



# The Research Connection

The Psychosocial & Nursing Advisory Board to the New Jersey Commission on Cancer Research

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The Joint Psychosocial & Nursing Advisory Group to the NJCCR was appointed to advise the Commission of special research needs pertaining to nursing, psychology, sociology, and related disciplines for the purpose of addressing gaps in vital areas of cancer research and cancer care in New Jersey.

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## Evidence-Based Practice

### What it is and is not

by  
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Evidence-based practice is the conscientious use of the current best evidence in making decisions about patient care (Sackett, Straus, Richardson, Rosenberg & Haynes, 2000). While attendance at any local, national, or international nursing conference is likely to have evidenced-based practice (EBP) as a central topic, it is not a transient buzzword; health care agencies and specialty organizations are using EBP for improved quality care. While not new to medicine, and in far greater use in the UK and Australia, EBP is now being introduced/incorporated into nursing curriculum and practice nationwide. EBP is a problem-solving approach to clinical practice that integrates the use

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of the best evidence in combination with a health professional's expertise and patient values/preferences to make decisions about health care (Melynk & Fineout-Overholt, 2005). The goal of EBP is to use the highest quality of knowledge in the provision of care to yield the greatest impact on patients' health status and health care (Melynk & Fineout, 2005; Sackett et al., 2000).

Advocates voice the necessity for EBP based on the lengthy time it takes for the dissemination and integration of research findings into practice and the need for practice to remain state of the art by the provision of accessible and timely best evidence.

Historically, EBP has its foundation in England, when in 1972, Dr. Archie Cochrane, a British epidemiologist, published a landmark study criticizing the medical profession for not having rigorous reviews of evidence to guide decision-making in practice. In 1992, The Cochrane Center was established in Oxford, England, and the function of this center is to assist individuals in making well-informed decisions about healthcare through the provision of systematic reviews of healthcare interventions and ensuring that these systematic reviews are accessible to the public. Through the Cochrane Library database ([www.cochrane.org](http://www.cochrane.org)), of which many academic and health care services hold subscriptions, systematic reviews and other levels of evidence can be easily obtained. Numerous other databases exist such as the National Guidelines Clearinghouse ([www.guideline.gov](http://www.guideline.gov)), Joanna Briggs Institute ([www.joannabriggs.edu.au](http://www.joannabriggs.edu.au)), and the National Cancer Institute ([www.cancer.gov](http://www.cancer.gov)).

While EBP is becoming more widespread, its use in the United States still remains slow. Factors contributing to this may relate to misconceptions regarding EBP. DiCenso, Guyatt & Cilecka (2005) cite four major misconceptions:

1. Evidence-based nursing only addresses quantitative data.
2. Evidence-based nursing overemphasizes randomized control trials (RCT) and systematic reviews.
3. Evidence-based nursing ignores patient preferences and values.

4. Evidence-based nursing is atheoretical (p.8).

Evidence-based practice involves the use of the best evidence, which includes both qualitative and quantitative research. A hierarchy of levels of evidence exists, whereby an EBP search should begin with systematic reviews, meta-analyses and clinical practice guidelines. While systematic reviews or meta-analyses of randomized controlled trials represent the strongest level of evidence-based literature, well designed studies, systematic reviews of descriptive and qualitative studies, as well as single descriptive or qualitative studies, along with opinions of experts and expert committees should be factored into clinical decisions when RCTs are not available (Melynk & Fineout-Overholt, 2005, p.7).

Evidence-based practice relies on the literature to determine the best practice, unlike research utilization, which primarily involves knowledge gained from one study. EBP also determines the best practice with consideration of patient preferences and values, along with the health professional's expertise using multiple studies. EBP is not atheoretical, as theories that show evidence to support propositions should be incorporated into EBP (Melynk & Fineout-Overholt, 2005).

