New Knowledge Innovation and Improvements

Innovation

NK9: Describe and demonstrate the structure(s) and process(es) by which nurses are involved with the evaluation and allocation of technology and information systems to support practice, or nurses’ participation in architecture and space design to support practice.

The involvement of nurses as collaborative partners with information technology (IT) is imperative to the implementation of successful IT solutions and devices used in the clinical arena to ensure safe, effective and integrated patient care. The following describes the robust structure of opportunity and involvement of nurses in a variety of roles to support nursing practice.

Evaluation and allocation of technology

Nursing Informatics (NI) within Clinical Applications

WellSpan Health System has committed to utilizing the functionality of IT as a tool practitioners use in the delivery of patient care. As information systems develop within WellSpan, nurse involvement with a concentrated focus on IT became integral. To fill this gap, dedicated and specially trained nurses with clinical experience were enlisted to meet this need. Since 2005, YH has had a role specifically dedicated for the role of the nurse informaticist.

Nurse Informaticists combine their extensive nursing experience with technological advancements to ultimately provide for better delivery and documentation of patient care, with an emphasis on end user workplace satisfaction and long-term health of the patient whose clinical findings are recorded in an electronic format. Functioning as a liaison between IT analysts and the clinical end users, the team takes into consideration existing solutions of the current IT architecture/interfaces when designing solutions, as well as workflow efficiency, lean processes and ergonomics. This team is led by Sharon Muller, MSN, RN-BC (Coordinator of Nursing Informatics). Team members, as of 2012, include: Michelle Bretzman, BSN, RN, Julie Deel, MSN, RN-BC, Renee Howard, BSN, RN, Stacey Jones, RN; Sueanne McKniff, MBA, BSN, RN-BC, and Wendy Stover, BSN, RN-BC. These team members have extensive clinical experience from varying patient care areas, they have received specialized IT training and are/or are working toward being board certified in Nursing Informatics. Currently 4 out of the 6 nurse informaticists are certified in this specialty and the other 2 waiting to take the exam as soon as there are eligible.

The process utilized and the amount of NI involvement varies with specific project requirements. The NI functions as a subject matter expert, consultant, educator, team member or project lead when IT solutions are being designed, revised, implemented or supported. The NI works with a collaborative team of analysts, designers, architects, project managers, biomedical/engineers, clinical subject matter experts and key nursing staff in the units and departments that are in the queue to “go-live” with the new content, system, product or workflow. While a requirement of an NI is to be a registered nurse, their efforts are utilized to support IT projects which impact YH as a whole. Primarily used to be the go-between for nursing practice issues, the NI’s also significantly impact non-nursing positions such as medical providers, unit secretaries, technicians etc.

Some examples of recent projects include:

- Delivery of patient care during anesthesia administration by nurse anesthetists/providers has been enhanced through the design and implementation of the anesthesia module.
- Computerized Provider Order Entry (CPOE) & Power Plan Functionality (10/11)
o Wendy Stover, BSN, RN-BC, Clinical Informatics Nurse shared that she has worked with a group of approximately **25 bedside clinical nurses** to review and revise the order catalog in preparation for CPOE. This group carefully reviewed each order in the catalog and changed the details of the order as appropriate to make the orders clear and created new orders as necessary. This group was an integral part of the CPOE design; without their input, the electronic orders would not be clear and concise. Nurses were also involved in the collaborative and interdisciplinary workgroups with physicians to create evidence based and best practice power plans for CPOE. Continuous efforts are in place to review and improve the power plans and to attempt to make the plans more Lean.
Reminder:

- **Next Process Meeting Wednesday October 7th 8am-Noon @ Cross Keys in New Oxford**
- **Next CPOE Design Session Wednesday September 30th 9am-Noon @ Cross Keys in New Oxford**

