

Chapter 7

Nursing Informatics History and its Contributions to Nursing Knowledge

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ABSTRACT

The history of nursing informatics whilst arguably starting with Florence has exploded into a tale of frenetic activity in the last 30 years. This tale is told in this chapter. The evolution of a nursing minimum data set and evolution of a shared language internationally is rightfully positioned as critical to the future of nursing. The argument is structured around the benefit of a sound informatics infrastructure that enables nurses to Care, Share and Compare. Direction of future development needed is discussed in light of the evolution of the nursing role as knowledge worker.

INTRODUCTION AND OVERVIEW

Nursing informatics covers all areas of healthcare where nurses work including clinical, administrative, research and education. These four areas interrelate to deliver evidence based practice. Nurses spend a significant proportion of their time on information related activities as part of clinical decision-making in order to lead, co-ordinate and

support the delivery of safe, effective, person centred care. To enable nurses to provide high quality CARE for patients they need up to date, accurate, relevant information about the person and access to the latest evidence or best practice at the point of care delivery. Nursing informatics supports these activities. This caring often takes place in a healthcare environment that is complex, involving a large number of people and unexpected events. These people must constantly communicate with

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each other and SHARE appropriate information, within relevant information governance parameters, to be aware of the person's current health needs and forthcoming plans. Nurses must also participate in continuous professional development activities. Nursing informatics can make communication more efficient and effective and facilitate education. In addition to using information for its primary purpose, in support of clinical decision-making, the same information may be de-identified, aggregated and COMPARED to advance clinical knowledge and practice, and improve performance. Nursing informatics can underpin nursing's knowledge management activities. In summary, nursing informatics supports the collection, storage, analysis, retrieval, communication and use of information to help nurses:

- CARE for patients to the highest quality,
- SHARE data, information and knowledge, and
- COMPARE theory and practice to advance nursing knowledge and practice.

This chapter will chart some of the highlights of nursing informatics over the last 50 years across the globe. It will explore how information and communications technologies (ICT) have influenced nurses' use of information to support their work (CARE, SHARE and COMPARE), demonstrating relationships between nursing informatics and evidence based nursing. The rationale for describing history is not simply to catalogue a series of events. It is to promote understanding of the context of those events, the challenges, opportunities, and lessons learnt in order to make new mistakes rather than repeat old ones (although the fewer of these the better). From lessons learned, nurses can understand where nursing informatics is best able to influence nursing and its ability to deliver high quality of care to meet the health needs of people, families and communities worldwide in the future.

DEFINING NURSING INFORMATICS

The historical development of the term 'informatics' has been outlined in many works (e.g., Col-len, 1995; Englehardt & Nelson, 2002; Saba & McCormick, 2006). Throughout its development, certain commonalities, such as the collection of information, and technology related to the use of information, have remained constant. The essence is human use of 'informatics' in daily activities of healthcare. Combining this development with the term 'nursing' yields 'nursing informatics', which ultimately has been considered by many to be greater than the sum of the conceptual components.

The basic premise of nursing informatics is that it not only supports nurses in caring for patients, but also complements the implementation of care by stressing a focus on patient centredness, nursing effectiveness, and patient safety. This is achieved not only through the specific activities of nursing and nursing informatics, but also through defining terms and concepts, in conjunction with consensus building of these items, so as to develop and build nursing knowledge. The historical development of nursing informatics, specifically the evolving definition of the concept 'nursing informatics', not only provides historical insights, but also illustrates potential future directions. As early as 1980, at the Tokyo MedInfo medical informatics conference, which included a significant number of nurses, Scholes & Barber provided the starting point to defining nursing informatics as "... the application of computer technology to all fields of nursing: nursing service, nurse education, and nursing research" (1980, p.73). Hannah later extended the definition beyond computer technology to "information technology" (Hannah, 1985).

The seminal definition, postulated by Graves & Corcoran (1989), linked the profession (nursing) with computer and information sciences, thereby facilitating nursing use of its own data, information, and knowledge, ultimately, and clearly, supporting nursing practice and delivery of care. In no uncertain terms the authors define nursing

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