Date: 9/7/06   **Recorded by:** Joe Attokaren
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Attendance: Everybody

Class Notes:
Donabedian Model – Alexis Wismer

Class Discussion:
Why other countries are more willing to conform compared to the US?

Presentation Notes:
Background
Graduated from Tech in 83 with a degree in ME
Started own company 20 yrs ago.

Technology in Today's Hospital (A Foundation Approach)
- Hospital are extraordinary complex dynamic facility

How important is Technology?
"Advances in medical science and technology account for at least half of overall change occurring in American healthcare delivery system today." ~ Jeffery C. Bauer, PhD

- Information technology is really important in healthcare systems
- Healthcare is 2 decades behind the banking industry.

Lots of Hospital Construction
- Technology is an important factor in these buildings
- Reduce redundancy in data pathways
- Real data centers to maintain the system

Key Trends in Hospital Technology from a IT perspective
- Focus on patient safety and workflow
  - 6th or 7th behind many European countries in safety
- National medical record
- Everything is IP addressable devices
- Access to health information
  - Patient
  - Physician
  - Payers
- Wireless connectivity & convergence
- "Digital Hospital"
- "Location Awareness"
- More "Service Oriented Architecture"

- Virtual Intensive Care Unit

- Shortages in Nurses and Intensiveness
  - Small hospital has a hard to finding and keeping nurses and intensiveness
- The Leap Frog Group
  - Do studies that show that not all hospitals give the same quality.
  - The presence and absence of an intensiveness has a huge outcome difference
- Intensiveness Call Centers
  - Provide coverage around the clock and multiple locations all from a remote location
  - And have access to all the patients' info
  - Improving healthcare in all areas
  - Saves a lot money
  - Same approach in radiology
    - In different areas of world, American certified radiologist can compensate the work for the odd hours here
    - Maybe lead to an outsourcing of healthcare

Changes in the Patient Room
Lots of money is being spent for patient rooms
- Private rooms
  - Why?
    - High Demand
    - Reduce Infection
    - HIPAA
- Notion of a universal room
- On-demand education entertainment
  - Caregiver device
- Public Internet access
  - Cater to family members
  - More convenient
- Electronic Charting
  - Real change in behavior
- More network outlets
- Portable equipment with network access
- Networked alarm & safety monitoring
- Patient bedside terminal
- IP televisions

The Digital Operating Room
- Real Time Information
- Ceiling mounted utilities & equipment
- Voice-activated technology

- Fully integrated and connected equipment
- Introduction to robotic Surgery

Problems with IT in the Hospital

1) The Nursing Crisis
- Focal Point of Care Delivery
- Key to patient and family satisfaction
- Major part of Hospital Staff
- High Demand – Low Supply

Solution:
Attract more students, use technology to help lower stress and improve working environment

Technology that make the Nurse's job easier
- Mobility
- Improved communication
- Reduce medical errors

Telephone Systems
- Voice over IP
- Direct integration
- Unified messaging, conferencing, call center application

Nurse Call Systems
Moving towards a network based info structure

Asset Tracking
Keep track of equipment, food, and patients

Personal Communication Systems

2) Many Isolated Information Systems
Solution:
Integrate everything
All systems need to talk to each other
"Service Oriented Architecture"
- All have a loose connection to everything
- Act like a flight data recorder

3) Hospital Security
Solution:
Have high Security while keeping the hospital feel positive and inviting
Things to Improve Upon
- Crime prevention
- Door hardware issues

- o Smart ID cards
- o Infant protection and monitoring
- o Access control
- o Video surveillance and digital recording
- o Alarms/intercom

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Key Terms:

- *CPOE* – Computerized Physician Order Entry
- *EMR* – Electronic Medical Records
- *NHII* – National Health Information Infrastructure
- *IP* – Internet Protocol
- *"Digital Hospital"* – A hospital set up around a computer network and is paperless
- *Intensiveness* – Doctors that work in the ICU
- *802.11* – Wireless Infrastructure
- *CPTED* – Crime Prevention through Environmental Design
- *HIPAA* – Health Insurance Portability and Accountability Act