TECHNOLOGY: NURSING THE SYSTEM

Nursing Informatics Core Competencies

by ROY L. SIMPSON

Ten years ago, it was unheard of for nurse administrators to be actively engaged in discussions about hospital finances, operating budgets, profitability and accounting issues. Today, it is the norm. In order to hold their own around the budgeting or negotiating tables, nurse administrators developed core competencies about financial issues.

In terms of acceptance as a core competency for nurse administrators, nursing informatics is about where financial issues were 10 years ago. Some hard-liners claim that nursing informatics should *not* be a core competency because it is outside the realm of clinical practice. Undoubtedly, these are the same people who claimed (some still do) that financial competence also was unnecessary, that nursing should not "sully" itself with such issues.

Fortunately, there are a great many forward-thinking nurse managers who understand how important it is for the profession of nursing to incorporate advanced technology. It is no longer completely true that "he who controls the purse strings controls all." Today, "she who controls *information* controls just as much." Managing nursing informatics is all about controlling information — clinical information, financial information, patient information and more.

The issue of information control is increasingly important, particularly with healthcare reform recommendations. In managed care environments, controlling and managing information will play a critical role in the delivery of all healthcare services. With these trends in mind, it is advisable for nurse managers (particularly those who want to continue to be leaders 10 years from now) to brush up on and strengthen their knowledge of nursing informatics.

Few nurse administrators in service today have core competencies in nursing informatics. That's to be expected. After all, there are only a handful of graduate programs in nursing informatics and even fewer practical opportunities for the practicing manager to learn the finer points of the science. The following list — put together with the aid of leading nursing informatics researcher and educator Judith Ronald, EdD, RN, FAAN — will help guide nurse managers' education about core competencies for nursing informatics:

• **Understand the basic "tools" and terminology of the trade and have some experience with computers**

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and information technology. If you've never turned on a computer, used a modem or played with a database, you can't ask staff nurses to do so with enthusiasm or conviction. Try to obtain hands-on experience with personal computers for administrative applications, with a hospital information system for managing clinical data and database development for executive level information management. Please be clear: *we are not recommending that you become a computer whiz* — only that you have some experience with the different areas of technology.

It is also important to understand basic distinctions between equipment — i.e., the difference between a personal computer and a mainframe or minicomputer; know an application (software program) from hardware; etc. This involves understanding basic definitions, structures, computer terms and "jargon" which you may encounter in evaluating technology. Vendors, suppliers and other more technically experienced organizational leaders will assume that you have some basic knowledge and will be less likely to make assumptions about nursing's information needs that may or may not be appropriate without your educated input.

• **Understand how information technology can help with decision-making and strategic planning at the executive level.** When you understand the *value* of information management via technology, you're much better able to analyze nursing management data information needs at the technical, operational and strategic levels. Tools for nurse administrators typically include presentation software, database management, spreadsheet software, forecasting software, decision support tools, executive information system, electronic mail and hospital information systems.

• **Understand how to actively and effectively participate in the evaluation, selection and maintenance of an information system that will support nursing practice.** Nursing management's participation in the evaluation and selection of hospital information systems has been mandated by the Joint Commission on Accreditation of Healthcare Organizations (JCAHO). In order to be effective in this role, nurse leaders must understand the technological options available for evaluation (open systems, transaction-based

systems, network-based systems, multi-tasking systems, etc.), as well as how workflows may need to be "re-engineered" to accommodate information technology. Nurse administrators also must understand the financial ramification of investment in technology — both short and long-term — and how nursing staffing, training and education will be affected.

Nurse managers do not have to face these daunting tasks alone — a clinical nurse specialist should participate in an advisory panel of clinical nurses to assist in the evaluation and management process. Nurse leaders also should set clear goals so that proper assessment of the technology's value to nursing can be ascertained.

Since nurse leaders will be in charge of managing technology throughout its lifecycle, goals and objectives should be

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set for every major stage of technology evaluation, selection, implementation and use. Nurse managers should be able to clearly articulate what these goals and objectives are and how outcomes will be measured.

- **Understand that information technology is an interdepartmental process and what that means to the nursing department as a whole.** Nurse leaders must be prepared to assess technology in terms of applicability to the enterprise, not just to nursing. That means nurse executives must be prepared to effectively manage issues and concerns that arise between various departments and constituencies, e.g., physicians, ancillary departments, information management services and financial managers.

- **Understand the important role nursing data must and should play in the development or selection of a hospital information system.** The nurse executive must be an advocate for including nursing data in any new systems about to be developed or selected. Nursing data includes nursing diagnoses, minimum data sets, taxonomy and lexicons, nursing interventions and so on. To this end, nurse leaders must set standards for nursing data — standards within the organization and the profession — so that nursing information can be coded into data elements that information systems can use.

- **Understand how computers and telecommunications technology can be used for staff development and clinical practice enhancement.** Nurse executives should understand how to use technology to orient, train and educate nurses. This means learning how computerized orientation and education systems can augment basic orientation services and how computerized tutorials can supplement information technology education courses. In addition, nurse managers should know how to access information networks for collaborative research across institutions, agencies, states and even the world, as well as for computer "conferencing" for collaborative practice and case management beyond the walls of the institution.

- **Understand how decision support systems can be used for strategic planning.** Nurse managers should understand the basic principles behind budgeting systems as well as how forecasting, cost accounting, case mix analysis, quality assurance and marketing planning systems can facilitate the decision-making process at the executive and managerial levels.

- **Understand the ethical issues regarding information technology, security and confidentiality.** Nurse administrators should understand the risks of information technology in terms of unauthorized access, and familiarize themselves with the principles behind security controls, e.g., passwords, encryption techniques, anti-virus software and audit trails of system access so that the proper controls can be built in to ensure system security.

- **Know how to evaluate, select and manage the services of IS consultants.** Nurse administrators have used practice consultants for decades, but many may not be aware that information system (IS) consultants are very different — and need to be managed differently. IS consultants require a different set of management techniques and nurse leaders should be prepared to stay closely involved with any technology consulting project.

- **Understand how to use information technology for data collection for regulatory compliance.** To comply with all local, state and federal regulations, nurse executives must have a solid understanding of what information must be collected, how it must be reported and how technology can assist in that process.

- **Understand market forces, vendor marketing techniques and emerging technologies for future decision-making.** It is important for nurse leaders to understand the forces at play in the technology market so that technology obsolescence is avoided. In addition, nurse managers should be prepared to negotiate intelligently with vendors so that the best possible outcomes are assured. In addition, nurse executives should be aware of emerging technologies so they can make informed decisions about the future viability of current systems and systems under scrutiny for future purchase.

To have adequate core knowledge of nursing informatics, nurses do not need to become technology "experts." However, the future lies with technology, and those leaders who can position themselves to make smarter decisions will both protect their own careers and prepare their institutions for the future.

So where can nurse executives "brush up" on these core competencies? If academic programs are not readily available or convenient, the next best thing is individual participation at all levels — pick the brains of your MIS executives, read nursing-related articles about information technology, attend educational seminars, ask vendors to fill you in and get involved with the professional computer organizations, i.e., Hospital Information Management System Society (HIMSS) or Council on Hospital Information Management (CHIM) and of course ANA. This does not have to be a full-time process, but if you stay committed to getting educated on the core competencies of nursing informatics, you will, over time, prepare yourself for a future that will be increasingly technologically oriented. 🐛