Agency (HDA), London, UK • Aims to present a wide range of information that could be used to inform public health practice about what works to improve health and reduce health inequalities • Focus is on electronically available information • Maps existing information about effective approaches to improving health • Information mostly drawn from abstracts, including the Cochrane Collaboration • Clear standards and criteria for content included; sources include: - Systematic Reviews of Effectiveness - Literature Reviews - Meta-analyses - Individual Intervention Studies - Expert Opinion - Case Stories from Qualitative Studies - Government guidance - Unpublished research **Outputs** • Searchable database of online systematic reviews of effectiveness, literature reviews, meta-analyses, expert group reports, and other review-level information • PDF files of recent systematic and other reviews of effectiveness (if available in the public domain) • Evidence Based Briefing Documents: topic-specific briefing documents based on collation and synthesis of review level data	• Topic • Population • Setting • Types of evidence • Type of material: - Documents - Journals - Databases - Websites • Keyword in title	• No mention of the database being updated	• Audience: Practitioners and researchers engaged in public health work • In early stages of development, plans to develop over time • Future plans to work with the Cochrane and Campbell Collaborations, the National Health Service Centre for Reviews and Dissemination (NHS CRD) and the Evidence for Policy and Practice Information (EPPI) Centre • Broad definition of "evidence" including expert opinion and qualitative studies • Score of 48/60 for "content" and 32/40 for "design" by Laval University, 2002

References

Websites (see chart) for each model reviewed to ensure accurate information on each model example, and the following:

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Booth A, O'Rourke A. SumSearch and PubMed: 2 Internet-Based Evidence-Based Medicine Tools. *ACP J Club.* May-June 2000;132(A16).

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