# Resources For Evidence-Based Health Care: Accessibility And Availability

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**Introduction:**

Evidence – Based Practice (EBP) is a problem solving approach to clinical care that incorporates the conscientious use of current best evidence from well-designed studies,  clinician's expertise, and patient values and preferences (Melnyk & Fineout-Overholt, 2005; Sackett, Straus, Richardson, Rosenberg, &Haynes, 2000). It is important to see clinical expertise as the ability to integrate research evidence and patients' circumstances and preferences to help patients arrive at optimal decisions (Guyatt, Cook,& Haynes, 2004). Research has shown that patient outcomes are 28% better when clinical care is based upon evidence, versus clinical practice steeped in tradition (Heater, Becker, & Olsen, 1998).  The process of EBP minimizes the translation time needed for incorporating research findings into practice and clarifies the differences between ritualistic practice, habitual approaches, personal preferences, anecdotal experiences, empirical data, and statistical significance to support nursing practice (Alspach, 2006). The availability of evidence based practice tools and methods helps in faster identification of the best available evidence to provide care at the point it matters most.

Implementing EBP in health care is complex and challenging. One of the main components of EBP is retrieving evidence from different sources. Information explosion with thousands of health literature and research papers published every year has created a need to expand the knowledge base for providing evidence based health care worldwide. Retrieval of evidence from various sources may be difficult due to several reasons. It may be difficult for health professionals to find the best available evidence due to time constraints (Ervin, 2002) or lack of knowledge among health professionals to effectively search for evidence (Sitzia, 2002). It is even difficult to find authentic sources of evidence.

**Resources for Evidence-Based Health Care**

Information resources used for EBP can be classified as primary source or secondary source. Primary sources are the published accounts of original research and journal articles in various bibliographic databases of which PubMed is an example. Secondary sources summarize the original researches and include sources like systematic reviews and clinical practice guidelines. Secondary literature consists of summary documents in which the evidence is searched, critically appraised and summarized for the users. Secondary literature can also be identified by searching bibliographic databases such as CINAHL or MEDLINE or by searching specialized databases that contain only secondary literature (Klem; & Weiss, 2005).
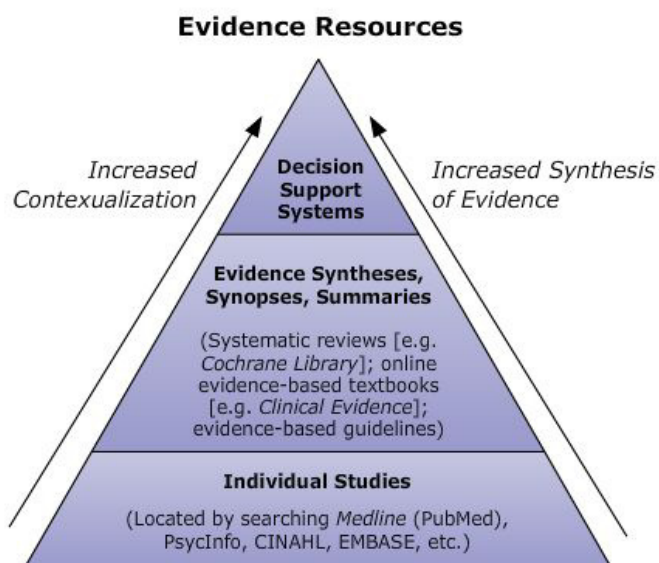
**Fig 1: Evidence resource hierarchy (adapted from Haynes et al. Evid Based Med. 2006; 11:162-4)**

The pyramid depicted in Fig 1gives an overview of the evidence resources in a hierarchy considering the context and synthesis of evidence. The resources described in this paper falls into the middle segment of the pyramid i.e., evidence syntheses, synopses and summaries. The purpose of this paper is to mainly highlight on the various secondary resources that are available for evidence based health care such as Systematic Reviews, Clinical Practice Guidelines and Point of Care Tools.

