QIBA Lung Density Biomarker Committee
January 4, 2017 at 2 PM CT
Draft Call Summary

In attendance
Sean Fain, PhD (Co-Chair) Andrea Ferrero, PhD Philip Judy, PhD Joe Koudelik
Matthew Fuld, PhD (Co-Chair) Charles Hatt, PhD Miranda Kirby, PhD Julie Lisiecki
David Lynch, MD (Co-Chair) Bernice Hoppel, PhD Nancy Obuchowski, PhD
Heather Chen-Mayer, PhD Stephen Humphries, PhD Jered Sieren, BSRT (R) MR CT

RSNA

Profile Work (Drs. Hatt and Kirby, and Mr. Sieren)
- Discussion of Image Analysis Workflow
  - Additional work is needed on the image analysis section
  - Specific targets for the Profile must still be determined
  - Updates based on the discussion will be provided for group review prior to the next call on 1/18
- A proposed software challenge is under consideration to determine the magnitude effect of software on lung density measurements
- Rules of the challenge would follow similar protocols as those outlined in MICCAI or SPIE
  - Such a challenge would allow for comparison of software vendor results, which would provide the following updates for the Profile:
    - Limits of agreement between software versions
    - Bias
    - Additional sources of variation created by segmentation and analysis techniques Consensus regarding the steps needed to complete a robust segmentation for lung density (image analysis section)
  - Results from the challenge, not challenge details themselves, would be included in an appendix for the Profile

Planning for the proposed Challenge
- It would be ideal to make the COPDGene data publicly available via the QIDW for a constant future reference
- Presently, there are 100 datasets that are publicly available on dbGaP; however, this data would probably need to be re-anonymized for the group’s use and reference
- If a challenge would be completed, the group would consider writing a paper for publication of the study results
- If approved, such a challenge would be designed for eight targeted vendors
- Air-trapping would be pursued for a future Profile

Action Items
- Dr. Hoppel to follow up with Dr. Chen-Mayer regarding data questions
- Dr. Hoppel also to follow up with her Toshiba contact in Toronto
- Dr. Lynch to follow up with Ms. Ekta Dharaiya, the group’s Philips liaison
- Volunteer needed to draft a Challenge strawman
- Dr. Chen-Mayer to discuss preliminary results on 1/18 call
- There will also be an AEC update on 1/18
- Drs. Hatt, Kirby, and Mr. Sieren will provide additional updates on the Image Analysis section of the Profile as well as additional details regarding the proposed challenge

Next call: Wednesday, January 18, 2017 at 2 pm CT