QIBA FDG-PET/CT Software Version Tracking Subcommittee Update WebEx

May 12, 2009
12:00 PM CDT

Call Summary

In attendance:

Ling X. Shao, PhD (Chair)
Michael E. Casey, PhD
Steve Kohlmyer

RSNA Staff
Susan Anderson
Joe Koudelik

General Discussion

Dr Shao provided an overview of the software (SW) version tracking survey for distribution to equipment manufacturers

- Survey would collect information on SW version and calibration from manufacturers; information would be useful throughout the clinical study
    - Proposed data to request from vendors
        - SW version number
        - Has SW been updated since last (patient) scan?
        - Last calibration date
- Instruction from manufacturers needed to display or obtain SW version on systems
- Software 'build' lists available from some manufacturers – list both acquisition and reconstruction SW versions – access may be difficult by users
- Will 3rd party tools/workstations read this data?

Software Version Tracking Subcommittee Stages – Audit Trail

- Stage I – Vendors only provide means to access SW version numbers (manual recording process by technologist)
- Stage II – Vendors to automate SW version tracking within DICOM headers (future project)
- User actions needed after SW version changes – This is beyond the scope of this subcommittee; other FDG-PET/CT subcommittees to address this issue
- Manual software tracking (Stage I) is the current focus of subcommittee; automated or semi-automated tracking will be a future project (Stage II)

Discussion of Publication

- If survey data is collected, what is the best way to distribute or publicize information
- Priority should be to publish (manufacturers or FDG-PET/CT Technical Committee/subcommittee?) on the SW version numbers and calibration details that are currently recorded with instructions on how to manually access this information from individual platforms (e.g. scanner, workstation, etc.)
- All tasks should not fall on the manufacturers
    - Clinical trial sites would be responsible to pursue their own SW tracking, with commercial or self-designed software (Can this be done without altering manufactures' system – Regulatory compliance requirement)

Image Acquisition vs. Reconstruction Software Versions

- Image acquisition and reconstruction SW versions typically recorded by scanners
- Only acquisition SW displayed on standard DICOM headers; reconstruction SW treated separately
- Better understanding of DICOM fields is needed

Four SW Version numbers should be recorded – All image acquisition and manipulations need to be recorded

- Acquisition/recording
- Workstation version
- Application software version/Processing, e.g. computation tool (same manufactures or third party's)
- PACS (if the quantitative tool is on PACS)

