

QIBA vCT Technical Committee Weekly Update

Monday, October 5, 2009

11 am CDT

Call Summary

In attendance

Andrew Buckler, MS (Co-Chair)
P. David Mozley, MD (Co-Chair)
Lawrence Schwartz, MD (Co-Chair)
Maria Athelougou, MD
Patricia Cole, PhD, MD
Charels Fenimore, PhD
Philip F. Judy, PhD
John Lu, PhD
Mahadevappa Mahesh, PhD
Michael McNitt-Gray, PhD

Kevin O'Donnell
Michael O'Neal, MD
Nicholas Petrick, PhD
Yuanxin Rong, MD, MPH
Daniel Sullivan, MD

RSNA staff

Susan Anderson, MLS
Joe Koudelik

Agenda (Mr Buckler)

- Group 1A update (Dr Petrick)
- Profile (Mr O'Donnell)
- Posters for RSNA 2009

Group 1 A update (Dr Petrick)

- Dr Kim completed mean performance measurements and variance for readers—just individual readers (not comparative)
 - Will soon complete bias and variance for every measurement and mean and will begin statistical significance analysis and comparison techniques
- Group viewed Dr Petrick's raw data, not corrected for bias, and discussed interpretation
 - Raw data for all 40 nodules in one set
 - 1D, 2D, 3D comparisons still need to be worked out by Dr Kim
 - Total is mean over 5 different readers
- Plan to identify significant subgroups, e.g. shape, size, slice thickness, for subgroup analysis
 - Small size groups may be reportable but not useful
- Group discussion of accuracy and precision
 - Standard deviation of spiculated nodules appear larger than spherical
 - SD based on measured values around the mean
 - Wider SD related to mean values seen in volume measurements
 - Merck data will be ready in a few weeks
 - Accuracy was less important than precision
- Image analysis at RadPharm in November 2009

Profile (Mr O'Donnell)

- Mr O'Donnell is incorporating feedback from Groups 1A & 1B
 - Group 1C will meet on October 14
- Early stage lung cancer Profile is started on wiki
 - The Late Stage "main" Profile can be used as template and also source of direct wording

- Profiling activities begun in FDG-PET /CT and DCE-MRI Technical Committees
 - FDG-PET/CT copy is on wiki; group is also working on parallel Word documents
- May consider Google Docs for future work
 - IHE is exploring 'permissions' aspect of Google Docs
- COPD/Asthma committee developing Claims to begin Profile work
 - COPD/Asthma committee members met together at ACRIN meeting, Sept 30, to discuss Profiling activities

Content for Posters for RSNA 2009

- Would be helpful to have anecdotal case(s) from Dr Schwartz plenary session or from Merck
- Want practicing radiologist to see that it is crucial to change image acquisition parameters
 - Messages:
 - You can judge response by volume/quantitative imaging
 - How accurate are your measurements?
 - See our compelling groundwork
 - Check back next year to see results
- **Eight statements (2 posters containing 4 quadrants each)**
- Why is it important? to include anecdotal cases (Dr Schwartz , ¼ poster)
- Roadmap—how we are approaching the problem (Dr Mozley, ¼ poster)
- Profiling and Protocol detail for VolCT (Mr O'Donnell)
- 1A, ¼ poster (Dr Petrick)
- 1B, ¼ poster (Dr McNitt-Gray)
- 1C, ¼ poster (Dr Fenimore)
- COPD/Asthma , ¼ poster (Dr Judy)
- How clinical radiologists can be involved
 - Need to target what interests the clinical radiologist; why quantitation is important

Detailed content:

- **1A (Dr Petrick)**
 - Protocol – details of study design
 - Description of what was done
 - Discussion of using data/results/analysis; consensus was not to include analysis at this time (for a later publication)
- **1B (Dr McNitt-Gray)**
 - Echo work of 1A but expanding from phantoms to patient datasets
 - Show some examples of MSK Coffee Break images
- **1C (Dr Fenimore)**
 - Focus to be on Protocol
 - Emphasize tie-in with Profiling and performance measures/components
 - Goals and how we hope to achieve them
- **COPD/Asthma**
 - Condensed version with process for disease area

QIBA Kiosk for RSNA 2009

- Three panels
 - What is QIBA / Overview of Profiling process / Listing of Tech Cttes and Co-Chairs
 - 4th side to contain a revolving PowerPoint presentation with a general QIBA overview

Next Steps:

- Target completion of poster content assignments and printing of poster