The need for EBP to improve health care and health outcomes is evident throughout the scientific literature. The use of EBP provides the transition from practice based on tradition as a way of knowing to the more comprehensive use of evidence from well designed investigations. Without the use of the current best evidence, practice no longer remains state of the art and health care declines. Yet, with the ever changing technological advances in academic and library resources, the current best evidence is more easily available and attainable, facilitating the movement or paradigm shift towards the use of evidence to determine the best practice in health care.

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## Systematic Reviews of the Literature and Evidence-Based Practice

by

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The explosion of scientific literature and the evolution of complex study designs have had a major influence on health care. Evidence indicates that patients who receive care based on the best and latest evidence from well-designed studies experience better outcomes (Heater, Becker, & Olson, 1988). However, the gap between the publishing of research evidence and its translation into practice to improve patient care is a cause for concern.

The proliferation of published research studies, often with conflicting findings, has created the need for practitioners to acquire skills in synthesis and systematic review as well as critical appraisal - the ability to assess the relative value of individual studies. These skills are essential in order for practitioners to perform "evidence based practice."

This article will define evidence-based practice and the essential characteristics and stages of the systematic review process.

### Evidence-Based Practice

Evidence-based practice is the conscientious use of current best evidence in making decisions about patient care (Sackett, Straus, Richardson, Rosenberg, & Haynes, 2000). A variety of methods

of reviewing health care literature have been developed in an effort to synthesize findings from individual primary studies and to increase the generalizability of data about a phenomenon (Jackson, 1980).

The development of various approaches to review the literature during the past decade has contributed to more systematic and rigorous methods. While there are commonalities to various current review methods, each has a distinct purpose sampling frame, definition, and type of analysis. Much has been learned about the methodology associate with combining disparate studies into integrated results and conclusions, particularly with respect to systematic review and meta-analyses. Yet some are concerned that although these review methods are important for evidence-based practice they do not include the depth and breath of available research as they overemphasize the randomized clinical trial and hierarchies of evidence. Although evidence from systematic reviews of randomized clinical trials (RCTs) has been regarded as the strongest level of evidence on which to base practice decisions, evidence from descriptive and qualitative studies as well as from opinion leaders should also be factored into clinical decisions when randomized trials are not available to answer a clinical question.

The first step in using evidence-based practice is to formulate a clinical question. One useful way to formulate a clinical question is to use the PICO format. PICO identifies the **P**atient population, **I**ntervention of interest, **C**omparison intervention or status, and **O**utcome to yield the most relevant and best evidence.

### Searching for the Best Evidence

The next step is to search for the best available evidence. One should first begin with systematic reviews or meta-analyses which are regarded as the strongest level. (See Table 1 on next page for levels of evidence).

Table 1. Rating System for Levels of Evidence on Which to Base Practice Decisions\*

Level:	Types of Evidence
Level I	Evidence from systematic review or meta-analysis of all relevant randomized controlled trials (RCTs), or evidence-based clinical practice guidelines based on systematic reviews of RCTs.
Level II	Evidence obtained from at least one well designed Randomized Controlled Trial.
Level III	Evidence obtained from well-designed controlled trials without randomization (i.e. cohort study).
Level IV	Evidence from well-designed case-control and cohort studies.
Level V	Evidence from systematic reviews of descriptive and qualitative studies.
Level VI	Evidence from a single descriptive or qualitative study.
Level VII	Evidence from the opinion of authorities and/or reports of expert committees.

\* Modified from Guyatt & Rennie, 2002; Harris et al., 2001

Systematic reviews are research reviews that combine the best available evidence of multiple studies regarding a specific clinical problem to inform clinical practice and are the method of choice for evidence-based practice initiatives. Systematic reviews require a well specified clinical question, explicit methods, and a comprehensive search for relevant primary studies. Systematic reviews often include the statistical methods of meta-analysis if primary studies meet the assumptions required for meta-analysis.

