Integration Between Hemodynamic Monitoring and Electronic Patient Records

2009 Summer Institute Nursing Informatics

Presenter: Carol D. Thompson, RN, MS

Johns Hopkins Bayview Medical Center
Baltimore, MD

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Presenter

- Carol D. Thompson RN, MS
- Clinical Systems Director
- Johns Hopkins Bayview Medical Center

Responsible for implementations of Clinical Applications for Acute and Long Term Care

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Johns Hopkins Bayview Medical Center

- 339 certified beds
- 260,000 outpatient visits annually
- 50,000 emergency room visits annually

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Meditech at Bayview

- Meditech C/S 5.5, SR4
- LIVE with Meditech since July 2003
- LIVE with Nursing Documentation since July 2005
- LIVE with monitor interface since August 2006
- Commited to Meditech solutions

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Project Goal & Objectives

GOAL:

Implement an interface from our patient hemodynamic monitoring system, Draeger (Siemens), to EMR (Meditech)

OBJECTIVES:

1. Promote safety by eliminating manual entry of vital signs
2. Improve accuracy of data by eliminating transcription
3. Improve access to data by capturing real time vital signs

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Building Your Team

- IS clinical analyst
- Nursing clinical analyst
- Clinical engineering
- IS network analyst
- IS interface analyst
- Vendor implementation expert

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Implementation Overview-

Stepping Into Success

Step 1- Consult with your vendors (Meditech and Draeger)

- Obtain specs from both vendors-
- Ask for references- sites exactly like you
- Ask leading questions
- Inquire about all the details

Step 2- Sign the Contract

- Include specs from both vendors in the contract to assure integration success
- Review all technical requirements prior to signing the contract
- Assure payment based on success

Step 3- Set up test environment

- Identify a test area
- Identify test equipment- central monitor, patient monitor, simulators, PC's
- Install required switches to link the networks
- Have vendor on site to install software

Step 4- Set up ADT interface

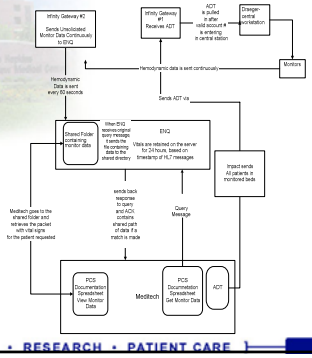
- ADT interface set up
- Create a test plan to test all applicable message types
- Secure resources to input test data
- Assure Meditech system is sending ADT monitors

Step 5- Test Hemodynamic Monitoring Interface

- Attach simulators and get data coming out from hemodynamic monitors
- Site contacts are critical
- Identify 3rd party vendor options

Technical Design

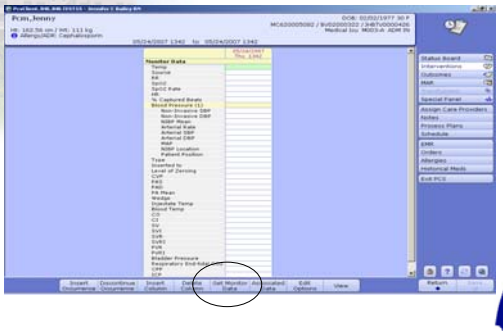
HEMODYNAMIC MONITOR INTERFACES



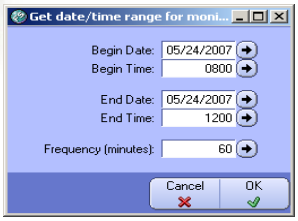
Success !

- Test all data elements to pull over
- Capitalize on the strengths of the interface
- Train close to go live
- Roll out 1 unit at a time
- Provide clinical support on the unit

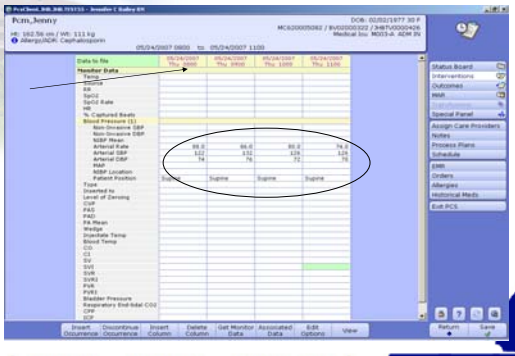
Meditech PCS Spreadsheet



Enter in time range and frequency



PCS Spreadsheet



Define team member roles

- Due to the complex support of this interface and the number of groups that will support it, clearly define roles and responsibilities for each member

Roles & Responsibilities Document

Draeger Monitor Interface
Roles & Responsibilities

Team	*Category*	*Role*	*Person Responsible/ Back up*
LAN- IS	Vendor Access	Assure Healthbloks and Draeger has access to troubleshoot issues to both test and LIVE. Both vendors have been set up with VPN access and have access to their respective test &live boxes. Access is always open to the vendor, but the vendor need to have been contact be the team or the on call person to access the system. All access is communicated via email.	LAN on call
Interface- IS	Services	Assures all HL7 and related services are up and running at all times on the ENQ and Infinity gateways to send and receive messages. Alerts are set up on those services on the infinity gateway and sent to the Dev on call pager. Assures that dev on call has been trained to look for the correct services and know how to start and restart those services if need be.	Development on call
Clinical Analyst- IS	Testing & Fixes	Coordinates moving in fixes into test, testing them, and then moving them to LIVE. Assures they are working	Project leader
Nursing Clinical Analyst	Training	Assures all end users are trained on how to use the interface in PCS and how to enter patients Meditech account number into the Draeger central stations	Nursing Analyst on call
Clinical Engineering	Draeger monitor IP addresses & monitoring unit ID's	Maintains IP address scheme developed for all central stations and associated monitors for the ICU's. Assures all central stations are configured with the correct monitoring unit ID's as developed for this project. Responds to calls when there is an issue with the monitor not connecting to the central stations. Assures all clinical engineering on call staff have been trained on the correct IP scheme and monatoring unit ID's for this and know how to do this for off hour's replacements for devices	Clinical Engineering on call

Train Support Staff

- **Train technical support staff and define priorities**
- **System documentation**
  - Roles and responsibilities
  - Contacts for each support role
  - Technical diagram
  - How to access application
  - Troubleshooting guide

Celebrate and share success!

- **Share your success within your organization and throughout the user community!**

Post Go Live Considerations

- **Map all data correctly to EMR ID's**
- **Few technical issues since go Live**
  - Good Testing
  - Defined R&R

Benefits to Nursing and Clinical Staff

- **Eliminated manual entry**
- **Ability to recall data from a previous time period**
- **Improved accuracy of data**
- **Provides access to monitor data for all providers via EMR**

Evaluating Success

- **Complete audits on nursing compliance with real time data**
- **Perform a post live nursing satisfaction survey**
- **Perform a post live provider satisfaction survey**

Questions?


Johns Hopkins Bayview
Information Services
Thank You!
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