- Nurses in the Short Stay Unit (SSU) assisted in the creation and implementation of their specific documentation of care in the EHR (12/11)
- Nurses who function in the capacity of Case Management were involved in the creation, testing and implementation of documentation specific to their work effort. Having this documentation available electronically has been beneficial to many disciplines as well as for reimbursement purposes. (2/12)
- Pre-Hospital Assessment Screening (PHAS)/day of admission paperwork reformatting (2/12)
- Workflow and navigation of hundreds of incoming patients completely re engineered (and automated) as a result of a multi disciplinary team
- Nurses were involved in the adoption of iAware in select high acuity clinical areas. This technology bridges clinical measurements (vital sign) data from monitors into the EHR (ED, ICUs, PACU)
- Surgical staff nurses in a surgical service focus group, assisted by NIC members, drove the design of nursing surgical documentation.

**Role of a Medication Process Specialist**

In response to WellSpan Health System’s commitment to the safe delivery of medications the role of a Medication Process Specialist was created. This nurse functions as a liaison between pharmacy, clinicians and IT to continuously improve the medication process so as to ensure success and safety. The fusion of IT solutions in the medication delivery process has warranted that this position be filled by an Informaticist who participates in efforts focused on the planning, designing, implementing and ongoing evaluation of the closed loop medication process.

Ensure that the medication process has a logical workflow, safe processes, and the necessary infrastructure and management support to achieve consistent compliance with designed processes. Assists and supports the clinicians in their adoption, understanding and use of technology and applications as they apply to the medication process. Currently (2010-present) Sueanne McKniff MBA, BSN, RN-BC is the as **Medication Process Specialist**

The process utilized and extent to which the Medication Process Specialist is involved varies with specific project requirements. The Medication Process Specialist is consulted by Nursing Practice Council, individual nurse concerns, problems that stem from safety and regulatory issues, or proposed IT enhancements to the EHR. The process for prioritizing projects involves collaboration with clinical nurses, evaluation of the as-is state, conduct a needs assessment, evaluation of current state functionality of the EHR, design, implement and support a proposed solution in collaboration with the end users, leadership, pharmacists and IT analysts.

Some examples of project involvement include:

- Replacement of antiquated IV infusers with Hospira Symbic “Smart pumps” (6/11)
- Infusion Management
  - Collaborative effort between WellSpan, Cerner and Hospira for an Alpha project to successfully connect the patient, the provider’s medication order via the EHR, the medication, the IV infusion pump and successfully have data stream back to the EHR from the infusion device and hemodynamic monitoring. This design team is proud to
announce that we are the first in the world to do design and implement this technology. Nursing can focus their efforts on patient care and critical thinking instead of data entry. MCISU/Pilot unit (8/10), CCU (12/11), TSICU (1/12)

- Auto programming:
  - Through bar code technology the IV infusion pump can automatically be programmed via scanning the bar code on the medication and the bar code on the infusion pump thus decreasing the opportunity to introduce error. Tower 2 (2/12)

- Total Cabinet Pyxis Dispensing Unit
  - Total cabinet Pyxis implementation led by Lynn Frick. Pharmacy, IT and nursing are collaborating to analyze how the total cabinet process will impact workflow. The revised process will limit the safety issues related to patient specific bags of medications being packaged and delivered to inpatient units. In the future, each patient care area be equipped (via total cabinet Pyxis) with most of the medications for the classification/types of patients admitted to that unit. Tower 4 (12/11) and York Hospital inpatient units to be completed by fall 2012 – dependent on completion of the pharmacy renovation project.

- Medications by History: Documentation of home medications in the EHR (2/11)
  - Six weeks prior to CPOE implementation the ED, PHAS, vascular lab and inpatient nurses began to enter lists of patient’s home medications into the EHR. This was a precedent step to decrease frustration and increase acceptance of admission/discharge medication reconciliation by providers.

- Bar Code Medication Administration (BCMA)
  - This project is the implementation of medication bar code scanning at the point of medication administration. The goal is to improve medication safety through the implementation of BCMA for product verification of all medication. This is a nursing practice and medication administration policy change. Practice council, NIC council, the eMAR liaison team as well as nurse managers from the pilot units are actively involved. An implementation date is slated for fall 2012.
  - Medication Process Team/eMAR Liaison Team
    Forum for discussion of medication related issues. Attended by Pharmacists, Nurses and Respiratory therapists – Meets every other month.

