

# Nursing Informatics Infrastructures, Applications, Opportunities and Challenges

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# Working Informatics Nurse Specialist

## Melody Rose

Associate Degree RN (2 yr) (ADN)

Worked 25 yrs before I went back to school

Master's Degree - specialty in Nursing Informatics (MSN)

Doctor Nursing Practice (DNP)

Along the way - I found Nursing Informatics

Currently: Work full time


Clinical Informatics in a major healthcare company

Adjunct Instructor

Master's and Doctorate level- Health Administration programs



# Objectives

- Identify common hurdles in infrastructure and hardware
  - Identify the role of process assessment related to infrastructure
  - Identify the need for production and non-production environments
  - Review system build processes
  - Identify types of healthcare applications
  - Identify challenges to Nursing Informatics
  - Identify opportunities for Nursing Informatics
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# Infrastructures

Infrastructures allude to many areas of Information systems

Today's definition is applied to the infrastructure you have within your facility and facility network

**Infrastructure that Clinical Informatics has to interface with**

Building - Old v. New

Network - Wired v. Wireless

Hardware - Closets, end-user



**\*\*Identify common hurdles in infrastructure, hardware\*\***

# Infrastructure

Wireless networks

Wireless surveys- participate

Hardware - End-user

Clinical areas

Staff areas

Patient areas

Printers

Map Clinical Workflows



# Workflows Mapping - Infrastructure

Map all shifts, all days (weekday, weekends, holidays)

What types of hardware are used?

PCs, laptops, handhelds, phones, printers

Pharmacy, Radiology, Cardiology, Laboratory - interfaces

Who supports infrastructure after business hours (your hours)

**What happens with unexpected downtime**

Project to a desired future state - dream

**\*\*Identify the role of process assessment related to infrastructure\*\***



# Infrastructure - Process Assessment

Include all stakeholders

Clinical areas

Ancillary areas

Business & Financial

Plant Operations

Housekeeping

Non-essential areas may should be evaluated

Evaluate all areas of the facility for processes that will be influenced



# Infrastructure - Production/Non-Production


Three environments should be maintained:

Production: Live, working environment

Non-Production: Test, kept current to Production, used for break/fix testing and new code

Non-Production: Train, kept current to Production, used for training new staff, back-up for Non-Production Test

**\*\*Identify the need for production and non-production environments\*\***





# Applications - System Builds

## New Products - Vendor Assisted

Dependent on contract

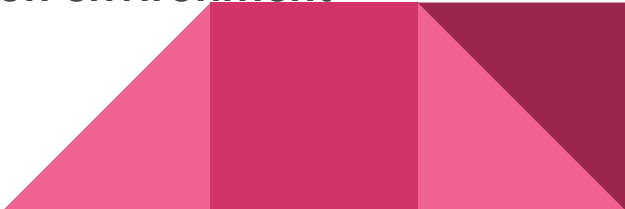
Vendor brings in a structured build/testing/go-live strategy

Large systems can take months to years for a build/go-live

Infrastructure/hardware will be evaluated and upgraded

System is built/tested/trained in a non-production environment

**\*\*Review system build processes\*\***



# Applications - System Builds

Training Strategy is developed

Go-live support strategy is developed

Go-live (big bang v. phased) strategy

Stakeholder support at the time of go-live

Evaluate the system from the time of go-live

No major changes for 30-45 days

Nursing Informatics Committee



# Training Strategy

Vendor usually provides training and materials for facility trainer

Vendor will train the trainers - on site or off site - contract

Trainer - builders, testers and super users

Trainer from all areas and shifts

Recommended length of training per person, number of employees, number of trainers, classroom availability determines how many classes

Do not train more than a month in advance - two weeks in advance is better

# Go-Live Support

Depends on the size and complexity of the new system

Support all shifts and days (weekdays, weekends, holidays) until schedule rotation is complete

Providers seem to need more help than other clinical staff

Stakeholders, especially CEO, CFO, CNO, COO, should make rounds during go-live



# Go-live and Evaluation

Go-live types:

Big Bang v. Staggered (Phased)- Pros/Cons

Evaluation:

Daily meetings starting day of go-live

Can “fix” little things (misspellings on screens)

Do not change processes unless patient care or financials are implicated

Wait 30-45 days before any changes are made



# Nursing Informatics Committee

## Recommendation:

From team of builders/testers/trainers/super users form and ongoing Nursing Informatics Committee (NIC)

NIC should meet monthly

NIC will be ready for next upgrade or new project

Make this part of job rather than coming in on personal time



# Celebrate Success

Day of go-live take the team and celebrate

Public recognition

Thank you notes

Meal tickets

Make them feel special



# Applications

Three large software vendors:

EPIC      Cerner      Meditech

Within each software are multiple modules that address different areas of the facility:

Admissions/Registration, Order Entry, Nursing Documentation, Emergency Department, Radiology Department, Laboratory, Pharmacy, OB/GYN, BCMA, Scheduling, OR, Patient Tracking, ePrescribing,

**\*\*Identify types of healthcare applications\*\***





# Applications

Outside of the facility, other applications also provide electronic medical records for patients through provider offices, clinics, pharmacies, telehealth, etc.

Athena

eClinical Works



# Health Information Exchange - HIE

Goal - electronic record that shares patient data between EHRs.

Many barriers

Vendor to Vendor communication

Privacy issues

Storage standards





# Systems that “do not affect” clinical areas

Rural v. Urban

Access - how does the end user access networks

Culture

Income

Generations



# Downtime/Disaster Recovery

Develop a plan

Include all stakeholders

Look at variety of scenarios

Practice the plan - all shifts/day parts



# Opportunities - Unlimited

Facilities, Home Health, Offices, Project Management, Education, Vendors,  
Insurance, Contract Employment

Product Development

Research

Policy/Politics

Legal

Institutional Education

Genetics/Genomics

**\*\*Identify opportunities for Nursing Informatics\*\***



# QUESTIONS

