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Leading the Way...Integrating Technology in a Neuroscience Unit

Marjorie Lavin RN, MS, CNRN Lehigh Valley Health Network, Marjorie.Lavin@lvhn.org

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Leading the Way...

Abstract:

Healthcare technology can be quite an investment; but an investment in today's technology can lead to a better tomorrow. Hardware, software, clinical applications... there are many advances for any organization to implement. Determining the right technology for the environment is not any easy task; many factors must be examined to clearly define the expected advantages of integrating new technology. A review of key implementations in a Neuroscience Unit will be explored, highlighting the implications of the implementations. Integration of technology to the bedside can present challenges; the team must closely examine the planning and implementation phases of each project. While there is a significant financial commitment in the technology, there must also be a commitment to time, energy and resources for a successful implementation. Commitment must remain evident post implementation of any implementation. Lehigh Valley Health Network (LVHN) has proven a commitment to technological initiatives that lead to a more efficient work process and improved patient care decisions.

Objectives:

- Review the integration of technology to the bedside in a Neuroscience Unit.
- Describe the challenges of integrating technology to the Neuroscience Unit.
- Discuss the implications of investing in technology to the beside of a Neuroscience Unit.

Advantages of Technology:

The healthcare arena has been consistently investing in healthcare information systems which improve medical decision-making while increasing user efficiency. In recent years, healthcare technology has transformed the healthcare workplace. Healthcare networks have adopted information systems at a pace which fits their overall healthcare environment. There are many advantages to early adoption of healthcare technology:

- Comprehensive data to facilitate
- patient care decisions
- Real time data
- Real time accessibility to patient data

Improve quality of care

Clinical efficiency

Reduce medical errors

Nursing Informatics:

Nursing Informatics is a growing specialty within nursing, which utilizes knowledge from the disciplines of nursing, technology, and computer science. The Informatics Nurse has many responsibilities and with the adoption of any new or upgraded clinical application. It is key to analyze the current clinical workflow prior to integrating new technology. The Informatics Nurse assists with analyzing, redefining, designing, implementing and managing complex clinical application projects. Additionally, throughout any project, it is key to bridge the communication between Information Technology (IT) and the end users; the Informatics Nurse is that bridge.



Integrating Technology in a Neuroscience Unit

9.0

Integrating Technology Implementations in Review:

Clinical Documentation

GE Lastword[®] 4.3.5

- Comprehensive flow sheet documentation which reflects specialty documentation for Medical/Surgical Neuroscience unit
- Documentation is legible and standardized
- Provider can access documentation remotely to assist with comprehensive patient care decisions
- Results/reports to assist with coordination of care

Electronic Medication Administration (eMAR) and Barcode Medication Charting (BCMC)

- eMAR and CPOE (Computerized Provider Order Entry) implemented prior to BCM0 successfully transition medication administration to online charting prior to introduci
- Assures the 5 Rights of Medication Administration
- Integrates real time medication charting
- Integrates clinical decision alerts throughout work processes
- Inherently reduces medication errors
- Constantly refining the BCMC technology
- Recent purchase of the SwisLog[®] Robot for medication distribution, using picrings

Metavision[®]

MetaVision[®] by iMDsoft[®]

- Complete online documentation system developed to streamline documentation and retrieval of patient
- System provides flexibility to customize views for Neuroscience specialty; inclusive of Neuro, Stroke, Spinal Assessment forms
- System provides automated retrieval of information through interfaces to equipment/monitors
- Data retrieval for quality improvement
- Remote ICU with 24/7 provider coverage

Web Based Applications

Lehigh Valley Health Network has employed the use of several web based applications to augment documentation and the electronic medical record. The web based applications have been developed to compliment the current applications. Examples of web based applications introduced in the **Neuroscience Units:**

- cation Tool online web document which allows the nurse to communicate Pharmacy Com electronically to the pharmacy
- **Total Parenteral Nutrition (TPN)** online web document which allows provider to enter IV nutritional needs for the patient
- **Krames[®]** online web application which allows the nurse to document patient education.
- Menon[®] Medication Reconciliation and Discharge Instructions; online web application which allows various users to document home medication list, reconcile medications across the continuum to home through discharge instructions

Menon[®] Discharge Instructions

- Discharge templates designed to facilitate instruction to the patient
- Specific instructions are legible and incorporated into the discharge form
- Streamlines discharge documentation to the patient
- Various types of functionality within the templates, such as checkboxes, fill in the blanks, radio buttons, pick lists

References:

• Collins, J. (2001). Good to Great., pp 144-164.

