QIBA fMRI Biomarker Committee (BC) Meeting
Wednesday, October 18, 2023, at 11 a.m. (CT)
Meeting Summary

In attendance   **RSNA staff**
Feroze Mohamed, PhD (Co-chair)   Cathy Elsinger, PhD   Andrew Kalnin, MD   Susan Stanfa
Jay Pillai, MD (Co-chair)   Mai-Lan Ho, MD   Anthony Liu, PhD
David Soltysik, PhD (Co-chair)   Ichiro Ikuta, MD, MMSc   James Voyvodic, PhD

Review of Previous Meeting Summary:
- The 10.04.2023 meeting summary was approved as presented

Latest version of the Special Report was Reviewed
- Text in Impact of the Study Claims on Clinical Interpretation section that highlighting difficulties and advantages of fMRI to be moved to the Introduction
- Standards for reproducibility for both localization and lateralization to be established, as well as the need for reproducibility of hemispheric dominance determination
- Reminder to be mindful regarding extraneous material, given the word limit
- Paper focusing on the six critical language regions to be referenced in the Results section, although data used for the profile do not include all these areas
    - fMRI is reproducible for language localization as previously demonstrated in prior published work, but reproducibility of language lateralization is now being demonstrated through work of the BC
    - It will be noted that the fMRI BC will need to follow up on this work through other studies for further refinement

- Results of using fMRI will be highlighted as well as the clinical outcome of the patients
- Suggestion for including statistical method for doing a reproducibility study on 30 subjects in the Assessment Procedures and Conformance section
    - Might be too rigorous of a request of the reader / Profile user
    - Instead, hurdles to conducting a formal assessment procedure and determining conformance considering the lack of commercial products to perform calculations could be the focus
    - Industry to be encouraged to provide similar tools

- The following will be discussed in the Future Developments and Conclusions Section:
    - fMRI can be highly reproducible, but only if the scans are of a sufficiently high standard, i.e., activation is in the correct ROI location
    - Assessment of the map is dependent on an expert
    - Objective criteria for assessing image quality are required
    - There is room for improvement in fMRI analysis, and if the field implements the improvements to assess fMRI quality, then fMRI results will be more reproducible
    - "Quantitative" to be added to reference QIBA

Next Steps
- The fMRI Language-Mapping Stage 0 Profile, upon which the special report is based, to be completed and published prior to special report submission to *Radiology*
- Goal is for Special Report to be submitted to *Radiology* before end of 2023
- Final internal section-by-section review of Profile needed before the following can be initiated (Special Report to be worked on in parallel):
    - Circulate for full BC internal review followed by a BC vote-to-release for Stage 1: Public Comment
    - MR CC vote-to-release to follow

- o   Profile to be disseminated for public comment

- **Next meeting**: November 1, 2023, at 11 a.m. CT (1st & 3rd Wednesday of each month)
  - o   It was noted that four RSNA admin-supported fMRI BC calls remain, and Profile writing group calls will continue independently after Dec. 22