**a)   Systematic Reviews**

According to Campbell collaboration web site, "A systematic review uses transparent procedures to find, evaluate and synthesize the results of relevant research". The purpose of a systematic review is to sum up the best available research on a specific question. This is done by synthesizing the results of several studies. Systematic reviews are published through specialized database and are listed in Table 1. Apart from this, reviews are published in the article form in the journals which is available through primary database like PubMed, CINAHL etc. It is very important to ascertain the quality of systematic reviews before looking at the evidence. Systematic reviews such as Cochrane review follows rigorous methodological process. It is essential that a systematic review identify and consider all possibly relevant trials. Failure to identify all possibly relevant reports of controlled trials for systematic review could result in bias (Robinson; & Dickers, 2002). Good quality systematic reviews are ensured when authors use guidelines like PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses), an evidence-based minimum set of items for reporting in systematic reviews and meta-analyses. Fortunately most of the reliable resources in systematic reviews are available free of cost.

**Table 1. Resources for systematic reviews**

| SL NO: | DATABASE | DESCRIPTION | AVAILABILITY & ACCESSIBILITY |
|---|---|---|---|
| 1. | Cochrane Database of Systematic Reviews (CDSR)<br><br>From Cochrane collaboration<br><br>http://www.thecochrane library.com/view/0/index.html | Cochrane Reviews are unique because they are both produced by, and are relevant to, everyone interested in the effects of human health care.<br><br>Based on the best available evidence, healthcare providers can decide if they should fund production of a particular drug. Practitioners can find out if an intervention is effective in a specific clinical context. Patients and other healthcare consumers can assess the potential risks and benefits of their treatment. | Abstracts are free to all and full texts are available through subscription. Because of national subscription by Indian Council of Medical Research, it is free for all Indian citizens.<br><br>Accessible through general search engine like Google, yahoo, MSN etc. |
| 2. | Database of Abstracts of Reviews of Effects (DARE)<br><br>From the Centre for Reviews and Dissemination<br><br>http://www.crd.york.ac.uk/CRDWeb/ | The focus of DARE is primarily on systematic reviews that evaluate the effects of health care interventions and the delivery and organization of health services.<br><br>The database also includes reviews of the wider determinants of health such as housing, transport, and social care where these impact directly on health, or have the potential to impact on health | Freely available<br><br>Accessible through general search engine like Google, yahoo, MSN etc.<br><br>Database is also accessible via the CRD database website |
| 3. | ARIF Reviews<br><br>Database from the Aggressive Research Intelligence Facility at the University of Birmingham, UK<br><br>http://www.birmingham.ac.uk/research/activity/mds/projects/HaPS/PHEB/ARIF/databases/index.aspx | It contains details of systematic reviews of effectiveness of healthcare interventions and includes diagnostic and observational studies.<br><br>Reviews from areas such as transport, criminology, education and even ecology are also included in ARIF database. | Freely available<br><br>Accessible via University of Birmingham web portal |
| 4. | Health evidence<br><br>http://www.healthevidence.org/ | Free online registry of review-level evidence evaluating the effectiveness of public health and health promotion interventions.<br><br>The goal is to support public health decision-makers working in program planning and policy to engage in evidence-informed decision making.<br><br>About 3,730 systematic reviews evaluating the effectiveness of public health interventions are available via health evidence. | Free with registration<br><br>Accessible through general search engine like Google, yahoo, MSN etc.<br><br>It is even accessible via slideshare |
| 5. | The Campbell collaboration | The Campbell Collaboration (C2) helps people make well-informed decisions by preparing, maintaining and disseminating systematic reviews | Freely available<br><br>Accessible through |

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| | http://www.campbellcollaboration.org | in education, crime and justice, social welfare and international development. | general search engine like Google, yahoo, MSN etc. |
| 6. | The Joanna Briggs Institute From University of Adelaide, South Australia http://joannabriggs.org/about.html | The Institute collaborates internationally with over 70 entities across the world. The Institute and its collaborating entities promote and support the synthesis, transfer and utilization of evidence through identifying feasible, appropriate, meaningful and effective healthcare practices to assist in the improvement of healthcare outcomes. | Available with subscription only.  Accessible via Joanna Briggs Institute web portal. |

**b)  Clinical Practice Guidelines (CPG)**

The Institute of Medicine (2011) defined Clinical Practice Guidelines as "statements that include recommendations intended to optimize patient care that is informed by a systematic re view of evidence and an assessment of the benefits and harms of alternative care options." Trustworthy guidelines should be based on a systematic evidence review, developed by panel of multidisciplinary experts, provide a clear explanation of the logical relationships between alternative care options and health outcomes, and provide ratings of both the quality of evidence and the strength of the recommendations. It need to be noted that not all guidelines are evidence based; some may be documents with practice recommendations based on expert opinion or practice Followed in a particular health care set up. Hence, it is important to ascertain the quality of CPGs' before considering using it. Guideline resources like National Guideline Clearinghouse, NICE guidelines etc., are reliable as they undertake rigorous methodological process for guideline development. Most of the genuine online CPG resources are available free of cost.

