Evidence-based Nursing Practice:  
A Call to Action for Nursing Informatics

Following the Seventh International Congress on Nursing Informatics, the triennial meeting of the International Medical Informatics Association Nursing Informatics (IMIA-NI) Special Interest Group, multidisciplinary experts convened in Rotorua, New Zealand, to examine the topic of evidence-based practice and outcomes from an informatics perspective. Using the framework described in this issue, participants critically analyzed the state of the science of the building blocks for an informatics infrastructure for evidence-based practice, and discussed how those components support the building of evidence, the accessing of evidence, and the application of evidence to practice in acute care, primary care, and community/home-care settings. In addition, through work in small groups, the participants identified issues and knowledge gaps that are barriers to the application of evidence in practice.

Summaries of the presentations and group discussions will be published in the post-conference proceedings. The articles in this issue of JAMIA reflect only a narrow portion of the breadth of topics discussed over the course of the working conference; thus, the topics are briefly summarized prior to presenting a call to action for nursing informatics.

Presentations related to the state of the science served as triggers for the small-group discussions. For the building block of standardized terminologies and data structures, panel members summarized selected terminology-related activities in Asia, South America, the United Kingdom, and the United States and described initiatives related to nursing concept representation in the International Council of Nursing (ICN) and the European Committee on Standardization. Of particular relevance to the international conference was a report on development of an International Standards Organization (ISO) standard for a reference terminology model for nursing under the auspices of IMIA-NI and ICN. Two articles related to these presentations appear in this issue. Coenen et al. present a summary of those activities and initiatives in an international context, and Hardiker and Rector report the benefits gained from implementing a formal, concept-oriented representation of the International Classification of the Nursing Practice and illustrate the manner in which formal terminologies and the more traditional enumerated classifications interrelate.

Discussions related to access and quality of digital sources of evidence were stimulated by three presentations. Wiechula et al. described the activities of the Joanna Briggs Institute for Evidence Based in Nursing and Midwifery and highlighted two essential roles of evidence-based research groups in facilitating access to the evidence—providing information and providing those who use it (e.g., clinicians, researchers, and consumers) with support to manage the information. He emphasized the fact that, regardless of quality and relevancy of the evidence, access alone is insufficient to change practice. Mendonça and Cimino illustrated the integration of heterogeneous sources of evidence to answer clinical questions through the presentation of a case study of New York Presbyterian Hospital. Application of evidence in practice was also the focus of the presentation by Entwistle, which demonstrated a context-specific approach for integrating practice guideline information with information in the electronic health record.

The third set of presentations related to applying the evidence in practice using informatics processes. Sermeus and Hoy described WiseCare (Workflow Information Systems for European Nursing Care), a large collaborative research project that aimed to improve cancer nursing practice through the integra-
tion and use of information technology. The development of the CHOICE (Creating Better Health Outcomes by Improving Communication about Patients’ Expectations) decision support system was used by Ruland to illustrate how collection of a type of patient-related evidence (i.e., patient preference for functional performance) could be incorporated into the nursing assessment and care planning process. In a third presentation, Epping reviewed the development of critical pathways in the Netherlands.

Skiba and McCormick provided visions for the future. Skiba focused on the role of emerging technologies in retrieving and applying evidence from the perspective of computing power and speed, information infrastructure (i.e., interconnected networks of computers, devices, and software), and human connections. In contrast, McCormick challenged the group to think about the impact of the changing nature of evidence, given the mapping of the human genome and the need for formal representation of that evidence in computer-based systems. Moreover, she identified new potential roles for nurses and described the centrality of informatics competencies to those roles.

A number of barriers to building evidence from practice and accessing and applying evidence to practice were identified by conference participants. The following challenges represent a call to action for nursing informatics as opposed to the profession of nursing or medical informatics in general:

- Develop concept representation standards beyond those focused on reference terminologies, e.g., an international standard for a nursing minimum data set that supports evidence-based practice and outcomes research and a standard for the structure of an electronic nursing admission assessment.

- Develop informatics-supported critiquing tools that address the full range of nursing research methodologies, including qualitative research methods, and incorporate criteria that address relevance to clinical nursing practice.

- Integrate information retrieval and presentation approaches based on standardized nursing terminologies and the context-specific needs of nurses across the care continuum.

- Use informatics processes and information technologies to provide a mechanism by which nurses can view the effectiveness of application of evidence in practice over time.

- Define informatics competencies for emerging roles related to the changing nature of the evidence available for application to practice.—

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References


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