QIBA fMRI Biomarker Committee (BC) Call
Wednesday, March 6, 2019 at 11 AM CT
Call Summary

In attendance

			RSNA staff
Feroze Mohamed, PhD (Co-chair)	Cathy Elsinger, PhD	Deqiang Qiu, PhD	Joe Koudelik
Jay Pillai, MD (Co-chair)	Andrew Kalnin, MD	Flavius Raslau, MD	Susan Stanfa
David Soltysik, PhD (Co-chair)	Ho-Ling (Anthony) Liu, PhD	James Voyvodic, PhD	

Review of Previous Call Summary

- The 02.20.2019 call summary was approved as presented

Updates on Profiles v1.0 (motor-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 access is needed)
- Drs. Mohamed, Elsinger and Soltysik to finish addressing public comments offline
- Staff have distributed Dr. Soltysik's edits to the checklist, but no feedback has been received

Potential fMRI BC Groundwork Project

- The Sustainability Implementation Group (SIG) has requested that all QIBA modalities (CT, MR, NM, US CCs) provide up to 3 groundwork projects that would help advance the current Profiles
- Discussion focused on a possible fMRI project
  - It was noted that there is much interest in quantitative fMRI in the context of drug studies, to look at change in brain function over the course of a clinical trial – using brain imaging as an output variable
  - Benefits to pharmas/ICROS to be highlighted; plan to explain potential impact of the project on clinical trials
  - Profile v1.0 is aimed at accurately measuring changes in brain (motor) function between two scans
  - While behavioral changes are readily apparent, physiological and structural brain changes are difficult to assess; a physical correlate is the missing link here
  - It was pointed out that while there is already a lot of work in this area, improvements on methodology are needed due to variability/bias in existing studies
    - Goal for project could be to reduce variability and as a result, decrease the number of subjects that would be needed for a clinical trial
    - Recommendation to not only show *how* reducing variability is done, but show how to *get better* reproducibility using quantification (i.e., the goal of the motor and language Profiles)
- The Pharma letter has been created and is awaiting BC project proposals; the letter will be targeted to specific groups that may have a vested interest in QIBA efforts
- Project title, PI, rough budget, 3-4 sentence description will need to be submitted
- Suggestion to first circulate an outline to core fMRI BC members by email and identify who would be interested in leading the project (PIs)

- Staff provided details re: the timeline
    - BC leaders to submit projects to MR CC leaders by Monday, April 15th
    - Project descriptions to be reviewed by CCs during their Q2 CC calls scheduled for late April
    - CCs to choose 3 projects per modality and submit to the SIG by the end of April for discussion during the May 16th SC call
    - If the May SC does not meet, proposals will be reviewed/selected during the June 12th SC F2F meeting

- Discussion continued regarding possibilities for an fMRI groundwork project
    - Committee consensus was that resting-state approach was of great interest to Pharma and most timely
    - It was pointed out that it is easier to apply resting-state analysis to task-based motor-mapping since Profile v1.0 is already established
        - It was regarded as a more feasible approach for a one-year funded study than language-mapping would be; applying resting-state to language (Profile v2.0) was deemed extremely complex
    - It was noted that there are current clinical drug trials for Alzheimer's disease using fMRI to try to detect change
    - Resting state on sensorimotor network to be used as a metric; in principle, it could be applied to any other network if reproducible
    - Parameters of relevance (metrics) are needed for neuropsychiatric and dementia drug development
    - In preparation for the March 12 fMRI Bias TF call, members were asked to gather papers on quantitative aspects on resting state analysis for discussion
    - Resting state can be applied in the context of motor- or language-mapping
    - Dr. Voyvodic to draft project description for discussion during the March 12 fMRI Bias TF call
    - DRO project results to eventually be submitted for publication; additional discussion needed
    - Language lateralization reproducibility data to be shared during a future fMRI BC call
    - Dr. Elsinger to develop project ideas related to Parkinson's disease and will distribute some study links

Next calls:
- QIBA fMRI Biomarker Cmte call – **Wednesday, March 20, 2019** at 11am CT - 1st & 3rd weeks of the month
- QIBA fMRI Bias TF call – **Tuesday, March 12, 2019** at 1 PM CT - 2nd & 4th weeks of the month

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