

QIBA fMRI Subcommittee Update

Wednesday, April 20, 2010

11 AM CDT

Call Summary

In attendance:

Cathy Elsinger, PhD (co-chair)

Joy Hirsch, PhD (co-chair)

Jeffrey Petrella, MD

Andrew Buckler, MS

Ted DeYoe, PhD

Scott Faro, MD

Feroze Mohamed, PhD

Srinivasan Mukundan, Jr, MD, PhD

Daniel C. Sullivan, MD

Douglas M. Tucker, PhD, MBA

James T. Voyvodic, PhD

Gudrun Zahlmann, PhD

RSNA

Susan Anderson, MLS

Joe Koudelik

QIBA Update (Dr Elsinger)

- QIBA annual meeting scheduled for May 25-26, 2010 in Chicago; contact Joe Koudelik, jkoudelik@rsna.org with questions

Cross-representation of QIBA and DICOM Working Group (Dr Tucker)

- Dr Tucker joined call of DICOM Working Group 16 (WG16) on April 14 during April 14-15 meeting of the DICOM group in Bordeaux, France
- WG16's request for action on fMRI was granted; the group will investigate fMRI re: clinical systems and real-world clinical problems, e.g. order form, paradigms, workflow, acquisition devices, data objects, post-processing, and systems, to determine best way to represent
- WG16 needs fMRI experts to provide information
- Dr Tucker will contact Kees Verduin (Philips Medical Systems) chair of the DICOM WG16, to consider forming QIBA fMRI-DICOM work group; to be liaison back to WG16 providing information on representing workflows, data reporting, etc
- Experts needed to determine what additional DICOM fields should be represented
- Drs Pillai and Mohamed will offer assistance
- Interest from the ctte in coordinating with WG16 and assuring representation and applicability across all vendors

Literature search

- Dr Elsinger contacted the CPT contact at AMA re processes for Current Procedural Terminology (CPT) and for scoring literature and also contacted AAN about literature classification
- Dr Mohamed was chair of ctte of ASFNR and American Society of Neurology which worked on this topic
- Consider constructing grid to describe literature which can be updated with new references

QIBA fMRI Profile development (Dr Elsinger)

- Current draft and edits are posted on QIBA wiki:
http://qibawiki.rsna.org/index.php?title=Profile_Development
- Dr Reuss provided revision with wording on broadened scope
- Three sections in Profile: Clinical Relevance, Claims and Details
 - Claims are minimum performance thresholds; should be limited to reasonable and achievable
 - Can list paradigms with reliability or list reliability and identify paradigms that 'fit'
 - Discussion of long-term adaptation to quantitative results changes
 - Profile is intended use-dependent and can expand as technology supports new capabilities; Profile is 'versioned' to accommodate changes
 - Details include prescriptive language similar to patent application

- Review literature to verify and validate accuracy (not much data) and reproducibility (somewhat more data) and also to define experimental groundwork
- Claim One addresses quality assurance for scanners
 - Claims language should be specific; replace 'very sensitive' with a number denoting how sensitive
- Consider compiling list of 'readout' measures and post on wiki
 - Dr Mohamed will circulate article from *Cerebral Cortex* on TSNR maps
- Continue work on spatial map Claim; volunteers needed

Next Steps:

- Comments and changes to Draft Profile sections on wiki encouraged
http://qibawiki.rsna.org/index.php?title=Profile_Development
- Dr Mohamed will circulate 2009 Price article and TSNR article from *Cerebral Cortex*
- Dr Tucker will circulate e-mail on forming subcommittee on DICOM Working Group 16
- Continue discussion on assignments/volunteers for Profile development
- Dr DeYoe to initiate next draft of claims
- Next call: May 5, 2010 at 11 am CDT