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Global partnerships to strengthen the evidence base for nursing

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Perspectives in Ambulatory Care

Global Partnerships to Strengthen the Evidence Base for Nursing

Executive Summary

► There is a growing emphasis on building the evidence base as governments, health systems, practitioners, and consumers, nationally and globally, search for ways to improve health care outcomes and enhance the efficiency and effectiveness of health services.

► Nurses and midwives constitute the largest group of health service providers in the majority of health systems around the globe.

► The WHO Global Advisory Group on Nursing and Midwifery recommended that WHO should form strategic alliances with partners to identify uniform core indicators and build a solid body of evidence to inform national health policies, particularly in the area of cost-effective nursing and midwifery services such as HIV/AIDS, tuberculosis, and malaria.

► Creating an international digital library has the potential to make a significant impact on global health.

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There is a growing emphasis on building the evidence base as governments, health systems, practitioners, and consumers, nationally and globally, search for ways to improve health care outcomes and enhance the efficiency and effectiveness of health services (Institute of Medicine, 2001; Lang, 2001; Lohr & Carey, 1999; Swan, McGinley, & Lang, 2002; World Health Organization [WHO], 2000). Within the context of limited economic resources, increased demands for safe and quality health care, and heightened consumerism, the need to base health care decisions on the best available evidence is essential if national health systems are to attain high-quality health services for their populations (Eisenberg, 2002; Frenk & Gomez-Dantes, 2002; Gow; 2002; Mullan, 2002; Smith, 2002; WHO, 2000). The opportunity for nurses to implement evidence-based health care is tremendous, but it requires attention, resources, methods, databases, and information systems (Bakken & McArthur, 2001; Lang, 1999; Lang & Clark, 1997).

Nurses and midwives constitute the largest group of health service providers in the majority of health systems around the globe. Thus, they are ideally positioned to assume a leadership role in providing evidence for interventions in order to assist in meeting national health targets (WHO, 2002). To date, there is a growing body of evidence demonstrating that nursing and midwifery services are powerful resources for attaining national health goals. Specifically, innovative models that optimize nursing and midwifery practice have been effective in (a) containing costs, (b) facilitating equitable access to essential service, (c) responding to the needs of communities and changing health system environments, (d) contributing to building sustainable health systems, and (e) improving health outcomes for populations (Aiken, Clarke, & Sloane, 2002; Aiken et al., 2001; Anderson-Loftin, 1999).

Although there is evidence on cost-effective nursing and midwifery services globally, further efforts are needed to make the evidence base accessible to the world. To start, best evidence needs to be identified, collected, and stored. User-friendly access to evidence is the next step. Nurses need to use and implement the best evidence when providing health care to optimize the benefits for patients. To effectively, efficiently, and equitably meet the challenges confronting health systems, decision makers at all levels will require access to evidence-based knowledge from which to assess the efficiency and effectiveness of interventions and to design policy options appropriate to their circumstances (Agency for Healthcare

Research and Quality [AHRQ], 2002; Swan & Boruch, 2002; WHO, 1999, 2000, 2001). The purpose of this article is to describe the state of global nursing partnerships needed to review and strengthen the evidence base for nursing and midwifery. An overview of the potential infrastructure to make accessible the growing evidence base in nursing and midwifery services will be presented.

Means to Strengthen Nursing and Midwifery

World Heath Assembly resolution. In May 2001, during the 54th World Health Assembly (WHA) held in Geneva, Switzerland, resolution WHA 54.12 was passed. The resolution recognized that nurses and midwives play a crucial role in reducing excess mortality, morbidity, and disability and in promoting healthy lifestyles and that further action was needed to maximize their contributions. This resolution urged member states to strengthen nursing and midwifery in seven areas. One area called on member states "to enhance the development of nursing and midwifery services that reduce risk factors and respond to health needs on the basis of sound scientific and clinical evidence" (WHA, 2001, p. 2). Furthermore, it requested the Director-General to provide support in eight focus areas including "to provide support to Member States in their efforts to strengthen the contribution of nurses and midwives to the health of populations...to develop and implement systems and uniform performance indicators at country, regional, and global levels to monitor, measure, and report progress in achieving these goals" (WHA, 2001, p. 2).

