

QIBA Lung Density Biomarker Committee (BC)

July 1, 2015 at 2 PM CT

Call Summary

In attendance

Sean Fain, PhD (Co-Chair)

Matthew Fuld, PhD (Co-Chair)

David Lynch, MB (Co-Chair)

Philip F. Judy, PhD

Andrew Buckler, MS

Heather Chen-Mayer, PhD

Dominic Crotty, PhD

Joshua Levy

Songtao Liu, MD

Daniel Sullivan, MD

RSNA

Joe Koudelik

Julie Lisiecki

Leadership transition (Dr. Sullivan)

- Dr. Sullivan thanked Dr. Judy for his 7 years of service as Chair of the QIBA Lung Density Biomarker Committee and for moving forward the work of the committee
- Drs. Fain, Fuld, and Lynch have agreed to serve as co-chairs of the committee in a transition of leadership and hope that Dr. Judy will continue to join calls in order to provide invaluable expertise

Profile Issues Discussed (Dr. Judy)

- The group is very close to release of a Profile Repeatability remains a challenge –
 - CT is useful as an imaging application but is best as a quantitative application in clinical trials
 - There is insufficient repeatability for clinical application in clinical practice
 - Precision is found in large numbers and is useful in clinical trials, but insufficient data are available to adequately power a study for clinical care
 - For pulmonologists, a repeatability coefficient of 1% would be needed to be clinically useful
- A Profile claim worded for the clinical trial setting instead of clinical practice is needed
- Claim language may need to be rewritten based on the precision considerations

Vendor COPDGene Phantom 2 Scanning Results (Dr. Fuld)

- CT number calibrations – Second round-robin included NIST lung density reference object
- Goal was to use results from round-one vendor scanning, specifically the data from the 4, 12 and 20 lb NIST foams in the COPDGene II phantom, to perform a correction to more closely align the quantitative measurements between vendors.
- Correction was also applied to inside air and water to see the effect of the correction at the extremes.
- Only 4 scanners (one model each) were included: Siemens (SOMATOM Definition Flash); GE (Revolution CT); Toshiba (Aquilion One); and Philips (iCT 256)
- Data from this experiment will be used to develop criteria for a “virtual scanner” – a resource that could be useful to everyone.

AAPM: July 12 - 16, 2015, Anaheim, CA

- Dr. Chen-Mayer's AAPM Presentation TU-G-204-8 (Tuesday, July 14, 2015)
 - 4:30 PM - 6:00 PM Room: 204

Action item: Dr. Fuld to provide slides to RSNA staff for distribution prior to next call

Next call: Wednesday, July 15, 2015 at 2 pm CT - Automatic Exposure Control (AEC) update