QIBA Lung Density Biomarker Committee (BC)
July 29, 2015 at 2 PM CT
Call Summary

In attendance

Sean Fain, PhD (Co-Chair)	Dominic Crotty, PhD	Eric Perlman, MD
Matthew Fuld, PhD (Co-Chair)	Charles Hatt, PhD	Jered Sieren
David Lynch, MD (Co-Chair)	Bernice Hoppel, PhD	
Andrew Buckler, MS	Philip Judy, PhD	**RSNA**
Heather Chen-Mayer, PhD	Songtao Liu, MD	Joe Koudelik

Agenda:

- Discuss how the results of and correction/harmonization of the vendor scans should guide the target performance metrics in the Profile
- Volume correction progress and update post-AAPM (Dr. Chen-Mayer)
- Dr. Judy to present his attempt to reconcile low dose expiratory scans to high dose inspiratory scans using volume correction

General Discussion:

- Round I of COPDGene phantom scanning has been successful at assessing various platform calibration requirements
    - Focus is on low density imaging in emphysema; fibrotic lung disease is a future goal
    - Foam, water and air were scanned to identify platform-specific output dependencies between -600 to -1000 HU
    - Scanner recalibration may be needed to better accommodate the low HU range in question; whether this is done at the scanner/vendor level, or strictly during post-process, requires further discussion
    - A request to vendors to make platform-based recalibration changes or tools may receive pushback, as this would be a substantial vendor ask
- Round II of phantom scanning to expand to address iterative reconstruction (IR), AEC, and 3-D phantom testing
    - Scanning to begin once accessible vendor platforms and sites are located (~Sept 2015)
        - Toshiba (NIH) Drs Hoppel and Chen-Mayer
        - Siemens (NIH) Dr Fuld
        - Philips (NIH) ? (scanner may not be available)
    - Additional doses may be tested as well, e.g., 30, 40, 60 mAs (bracketing the original 50 mAs used)
    - Spatial resolution limits need to be identified
    - Recon kernel recommendations by vendor may be helpful in the Profile
    - Current imaging metrics that may impact quantitation need to be identified
    - Suggested that better/new phantoms needed to evaluate platform performance characteristics
    - A loss in image quality was deemed acceptable to obtain greater quantitation from images
    - Round II results will help feed the current Profile

Action Items:

- Dr Fuld to circulate the study parameter specifications used in Phase I and planned for Phase II, and the overall Phase I results to the cmte for reference (as a proposed method to attain harmonization); committee feedback welcome
- AEC analysis to be fed into Profile and help inform Round II phantom scanning

Next call: Wednesday, August 12, 2015 at 2 pm CT