QIBA Lung Density Biomarker Committee (BC) Call
November 20, 2019 at 2:30 PM (CT)
Call Summary

In attendance   **RSNA**

Charles Hatt, PhD (Co-Chair)   Stephen Humphries, PhD   Nancy Obuchowski, PhD   Joe Koudelik
David Lynch, MD (Co-Chair)   Philip F. Judy, PhD   Kevin O'Donnell, MASc   Julie Lisiecki
Rick Avila, MS   Miranda Kirby, PhD   Juan Carlos Ramirez Giraldo, PhD
Timothy J. Hall, PhD   Amin Motahari, PhD

Moderator: Dr. Hatt

QIBA CT Lung Density BC Leadership Changes:
- Dr. Lynch informed the BC that he intends to step down as a BC leader as well as from his role as Vice Chair of the QIBA CT Coordinating Committee, effective at the RSNA 2019 Annual Meeting
  - He thanked his co-chairs, Drs. Hatt and Fain, the BC members, and RSNA Staff, and indicated that he intends to remain an active participant on the Lung Density BC, particularly with regard to finalizing public comments received
- Dr. Kirby has agreed to serve as a new QIBA Lung Density BC Co-Chair
  - Official changes will be documented after the RSNA Annual Meeting

Profile Public Comment Review:
- Dr. Hatt to follow up with Dr. Fain regarding assignments of Public Comment resolution issues to BC members based on their expertise
  - Reviewers will be assigned tasks using the comment resolution spreadsheet under the "owner" column

Greater software representation needed:
- With Mr. Jered Sieren leaving VIDA, a new representative would be very helpful
  - Dr. Kirby to reach out to VIDA about identifying someone
- Other software mentioned to consider included YACTA, Verona, 3D-Slicer, and Coreline
- There are vendor-specific instructions needed to complete scans and analysis, and it would be helpful to have vendor input, particularly with regard to Protease Inhibitor 10 (Pi10)
- BC leadership would like to resolve vendor inter-variability

COPDGene Conference Update:
- Dr. Hatt went to a workshop at the conference and met with Mr. Rick Avila, (CEO of Accumetra, Inc.), who is interested in working with the Lung Density BC to obtain and analyze additional data with the COPDGene Mr. Avila has created an automated process to analyze phantom measurements to determine if a vendor or imaging site is QIBA conformant
- It may be possible to provide an Image Quality Conformance Certification for lung density, similar to the one that is currently being offered for small lung nodule lung cancer screening
- Mr. Avila gave an overview presentation to the group regarding the small lung nodule process
  - An Accumetra phantom is relatively inexpensive at $250
  - The phantom is very easy to use
  - Accompanying software automatically analyzes data and provides a quantitative report
  - This process is fully automated with the capacity to produce large volumes of data for study
  - A report could be produced for lung density with a .csv file generated for every scan uploaded

- Some concerns regarding the table registration plates on the bottom of the COPDGene scanner were discussed
    - Dr. Lynch suggested contacting Josh Levy, (President of The Phantom Laboratory)
- Phantom re-scanning would need to be done anytime there are scanner or protocol changes
- Mr. Avila is interested in collaboration and asked the BC leaders and members to consider his proposal and provide feedback to rick.avila@accumetra.com
- Dr. Hatt thinks that the Accumetra process could help to translate QIBA work to clinical use, as much of the Profile work could be similarly automated
- Using the Accumetra testing process could test QI to determine if imaging is being performed in the best way possible
- Mr. Avila indicated that modest modification to the existing SLN analysis process would be needed by Accumetra, with no cost to QIBA/RSNA expected
- Additional phantom analysis code was welcome for the conformance platform, since the University of Iowa already created COPDGene phantom software
- There is also some synergy with COPDGene regarding clinical validation of the Profile
- Mr. Avila to follow up with the Lung Density BC in January

Action items (some from previous call):
1. BC members may be assigned follow up items (based on expertise) to resolve public comment questions and report back to the BC on the next call (Dr. Hatt to follow up with Dr. Fain)
2. Dr. Hatt to invite an expert in airway analysis (Dr. Jean Paul Charbonnier) to outline Pi10 at the next meeting
3. Make progress on reaching out to sites to obtain a repeatability dataset for CAC and lung density in LCS data. Not certain who the best contact would be. (Dr. Hatt to ask Ella.)
4. Reach out to leaders of the American Lung Association study (that is in planning) regarding a possible qualification for the Profile (Dr. Lynch)

Next meetings:

WebEx: Wednesday, December 18, 2019 at 2 pm CT (BC WebEx)

f2f: Wednesday, December 4, 2019 (QIBA Working Meeting at RSNA 2019)

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