Questions remaining

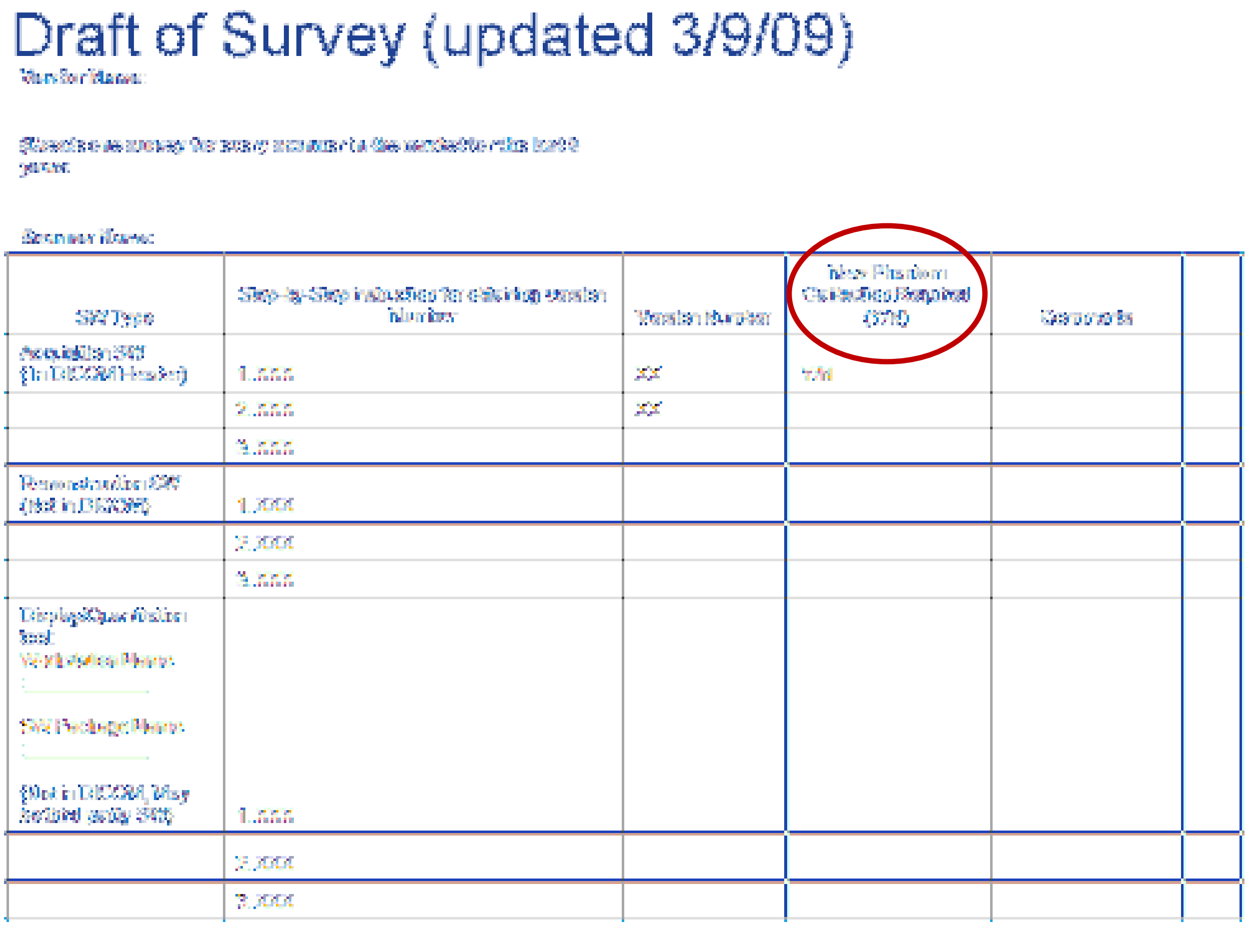
- How often to implement the survey during clinical trials?
    - After each SW update
    - After system calibration
    - Beginning of clinical trials only
    - Weekly
- Calibration may lead to greater issues than SW updates

Subcommittee Stage II (Automated SW Tracking)

- DICOM data currently based on image formation only
- Need DICOM to include image manipulation details, i.e. slicing, saved ROI, etc
- All SW versions need to be recorded
    - Workstation SW versions
    - Quantitation Application SW versions
- Should subcommittee propose a number, e.g. 10 new SW tracking-related DICOM fields needed in the next 10-15 years?

Next Steps

- Discuss Stage II – Automated SW version and calibration tracking within DICOM headers; define DICOM attributes needed
- Need list of relevant tracking fields for scanners and workstations
- Data management and dissemination of information needs more discussion



Draft of Survey (updated 3/9/09)

Vendor Name:

[illegible]

Scanner Name:

SW Type	Step-by-Step instruction for obtaining version Number	Version Number	New Phantom Calibration Required (Y/N)	Comments	
Acquisition SW (In DICOM Header)	1.xxxx	xx	Y/N		
	2.xxxx	xx			
	3.xxxx				
Reconstruction SW (Not in DICOM)	1.XXXX				
	2.XXXX				
	3.xxxx				
Display/Quantification tool Workstation Name: ______ SW Package Name: ______ (Not in DICOM, May include quantitative SW)	1.xxxx				
	2.XXXX				
	3.XXXX				

Survey revisions as of May 12, 2009

- '*New Phantom Calibration Required*' to be changed to '*System Calibration Required* '
- '*Date of Last Calibration Performed*' to be added to new column