QIBA fMRI Biomarker Committee (BC) Call

Wednesday, January 16, 2019 at 11 AM CT

Call Summary

In attendance

			RSNA staff
Feroze Mohamed, PhD (Co-chair)	Ping Hou, PhD	Ho-Ling (Anthony) Liu, PhD	Joe Koudelik
Jay Pillai, MD (Co-chair)	Edward Jackson, PhD	Nancy Obuchowski, PhD	Susan Stanfa
Cathy Elsinger, PhD	Andrew Kalnin, MD	James Voyvodic, PhD	

Review of Previous Call Summary

- The 12.05.2018 call summary was approved as presented

Center of Mass Activation (CMA)/Signal Peak Activation (SPA)

- Dr. Elsinger circulated the final reports of previous funded groundwork projects
  - Additional time requested to review data reproducibility before discussing
  - These reports will be used with reference to the checklist to confirm that data is supported by this groundwork

- Peak activation and CMA options to be explored; discussion from December 5 call was continued
- Discussion regarding progress reports of fMRI groundwork studies that were funded through the NIBIB grants
  - Staff forwarded fMRI Groundwork project final reports to Dr. Elsinger for review of study findings on metrics, which informed the Motor-mapping Profile 1.0
  - Rationale for choosing Center-of-Mass Activation (CMA) over Signal Peak Activation (SPA) was discussed
  - Dr. DeYoe to be invited to February 19 fMRI BC call to discuss the data from his groundwork language projects
  - The source of reproducibility data used in the Profile needs to be identified
  - Dr. Voyvodic provided an overview of his motion DRO groundwork study
  - Data are needed to compare methods of measurement for CMA and SPA
  - Dr. Obuchowski cautioned that the current sample size of 8 may be insufficient: a sample size of n=35 is needed for sufficient precision, i.e., the reproducibility Claim should be based on a 95% confidence interval
  - Dr. Voyvodic used hundreds of samples in his study and the Profile v1.0 Motor Cortex Claim is derived from his data sets
  - Until SPA data are acquired, fMRI Motor Mapping Profile v1.0 Claim to include only CMA as the optimal requirement; SPA to be explored in parallel (as opposed to updating the current Profile v1.0 to include it with an additional Claim)
  - Dr. Voyvodic stated that it would not be difficult to calculate SPA (vs. CMA) by referencing data that has already been collected
  - Peak activation deemed easier to obtain, but reproducibility data is unknown
  - Concern that the checklist instructs to use CMA, but it is not feasible for most checklist reviewers

- Updates on Profiles v1.0 (motor-mapping) and v2.0 (language-mapping)
    - The latest copy of Profile v1.0 is located at:
      https://docs.google.com/document/d/1QBn8l_wEH620LqShyW649Ejcx9qO3wq52u9iPc5mjJg/edit?usp=sharing (contact Dr. Elsinger if needed)
        - **If the user works directly in the cloud-based Google Doc, versioning will not be an issue since document changes are saved instantly in the cloud**
            - Copying Google Docs or downloading them to local computers may lead to version confusion among users
            - If needed, previous document versions can be recovered via "Version History" from the "File" menu
            - Working in Google Docs provides convenience, efficiency and flexibility; eliminates need to circulate Profile versions among editors
            - Comments can be made and questions can be asked directly in a Google doc, eliminating the need for email conversation chains

    - Dr. Elsinger continues to use a Google Sheet to track how public comments were addressed and the resulting changes made to the Profile
        - Redundancy that appears in the Profile is being eliminated
        - A few unaddressed comments need discussion by fMRI BC members before action can be taken
        - Questions regarding coregistration to be addressed
        - Feedback on the checklist will also inform changes to the Profile; the number of tasks in the checklist will be reduced to include only tasks necessary to achieve Claim

- Consensus was reached in regard to shifting efforts to the fMRI Language Mapping Profile v2.0, which may garner more interest from the fMRI community than v1.0 (Motor Mapping)
- The February 6 fMRI BC call to be dedicated to a discussion of Dr. Pillai's paper, "Repeatability of language fMRI lateralization and localization metrics in brain tumor patients," to be circulated on January 16
    - Dr. Soltysik to provide an update regarding the checklist

- The next MR CC (Q1) meeting is scheduled for Wednesday, February 27 at 11 AM CT
    - Standing agenda item for all quarterly Coordinating Cmte meetings to include a reminder to all BC leaders to update dashboards and conduct a quick review of all BC wiki pages

Next calls:
- QIBA fMRI Biomarker Cmte call – **Wednesday, February 6, 2019** at 11am CT - 1st & 3rd weeks of the month
- QIBA fMRI Bias TF call – **Tuesday, January 22, 2019** at 1 PM CT - 2nd & 4th weeks of the month

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