World Health Organization strategic directions. In response to resolution WHA 54.12, and in line with Millennium Development goals, WHO, with several partners including the International Council of Nurses, International Confederation of Midwives, and the Global Network of WHO Collaborating Centers for Nursing and Midwifery Development, developed and launched "Strategic Directions for Nursing and Midwifery 2002-2008." WHO and its partners in this initiative have identified five Key Result Areas (KRAs), each with specific objectives and expected results that are crucial to strengthening nursing and midwifery services. These will provide an overall structure under which the strategic directions will operate.

Key Result Area 3, "Practice and Health System Improvement," addresses the necessity to fully integrate nursing and midwifery expertise into decision-making processes at all levels, and for health systems to utilize best available practices for care of individuals, families, and communities (United Nations, 2002; WHO, 2002). Expected results include further development of the evidence base with partners on cost-effective nursing and midwifery services and their impact on WHO priority diseases such as HIV/AIDS,

adolescent health, making pregnancy safer, maternal and infant health, mental health, tuberculosis, and malaria.

Several activities were initiated to translate KRA 3 into action and ultimately to influence practice such as conducting extensive literature reviews, mapping Centers for Excellence work in areas of systematic review, and using technology to establish a virtual expert primary review panel. Led and organized by the WHO Senior Scientist for Nursing and Midwifery Services, the evidence review panel was challenged to develop a global framework for systematically identifying and reviewing the evidence base on effective nursing and midwifery services interventions (Al-Gasseer & Persaud, in press; Al-Gasseer, Persaud, & Caldwell, 2001).

Panel participants, from developing and developed countries, mainly representing WHO Collaborating Centers for Nursing and Midwifery and Centers of Excellence in the area of evidence, identified a divide in terms of identifying, searching, accessing, reviewing, and using evidence for practice. Major recommendations included:
1. Clarifying the concept "nursing/midwifery interventions" and its further application.
2. Developing a consensus statement identifying existing review methodologies relevant to nursing and midwifery evidence.
3. Identifying questions and priority areas aligned with WHO objectives on which evidence can be identified, collected, and evaluated.
4. Identifying methodologies to "globalize evidence and localize decision making about their utility."
5. Planning for collection, evaluation, and dissemination of evidence derived from existing sources, for example, guidelines, best practices, etc.
6. Building capacity in developing countries, as well as individual and institutional capacity in developing and developed countries including plans for "twinning" of individuals and institutions around mutual areas of interest.
7. Identifying multilingual and multidisciplinary resources.

The evidence review panel uses several communication methods to continue real-time dialogue including teleconferencing, videoconferencing, and Internet and extranet-based resources. Once recommendations are made, a vehicle for establishing, implementing, disseminating, and evaluating the evidence base for nursing and midwifery practice must be developed.

Continuing Global Partnerships via Technology

Continuing this global information environment requires international integration of collaborative efforts in many areas including nursing science, information science, and technology and health policy. Establishing a virtual infrastructure is necessary for

developing, implementing, and evaluating the evidence base for nursing and midwifery services, as well as building capacity for collaborative nursing research, education, leadership and policy setting, practice, and regulation (Al-Gasseer, Fristch, & Persaud, 2001). Such infrastructure takes into consideration both the WHO initiative "Systematically Reviewing the Evidence on Nursing and Midwifery Services: A Preliminary Global Framework" and the International Council of Nurses' (ICN, 2001) International Classification for Nursing Practice (ICNP). To synergize the work of several global nursing and midwifery organizations and maximize use of the WHO Collaborating Centers for Nursing and Midwifery, it is imperative that efforts are brought together. These partnerships provide an opportunity to "seize the moment" and exploit the synergy of several global nursing organizations.

