Transition from Analog to High Definition Television in Hospitals

TAHFM
TEXAS ASSOCIATION OF HEALTHCARE FACILITIES MANAGEMENT
TEXAS AFFILIATED CHAPTER

MV Systems
ONE COMPANY...ONE SERVICE
Presentation Outline

• Introduction
  § Why the Transition?
  § What is Digital TV & High Definition?

• Roadmap
  § Video Content
  § Signal Source
  § Cable Distribution System
  § Television Receivers

• Next Steps
  § Current Conditions
  § Existing Documentation
  § Future Proofing
Why the Transition to Digital Television?

- Telecommunications Act of 1996
- Reallocation of Frequency Bandwidth
- 2009 Full Power Over-the-Air TV Broadcast Converted
- Cable Companies were Not Required to Convert to DTV
- DBS Satellite (DISH & DirecTV) Broadcast Digital TV
What is Digital TV?

Analog vs. Digital

- Over-the-Air = NTSC vs. 8VSB
- Created Channels = NTSC vs. QAM
- TV Tuner = NTSC vs. (ATSC & QAM)

- RF Channel Bandwidth = 6 MHz
- Analog RF Channel = 1 TV Channel
- Digital RF Channel = Up to 6 TV Channels
What is High Definition?

- All HD Channels are Digital
- Not all Digital Channels are HD
- Many Types of Digital Formats (SD, ED, HD, 4K)
To Watch High Definition.....

- Record Event or Content in HD
- Broadcast in HD
- Receive at Facility in HD
- Process & Transmit in HD
- Television Tuner Receives HD
Why have High Definition TV in a Hospital?

- Allows a Pleasing Patient & Guest Experience:
  - Improve HCAHPS Patient Scores

- Allows Review of existing Cable Distribution System:
  - Compatibility for Addressable/Interactive Patient Education TV Systems
    - Better Utilize Electronic Health Records (EHR)
    - Ensure Meaningful Use Compliance
    - Enhance Patient Outcomes
    - Reduce Readmissions
    - Comply with Joint Commission Education Requirements
    - Maximize Staff & Operational Efficiencies
Systems Integration Roadmap

Educational, Informational & Entertainment Television System

- **LOCAL CABLE COMPANY INPUT**
- **LOCAL OFF-AIR CHANNELS**
  - (4 - 5 - 8 - 11 - 21 - 27 - 33)
  - CBS - NBC - ABC - UHF
- **SATELLITE CHANNELS**
  - ESPN
  - CNN
  - TBS
  - WGN
- **HEAD-END AMPLIFICATION SYSTEM**
- **CABLE DISTRIBUTION SYSTEM**
- **TELEVISIONS**
  - Bulletin Board Channel 21
  - Chapel Vision Channel 22
  - Patient Education Channel 23
  - Staff Education Channel 24

- **INHOUSE BROADCAST SYSTEM**
  - (Local Origination Channels)
- **LOCAL VIDEO CONTROL SYSTEM WITH TELEPHONE ACCESS**
- **ADDRESSABLE CONTROL SYSTEM**

- **ANTENNA SYSTEM**
- **SATELLITE SYSTEM**
- **INHOUSE SYSTEM**
- **ADDRESSABLE CONTROL SYSTEM**
- **ANCILLARY SYSTEMS**
  - CCTV Surveillance Paging/Sound/Intercom

---

* Engineering, Design & Installation
* Service & Maintenance
* Ongoing Inservice Training
* Video Digitizing, Programming & Licensing Fees

**MASTER VIDEO SYSTEMS, INC - 4334 Scottsdale Drive - Dallas, Texas 75227**

**214.388.3446 office  214.381.6467 fax**
Video Content

- **Patient Entertainment Channels:**
  - Cable Company
  - DBS Satellite
  - Off-Air Antenna

- **In-House Patient Education & Information Channels:**
  - Satellite
  - Internet
  - DVD
  - MPEG-4
  - Video Delivery Systems
Entertainment Signal Source

- **Local Cable Company:**
  - What do you currently receive (Analog or Digital)?
  - Most are Transitioning to Digital
  - Some have started encrypting QAM Signal
  - Most will require a Set-Top Box or Local Head-End
  - Many will require Long-Term Contracts

- **Satellite System:**
  - DBS Broadcasts Digital
  - However, does your Current Equipment Process HD?

- **Digital Off-Air Antenna:**
  - Typically, used as Back-Up Redundant System
  - Many New Local Stations Now Available
Cable Distribution System

- **Components:**
  - Cable / Wire
  - Splitters & Tap-offs
  - Amplifiers
  - Outlet Plates

- **Diagrams & Drawings:**
  - Riser Diagrams
  - Floor Plan Layout

- **Signal Strength Readings:**
  - Reference: (0 – 5) dBmV per channel at each TV
Television Receivers

- Hospital – Grade Televisions:
  - By 2007, FCC Required All Televisions Must have ATSC tuners
  - Although, Most Televisions have a QAM tuner, it is Not Required
Next Steps to Transition to HD

From Concept to Completion

Necessary Actions & Considerations

- Existing Conditions
- Documentation of Systems & Equipment
- Network Architecture
- Drawings & Floor Plans
- Site Survey Investigation
- Technical Planning
- Engineering Requirements
- Field & Project Coordination

- Future Proof Plan
- Project Management
- Construction Services
- System Integration
- Field Installation
- Content Licensing
- Maintenance & Repair
- Ongoing Operations
THANK YOU!

TAHFM
TEXAS ASSOCIATION OF HEALTHCARE FACILITIES MANAGEMENT
TEXAS AFFILIATED CHAPTER