Feasibility of Using the Omaha System for Self-Report of Symptoms by Adults with Diabetes (Manuscript)

Key Words: Diabetes, Personal Health Record (PHR), Symptoms, Survey Research, Omaha System

Abstract: Diabetes self-management in collaboration with the healthcare team is an important strategy to improve population health and decrease healthcare costs. Purposes of this study were two-fold: 1) to evaluate the feasibility of using a standardized terminology for self-report of symptoms by adults with diabetes, and 2) to examine self-reported symptoms relative to the symptoms listed in a publicly-available clinical assessment form for diabetes clinic visits. Respondents with diabetes self-identified 180 symptoms, and 20% of respondents identified 49 symptoms, compared to 13 symptoms on the clinical assessment form. An additional symptom of excessive thirst was suggested to enhance the Omaha System. The Omaha System should be further explored as a communication tool between individuals and their health care providers in personal health records, surveys, and other assessment tools, and reading level concerns should be addressed. The Omaha System has potential to be used internationally in surveys of diverse problems and populations to help identify symptoms of diabetes for improving communication between patients and the healthcare team.

Quotes:
- The Omaha System has potential to be used internationally in surveys of diverse problems and populations to help identify symptoms of diabetes for improving communication between patients and the healthcare team
- Use of standardized terminologies within PHRs and other patient self-report surveys and communication tools is in its infancy. There is a critical need to enhance patient communication with the healthcare team and to develop patient facing care plans and communication tools
• Research evaluating information communicated by community dwelling older adults suggests that the Omaha System (Martin, 2005) may be a standardized terminology that is suitable for use in PHRs (Monsen, Westra, Paitich et al., 2012).
• Implications of the study include the potential to use the Omaha System during patient encounters and in PHRs as a communication tool between adults with diabetes and the health care team. Use of a standardized terminology for such assessments would improve data interoperability and exchange.
• This project is an example of student-led terminology-related research. This approach was a successful educational strategy for developing competencies in informatics and nursing research in a series of international projects that contributed new knowledge about the self-report of symptoms for adults with diabetes.
• The Omaha System is a standardized health care terminology that may be useful in communication between individuals and their health care providers in PHRs. It has potential for use internationally in surveys of diverse populations to help identify symptoms of diabetes.

Influential Factors and Perceptions of eHealth Literacy among Undergraduate College Students

Keywords: Health Literacy, Computer Literacy, Internet Utilization, Patient Engagement, Mobile Sources, Electronic Health Information

Abstract: College students are embracing technology and using the Internet to search for information, but little is known about their ability to find and appraise electronic health information. The eHealth literacy scale (eHEALS) was used to examine the perceptions of eHealth literacy of undergraduate college students who recently completed an introductory health and wellness course. The influence of personal and demographics factors, and the relationship between technology use and eHealth literacy was also explored. Finding indicate that participants (N = 59) perceived they knew how to use the Internet to answer questions about health, but scored the lowest on confidence in using this information to make health decisions. Results suggest nursing faculty should consider incorporating learning activities that help students to develop the skills, knowledge, and confidence to locate and evaluate information on the Internet. Providing structured activities may improve eHealth literacy, positively influence health practices of college students, and ultimately advance the nation’s health.

Quotes:
• Finding indicate that participants (N = 59) perceived they knew how to use the Internet to answer questions about health but scored the lowest on confidence in using this information to make health decisions.
• Results suggest nursing faculty should consider incorporating learning activities
that help students to develop the skills, knowledge, and confidence to locate and evaluate information on the Internet.

- Even though health information is readily available through mobile sources, studies indicate that many college students may lack the fundamental eHealth literacy skills of seeking and finding that health information and then being able to evaluate what they have found.
- Evidence from previous research suggests that undergraduate college students have difficulty locating and evaluating electronic health information and may potentially benefit from structured experiences that will encourage their development of eHealth literacy skills. (Page 6)
- Finding suggests that although the participants are able to retrieve health information on their own they may not be confident enough about their knowledge to make decisions about health options independently.
- As a result of The American Recovery Reinvestment Act of 2009, the government will spend more than $37 million to support health information technology sharing during the next 10 years, making health information even more readily available to Internet users (Lustria, Smith, & Hinnant, 2011).