"Twinning" of developing and developed countries' WHO Collaborating Centers and Centers of Excellence would support WHO's focus on identifying sound evidence about all alternatives, to build a solid knowledge base about what really works that may be transferred across countries when it is culturally, financially, and politically reasonable to inform their vision of improving health, decreasing health inequities, and ensuring the rights of all people to health (Al-Gasseer, 2002; Frenk & Gomez-Dantes, 2002; WHO, 2002).

International Digital Library

The WHO Global Advisory Group on Nursing and Midwifery recommended that WHO should form strategic alliances with partners to identify uniform core indicators and build a solid body of evidence to inform national health policies, particularly in the area of cost-effective nursing and midwifery services such as HIV/AIDS, tuberculosis, and malaria (WHO, 2001).

Beside the above efforts, the potential to use technology to operationalize KRA 3 objectives exists via developing an international digital library (IDL). Creating an IDL will serve as an infrastructure for evidence in areas of strategic importance to the WHO countries and their partners. This would expedite the systematic development of the means to collect, store, and organize information, knowledge, and evidence in digital form; and strengthen communication and collaboration between and among practice, education, and research communities. It will also result in global building and expanding the body of evidence for nursing and midwifery. The WHO Collaborating Centers for Nursing and Midwifery, as the technical arms of WHO, will play a pivotal role in strengthening the IDL. The challenge is making this knowledge available on a global scale.

Specifically, the IDL would facilitate (a) identifying evidence around key clinical problems in the areas of strategic importance to the WHO countries and partners; WHO Collaborating Centers can identify research gaps accordingly and conduct studies; (b) selecting methods for evaluating evidence by the WHO virtual evidence review panel and expert groups in specific health priority areas such as making pregnancy safer, mental health, and HIV/AIDS, TB, and malaria; (c) creating and testing IDL interfaces in WHO Nursing Collaborating Centers; (d) testing the use of the ICN standardized nursing language of nursing phenomena/diagnosis, interventions, and outcomes; and (e) using futuristic and virtual ways of communicating with working groups and ultimately the world of practicing nurses.

There are an estimated 429 million people online globally, but even this staggering number is small when considered in context. When assessed by region, Internet use is dominated by North Americans: 41% of the global online population is in the United States and Canada; 27% of the online population lives in Europe, the Middle East, and Africa; 20% of the online population logs on from Asia Pacific (33% of all Asian homes are online); and only 4% of the world's online population are in South America (Global Internet Trends, 2001). Despite volumes of health information on compact discs (CDs) and the Internet, the quality of information available is inconsistent and the visibility of research from developing countries is limited (Edejer, 2000). Additionally, searching for disease-specific information can be daunting and costly from human resources and fiscal perspectives. The availability and decreasing cost of well-equipped computers, as well as the ever-dropping cost of drives, discs, and CD-ROM titles has boosted the availability of CD-ROM to users in developing countries, as well as greatly increased the access to information. Problems that continue to block the potential of CD-ROM technology in developing countries include lack of knowledge of what is available in CD format and nonavailability of relevant information (Hafkin & Taggart, 2001).

An integrated, interdisciplinary, collaborative approach to developing an IDL is one model that has the potential to make a significant impact on global health by accessing quality nursing knowledge and evidence throughout the world to influence knowledge discovery and guide research. The goal of the IDL would be to advance the creation of and access to Internet-based digital content, regardless of location, information content or form, and thus enable broad use for research, education, and practice. Exploiting information and resources through an IDL to support connectivity, access, knowledge, and evidence for the benefit of global health worldwide, including developing countries, allows for "one stop shopping" of currently untapped resources of information, knowledge, evidence, and research from developed and developing countries.

In strengthening the use of global evidence, all nurses and midwives will need greater and faster access to evidence-based practice and professional commitment to translating evidence into research, education, leadership and policy, practice, and regulation (Eisenberg, 2002; WHO, 2001). The IDL is one method to provide greater access to important evidence-based information.

The intellectual merit of establishing an IDL for this work includes building an operational prototype for globally distributing CD and Internet-based resources that will aid nurses worldwide in the implementation of knowledge generation and synthesis, underpinned by research in nursing, information science, and technology. The digital library environment will promote teaching, training, and learning through development, application, and evaluation of appropriate technology. Participation of researchers, scholars, faculty, and students in collaborative research developed under international leadership will build evidence and create knowledge across a range of global health issues, countries, and international organizations.