**Table 2 Resources for Clinical Practice Guideline**

| SL NO: | DATABASE | DESCRIPTION | AVAILABILITY & ACCESSIBILITY |
|---|---|---|---|
| 1 | NGC (National Guideline Clearinghouse) resources  http://www.guideline.gov/ | NGC is an initiative of the Agency for Healthcare Research and Quality (AHRQ), U.S. Department of Health and Human Services.  The  mission is to provide physicians and other health professionals, health care providers, health plans, integrated delivery systems, purchasers, and others an accessible mechanism for obtaining objective, detailed information on clinical practice guidelines and to further their dissemination, implementation, and use. | Freely available.  Accessible through general search engine like Google, yahoo, MSN etc. |
| 2 | NICE (National Institute for Health and Care Excellence) resources  http://www.nice.org.uk/aboutnice/about_nice.jsp | Provides independent, authoritative and evidence-based guidance on the most effective ways to prevent, diagnose and treat disease and ill health, reducing inequalities and variation  NICE guidelines, pathways & quality standards | Freely available.  Accessible through general search engine like Google, yahoo, MSN etc. |
| 3 | SIGN (Scottish Intercollegiate Guidelines Network) resources  http://www.sign.ac.uk/index.html | SIGN guidelines are derived from a systematic review of the scientific literature and are designed as a vehicle for accelerating the translation of new knowledge into | Freely available.  Accessible through general search engine like Google, yahoo, |

| | | action to meet our aim of reducing variations in practice, and improving patient-important outcomes | MSN etc. |
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| 4 | GIN (The Guidelines International Network) resources<br><br>http://www.g-i-n.net/gin | The mission of GIN is to lead, strengthen and support collaboration in guideline development, adaptation and implementation | Fee-based, full features available to members only<br><br>Limited access through general search engine like google, yahoo, msn |
| 5 | WHO (World Health Organization) guidelines<br><br>http://www.who.int/publications/guidelines/en/ | WHOs global guidelines provides best available evidence in areas of Child health, Chronic diseases, injuries and disability, Communicable diseases Environmental health, HIV/AIDS, Health systems Malaria, Maternal, reproductive health and women's health, Mental health and substance abuse Nutrition, Patient safety, Tuberculosis etc | Freely available.<br><br>Accessible through general search engine like Google, yahoo, MSN etc |
| 6 | RNAO (Registered Nurses Association of Ontario) Best Practice Guidelines<br><br>http://rnao.ca/bpg | The Best Practice Guidelines program supports nurses by providing them with the best evidence available.<br><br>Currently almost 50 published guidelines as well as a tool kit and Educator's resources are available to support implementation | Freely available.<br><br>Accessible through general search engine like Google, yahoo, MSN etc |
| 7 | RCN (Royal College of Nursing) guidelines<br><br>http://www.rcn.org.uk/development/practice/clinicalguidelines | The RCN no longer develops clinical guidelines but focuses now on supporting the development of guidelines through agencies such as NICE, and supporting implementation through developing online learning and resources.<br><br>The RCN works closely with the National Clinical Guideline Centre (NCGC) in supporting the development of clinical guidance. | Freely available.<br><br>Accessible through general search engine like Google, yahoo, MSN etc |
| 8 | *NCGC (National Clinical Guideline Centre), UK*<br><br>http://www.ncgc.ac.uk/ | The National Clinical Guideline Centre (NCGC) is a multi-disciplinary health services research team funded by the National Institute for Health and Care Excellence (NICE). They produce evidence based clinical practice guidelines on behalf of NICE | Freely available.<br><br>Accessible through general search engine like Google, yahoo, MSN etc |

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|---|---|---|---|
| 9 | CMA (Canadian Medical Association) InfoBase  http://www.cma.ca/clinicalresources/practiceguidelines | The CMA InfoBase, a Web-based resource that contains evidence-based clinical practice guidelines. The database is maintained by the Canadian Medical Association (CMA) and is available on its web site.  The CMA InfoBase 1,200-plus clinical practice guidelines either developed or endorsed by an authoritative health care organization located in Canada | Freely available.  Accessible through general search engine like Google, yahoo, MSN etc |