Evidence based strategies for attesting to Meaningful Use of electronic health records: An Integrative Review

Keywords: Meaningful Use, electronic health records, electronic medical records, Health Information Technology (HIT), outpatient setting, Clinical Decision Support

Abstract:
Meeting the Centers for Medicare and Medicaid’s Meaningful Use objectives can be a challenge for healthcare providers. Meaningful Use is a term describing documentation of demographic and health data into an electronic health record (EHR) with the purpose of improving safety and quality of care and reducing health disparities with “meaningful” information. Evidence-based strategies can assist providers with meeting these objectives and integrating the electronic health record into daily work flow. An integrative literature review was performed with empirical studies from 2009 to 2014, focusing on strategies to help healthcare providers attest to Meaningful Use Stages 1 and 2 in the outpatient setting. Articles focusing on hospital settings were excluded. Several evidence-based strategies were identified that can assist healthcare providers (HCPs) with barriers in attesting to Stage 1 and Stage 2 of Meaningful Use. Utilizing a summation of peer reviewed research, this paper provides helpful strategies to assist HCPs with Meaningful Use adoption.

Quotes:
- Adler-Milstein, Bates, & Ashish (2011) performed a survey of 179 RHIOs that facilitated health information technology as of December 2009. In this survey, they found if providers/practices join RHIOs, which ensure clinical data flow among a large group of providers, they are more likely to meet Meaningful Use criteria.
• Changing clinical workflows to allow documentation into structured fields had a large effect on accuracy of electronic reporting, enabling corrections of rates of recommended care.

• This study found that the successful adoption of e-prescribing required changes in work flow process and planning. One practice member needs to take an active role in educating others about the importance of use of the e-prescribing functions and help with successful strategies.

• Barriers: The predominant theme identified in the literature was the up-front financial burden of adoption of an EHR system despite the potential financial incentive stimulus money for Meaningful Use attestation.

• Many barriers to adopting EHRs exist, but the predominant barriers include a lack of understanding of the benefits of the system, lack of time to learn a new system, and the high cost of adoption of the system (Goldberg, Kuzel, Feng, DeShazo, & Love, 2012).

• Furthermore, healthcare providers lack the technical expertise to appropriately select an EHR system to meet their organization’s needs (Maxson, Jain, Kendall, Mostashari & Blumenthal, 2010).

• Their research indicated that better implementation, better training and upgraded EHR systems are needed for providers to perceive the usability of their system and, thus, meaningfully use the features.

• The interest in training was very high in this research group, suggesting the need for ongoing training to engage providers on the role of EHR tools. Of particular interest was the success of training programs that used hands-on exercises specific to the providers practice patterns.

• More effort on the part of the provider is needed to encourage patients to use a portal system. If providers take a more active role in educating patients as to the benefit of the portal, provide a positive view of the system, provide standardized information, and remind the patients in multiple ways and times, patients are more likely to enroll in the portal system.

• As portal communication becomes a requirement, physician frustration over lack of reimbursement for portal communication is also seen as a barrier to meeting Meaningful Use (Rodriguez, Thom, & Schneider, 2011).

• With the passage of the American Recovery and Reinvestment Act (ARRA) in 2009, $787 billion dollars was appropriated to assist with electronic record adoption. More specifically, $19 billion in direct financial incentives was allocated to hospitals and healthcare practices to encourage adoption of meeting minimum standards for documentation and quality (Murphy, 2010).

**Electronic Health Record Customization: A Quality Improvement Project**

**Key Words:** Electronic Health Record, Customization, Template, Documentation, Quality
Abstract: A before-and-after design study was conducted to evaluate nursing adoption of a computerized patient care plan. A 13-item survey was administered using an online survey tool to a convenience sample of Registered Nurses. The nurses that develop and document their patient plan of care using the electronic medical record were surveyed at baseline (n=218), post-education (n=186); at three months post implementation (n=243); and at six months post-implementation (n=146). Utilizing the nursing process and work flow, this study evaluated the integration of population level patient goals, documented assessments and documented interventions, to develop the patient plan of care. In addition, measures of nurse satisfaction and multidisciplinary communication were also evaluated. Findings of this study indicate integration of population-level patient care plan goals improves nurse satisfaction and perception of value to both the nurse and the patient. Communication of the care plan is improved leading to better consistency of care and increase the likelihood of safe patient outcomes. 

Keywords: Integrated computerized care plan, population level care plan, nursing satisfaction, electronic medical record, multidisciplinary communication.

