The Transformation of Care: Coping with the Technology Tsunami—Lessons from the Front

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Founding Statement

“Is it not now time to build a great humanitarian hospital, one to which men of all creeds and those of none may come with equal confidence?”

Dr. George W. Truett, 1903
Co-founder of Texas Baptist Memorial Sanitarium, predecessor of Baylor Health Care System

Circle of Care
Baylor Health Care System

- 2007 Preliminary and Unaudited Financial Performance
  - $2.7 Billion Net Patient Revenue
  - $318 Million Net Operating Income (all sources)
- 16,600 employees
- 13 hospitals
  - Significant teaching and research programs
  - No health plan
- 3,500 physicians including 450 employed
- 128+ access points
- 130 mile diameter, all in Texas

Baylor Information Services

- 2 Primary Data Centers
- 12 Satellite Remote Campus Communication Centers
- 1 Mainframe with 2 Processors
- 44 Midrange Platforms
- 3 Robotic Tape Silos
  - Two with 6000 tapes per silo and 120 terabytes of spinning disk
  - One with 50 tapes per silo and 200 to 800 GB per tape
- 24 Actual Tape Drives in the two Primary Silos
- Disk capacity with some form of RAID
  - 2 Storage Area Networks (80 Terabytes)
  - Total DAS and NAS (140 Terabytes)
  - 1.1 Terabytes of storage on the Mainframe
- 800+ Application Servers
- 22,000+ data nodes, 19,500+ voice nodes
- 243 FON closets with 285+ UPS, 3000+ switches and routers, 1000+ WAPs
- Approximately 10,000 workstations and 4,100 printers
- Speeds of transmission: 10/100/1000 megabits per second
- WAN – T1, DS-3, Opteman, GigAMAN, dedicated fiber
  - 2 connections to our ISP scalable to 155 megabits total on demand
- Nine SL-100 phone switches centrally managed
  - 5,030 centralized voice mail users

Biomedical Technology Services

- BTS became Baylor system department in July, 2003
- BTS joined BIS in July, 2004
- BTS has 53 employees
  - Corporate director, biomedical director, 3 biomedical mangers, imaging manager, technology manager
  - 29 biomedical techs
  - 15 imaging techs
  - 2 clinical engineers
- Support over 44,000 assets
- Equipment Value over $420,000,000
- Over 56,000 work orders in FY07
CE/IT at Baylor

- BIS Help Desk took over service dispatch
- BIS Finance took over processing of biomedical invoices
- Several members of Biomedical management team moved to same building as BIS
- Corporate director of BTS joined Information Systems Communication Council
- 4th qtr 2007-project involving first direct feed from medical equipment to electronic patient record
- December 2007 Corporate Director of BTS became member of Information Systems Leadership Council

CE/IT in the industry

- CE/IT—why are we talking about this?
  - We need to create a seamless thread from patient to electronic medical record
  - We need to overcome stereotypes to create that thread
  - What will it take for CE/IT to build a productive relationship?

BiomedFeelings Towards IS

- Weaknesses
  - IT folks do not have a clue about medical devices
  - IT understands Mission Critical, but Biomed knows Life Critical
  - Weaknesses are knowledge of medical devices & response time
  - Terrible customer service ethic, arrogance in their culture, inability to relate to the pt. care world
  - IT Folks are usually Biomed who could not take the stress of the job
  - IS personnel are far less accustomed than biomedists to dealing with problems of great immediacy
Biomed Feelings Towards IS

• Strengths
  • Budget & education
  • Manpower and budget, technical awareness, ability to interface black box with black box, database resource skills
  • They are very smart and for the most part their processes of implementing new systems are very organized and complete, sometimes to the point of being cumbersome.
  • I believe that the IT department is perceived by hospital administration as a more professional entity than is Facilities, and as a part of IT, that perception is beneficial to Biomed

IS Feelings Towards Biomed

• Who?
  • Isn’t that those guys who carry the toolkits and fix wheelchairs and stuff like that?
  • Oh yeah, I know who they are! They’re the rebels who never want to play by our rules!

○ In general, Biomed feelings towards IS are much stronger than vice-versa

Why Do These Feelings Exist?

• Limited communication
• Bad experiences
Why do we need to collaborate?

Technology Planning and Assessment

Current Operational Needs  Future of Technology
Present  Five to Ten Years

Why do we need to collaborate?

Cardiology  Women's Health  Orthopedics

Clinical Applications Specialist, Clinical Engineer, Senior BMET
BIS Field Support
BMET/RES

Clinical Applications Specialist, Clinical Engineer, Senior BMET
Clinical Applications Specialist, Clinical Engineer, Senior BMET
Biomedical Manager
Imaging Manager
Field Support Team Manager
BIS Applications  BTS Technology Management

What do the two teams bring to the table?

• Comprehensive knowledge of technology
• Understanding of clinical practice
• Excellent customer service
• Tools
• Talent!
**Goals of Collaboration**

- Less confusion for the customer
- Improved response time for service
- Better handling of complex calls
- More effective repairs
- Better technology planning
- Reduced costs

**BETTER PATIENT CARE!**

**What do we need to do to move to the future?**

- Common Understanding
  - We are there for the patients
  - We need to facilitate, not police
  - Things will change, and we don’t know how. Be flexible!
  - Studying the past is only good for learning how to handle the future
  - It does not matter what we call ourselves!
  - Our role is to help to select the right technology that will facilitate the best care, to implement that technology, to support that technology.

**The question is not**

“What does CE/IT do?”

**The question is**

“Does CE/IT do what I want it to?”