

QIBA fMRI Subcommittee Update Call
Wednesday, November 03, 2010 at 11 am CDT

Call Summary

In attendance

Cathy Elsinger, PhD (Co-chair)
Edward DeYoe, PhD
James L. Reuss, PhD
Douglas M. Tucker, PhD, MBA
James T. Voyvodic, PhD

RSNA

Joe Koudelik
Julie Lisiecki

QIBA fMRI/DICOM Working Group Update (Dr Tucker)

- Dr Tucker planning a high-level presentation with the DICOM 16 Working Group and their industry partners on QIBA history/mission/activities
- Mr Andrew Bucker's slide sets might be useful as reference
- Workflow content to be basis of current vs future (ideal) workflow process
- Dr Tucker to send his slide deck to Dr Elsinger and have Wiki posted
- Dr Tucker to circulate workflow spreadsheet for feedback

QIBA fMRI/Reproducibility Working Group (Dr Voyvodic)

- Reproducibility of neurovascular uncoupling and integrating the workflow process into Profiles is current group focus; need to identify issues requiring follow-up
- Many ways to measure vascularity in patients; a better control over tasks performed needed
- Matrix based on current data needed to better organize Profile details and provide straightforward checklist for sites to complete/submit
 - Steps in workflow process (y-axis)
 - What imaging sites are performing these workflow steps (x-axis)
- Some workflows short on detail
 - Need level of detail to help focus Profile on reproducibility effects
- Variability across methods needed to help develop guidelines based on variability and accuracy
- Bulls-eye approach to performance discussed; Acceptable, Target, Ideal
- Profile writing group proposed to organize Profile details into targets

RSNA 2010 Annual Meeting – Poster Presentation

- Poster to be received by RSNA no later than Monday, Nov 15, 2010
- List of institutions/companies participating in QIBA efforts needed, e.g., participating organizations
- Characterize workflow; need to understand what data is consumed, used, produced and what characterizes the data
- Broader DICOM standards also needed, e.g. broader paradigms
- Optimize conditions and help better attain quantitative imaging by developing a "Best Practices Guideline"
- Dr Tucker to make modifications; Dr Elsinger to circulate drafts for feedback

Profile and Claims Development

- Need to better characterize Claims in terms of what is achievable in terms of reproducibility, accuracy, etc
- Accuracy measurements needed for potential inclusions within Profile Claims
- Accuracy defined as a functional perspective of brain and patient behavior and abilities that the fMRI activation should signify
- Caveats/qualifications may be needed to state conditions under which Claims may not be valid

- Example caveats
 - Neurovascular uncoupling
 - Disconnection complications
 - Functional specificity
 - Performance variability issues
- Concrete target needed for reproducibility Claims; need to focus on quantitative aspects
- Updated documents need to converge
- Caveats/Qualifiers to be included until Claims can be confirmed by groundwork
- Dr DeYoe to add material (and caveats) to Dr Voyvodic's Nov 3rd revision posted to the Wiki
 - Track changes to be used with MS-Word docs posted to the Wiki
- The fMRI activation map (observable) might be weaved into the Claim language
- FMRI activation map is "the tool" to assist in pre-surgical decision making; fundamental observations to derive quantitative measures
- Need to define accuracy based on map of signal change and subject to reproducibility
- Drs Zaka and DeYoe have breath-hold data to be discussed on next call

Next Steps:

- Dr DeYoe to add material to Dr Voyvodic's Nov 3rd revision posted to the Wiki
- Dr Tucker to send his slide deck to Dr Elsinger and have Wiki posted
- Dr Tucker to make modifications; Dr Elsinger to circulate drafts for feedback
- Dr Tucker to circulate workflow spreadsheet for feedback
- Drs Zaka and DeYoe's breath-hold data to be discussed on next call
- Discuss what other sites are doing to assess neurovascular uncoupling
- Focus on Profile development for next call
- Next call scheduled for: November 17 at 11 am CDT