Nursing Informatics Council (NIC)

The NIC was formed to guide the development and meaningful use of electronic nursing information systems at WellSpan Health in order to facilitate the collection and communication of data that is used to improve patient outcomes. The NIC was the first system-wide SDM structure. It was implemented on August 19, 2010, and is a three hour work session on the
second Thursday of every month. Council representation is broad across nursing units with cross representation from Education and Practice Council, clinical nurse specialists, and members of nursing leadership aimed to support the clinical nursing staff with workflow and financial decisions as appropriate to the project and equipment which may be required.

Members act as liaisons between their colleagues from their clinical area and the NI team and vice versa. Members attend and engage in discussion-based meetings which are enhanced by live demos in a build/test/train environment and scenario based work flow analysis to assist in the vetting process. This provides the atmosphere necessary to evaluate design decisions and identify process gaps as well as standardization and coordination of system wide documentation. The processes used by this council are:

- Develop, optimize and monitor nursing documentation within the electronic record.
- Provide voice for nursing priorities within the WellSpan information system.
- Vet nursing change orders to ensure optimal workflow.
- Monitor current trends in informatics including meaningful use, patient care processes and nursing decision support to support patient outcomes and facilitate patient centered principles.
- Identify, manage and monitor NI competencies related to use of computers, electronic health record and use of data in practice.
- Perform rapid cycle design and testing of nursing applications.
- Act as champions and key communicators for changes, upgrades and installations. This includes involvement as a ‘Super-user’ during go-live/implementation events
- Maintain nursing policies and procedures relative to nursing documentation and the electronic health record.
- Charter nursing design teams for specific application development.

Some projects in which the NIC was instrumental in during the last year are:

- EHR-related nurse-collect process as a safety feature for lab collections
- Electronic Medications by History entered into the EHR by nurses
- Nurses involved in design of Computerized Provider Order Entry (CPOE)
- CPOE for post-op for outpatients
- Nurse support of electronic Depart process
- VTE Quality Measures implemented for dashboard view
- EHR printing by nurses via XR Printing monitor who printed and reason
- Separation of surgical nursing documentation to delineate exact charting of different units (i.e. PHAS and department of surgery)

**Nurses involved in utilization and execution of technology and information**

**IT Super User role**

An IT "super user" is a clinician who has received additional training and is ahead of the curve about a specific go-live execution strategy. They are proficient with the content details such as process, documentation or technological devices necessary for successful task completion. Some super users function as subject matter exerts and are involved early in the design process, testing phases and education classes for the project. The culture of acceptance and the speed of adaptability of end users are enhanced by having real time, hands-on, knowledgeable helpers in the clinical area at the time when the end-user is in need of help. This accurate “just-in-time” assistance is a crucial element the
adoption of the new clinical technology process. The super user is able to provide feedback which clinicians may not feel compelled to report such as ergonomic considerations, screen height, number of devices and other issues such as inadequate number/location of electrical outlets which may be barriers to successful implementation.

The process for utilizing a super user and the determination of the extent of their involvement vary with specific project requirements. Super users are scheduled to support the clinical areas in need. A command center may be utilized to provide super users with contact to project leads/analyst for changes, updates, modifications. Super users are equipped with phone numbers to reach subject matter experts (pharmacy, lab, etc.) and the central number for the command center at any time for direction. When necessary, they are provided with companion phones so that assistance can be offered without leaving the clinician. Action items are recorded in real time and addressed by the appropriate analyst. For large, complex projects, a “quick link” icon is available to log suggestions/concerns to the support team. The super users are provided with protected time from their clinical positions to meet the obligations of the super user support role. A separate cost center is maintained for IT education/go-live purposes. Super users are identified via a standardized navy blue polo shirt with an eCare embroidered logo.