Goldsmith, J. (2004). Investing in clinical IT. Healthcare Financial Management., pp.58(8): 66-69.
Laying the Foundation – for integrating health care IT. Retrieved June 10, 2008, from http://findarticles.com/p/articles.
Pearson, M.L., et al. (2008). Spreading nursing unit innovation in large hospital systems. Journal of Nursing Administration., 38(3): 146-52. • Scalise, D. (2005). Where the patient and technology meet. Hospitals & Health Networks., 79(8):34-6, 40, 42.

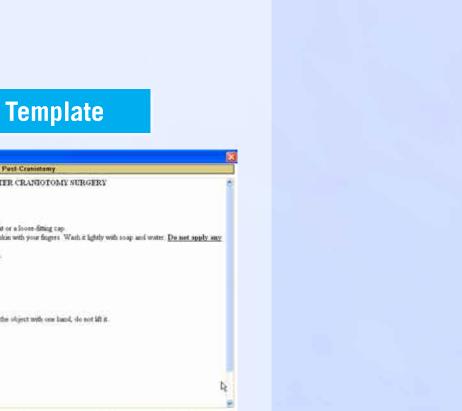
Marjorie Lavin, RN, MS, CNRN Lehigh Valley Health Network, Allentown, Pennsylvania

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	Barcoded Medication Charting Selection Screen
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Neuro UnChE		
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Re-Direct Pt.		
Decrease Stimuli		
Memory Cues		
NEURO CHECKS		
GLASGOW COMA SCALE		
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Best Verbal Response	5 Oriented	
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Discharge Template 9 Page Dialog NeuroSorg Inst for Post-Cronistany DISCHARGE INSTRUCTIONS AFTER CRANIOTOMY SURGERY a may thower and thampoo your har bot <u>do not verub the merition.</u> not expose your menion to malight. If you are going outdoors, wear a hat or a loose-fitting cap is skin along your menion peels and becomes 'flaky', do not pick at the skin with your fingers. Wash it lightly with soap and water. <u>Do not apply any</u> may now as a parameter in a cat can increase your activity, an obserated of lift anything over 5 to 10 lbs. A good rule of thanks if you cannot lift the object with one hand, do not lift may field used the first flow days at home. Takin frequent rist periods may result straud activity in a position of confort. Persistent headache unrelleved by Tylesol Any drainage (blood or slear flued) from the increton. Bright reducts or rwelling on the increton. Udlouby staying awake, wanting to drep all the time. Smve/Add Another Smve/Fletum Concel



Challenges of Integrating Technology:

1. Investment

- Outline desired outcomes
- Develop strategic initiative
- Analyze return on investment (ROI) Weigh pros versus cons of investment
- Evaluate various systems
- 2. Planning Challenges
 - Conceptualize the current versus prospective work
 - Assure upper management commitment
 - Solicit involvement from users throughout the network utilizing pre and post implementation meetings

3. Implementation Challenges

- Interfaces between clinical applications Education; evaluate the best methodology and
- materials for specific unit
- Development of super users & go-live support

Implications of Investing in Technology:

1. Increased efficiency

- One time entry of data • Point of care testing/results Standardization of documentation and reports

 - Standardization of best practices utilizing
- evidence based practice
 - Real time docoumentation Automated data collection Remote 24/7 ICU utilizing integrated technology from several applications Remote accessibility to data utilizing customized views which collate common

 - elements to assist with patient care decisions

Investing in healthcare technology is clearly the path for healthcare networks, but the path could have many challenges along the way. The implementation must be closely examined for advantages, return on investment, project challenges, and implications. Lehigh Valley Health Network is dedicated to providing the highest quality of care, and the integration of technology can assist with such a goal.

- Evaluate the current environment for hardware and work processes
- Assess and solidify the upper management commitment to the project
- Assure application is clinician driven for early adoption
- Dedicated physician champion
- Outline project go-lives; many projects have dependencies
- Adoption/acceptance
- Parallel go-live projects
- Evaluation post implementation

Streamlined handoff communication

Automated data retrieval for quality

Downtimes; scheduled versus unscheduled

2. Comprehensive Patient Care Decisions

EXAMPLE: An view which pull lab results, mean administration, charting	Is data from

improvement

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Heparin sodium,porcine ×2000, ×1	2000 UNIT
Heparin sodium,porcine ×1000-4000, r×prn	2000 UNIT
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Conclusion:

A PASSION FOR BETTER MEDICINE."



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