Quotes:
- Jones, Rudin, Perry, & Shekelle (2014) repeated the systematic review and concluded that though there has been an increase in the quantity of literature evaluating health IT, including studies on commercial systems, there has not been a commensurate increase in the understanding of how health care and health can be improved through the use of these tools.

Statistics:
- Literature related to EHRs has been increasing due to added implementation of EHR because of meaningful use. In 2001, 18% of office-based providers in the U.S. utilized EHRs. In 2012, that percentage increased to 72% and by 2013, 78% of office-based physicians were using EHRs (n=10,302) (Hsiao, 2013; Chun-Ju Hsiao & Hing, 2014).

Evaluation of Nurse Readiness, Satisfaction and Adoption of a Redesigned Integrated Computerized Patient Care Plan

Keywords: Integrated computerized care plan, population level care plan, nurse satisfaction, electronic medical record, multidisciplinary communication

Abstract: A before and after design study was conducted to evaluate nursing adoption of a computerized patient care plan. A 13-item survey was administered using an online survey tool to a convenience sample of Registered Nurses. The nurses that develop and document their patient plan of care using the Electronic Medical Record were surveyed at baseline (n=218), post education (n=186), at three months post implementation (n=243) and at six months post implementation (n=146). Utilizing the nursing process and work flow, this study evaluated the integration of population level patient goals, documented assessments and documented interventions, to develop the patient plan of
care. In addition, measures of nurse satisfaction and multidisciplinary communication were also evaluated. Findings of this study indicate integration of population level patient care plan goals improves nurse satisfaction and perception of value to both the nurse and the patient. Communication of the care plan is improved leading to better consistency of care and increase the likelihood of safe patient outcomes.

Quotes:

- Findings of this study indicate integration of population level patient care plan goals improves nurse satisfaction and perception of value to both the nurse and the patient.
- The results of this study indicate, integration of population level patient care plan goals into the existing workflow documentation, rather than the plan of care appearing as a separate document or task, improves nurse satisfaction and perception of value to both the nurse and the patient. However, full integration of and elimination of redundant documentation is needed in order for nurses to perceive an improvement in their workflow.
- Lee, Yeh and Hiu (2002) conducted a qualitative study in the ICU setting and concluded; “Nurses prefer tools that can help them save time with paperwork and focus on targeting patient problems. With careful assessment and evaluation of nurses’ experiences in the use of clinical computer systems, the success of computer implementation can be enhanced ” (p. 61).
- The findings indicate that the nurses had measurable improvements in satisfaction and understanding of the plan of care with the redesign (Table 1). The most gains were made at the three month measurement. Participation and overall improvements dropped off at the six month measurement.

Statistics:

- Nurse satisfaction with the plan of care at baseline was 43% disagree, 40% agree, 4.6% strongly agree (Table 1). Nurse satisfaction with the plan of care consistently improved over the study period: after education (32% disagree, 48% agree, 8% strongly agree), at month three (29% disagree, 52% agree, 11% strongly agree) and at month six (31% disagree, 53% agree, 7% strongly agree).
- Nurses rated the value of the care plan to the patient at baseline as 46% disagree, 39% agree and 4.6% strongly agree (Table 1). Ratings improved after the redesign after education (32% disagree, 51% agree, 5.4% strongly agree), at month three (34% disagree, 46% agree, 10% strongly agree), and at month six (34% disagree, 47% agree, 7% strongly agree).
- The question “I am satisfied with the current care plan process at my facility” had the largest shift from those who strongly disagreed or agreed (55% n=120) and those who either agreed or agreed strongly (45%, n=98) compared to the three month those who strongly disagreed or disagreed (37.13%, n=88) and those who either agreed or strongly agreed (63%, n=149) (Figure 1). The
integrated population level patient goals appear to have contributed to improved nurse satisfaction.

**Editorial**

**OJNI Fall 2014 Updates**

**Quotes:**
- We have been very busy this year moving to the new site, and working with HIMSS to refine our publication and adapt to new ways of conducting our work.
- We will launch an electronic submission platform shortly to enhance the manuscript submission, review, and revision process in time to handle all Volume 19 - 2015 submissions.
- We are sad to see one of our senior editors, Dr. Scott Erdley's last column for OJNI. Scott has been with us since 2010 and always brought an optimistic and insightful lens to his Future Now column.

