

QIBA Volumetric CT Group 3A Update
Thursday, February 3, 2011; 11 AM CST
Call Summary

In attendance

Maria Athelougou, MD (Chair)

Andrew Buckler, MS

Charles Fenimore, PhD

Nicholas Petrick, PhD

Ying Tang, PhD

RSNA

Joe Koudelik

Julie Lisiecki

I. 3A study organization discussion

- Multiple phantom studies will be used as supporting documentation
- Group 3A's study is primarily an algorithm comparison
- Would like vendors to participate in a non-competitive setting producing anonymous data results to preserve integrity and privacy of vendors
 - Need to have a unique identifier for the vendors for group's tracking purposes
 - May want to share individual data points
 - May want to recommend improvements to a particular vendor or offer praise, depending on individual results
- Discussion of the idea of a "group statistic" or Profile
 - Defining biomarker in terms of group statistic
 - Difference between: "What is a biomarker?" vs. "What is the test for the biomarker?"
 - Need to focus data in order to identify identical characteristics for the group statistic
 - Look at NCI model and consider process for qualification of a biomarker through the FDA as possible structure
- Order of analysis:
 - Phantom vs. clinical data analysis; Dr. Athelougou believes it would be logical to begin with the phantom data to calibrate algorithms.
- Inviting/ contacting vendors?
 - Not sure how to or who should approach vendors
 - NIST as "trusted broker" idea discussed. Dr. Fenimore to follow up and determine if this is possible.
 - Encourage participation in study – wise to provide developers with some evaluation of their software/ relative comparison.
- Classification of algorithms?
 - Manual, semi-automatic, fully automatic?
 - Fully automated/ semi-automated (preferred)
 - Semi-automated method is preferred due to user ability to interact with the system.
 - How to algorithms create volumetric results from phantom studies?

II. Various studies to draw from to create a composite model for 3A

1. Volcano
 - a. miccai 2009, Dr. Anthony Reeves
 - b. Defined 5-6 levels of expert interaction in this study; look at effects in terms of that factor
2. Bio-change
3. Volumetric CT of the lung
 - a. "Non-calcified Lung Nodules: Volumetric Assessment with Thoracic CT" (Drs. Petrick and Gavrielides, et al)

Next steps:

- Group 3A to consider specific logistics needed for designing a study and carrying out meaningful activities
- Dr. Fenimore to investigate and follow up with NIST grant information
- Dr. Fenimore also mentioned sending Dr. Anthony Reeves' volcano study paper to the group from miccai 2009 for reference.
- Group to look at 3A study design and send suggestions to Dr. Athelougou: MAthelougou@DEFiNiENS.com.
- Projected completion date for the 3A study is August 2011

Next call: Thursday, February 17, 2011, 11:00 am CST.