**c) Point of care tools**

Point-of-care decision-making tools are syntheses of evidence the goal of which is to make physicians' decision-making easier. Their value to health professionals working at the frontlines of care has been demonstrated because of shortage of time to search for answers via medical databases. Point-of-care tools are those research and reference resources that a clinician can utilize immediately at the point-of-care with a patient. They are easy to use and contain filtered information. Most of the evidence-based point-of-care tools include levels of evidence, rating scales or grade recommendations as well as citations back to the original research studies, systematic reviews, or guidelines. Unfortunately, most of the point of care tools are paid and are available through subscription.

**Table 3: Resources for point of care tools**

| SL NO: | DATABASE | DESCRIPTION | AVAILABILITY & ACCESSIBILITY |
|---|---|---|---|
| 1. | Clinical Evidence  http://www.clinicalevidence.org/x/index.html | Clinical Evidence comprises an international database of high-quality, rigorously developed systematic overviews assessing the benefits and harms of treatments, and a suite of EBM resources and training materials | Fee-based  Accessible via respective web portal. |
| 2. | DynaMed from Ebsco  https://dynamed.ebscohost.com/ | Dyna Med synthesize the evidence and provide objective analysis in an easily-digestible format. Follows a strict evidence-based editorial process focused on providing unbiased information. | Fee-based  Accessible via respective web portal. |
| 3. | Essential Evidence Plus from Wiley  http://www.essentialevidenceplus.com/ | It is the most powerful, comprehensive, evidence-based clinical decision support system trusted by health professionals. It brings information into practice answering key clinical questions to help save lives and prevent suffering. | Fee-based  Accessible via respective web portal. |
| 4. | Evidence Aid  http://www.evidenceaid.org/ | Provides resources for decision-makers before, during and after disasters and other humanitarian emergencies | Freely available.  Accessible through general search engine like Google, yahoo, MSN etc |
| 5. | Evidence Updates  http://plus.mcmaster.ca/EvidenceUpdates/ | BMJ Group and McMaster University's Health Information Research Unit are collaborating to provide  with access to current best evidence from research and to support evidence-based clinical | Free with registration  Accessible through general |

|  |  |  | decisions | search engine like Google, yahoo, MSN etc |
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| 6. | UpToDate  From Wolters Kluwer Health  http://www.uptodate.com/contents/search | | UpToDate is an evidence-based, physician-authored clinical decision support resource which clinicians trust to make the right point-of-care decisions. More than 5,100 world-renowned physician authors, editors and peer reviewers use a rigorous editorial process to synthesize the most recent medical information into trusted, evidence-based recommendations that are proven to improve patient care and quality | Fee-based  Accessible via respective web portal. |
| 7. | Nursing+  Best Evidence For Nursing Care  From McMaster University's Health Information Research Unit  http://plus.mcmaster.ca/np/Default.aspx | | McMaster University's Health Information Research Unit is providing access to current best evidence from research, tailored to health care interests and to support evidence-based clinical decisions. | Free with registration  Accessible through general search engine like Google, yahoo, MSN etc |
| 8. | PEDro    Physiotherapy    Evidence Database  From the Centre of Evidence-Based Physiotherapy (CEBP) : trials, reviews and guidelines; for medical professionals;  http://www.pedro.org.au/ | | PEDro is the Physiotherapy Evidence Database. PEDro is a free database of over 26,000 randomised trials, systematic reviews and clinical practice guidelines in physiotherapy | Freely available  Accessible through general search engine like Google, yahoo, MSN etc |

**Conclusion**

With the emerging complexity of health care problems, provision of healthcare services are also becoming more complex. Customers of health care are becoming increasingly aware of their problems and rights of care. In this context evidence based healthcare is so essential. The compilation of evidence resources mentioned above affirms that most of the EBP resources are available free of cost and are accessible via common search engines. The effective utilization of the resources depends on the interest of health professionals and the passion to keep updated with the clinical practice. Technical expertise to search these resources is very minimal which one could be acquired by some practice. Healthcare professionals need to take interest and initiate to provide best care through evidence based practice.

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**9.**  http://www.who.int/publications/guidelines/en/   World Health Organization WHO guidelines approved by the Guidelines Review Committee

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