Meta-analysis is a research review method that combines the evidence of multiple primary studies by employing statistical methods, thus enhancing the objectivity and validity of findings (Glass, 1976). With the meta-analysis approach, each primary study is abstracted, coded and entered into a quantitative database. Findings are subsequently transformed into a common metric to calculate an overall effect size. A significant

advantage of the meta-analysis methods is that adjustment for sample size and study quality can be included in the analysis (Broome, 1993). Well conducted meta-analyses allow a more objective appraisal of the evidence than traditional narrative reviews, provide a more precise estimate of a treatment effect, and may explain heterogeneity between the results of individual studies. If however, primary studies cannot be combined statistically, a narrative analysis is undertaken in conjunction with either counting or other quasi-statistical approaches.

### **Characteristics of a Systematic Review**

Systematic reviews are explicit: they state the question to be addressed, the methods by which potential materials are identified, the criteria by which eventual source materials are selected, the scales or checklist by which they are subsequently appraised and any techniques of synthesis or

analysis by which they are presented. Systematic reviews are also intended to be reproducible: the transparency of the methods used should, at least in theory, mean that another researcher addressing the same question will identify the same set of studies and arrive at the same overall conclusions. The defined steps by which a systematic review is conducted increase one's confidence both in the review process and in the results of the review itself.

Systematic reviews are, by their very nature, efficient. As an information management tool, they provide a way of coping with large volumes of data in a concise and manageable form. The majority of systematic reviews tend to be pragmatic. Although high-quality evidence may be lacking (i.e. randomized clinical trials) highly important clinical or policy questions are still clamoring for an answer. In the absence of authoritative and definitive "proof" from an RCT, a practitioner will have to use the "best available evidence" to inform their decision. Under such circumstances the best that can be hoped for is the reduction of uncertainty and a focus on those further questions which are most pressing to answer.

### **How a systematic review informs further research**

The following are some benefits a researcher may gain from reading, or even conducting systematic reviews:

1. To locate previous studies in your subject area. If you are fortunate to find a systematic review about your topic of interest, it can provide a jump start to help you begin your search of the literature.
2. To determine if anyone has developed effective research methodologies. Even a poorly designed study with inconclusive results or weak methodology may provide valuable insights into how you might conduct your research. This may be particularly useful for identifying validated scales and instruments.
3. To see how well your research topic has been approached previously. Pilot studies,

although necessary, are time-consuming and costly. Access to the published experiences of previous researchers in your topic may well inform your pilot and possibly limit the range of questions that it seeks to address.

4. To establish relevance. A proposal for original research is strengthened by supporting literature that can demonstrate that your question is worth answering and, indeed that it has not already been satisfactorily resolved.
5. To support bids for funding and sponsorship. In the competitive arena that is research funding it will strengthen your research proposal if you can demonstrate that you are not "reinventing the wheel", that your question has been identified as an important gap still to be addressed and that you are building on previous research.

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## From Face-to-Face to Internet-based Support Groups

by

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Celebrating its [25th anniversary](#) in June 2007, The Wellness Community (TWC) is an international non-profit organization dedicated to providing free support, education and hope to people with cancer and their loved ones. Through participation in professionally-led support groups, educational workshops, nutrition and exercise programs, and mind/body classes, people affected by cancer learn vital skills that enable them to regain control, reduce isolation and restore hope regardless of the stage of their disease. The Wellness Community provides support, education and hope for people affected by cancer at more than 100 worldwide locations including local centers and satellites, programs at area hospitals and community cancer centers, and The Virtual Wellness Community online. Support groups are lead by licensed psychotherapists trained in TWC's unique program methodology which is based upon the Patient Active Concept: *People with cancer who participate in their fight for recovery along with their physician and healthcare team will not only improve their quality of life, but may enhance the possibility of recovery.*

TWC's program has always been rooted in psychosocial research and the application of these findings into practice. In 1996, TWC adopted from its strategic plan the following over-arching objective:

*The Wellness Community is committed to evidence-based program development, evaluation, and evolution through state-of-the art research collaborations.*

Four goals were adopted to guide this objective:

- Develop and modify programs and services based upon evidence
- Utilize research data to improve training and program delivery
- Answer questions important not only to TWC but also to the psychosocial-oncology community
- Become the "gold standard" in psychosocial oncology.

