GUEST EDITORIAL

Health Information Technology and Nursing Care

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Nursing in the information age presents ample opportunities to transcend disciplinary, socio-economic, and geographical boundaries to enhance health-related outcomes.

With this first *CJNR* issue on Health Information Technology and Nursing Care, Drs. Gottlieb and Clarke had the vision of setting up a context for nurse researchers and others engaged in this booming field to share expertise on timely topics such as the latest knowledge developments, methodological challenges, and informative study findings as well as future directions.

Described as society's most knowledge-intensive environments (Snyder-Halpern, Corcoran-Perry, & Narayan, 2001; Sorrells-Jones & Weaver, 1999), health-care settings (which include health-care sites, health-care systems, and individual users) have been transformed by the information age and associated communication technologies. Ready access to timely information means that clinicians, administrators, policy-makers, researchers, and the public can more proactively engage in the processes of accessing health care, engaging in preventive actions, managing illness and trauma, considering treatment options, and ensuring follow-up care — regardless of where people live. However, with dramatic increases in health information and technology, nursing has begun to address critical issues pertaining to quality, usability, and equity of informational support while keeping in mind the context of users' background in terms of age, literacy, health and socio-economic status, and culture.

Although the concepts of health information technology, health informatics, nursing informatics, and e-health have yet to be clearly delineated, the articles presented herein share the goal of generating new knowledge and innovative care interventions that address the above issues to ensure that the resulting care approaches are safe, timely, effective, and efficient while responding to the needs of individuals (see also Bakken, 2006). In their study undertaken in Leuven, Belgium, on the effectiveness of a videophone nursing intervention on functioning of the home-

bound elderly, Drs. Arneart and Delesie show how such interventions enhance functioning for subgroups such as the elderly with restricted resources, whether family, social, or professional. Because home-based services are key to future health-care delivery, this article contributes to our knowledge about the types of interventions that are most suitable to particular groups of individuals. The findings of Drs. Arnaert and Delesie underscore the need to address issues of *what, when, to whom,* and *how* in terms of nursing interventions in the context of increasingly limited health-care resources.

In their cutting-edge study, Dr. Bottorff and her colleagues tested the impact of providing individualized information about personal risk for breast cancer on women's intention to undergo yearly breast cancer screening and on their perceptions of breast cancer risk status. This article informs nursing practice that relevant information provided to women enhances their self-confidence in engaging in preventive behaviours. This study also suggests that providing patients with health-related information does not necessarily increase their anxiety. Although general information about health and illness is widely available through e-health, personally relevant diagnostic information such as presented in this article, although often difficult to access, can be of great benefit to people.

The article by Drs. Kennedy and Hannah on the impact of an international classification system for nursing practice on health-care outcomes informs readers about the reliability of using standardized language to document nursing practice in various health-care settings. As Dr. Mathieu points out in the Discourse, there is an emerging trend towards the use of uniform nursing language to demonstrate the impact of specific nursing interventions on health-related outcomes across settings. Drs. Kennedy and Hannah provide evidence that the development of such a system can be well informed by research pertaining to nursing phenomena, nursing actions, and nursing outcomes.

Dr. Kerr and her colleagues test the contribution of two different preventive messages (tailored and targeted, provided through interactive game-type multimedia) on use of hearing protection among construction workers. Although noise-induced hearing loss is a major public health problem, conventional educational messages certainly did not attain their goal of modifying behaviour in this population, some three quarters of whom are affected by significant hearing loss. This article informs nursing practice by suggesting that social and interpersonal influences and perceptions of both barriers and benefits play important roles in explaining use of hearing protection.

Through a broad lens that includes the fields of consumer psychology and marketing, Ma and his colleagues propose an interesting research paradigm that involves both psychological and biological indicators of

stress related to mammography screening, using a computer-based imagery technique instead of relying solely on self-report of stress. These more sensitive measures show promise for detecting biomarkers of stress. By knowing *if* and *how* various preventive screening procedures induce stress, nurses will be able to design more targeted interventions to help alleviate such stress.

Last, Dr. Nguyen and her colleagues discuss methodological challenges in study design in e-health intervention studies. The discussion centres on issues encountered in previous studies but is also informed by the authors' own ongoing intervention work. Because the scientific underpinnings pertaining to e-health interventions remain in early developmental stages, there is ample opportunity for such theoretical and methodological discussions.

Recent research advances in the field are indeed well represented by the series of papers selected for this issue of *CJNR*. These works attest to nursing's readiness to engage actively in advancing the enriched care environment afforded by health information technology. A remaining challenge is to more directly address topics that have yet to receive enhanced empirical attention, such as e-health literacy, impact of e-technology on nursing practice and outcomes, acceptance and use of health information technology, patients' privacy and confidentiality issues, and the impact of nursing informatics on the nurse–patient relationship. Health information technology in nursing care is at a most promising juncture, with immense potential for advances in research, education, administration, and practice. The dynamic and responsive research agenda in nursing informatics being formed worldwide is likely to benefit both those receiving nursing care and the providers of such care.

References

Bakken, S. (2006). Informatics for patient safety: A nursing research perspective. *Annual Review of Nursing Research, 24,* 219–254.

Snyder-Halpern, R., Corcoran-Perry, S., & Narayan, S. (2001). Developing clinical practice environments supporting the knowledge work of nurses. *Computers in Nursing, 19*(1), 17–26.

Sorrells-Jones, J., & Weaver, D. (1999). Knowledge workers and knowledge-intense organizations. Part 1: A promising framework for nursing and healthcare. *Journal of Nursing Administration, 29*(7/8), 12–18.

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