Meaningful Use Stage 2 & Medical Imaging: What You Need to Know

Healthcare Integration Strategies & BridgeHead Software
June 2012
Agenda

• Terminology & Resources
• Introductions
• Objectives
• Meaningful Use Stage 2 & Imaging
• Implications
• Real World Examples
• Conclusions
• Discussion
Terminology & Resources

The following terms are used in this presentation. Links are provided for more information on these terms.

- **DICOM**
  - [http://medical.nema.org/](http://medical.nema.org/)

- **XDS/XDS-I**

- **EHR**

- **HIE**
  - [http://www.himss.org/asp/topics_rhio.asp](http://www.himss.org/asp/topics_rhio.asp)
Introductions

- **BridgeHead Software | Tim Kaschinske**
  - Software engineered 100% for healthcare
  - Storage, vendor & platform agnostic
  - Trusted by 1,200+ hospitals

- **Healthcare Integration Strategies | Joe Marion**
  - Over 35 Years of Healthcare Imaging Informatics experience
  - Extensive Radiology, Cardiology, and Enterprise Imaging consulting engagements
  - Frequent publications contributor and blogger
Objectives

- Review ARRA/Meaningful Use and why it is important to imaging services and the Enterprise
- Identify how ARRA/MU is expected to impact imaging services
- Highlight real-world examples of impact
- Discuss how IT Services might respond
ARRA/MU Stage 2 & Imaging

- February 2012, CMS publishes proposed rules for ARRA/MU
- Comments period ended in May; final criteria anticipated later this Summer
- Stage 2 MU addresses Imaging Results & Information accessible through certified EHR technology...
  - Sharing results & scans
  - Exchanges encouraged but not required
  - Structured content not required
  - Embedded vs. Linked approach
  - DICOM not specified as a requirement
- Emphasis on the “What” not the “How”
Healthcare Provider Implications

- Not specific to DICOM – therefore, may apply to non-DICOM objects as well as DICOM objects!
- XDS/XDS-i may be a better technology for managing image accessibility in the enterprise, but is not addressed as part of the proposed standards
- Emphasis appears to be on sharing results via an EHR/EMR
- Uncertainty between interoperability of an EHR and Viewing technology – who is responsible for what? Likelihood that most physician access will be via an EHR
- Current HIE (Health Information Exchange) certifications do not include imaging! Will Stage 2 be the impetus to do so?

June 2012
Imaging Services Implications

- Services focus may still be on departmental requirements – no urgency to escalate to the enterprise
- Services may have separately established image management and accessibility such as through radiologist initiatives for shared image access (that serve as image repository for EHR’s)
- Increasing study size and volume may be beginning of recognition for IT involvement in image storage
- EHR implementations may be creating new service area requirements and greater demand on existing service areas
Patient Implications

- Early efforts at automating patient access electronically have underachieved (i.e. Google Health)
- Patient accessibility presents security challenges in protecting PHI
- Cost/benefit justification in its infancy in terms of investment
- Jury still out on which model will prevail – provider-based data management or 3rd party data management (like Microsoft HealthVault)
- Dependent on user skills relative to image viewer technology – how simple/sophisticated does it need to be?
Example 1: Large West Coast Teaching Hospital

Background

- Implementing system-wide EMR with the objective of being paperless
- Surgical and other services today print paper images to the chart – what happens when the chart goes away?
- Initial thoughts were they could piggyback on the Radiology PACS
- Failed to understand that surgical and other procedures don’t follow the work flow of radiology procedures!

ARRA/MU Stage 2 Implications

- Now appreciate the need for an enterprise scale image management solution
- Need service area specific work flow solutions
- Need enterprise image viewer integrated with EHR
Example 1: Large West Coast Teaching Hospital

- Study management dependent on surgical management system
- No device interfaces to surgical management system
- Hard copy is primary record of procedure
- Camera-based images have no identification
- No means of identifying dictation other than verbal case identification
Example 2: Large East Coast Integrated Delivery Network

Background

- Growing multi-facility network looking to level-load physician resources across facilities
- Core integrated radiology/cardiology PACS, but no enterprise image management solution
- Difficulty adding new facilities that are not part of the core PACS
- Failed to grasp significance of a common image repository for improved image accessibility as part of an EMR initiative

ARRA/MU Stage 2 Implications

- Ability to achieve MU compliance will require an enterprise approach to image management
- Beginning to perceive advantages of an enterprise image management and accessibility strategy across disparate facilities
Example 2: Large East Coast Integrated Delivery Network