TWC has always been a service-delivery organization through its twenty-five brick-and-mortar facilities and many off-site or satellite programs. For example, in 2006, TWC provided over thirteen thousand support groups, twenty-two hundred educational seminars, and nearly seven thousand stress reduction and exercise programs. However, there is an incredible need to reach underserved populations of people with cancer who live in small towns or rural areas where limited or no psychological and emotional support services are available. In 1998, in an effort to fulfill the goals of research and address these unmet needs, TWC, in partnership with University of California at San Francisco and Stanford University, designed a pilot study funded by California's Breast Cancer Research Program (BCRP) entitled, "The Effectiveness of Electronic Support Groups for Women with Breast Cancer." This study assessed whether real-time professionally-facilitated Internet-based online support groups would be feasible and effective in providing psychosocial support to women with breast cancer.

While the efficacy of face-to-face groups was well documented, groups on the Internet were untested. How would online participants react? Would they find benefit in writing their concerns to one another rather than sitting in a support group? The investigators theorized that they would. How would the facilitators provide support without the usual visual, verbal and non-verbal cues? Would they be able to maintain the group's focus? They further theorized that experienced facilitators could, indeed, learn skills that would resolve these issues.

These hypotheses were tested by conducting four groups of eight participants and one facilitator each for 16 weeks. The women who participated

experienced significant decreases in depression ( $p < .0001$ ) and negative reaction to pain ( $p < .001$ ), and significant increases in spirituality ( $p < .02$ ), seeing new possibilities ( $p < .05$ ), and zest for life ( $p < .05$ ). Importantly, two-thirds of the participants came from small towns or rural areas (Lieberman, et al, 2003). This directly addressed the accessibility issue. In addition, the TWC online groups resemble and have properties of other successful support groups which include managing anxiety, increasing cohesiveness and creating a usable platform for change.

As a result of these findings in 2002, TWC launched The Virtual Wellness Community (TVWC), a website where anyone with cancer who is interested can receive support, stress reduction exercises and state-of-the-art cancer-related information. The website mirrors a physical Wellness Community with free, professionally moderated support groups. It hosts physician lectures, mind-body programs, and other services to cancer patients and their loved ones. Currently, TVWC provides:

- 14 online support groups
  - 8 tumor-specific and mixed diagnosis groups
  - 4 caregiver groups
- 1 Spanish language group
- 1 Bereavement group

Since 2002, TVWC has registered over 1,200 participants into online support groups. These patients and caregivers spend between 12-18 months in these groups. In 2006, TVWC received 243,000 unique visitors and 758 people registered for an online support group.

TWC's online support group model has also spawned research for Parkinson's Disease patients and their caregivers and for newly diagnosed Spanish-speaking immigrants with cancer at New York University's School of Medicine. Moreover, TWC has trained twelve psychosocial oncologists from provinces across Canada including British Columbia, Alberta, Ontario, Quebec, and Nova Scotia as well as staff from the Leukemia and Lymphoma Society in TWC's online support group model and have adopted TVWC Internet platform and application to serve their patients. Finally, in

February 2004, TWC launched *Group Loop* at [www.grouploop.org](http://www.grouploop.org). It is a first-of-its-kind program which provides online support groups and other valuable resources for teenagers with cancer and their parents.

As these findings and on-going research projects demonstrate, community-based organizations like TWC can effectively initiate meaningful research projects in collaboration with academic and research partners that go beyond program evaluation and yield practical results. By TWC participating in such research—and the inherent scrutiny associated with these investigations—many more people with cancer can obtain needed support services.

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### ANNOUNCEMENT



### *A Resource Book for Cancer Patients in New Jersey*

**has been revised by the Nursing & Psychosocial Advisory Group to the NJCCR.**

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