**Senior Editor Columns**

**Issues, Impacts and Insights Column: What’s New in Healthcare Robotics**

**Abstract:** Recently, I stumbled on a fascinating *New York Times* op ed piece that highlighted 10 robotic technologies that could have a big impact on healthcare delivery. The field of robotics has long interested me because roboticists have had to essentially reverse-engineer living animals in order to design robots. As a result, the field has had substantial impact on what we know about how animals get around in the world; and some scientists have moved away from the computer model of the brain to a more holistic understanding. This new paradigm has proved to be very useful to roboticists and psychologists alike (Effken & Shaw, 1992). Because of my fascination with robotics—and the multiple sciences that underlie it—I decided to check further into what’s been going on in the field. Here I address two questions: (1) What’s new in health robotics? (2) What are the ethical and social issues related to health robots—will they be friends or foes?

**Keywords:** healthcare robotics, innovation, robot design

**Quotes:**
- Robotic nursing assistants are also a target of designers’ efforts, particularly in Japan, because of the rapidly aging population
- As nurses, we need to learn more about them, how they can help, and what ethical and social issues may need resolution as they are implemented more widely
- Nurses are well positioned to identify situations where robots could be useful and, when implemented, ensure that the robots are managed intelligently and ethically to provide more efficient and safe care
• Nurse informaticists should consider adding robotics to their skill sets and/or contributing their analysis and implementation skills to robot design teams.

**Critical Care Conversations about Optimal Design Column: Thorough Error Testing a Requirement for Strong EHR Usability**

**Abstract/ Intro:** Recently, while participating in a major nursing electronic health record (EHR) study, we were reminded of the negative impact of inadequate testing on the usability of technology. In this editorial, we provide a short overview of the study followed by a discussion of what we learned while observing our earliest subjects interact with the technology. Building on the Holden and Karsh (2010) and Neilson (1994) definitions, our team defines usability as the extent to which a technology is easy to use and learn, causes minimal errors, is used as intended and valued by users. Most of the issues we uncovered inadvertently compromised intended use. Please note that the data-driven findings of this study are forthcoming and will be reported elsewhere.

**Keywords:** EHR, usability, technology, testing

**Quotes:**

- To our surprise we collectively identified more than 40 issues encountered by our early subjects that were seemingly invisible to them. Software glitches were the most prevalent but there were also issues with the orientation scripts and screens and software content.
- The first step toward building a technology system with strong usability is to quickly identify and eliminate all software issues that alter the intended functions and gaps in training materials.
- As seasoned researchers in the field of EHRs, we were surprised to see the large number of errors that our pretesting had failed to uncover in our software and training. Of greater concern is that these issues seemed not to be noticed by the subjects since none were reported even when subjects were given ample and easy opportunities to do so.
- To avoid the potential dire consequences of poor usability testing, we advocate for the use of strong testing methodologies that are designed to comprehensively detect systems issues.
- When buying and EHR, thus it is important to determine upfront how functionality and training issues are identified and reconciled both before and after implementation into practice.

**Final Future Thoughts Now Column**

**Abstract:** This will be my final column for OJNI. My interests and clinical practice have shifted; specifically the clinical practice is now focused on the use of immersive simulation as an educational tool for healthcare students. So, while I still maintain an active interest in many things of ‘geek’ persuasion I must respectfully remove myself.
from this forum. I do feel the need to make way for others. So, without further ado, my swan ‘song’. So, with certain boldness and ‘devil-may-care’ heretofore-unknown attitude, I now make 10 predictions of the future in terms of clinical practice and technology tools.

**Keywords:** predictions, future of healthcare, future of it, big data

**Quotes:**
- Long-term prediction is for increasing tech with decreasing visibility. Social acceptance is moot; we will all be a component of care for each other and ourselves
- Information technology will become ubiquitous in healthcare... Technology, as a whole, is slowly uncovering the ‘perfect’ man-machine interface.
- Super-actuarial persons will be able to meld with tech to analyze data for patterns and make predictions of incredible accuracy
- Recognition will come from big BIG data work; solutions from artificial intelligence in conjunction with big BIG data tools, and manipulation from man.
- With the increasing presence of technology (wearables, for instance) the presence of tech will ‘disappear’ from the public eye

**Student Articles**

**Reducing ICU Length of Stay: the Effect of Tele-ICU**

**Abstract:** Due to an aging population and improvement in life-sustaining treatments, there is a growing demand for critical care services and innovation. The purpose of this paper is to identify studies and evidence that explore the impact of a tele-ICU system (remote monitoring by advanced practitioners of critical care patients in ICU units using technological innovation) on ICU length of stay in medical-surgical ICUs. Recent studies from 2009 to 2014 were identified through PubMed, CINAHL, Scopus, and Medline online search databases. Three recent primary research studies were selected based on search criteria and the usage of the Philips VISICU tele-ICU system. The primary outcome of ICU length of stay was compared between studies. Secondary outcomes such as ICU mortality, hospital length of stay, and hospital mortality were also examined.

