Update on Proposals Discussed

- No final decisions made, but unlikely either COPD proposal will go forward at this time consider a good exercise for year-2 submission
- More discussion about revising proposals with regard to:
  - Concerns about variability and how this relates to current ctte work
  - May circle back or follow up at a later date; need more discussion

COPD/ Asthma Protocol and Profile Update

- UPICT template used as reference to develop COPD imaging protocol
  - Measuring severe emphysema, air trapping
  - Claim language may change as groundwork continues.
    - General language will allow protocol use for both COPD and Asthma
  - SPIROMICS protocol may be used as a starting point for COPD protocol development
  - Imaging protocol is just one section (section 3) within the larger Profile (5 total sections)
  - COPD/Asthma members to consider full Profile beyond the protocol section; working within the full Profile format suggested

Profile Volunteers

- Drs. Fain, Gierada, Judy, Lynch, and Newell volunteered to begin working on sections of the Profile
- Dr. Chen-Mayer and Judy to work on the matrix of needed experiments and look into details for next steps
- Dr. Lynch will summarize and send volunteers the current version of the Profile via email
- Would like to alternate weekly meetings: one week - Profile work; next week - group update
- Volumetric CT profile has 56 pages; this one does not need to be that long; Vol-CT Profile is a model to follow for COPD

Comment on LAA (low attenuation area)

- Terminology could be a little misleading - volume or fraction that is being measured
- Other possibilities:
  - CT emphysema index
  - Lungs analyzed on slice by slice basis; looking at % of each slice area
  - CT scans use LAA measurements as an ‘area’ – do have thickness as well, which is expressed as a volume %
- Timing – agreed to specify 72 hours
- Performance/ specifications – agreed to use bulls-eye approach to performance: ‘acceptable,’ ‘target,’ and ‘ideal’

COPDGene Phantom QA Data Update

- Mr. Sieren perfected automated analysis; 300 scans were done; 31 scanners reviewed; most sites provided single scans
  - Important for breathing protocols/measurements to match across scanners
Many of the sites provided only a mean value – calculated same deviation
- 0.54 HU was the median scan of the lung mean
- Need to consider:
  - How much variability is there in the foam(s)?
  - Why did systematic differences occur?
Scanner Variability
- **GE Light-speed:**
  - 3 light-speed units / 16 sites – talking with GE about anomalies
  - Shifts occurred with changes in software, updates, recalibration, etc.
  - Volume measurement appeared to be at 50 when stable, and between 150 – 200 if not stable.
- **Philips Brilliance 64:**
  - Software version change caused change in 4HU and a change in the direction of the water

Volunteer Imaging Sites to Acquire Modified Phantoms:
- Harvard/ Brigham and Women’s
- University of Iowa
- National Jewish

Foams:
- *Elastofoam*: put box on ‘chest’ when scanning the phantom
- Gamex has special box containing multiple foams for this purpose
- Drs Judy and Chen-Mayer to identify experiments to better study *Elastofoam* variability
  - Variability average over many slices could be 4 HU

Next Steps:
- Dr. Judy to follow up with and solicit additional section authors
- Dr. Chen-Mayer and Judy to work on the matrix of needed experiments and look into details for next steps
- Next call scheduled for **Feb 9th, 2011 at 2 pm CST**