QIBA CT Volumetry Biomarker Committee (BC) Update Call
20 April 2015 at 11 AM CT
Draft Call Summary

In attendance: **RSNA:**

Gregory Goldmacher, MD, PhD (Co-Chair)   Charles Fenimore, PhD   Nicholas Petrick, PhD   Joe Koudelik

Samuel G. Armato III, PhD (Co-Chair)   David Gustafson, PhD   Daniel Sullivan, MD   Julie Lisiecki

Jayashree Kalpathy-Cramer, PhD (presenter)   Lubomir Hadjiiski, PhD   Ying Tang, PhD

Maria Athelogou, PhD   Rudresh Jarecha, MBBS   Amit Vasanji, PhD

Hubert Beaumont, PhD   Hyun Grace Kim, PhD   Lifeng Yu, PhD

Andrew Buckler, MS   Nancy Obuchowski, PhD   Luduan Zhang, PhD

Marcin Czarniecki, MD

General Discussion

- Discussion topics focused on the procedural framework after data-collection
    - How analysis would fit into existing structures within the QIN Network
    - Dr. Kalpathy-Cramer gave an overview of Project C-BIBOP, which is built on CODA-Lab
        - Data can be uploaded with immediate analysis on QIN servers utilizing DICE, Jaccard, etc.
    - Challenge design and anonymization of participants was also discussed

    - Suggestions for challenge design included:
        - Crossing M-Readers and software systems
        - Not allowing participants to use their own algorithm
            - Algorithms would be executables hosted with remote access on the QIN site
            - Alternatively, software could be hosted by the owner, who would give the readers access to log in and do the reads.
            - Should radiologists perform manual analysis and compare to automated analysis?
        - A fixed group of readers would read all of the images

    - Other considerations include:
        - Next steps in design
        - Access to software
        - Availability of readers

    - Dr. Goldmacher to determine availability / commitment of readers
        - May decide to poll all QIBA CT Volumetry BC MDs to determine interest

    - Estimated design complexity:
        - 4 sites, 18 subjects per site, 2 time-points per subject, analysis on 3 software systems,
        - If 5 readers, it would be a total of 2,160 reads, or 432 reads per reader. Will explore how the workload could be divided among more readers.
        - Estimated time-frame for upload of images to QIN servers is at least one year
            - Algorithm developers believed this design may be too unwieldy and time-consuming.
        - Dr. Kalpathy-Cramer to follow up with QIN leadership to determine whether the infrastructure is capable of managing the executables

Action items
- Drs. Goldmacher and Obuchowski to discuss the design in greater detail offline, prior to the April 27th call
- Dr. Kalpathy-Cramer to follow up with QIN leadership to determine if the project is feasible

Next Calls: April 27: Continuation of Field Test Planning Discussion | **May 04:** No call