**Keywords:** Tele-ICU, Telemedicine, ICU Length of Stay, Remote Monitoring, Intensive Care

**Quotes:**
- One way to alleviate this inequality between supply and demand is to implement tele-ICU to provide around-the-clock access to off-site intensivists and critical care nurses through the use of audio and video links, connecting them to
Many hospitals across the United States are now utilizing tele-ICU to bring the presence of an intensivist to hospitals that may not otherwise have the infrastructure or resources to bring critical care experts to the bedside.

The research by Lilly et al. (2011), Willmitch et al. (2012), and Sadaka et al. (2013) all showed that the adoption of tele-ICU in a heterogeneous ICU population decreased ICU length of stay (LOS).

The adoption of a tele-ICU system into an ICU environment should be seen as a complex culture change that involves multiple aspects of healthcare, finance, and technology, and heavily impacts care provision and workflow, changes in traditional roles, and number of alerts in an already high-stress environment.

Statistics:

A hallmark systematic review determined that high intensity staffing (ICUs where intensivists manage or co-manage all patients) is associated with a 30% reduction in hospital mortality and a 40% reduction in ICU mortality when compared to low intensity staffing (where intensivists manage or co-manage some or none of the patients) (Provonost, 2002).

A collaborative report from the U.S. Health Resources and Services Administration (2007) and the American College of Chest Physicians (ACCP) predicts a 1,500-intensivist deficit in the USA by the year 2020 (Goran & Mullenfortino, 2012).

In the United States, more than a third of individuals require ICU level care during their last year of life, accounting for 13.3% of total hospital costs and 13.4% of acute care hospital beds (Winterbottom & Campbell, 2012).

The use of tele-ICU monitoring has spread rapidly, with 1 million patients being monitored from 2003-2013 in more than 250 hospitals (Khunlerkit & Carayon, 2013).

Even in ICUs with adequate staffing, only about 50% of critical care patients receive the required elements of evidence-based best practice bundles recommended in nationally recognized specialty guidelines (Bauman & Hyzy, 2012).

**Implementing Real-Time Point of Care Documentation: A QI Project to Address Medication Administration Errors**

**Abstract:** Numerous studies have looked at improving quality and patient care from health information systems but have found that while many hospitals have implemented applications like clinical documentation and computerized prescriber order entry (CPOE), few have reaped all the benefits. The aim of this one group pre/post evaluation design was to use a standard implementation methodology guided by diffusion of innovation concepts to implement real-time point of care documentation to help reduce medication administration errors. The results revealed that while there
were increases in perceived ease of use and usefulness, the differences were not statistically significant. Similarly, there was a reduction in overall medication error rates (in the administration category); however, the differences were not statistically significant. Nurses still reported barriers to point of care documentation such as insufficient devices, non-working computers, and infection control concerns.

**Keywords:** adoption, electronic medication administration records, medication errors, point of care documentation

**Quotes:**

- Often, focus is placed on the hardware and software systems that will be required with less attention to the social systems needed to incorporate new technology into daily work (Briggs, 2003).
- Real-time point of care documentation is a major change to nursing workflow and is often seen as incompatible with current practice. In order to successfully use point of care documentation, nurses need to modify their current workflow and determine how to deal with unique situations such as documenting on patients in isolation.
- By focusing on the process changes needed to improve adoption and not just the use of the software, organizations can improve compliance with point of care documentation and increase targeted benefits (Geibert, 2006).
- Despite an evidence-based focused plan, staff did not perceive a significant improvement in the ease or usefulness of point of care documentation and therefore did not change their practice. Although the project and education was focused on patient safety, it was not enough to help diffuse a significant change in practice.
- If organizations focus on diffusion of innovation concepts when they implement point of care documentation as a quality initiative, they may gain more of the potential benefits.

