

QIBA COPD/Asthma Technical Committee Update Call
Tuesday, August 4, 2009
11 AM CDT
Call Summary

In attendance:

Daniel C. Sullivan, MD (Moderator)	Hrudaya Nath, MD
Andrew Buckler, MS	Ehsan Samei, PhD
David Clunie, MBBS	Edwin Silverman, MD, PhD
Harvey Coxson, PhD	
Eric Hoffman, PhD	RSNA
Philip Judy, PhD	Fiona Miller
Zachary Levine, PhD	Susan Anderson, MLS
David Lynch, MD	Joe Koudelik
Michael McNitt-Gray, PhD	

General Discussion:

Purpose of this call was twofold:

- Broaden the group discussion and include new member orientation
- Begin the work to move subcommittee forward

QIBA COPD/Asthma Technical Committee Structure

- Title proposed to broaden this QIBA technical committee's focus: **"QIBA COPD/Asthma Technical Committee"**
- COPD to run in parallel with, but report back, to the QIBA Volumetric CT Technical Committee
- Identify issues, identify work already done, define experimental groundwork
- Need to identify a forward process and how much effort is required with a broad vs. narrow scope
 - Narrow scope – work moves fast
 - Broad scope – need many interested parties – slower movement – more effort
- CT phenotype and evaluation assessment judged to be within scope
- Ancillary quantitative studies would also be worth pursuing
 - e.g. cardiovascular, which already contains quantitative data
- Fundamental morphologies and density questions are common interests between QIBA Vol-CT and COPD

Key COPD Issues

- COPD Gene phantom development with findings
 - How to utilize the phantom to determine imaging site qualification
- Airway wall measurements and their limits
- Subject size and how to adjust for differences
- Variability between scanners from different manufacturers
- Variability of measurements – data for power calculations so that others could properly size their studies
 - Measurement and observer variability already being addressed by QIBA

- Industry representation is another key component
 - Need major equipment manufacturers and pharma representation

COPD Committee to design Profile and Claims in terms of airway wall thickening

- Much complementary work done between COPD and asthma on airway wall measurements
- Claims to be based on specific pathway process, not disease name, e.g. parenchyma airway quantitation, high/low density, inflammatory lung disease, interstitial lung disease, etc
- QIBA Vol-CT Profiles underway
 - Late stage lung cancer is the primary focus of Vol-CT Tech Committee
 - Early stage lung cancer has profiling has begun
 - COPD (with asthma) will be the third Profile in development

Mr Andrew Buckler's QIBA Slide Presentation – Overview

QIBA goals are pursued via system engineering activities in attempts to determine sources of scanner bias and variability while increase quantitative analysis power per subject

RSNA's interest in quantification:

- RSNA is interested in fostering more emphasis on quantitative imaging in clinical care and facilitating imaging as a biomarker in clinical trials (slide 1)
- Four reasons RSNA is emphasizing quantification (slide 2):
 - The evolution towards molecular medicine (personalized medicine) requires quantitative test results
 - Progression towards evidence-based medicine depends on more quantitative clinical data
 - Decision-support tools (AI) need quantitative input
 - Pay-for-performance plans need to be based on objective metrics
- Endpoints being pursued (slide 8)
 - Long Term Goals
 - Exploit quantitative imaging biomarkers as surrogate end-points for disease progression and characterization
 - Specific Aims
 - Develop methods and processes for accurate and reproducible measurements of biologically relevant processes
 - Stakeholders
 - FDA, NCI, NIST, ACRIN, Imaging Vendors, Software Companies, CROs, extended PhRMA Imaging Group, and leading academic centers
- Three QIBA Technical Committees based on modalities, each co-chaired by representatives from Device Manufacturers, Pharmaceutical Industry and Academia (slide 10)
 - Fluorodeoxyglucose Positron Emission Tomography (FDG-PET/CT)
 - Dynamic Contrast-Enhanced Magnetic Resonance Imaging (DCE-MRI)
 - Volumetric Computed Tomography (Vol-CT)
 - The initial Vol-CT focus is to be broadened to include COPD

Upcoming COPD-related meetings

- Aim to hold committee meetings in conjunction with existing COPD-related meetings
- Need to meet with other established COPD-related committees, e.g. American Thoracic Society meeting and pre-ATS meeting(s)

Moving Forward

- Need to define what the COPD committee will work on
- What needs to happen to clarify existing issues?
 - Identify a number of topics for future discussion e.g.,
 - Airway wall measurement/limits
 - COPD Gene Phantom work
 - Subject size
 - Variability/Power calculations
 - Spiromics
- Need more discussion concerning venue and process
- Conference calls leading up to a future 1.5 day long face-to-face meetings proposed
- Transition from monthly to bimonthly calls, eventually settling on a weekly call schedule
- Need to assemble reference/foundational documents and identify items requiring scientific work/pursuit
- Consider f2f meeting in conjunction with existing COPD-related meeting(s)

Next Steps:

- Follow-up t-con to be scheduled (Sept 1, 2009)
- Start QIBA-COPD Profile, begin with groundwork activities
- Dr David Lynch to develop charge proposal for this new tech subcommittee
- Circulate any reference/foundational documents among group members
- QIBA-COPD Quantitative Analysis mailing/distribution list to be created and forwarded to members
 - Mr Kevin O'Donnell to be added to the roster for Profile development (later date)
 - Sean Fain (WI) to be invited to join subcommittee
 - Solicit additional COPD group members; send names to RSNA staff (jkoudelik@rsna.org)
 - Names suggested by participants: Joyce Schroeder, John Newell, George Wasco