Creating an IDL has the potential to make a significant impact on global health by (a) providing access, via digital content and regardless of the location or form of the evidence throughout the world; (b) influencing knowledge synthesis and generation; and (c) guiding research. The benefits of such an endeavor increases the opportunity to broaden the participation of underrepresented groups (for example, women, ethnicities, geographic) by nature of its global health initiative including developing countries and its eventual accessibility to all groups. For example, individuals and families would have the potential to access the best knowledge regarding nursing care. The benefits further include strengthening individual and institutional capacity in countries and regions (including developing countries). One key IDL area required to maximize these benefits is an information repository.

Information Repository

To track documents through their life cycle, a master census database can be created and used by the IDL. The purposes of this database are to (a) ensure the timely addition of documents, once approved, to the library; (b) create and maintain a prospective tracking system for documents; and (c) maintain stringent control over document versions to ensure the currency of all materials in the library. The specific phases of document processing include document logging, document review, document input, document indexing, and document incorporation.

Incorporation of links to existing nursing resources. The IDL can include links to existing nursing resource sites, upon approval by an expert nursing core team. The procedure for incorporating these links parallels that for incorporating new documents. Each link will be given a UDAN, and will be entered into the census database for tracking.

Incorporation of evidence-based practice databases. The IDL can include material from a number of information-rich evidence-based practice databases upon approval from the expert nursing core team. These sources include, but are not limited to, the National Guidelines Clearinghouse (NGC), Campbell Collaboration, Cochrane Collaboration, and the WHO Library and Information Networks for Knowledge. The procedures for identifying, evaluating, and incorporating these databases will be similar to that used for incorporating new documents. It will be important to cast a wide net to identify evidence-based resources in developed and developing countries, as well as in the disciplines that nursing intersects, including social and behavioral sciences. The IDL will ensure that information from developing countries is identified and more quickly entered into the global literature base.

Knowledge Repository

The second key IDL area required is the knowledge repository. Central to the knowledge repository is the set of standard languages commonly used and recognized by WHO: Pan American Health Organization (PAHO), ICN, NGC, the Campbell Collaboration, and the Cochrane Collaboration. The ICNP can be used as a basic unifying framework and map for several other nursing vocabularies available in Unified Medical Language System (UMLS) to the framework; these vocabularies include SNOMED, NANDA, NIC, NOC, the Omaha System, and the Home Health Care Classification (HHCC) System (Cote, 1998; Johnson, Bulechek, Dochterman, Maas, & Moorehead, 2001; Johnson, Maas, & Moorehead, 2000; Martin & Scheet, 1992; McCloskey & Bulechek, 2000; NANDA, 1999; Saba, 1997).

Standardization of language. One of the ICN research and development areas is the International Classification for Nursing Practice. The ICNP is a combinatorial terminology for nursing practice that facilitates cross mapping of local terms and existing vocabularies and classifications. The objectives of the ICNP are to: (a) establish a common language for describing nursing practice in order to improve communication among and between nurses and others; (b) represent concepts used in local practice, across languages and specialty practices; (c) describe the nursing care of people (individuals, families, communities) worldwide; (d) enable comparison of nursing data across client populations, settings, and geographic areas and time; (e) stimulate nursing research through links to data available in nursing health information systems; (f) provide data about nursing practice in order to influence nursing education and health policymaking; and (g) project trends in patient

needs, provision of nursing treatments, reasonable utilization, and outcomes of nursing care (Coenen, Marin, Park, & Bakken, 2001; Coenen, McNeil, Bakken, Bickford, & Warren, 2001; Elfrink, Bakken, Coenen, McNeil, & Bickford, 2001; Wake & Coenen, 1998).