**Learner Presence in Online Nursing Education**

**Abstract:** Nursing education has experienced a rapid expansion of online courses and programs. Learning in these environments exists in both private and shared virtual spaces. A revised version of Walker and Avant's (2005) eight step *concept analysis* method was used to examine the concept of *learner presence in online nursing education*. The concept was found to be multidimensional and dependent on each student's shared *abilities*, *opportunities* and *motivation*. The analysis resulted in the development of an operational definition: *Learner Presence in Online Nursing Education* is the incorporeal perception of the student, sensed as being social, intimate, relational and interactive in a virtual learning environment.

**Keywords:** concept analysis, learner presence, virtual learning environment, online education
Quotes:

- Caspi and Blau (2008) identified three conceptions of social presence in online discussion groups: "perception of others; self-projection onto the group; and identification with the group" (p. 323).
- Social presence is "an individual's ability to demonstrate his/her state of being in a virtual environment and signal his/her availability for interpersonal transactions" (p. 94).
- Learner presence in online nursing education requires collaboration in the communication process and self-reflection in knowledge construction in an effort to project self-efficacy and facilitate learning for all.

**Patient Controlled Oral Analgesia Delivery Device Promising Technology to Improve Pain Control in Acute Care Settings**

**Abstract:** The Institute of Medicine (IOM, 2000) defines failure to provide appropriate pain management as a medical error that compromises patient safety. Delay in on-time delivery using the PRN ("as-needed") dosing method for oral analgesics frequently leads to the medical error of poor pain management. The objective of the study was to evaluate patient satisfaction with the use of a lockable device at the bedside that allows patients in acute care settings to self-administer oral analgesia in accordance with the PRN prescription. Results indicated that participants expressed satisfaction with use of the device, however nurses involved in the project had concerns related to technical issues with the device.

**Keywords:** pain management, patient-centered care, patient controlled analgesia delivery devices, quality improvement, informatics

Quotes:

- The length of time patients must wait for PRN ("as-needed") pain medications in the hospital setting varies widely and is a gap in quality care which often leads to low satisfaction scores with pain management.
- Cassano and Conley (2010), described PO-MOD as a new technology that allows more efficient use of nurses' time leading to pain management improvement, and increase in patient satisfaction.
- The MOD® shows potential to improve pain control for patients in an acute care setting who are able to self-administer medication as needed. Once technical problems related to the device are solved, nurse-users would find it more acceptable, and it could be used as one method of using informatics to mitigate errors in care delivery.
- Patients were satisfied with the device, suggesting it has the potential to serve as one method of improving timeliness of "as needed" oral analgesia delivery and improve patient satisfaction scores for the hospital.
The use of the MOD® medication delivery device shows promise as a method of improving patient satisfaction with pain management, thereby improving HCAHPS scores, and reimbursement.

The Right Balance – Technology and Patient Care

Abstract: In today's healthcare system, information technology is the foundation of the future. Healthcare modernization is best visualized if we compare how we were thirty years ago and where we are today. The need for improvement was the driving force behind the evolution of computers in healthcare. The majority of the past thirty years of technological expansion was spent on computer programs for administrative purposes while the past decade has seen as emphasis on the clinical process. Patient care has become a primary focus in the development of new concepts and knowledge in healthcare technology. Technological development in clinical applications is the current trend in healthcare and it will continue to play a major role for years to come. This article will describe the participation of nurse informatics specialists in adopting the right balance between the electronic documentation in nursing workflow and quality of patient care.

Quotes:

- Technological development in clinical applications is the current trend in healthcare and it will continue to play a major role for years to come
- Healthcare settings now integrate electronic medication prescribing, tele-health, online appointment scheduling and mobile laboratories where informatics nurses are essential in guaranteeing that the computerized solutions interface with each other (HIMSS, 2011).
- The electronic documentation method has evolved to provide a plan of care for patients, efficient communication between clinicians, and direct patient care processes.
- Among multiple healthcare organizations, nurses represent the largest technology user group.
- For a successful implementation of an electronic documentation system, it is important to understand the various levels of computer familiarity, and acknowledge nurses' computer use needs, attitudes, skills, beliefs and readiness to learn.
- Research reveals the importance of nurse's involvement in informatics committee meetings where they can participate in system design, redesigning workflow, and improving interdisciplinary communication (Lee, 2007).
- A strong foundation for addressing the challenges of electronic documentation is the informatics nurse's capability to understand and direct the balance of patient care with the technology systems and organizational structure that supports this balance.
Finding the right balance of information science in conjunction with nursing science is a continuing process that will rely on the forward thinking and perseverance of today's modern nurse and the support of nursing informatics specialists.