

QIBA COPD/Asthma Committee

January 05, 2010

11 AM CST

Call Summary

In attendance

Philip Judy, PhD (Co-chair)
David Lynch, MD (Co-chair)
Andrew Buckler, MS
Harvey Coxson, PhD
David Gierada, MD
Eric Hoffman, PhD

Zachary Levine, PhD
Michael McNitt-Gray, PhD
John Newell Jr, MD

RSNA

Fiona Miller
Susan Anderson, MLS
Joe Koudelik

Status of COPDGene CT Number Accuracy Conference

- Dr Crapo in discussion with CT manufacturers under COPDGene advisory group; continued need for all stakeholder participation and better structure of efforts
- February 2009 meeting deemed an appropriate model for 2010; Dr Crapo to provide feedback and identify key meeting invitees
- Need to highlight Profile/Claims concept and have vendor buy-in, i.e. acknowledge current issues and plans to mitigate for multi-center studies, and proactively decrease variation of reconstruction kernels; need to engage manufacturers as team members
- Developments since Feb 2009 meeting include additional COPDGene data and Dr Eric Hoffman's phantom data along with more clinically relevant data on inter-scanner variation
- Dr Lynch to review 2009 meeting materials, develop proposed agenda for 2010 meeting and circulate for feedback; prep t-con proposed with manufacturer reps prior to 2010 f2f

Update on CT Scanning of Foam

- Dr Judy mini-CT scanned the COPDGene phantom foam and the foams described in Dr Levine's paper [Z.H. Levine, M. Li, A.P. Reeves, D.F. Yankelevitz, J.J. Chen, E.L. Siegel, A. Peskin and D.N. Zeiger, "A low-cost density reference phantom for computed tomography," Med Phys 36, 286-288 (2009)] and sent data on DVD to Dr Levine
- First micro-CT foam analysis completed by Dr Levine on the same foams that Dr Judy scanned

Addition to COPDGene Phantom

- Goal of COPDGene phantom modification is to better mimic the air trachea Dr Judy received diagrams of the proposed COPDGene phantom annulus insert from Mr Levy at Phantom Labs; annulus to be manufactured and shipped to Dr Judy within two weeks
- Dr Judy to forward design diagrams prior to the next group call

COPD Profile

- Key elements of the Profile are to bring all stakeholders together, to lay out a converged group thought (i.e. standard) and to eventually lead to quantitative results
 - QIBA COPD/Asthma committee will proffer completed protocol to UPICT
- Posting of Profile on QIBA Wiki enables group editing and sharing ideas; all encouraged to visit the Wiki and provide feedback/Profile content/reference materials/etc.
- COPDGene to use the UPICT process to develop protocols specific to particular studies
- The general consensus protocol can be adapted to particular studies
- Two levels of documents
 - Profile (source document)
 - Specific protocols

- Any study can begin with the current Profile text and be modified as needed
- Requirements for device and software manufacturers located in Claims section; Claims identify specific issues of relevance to suppliers; vendors to achieve level of performance set out by Claims in Profile
- QIBA to eventually put version control in place for standards documentation; current Profile versions on Wiki are informal framework. COPD groups may draw from other QIBA Profiles for common areas

Review of Draft Profile on Wiki

- Decision to include cross-sectional and longitudinal work in same Profile
- Clinical Context Section
 - Needs specific topic-related feedback by QIBA COPD/Asthma committee members; novel state-of-the art not necessary; need material that meets community consensus
- Claims
 - Need to identify 'needed' precision v. accuracy level based on clinical context needs; group encouraged to enumerate all vendor requests
 - Claims could be technical, performance based or functional
 - Validation/rationale of all Claims needed for manufacturers, e.g. how we are improving the current process
- Actors (structural)
 - Who will be doing what in the process must be clear as well as who is responsible for each area of improvement
- Glossary of definitions needed in Profile
- Volunteers
 - Drs McNitt-Gray and Lynch—acquisition section
 - Drs Coxson and Hoffman – analysis section
 - Drs Judy and Hoffman – protocol and analysis sections
 - Drs Crapo and Washko – clinical context section

Next Steps:

- Dr Lynch to review February 2009 meeting materials, develop proposed agenda for 2010 meeting and circulate for feedback
- Dr Judy to circulate COPDGene annulus design diagram
- Continue Profile walk-through on next group calls
 - Feedback on Profile sections encouraged; convey to Mr Buckler via mark-up on Wiki or via email
 - Source material needed for each specific Profile section
 - Drs McNitt-Gray and Lynch—acquisition section
 - Drs Coxson and Hoffman – analysis section
 - Drs Judy and Hoffman – protocol and analysis sections
 - Drs Crapo and Washko – clinical context section