- Facilities may have separate hospital information system (HIS), Radiology Information System (RIS), and separate PACS environments
- No eMPI (electronic master patient index)
- RIS may have different exam codes
- PACS store images separately
- Load-leveled shared viewing requires:
  - Some means of bridging different patient identifiers
  - Some means of differentiating site locations
  - Potentially common image repository (or a way to link archives)
  - Some means of common image viewer (if PACS are by different vendors)
Example 3: Large Midwest Integrated Delivery Network

Background

- Large medical center planning implementation of an ambulatory care center
- Well established system-wide EHR
- Progressive in planning as a “paperless” environment by examining all work flows
- Areas identified as problematic for the amount of informal images acquired (i.e. smart phone and camera based images)
- Initially missed significance of image accessibility in a paperless/filmless environment

ARRA/MU Stage 2 Implications

- Will need to develop image viewing strategy as part of EHR
- Developing strategy for management of informal images may be important to ambulatory care center achieving MU compliance
Example 3: Large Midwest Integrated Delivery Network

- No patient interface to acquisition device (camera)
- Images downloaded to a PC and stored locally – no PHI security
- Manual report documentation placed in patient chart
- No enterprise knowledge of images
- No disaster recovery/backup strategy
- No enterprise accessibility other than hard copy
IT Services Implications: “Future State” Perspective

- Single Sign-on Access to Patient Information via EHR
- Image format independent viewer

- Enterprise Patient-Centric Information Storage and Management
- Accommodates multiple image formats

Radiology  Cardiology  Other "ologies"  Paper Docs  Content
IT Services Implications

• Image Repository
  – An image repository strategy will be essential to inclusion of image in MU Stage 2 compliance
  – Internal initiatives need to take into account *all* imaging services, as there may be additional potential from less evolved areas such as Ophthalmology, Pathology, Dermatology, etc.
  – Enterprise solutions may be better to look at XDS/XDS-i for broader applicability than just DICOM
  – Patient-centric solutions will be key to both multi-facility IDN’s as well as Health Information Exchange initiatives
  – Requires some means of eMPI, but an index needs to be enterprise-based, not imaging-based
  – Understanding workflow and developing study identification strategies will be key to a patient-centric identity
IT Services Implications

• Image Accessibility
  – Understanding multiple levels of image display requirements will be important to development of successful EHR integration strategies
  – EHR links must accommodate “universal” viewing requirements to foster clinical and patient acceptance
  – Zero footprint technology is advancing the state of viewer capabilities, making it possible to deliver more sophisticated capabilities across a wider variety of devices
  – Proliferation of image-enabled devices will make it more productive to alert clinicians to the availability of images

June 2012
IT Services Imaging Checklist

✓ Storage infrastructure capable of addressing imaging requirements?
✓ Have I identified all potential image creation sources? Do I know how many image formats I need to support?
✓ Can my disaster recovery strategy accommodate imaging?
✓ Do I have a strategy for sharing images across the enterprise? Through HIE’s?
✓ Does my EHR/EMR strategy include a plan for imaging links?
✓ Does my EHR/EMR strategy include a patient portal capability that is image ready?
✓ Do I have a eMPI strategy, and how will I identify/manage informal image capture?
✓ Do I have security policies that protect PHI on portable devices?
Conclusions

• No certainty that imaging will remain in ARRA/MU Stage 2 when finalized
• Intent probably right to emphasize the “what” but not the “how” as the technology is still in a state of flux
• If it remains, those with a strategy and technology investment (early adopters) may be beneficiaries
• PHI security is a key issue in terms of image storage and accessibility
• Not too early to develop a strategy and roadmap for imaging integration!
How BridgeHead can Help

• BridgeHead, in conjunction with Healthcare Integration Strategies offers a Readiness Assessment Program to assist with identifying imaging service requirements and a roadmap to address them.

• BridgeHead also provides a Healthcare Data Management (HDM) platform that delivers Enterprise Archival of all healthcare data.
HDM Platform

Backup oriented:
- Compression
- Encryption
- Data migration
- Disk to Disk to Tape
- Replication management
- Backup cycle management

Archive oriented:
- Compression
- De-duplication
- Encryption
- Authentication
- Data migration
- Meta-data catalogue
- Content index
- Policy-based retention

Multi-location, Media Agnostic
Archive & Share

EMR

XDS

XDS-I

XDS Agent

Scanned Documents

File Archival Agent

Radiology PACS A

Radiology PACS B

Cardiology PACS

DICOM Archival Agent

Healthcare Data Management Platform
Discussion
Thanks for attending!

We’d love to hear your feedback about the webinar and to find out what other topics would interest you. Please complete our 4-question survey at: http://www.cvent.com/d/ycqzx5/3B

Joe Marion
jmarion@hisconsultant.com

Tim Kaschinske
tim.kaschinske@bridgeheadsoftware.com