The WHO initiative "Systematically Reviewing the Evidence on Nursing and Midwifery Services" will develop a preliminary global framework that could be used along with the ICNP for cross mapping terms to the: (a) Systematized Nomenclature of Medicine (SNOMED), (b) North America Nursing Diagnosis Association (NANDA), (c) Nursing Interventions Classification (NIC), (d) Nursing Sensitive Patient Outcomes Classification (NOC), (e) Omaha System, and (f) Home Health Care Classification (HHCC) (Cote, 1998; Johnson et al., 2001; Johnson et al., 2000; Martin & Scheet, 1992; McCloskey & Bulechek, 2000; NANDA, 1999; Saba, 1997).

Over the last 35 years, SNOMED has become recognized globally as a comprehensive, multiaxial, controlled terminology created for indexing of entire medical records. An enabling technology used in over 40 countries, SNOMED allows for consistent gathering of detailed clinical information, thus allowing providers, researchers, and even patients to share a common understanding of health across sites of care and computer systems. SNOMED permits retrieval of information for disease management or research and performance of outcome analysis for quality improvement (http://www.snomed.com/main.html).

NANDA is recognized in the United States and other countries as the pioneer in diagnostic classification in nursing. NANDA is committed to increasing visibility of nursing's contribution to patient care by continuing to develop, refine, and classify phenomena of concern to nurses (http://www.nanda.org/html/about.html).

NIC is a comprehensive standardized language to describe treatments that nurses perform while NOC is a comprehensive standardized language to describe patient outcomes sensitive to nursing treatments (http://www.nursing.uiowa.edu/nic/overview.htm).

The Omaha System is a classification framework based on a problem-solving or nursing process approach used to improve quality service and completeness, speed, and ease of documentation within home health and public health nursing practice. The system allows clinical data to be organized from the perspective of the client as an individual, family, group, or community. The three components of the Omaha System are the problem classification scheme, problem rating scale for outcomes, and intervention scheme (Martin & Scheet, 1992).

The Home Health Care Classification (HHCC) System taxonomies, HHCC for Nursing Diagnoses and HHCC for Nursing Interventions, provide a standardized coding structure for assessing, documenting, and classifying home health and ambulatory care. The HHCC System taxonomies provide the data for measuring outcomes, evidence for evaluating, and criteria for determining the effectiveness of home care (http://www.sabacare.com/summary.html).

These classifications are useful in planning and documenting care, in communicating the essence of nursing to others, and in developing large databases for research on the effectiveness of nursing care. For example, NIC interventions have been linked with NANDA nursing diagnoses, NOC patient outcomes, Omaha System problems, long-term care resident assessment protocols (RAPS), and the OASIS outcome measures (http://www.nursing.uiowa.edu/nic/overview.htm).

The IDL, applied technology for global health, would allow nurses and information technology scientists from various groups, such as providers of care, administrators, health policymakers, educators, and researchers to act individually or collectively in performing a wide array of information creation and processing activities. They would be able to use the services that enable them to access and synthesize information and evidence from a wide variety of distributed collections, to evaluate the quality and importance of accessed information and evidence, to perform relevant manipulations of the information to describe best evidence, and to disseminate the results of their activities.

The knowledge repository will provide several functions to help nurses utilize standard languages for communication and nursing practice. First, it provides conceptual overviews to guide users to specific terms for their information needs. Second, it enables users to explore unfamiliar territory using their own words or terms. Third, it allows users familiar with one standard language to look up similar terms or concepts in other standard languages. Fourth, it provides a means for systematically describing nursing phenomena or nursing diagnoses, nursing interventions, and nursing outcomes. Finally, it serves as a hub where nurses can create specialized, evidence-based topic maps through drag-and-drop interactions.

There are millions of nurses in the world (almost three million in the United States alone) who provide care daily to millions of people and need to be reached. Often the interventions of nurses are shared informally and are not part of the evidence-based systems in the world. If even one or two evidence-based nursing interventions for malaria, tuberculosis, or primary care could be accessed more easily by even a small percentage of practitioners, the number of people who would benefit would be large. HIV/AIDS, making pregnancy safer, TB, malaria, adolescent health, mental health, and chronic illnesses are priority areas for WHO and for nurses who are often the major health providers in many developed and developing countries.**$**

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