Chapter I
A Treatise on Rural Public Health Nursing

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ABSTRACT

Nursing informaticists can be leaders in promoting prevention of illness and diseases in the 21st century. Developing an infrastructure for application of preventive and predicative models in healthcare delivery is paramount. This chapter stresses the need for rural regions to develop paradigmatic models for incorporating all aspect of the human ecology domain. While movement in public health nursing is contingent on improvement in public health interconnectivity, nurse informaticists need to develop a classification system for public health nursing, develop databases for evidence–based practice, and incorporate the rural culture in their work. Incorporation of genomics in daily nursing practice will soon be a reality. As consumer-driven healthcare becomes the reality, the platform for healthcare delivery will change. A change to care delivery in a variety of community sites with electronic information exchanges and personal health records will require robust work by informaticists. Remote monitoring devices in clients' homes are another arena which will require a new set of skills for nursing interventionists.

A TREATISE ON RURAL PUBLIC HEALTH NURSING INFORMATICS

Rural public health nursing needs a classification system, an evidence-based practice database, and development of a model for nursing care delivery in rural environments. Nursing informatics is the tool to accomplish these needs. Nursing informatics is the retrieval of data and information to support nursing clinical practice

and research and for the equipping of information management systems. In the discipline of nursing, cognitive systems have grown more rapidly than practice. Hence nursing informatics has grown in depth rather than breadth. A number of reasons support this phenomenon. The history of the nursing profession clearly shows an almost continuous evaluation and re-evaluation of the discipline. Socio-cultural factors have been the most recent mover of nursing science (Institute of Medicine [Committee on Quality of Health Care], 2001; Kimball & O'Neil, 2003). Health information technology has transformed the healthcare arena. As a result of information available to the public, a demand for greater accuracy and transparency in health care has thrust nursing to the forefront of evidence-based care and a focused research orientation. In addition, a desire within the discipline for scientific support for practice has evolved into a primary focus on evidence-based practice. Nurse informaticists are needed to integrate scientific research into public health, public health nursing and population care. Nursing informaticists are needed to develop a classification system for public health nursing, community care and rural healthcare.

The objective of this chapter is to promote public health nursing and community health nursing's role in the new care delivery patterns, with predictive and preventative care models for populations. This entry will broaden the range of information available for informaticists, as their role expands in the new healthcare arena. Articulation with nursing informatics and the 'quality chasm' crossings in US healthcare will assist the informaticists with search and retrieval activities.

Nursing has a short history of evidence-based practice, unlike medicine which has garnered support from many sources to make evidence-based practice information readily available. Efforts are occurring to utilize research evidence as well as practice acumen to support evidence-based care in nursing (Berg, Fleischer & Behrens, 2005). Re-search support for public health/community health nursing comes from multiple sources, including biomedical, pharmacological, toxicological, human genomic, and public health sources.

Human Ecology Domain

Public health sources cover the 'gray literature' of human ecology, i.e., environmental practices, economics, agriculture, nutrition, extreme use of antibiotics, veterinary medicine, and infectious disease profiles. Likewise public health nursing examines the 'gray literature' for evidence-based data. Examples of sources include: The Journal of Urban Health; Smithsonian; Scientific American; Journal of Nutraceuticals; Social Justice; National Center for Complimentary & Alternative Medicine; Human Ecology: An Interdisciplinary Journal. These sources provide evidence from experts in their field, historical data, and research data. The skill of informaticists in searching and retrieving evidence from such diverse sources is needed to formalize a database and web-site dedicated to public health nursing and community health nursing.

The disciplines of nursing and public health have a shared history of health care and illness prevention in the community. Public health nursing needs an information infrastructure, delineation of a language and classification in the Unified Medical Language System (UMLS). This is a momentous task, given the sparsely developed public health informatics sector. Prime concerns in the discipline of public health are the socio-cultural and socio-economic constraints related to the application of primary care and primary prevention activities. The economic concerns have been placed on the national agenda by the American Medical Informatics Association (AMIA), 2007 task force, Healthcare terminologies and classifications: An action agenda for the United States. (2006). A previous publication by the Institute of Medicine (IOM), *The Future of the Public's Health in the Twenty-first Century (2003)*

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