

Scientific Inquiry

Utilization of Research Via the Internet

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Scientific Inquiry provides a forum to facilitate the ongoing process of questioning and evaluating practice, informs practice based on available data, and guides new practices through research and experimental learning.

The Internet presents nearly endless possibilities for accessing research that can then be used in practice. As described in a previous column (Wilkas, 2002) careful evaluation of a given Web site is crucial. This column addresses research utilization and using the Internet to assist with applying research to clinical practice.

One of the greatest advantages of using the Internet for research is the reduced time from conducting the research to dissemination (Belcher & Holdcraft, in press). Not only is less time involved in the process of publication by avoiding mail delays, but it also is likely that the research is available to the clinician earlier because journal communication with the author is also decreased. Peer review can be done via e-mail, accomplishing a task in a few days that normally can take several months. Once the research article is finalized, a few hours are all that is needed to post information on the Web, rather than weeks for the journal to arrive at one's home or workplace. One must be careful, however, as Web site consistency may be a problem, sometimes making it difficult to return to a resource that may no longer be available via the Internet (Belcher & Holdcraft).

A Few Words About Research Utilization

Research utilization may be defined as the purposeful application of research findings to the clinical setting to improve patient care. Research utilization is important for the bedside nurse whose patients may benefit from implementation of research findings. Nurses in direct patient care also are the best resource for determining if a change of practice will be successful on their respective nursing unit and benefit the patients they serve. Because they are the individuals taking care of patients, nurses must use the newest research findings to keep their practice current, as well as to provide the highest standard of care to patients.

Should All Research Be Used Immediately?

The answer is simple: No. Published research should be carefully evaluated prior to implementation in practice. Criteria exist to simplify this process. According to Polit and Hungler (1991), there are three main areas to consider: the transferability of the findings, feasibility, and cost/benefit determination of implementing (or not implementing) the research into practice.

When assessing whether or not the research may be transferable, consider if the patients in the research report are similar to the patients cared for on your unit (e.g., children of a certain age). If the patient populations are similar, ask yourself if the research results would be feasible to implement on your unit. For example, if the researchers found positive patient benefits to the use of a resource nurse for patient and family education, determine if this is feasible with the current structure and staff on the unit or if it would be cost-effective to hire someone for this role. Is it likely a large number of patients from your unit will need this service? Third, one must evaluate the costs and benefits of implementing the change. For example, is there any potential for patients to be harmed from the change? What are the costs of *not* implementing the change? Are there any nonmaterial costs involved (Polit & Hungler, 1991)?

One must assess how much knowledge exists about a given change (e.g., how many studies have been done) and the potential implications. Generally, changes in practice are not made based on one study alone. Depending on the potential for harm should one be wrong, additional replications of the study may be necessary. For example, if a researcher conducts one study and determines that 40% of children have faster healing times from surgery if their bed sheets are red as opposed to the standard white, not much harm results if the researcher was wrong and these findings really just occurred by chance and were not related to the color of the sheets. The children who have red sheets will not likely be harmed from their use, and they would not fare any worse than patients receiving the standard care (e.g., white sheets). Therefore, the outcome of implementing

this type of research finding is not as critical, because the potential for harm is minimal.

If you were, however, examining a study that addressed the use of two different anesthetics for children during surgery, you would want much more research evidence that the medication was safe. The potential risk is much greater. Children could die and the anesthetic could potentially interact with other medications. Therefore, when great potential for harm exists from a practice change, much more stringent guidelines are needed prior to implementation. In the anesthetic scenario, one would want repeated studies of the anesthetic's safety and effectiveness in a variety of children under a variety of circumstances before even considering a practice change. One must carefully evaluate each study, the amount of previous research on the topic, and the potential benefits and risks from a practice change based on the research provided.

While the convenience of research dissemination and utilization via the Internet certainly is a major benefit, one caution is in order. The speed with which information can be posted on the Internet may be a detriment because the review may be less rigorous or it may be possible for things to be overlooked, particularly if fewer people are involved in the process or if there is no standard process for manuscript acceptance. For example, someone involved in the editorial process might become so excited by the potential of a study's findings that she hurries the process along to try to disseminate the information more rapidly. Because of these concerns, one should use extra caution and carefully critique information, particularly research findings that are disseminated via the Internet.

Using the Internet for Research

There are two main ways to gather research information from the Internet. One can access databases that contain numerous references to research and clinical articles. Once the articles are identified, the person can access the journal either online (full text) or in the local library. In addition to reference databases, actual research informa-

tion is accessible through databases and other Web sites. Two of the most popular research databases are PubMed and CINAHL. PubMed, the largest medical database in the world, contains Medline and several other smaller databases. This database is most current and is maintained by the National Library of Medicine at <http://www.nlm.nih.gov>.

CINAHL is the Cumulative Index of Nursing and Allied Health Literature and can be found in a variety of places. Most universities and large medical centers have CINAHL as part of their networks; otherwise, CINAHL may be accessed, for a subscription fee, at <http://www.cinahl.com>. The CINAHL database contains many of the same resources as PubMed; however, additional nursing resources are available through CINAHL that are not available through PubMed. Past criticisms of CINAHL have been that extensive delays sometimes occur between publication and the date the citation is added to the database.

Another Internet-based resource for research is the International Council of Nurses (ICN) Research Network (Montgomery et al., 2001). One of the main goals of the research network is the dissemination and utilization of nursing research; thus, it is a good resource for practicing nurses to access research information to improve practice. The ICN Web site may be accessed at <http://www.icn.ch>. The Canadian-International Nurse Researcher Database (<http://www.nurseresearcher.com>) is another site that is useful for nursing staff to access current research. This interactive site allows researchers, students, staff, and other interested parties to interact with each other (Montgomery et al.).

Nursing research journals. Several nursing research journals can help people become familiar with the research process. Most journals now have Web pages in which the table of contents, and occasionally full-text articles, can be accessed (Table 1). Additionally, each year Margaret (Peg) Allen, MLS, AHIP, updates a comprehensive list of nursing resources that includes journal name, percent of space devoted to research, whether the journal is peer reviewed, and other relevant information. The most recent version was updated December 2000 and

Table 1. Research Journals in Nursing

Journal	Web Address
<i>Applied Nursing Research</i>	http://www.harcourthealth.com
<i>Nursing Research</i>	http://www.nursingcenter.com
<i>Research in Nursing and Health</i>	http://www3.interscience.wiley.com
<i>Research and Theory for Nursing Practice</i>	http://www.springerjournals.com

can be found at <http://www.library.kent.edu/nahrs/resource/reports/specrpts.htm>.

A few resources have been provided here to allow you to begin the process of research utilization via the Internet. In determining if a research article has validity for your patients, remember to carefully assess for similarities between the patients and research subjects, whether the practice change would be feasible in your practice setting, and the costs associated with the practice change. Remember to carefully evaluate the Web site where the information was obtained and to critically review the research and determine both the quality and quantity of evidence you have to base decisions about changes in practice. With a little practice, the process of research utilization will become second nature. You are now equipped with the beginning tools to make research utilization a reality.

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Resources for Additional Information

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Fitzpatrick, J.J., Romano, C., & Chasek, R. (Eds.). (2001). *Nurses' guide to consumer health web sites*. New York: Springer.

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Search terms: *Nursing research, patient care, research dissemination*