QIBA Q-CT Committee Weekly Update
Monday, August 9, 2010
11 AM CDT

Call Summary

In Attendance
Andrew Buckler, MS (co-chair)
P. David Mozley, MD (co-chair)
Maria Athelogou, MD
David A. Clunie, MBBS
Charles Fenimore, PhD
Kavita Garg, MD
Howard Higley
Philip F. Judy, PhD
Michael McNitt-Gray, PhD
James Mulshine, MD
Anthony P. Reeves, PhD
Ganesh Saiprasad, PhD
Daniel C. Sullivan, MD

RSNA
Fiona Miller
Joe Koudelik

General discussion

- As Group 1A, 1B and 1C groundwork projects complete, need to proceed with two new lines of activity:
  - Extend phantom analysis for characterization of multiple algorithms (so-called "3A")
    - Dr Colditz and Athelogou to lead group discussion on Aug 23 and 30th
      - Proposed reasons to use phantoms for validation of image analysis of algorithms
      - Additional algorithm criteria used and experience needed-reasons why phantoms needed as standard to validate image analysis algorithms across multiple companies and teams
  - Analysis of clinical data (so-called "3B")
    - This activity is associated with the data request which has been under discussion
    - Desire is to have substantial biostatistics leadership here

Q-CT Group 1B Update (Dr McNitt-Gray)

- All images reads completed at RadPharm
- 1B group calls to resume
- Data hand-off for analysis next

Q-CT Group 1C Update (Dr Fenimore)

- Goals: To understand performance of ACRIN 6678 protocol in terms of noise and resolution
- Determine scanner settings to obtain acceptable levels of noise and resolution
- 3 of 5 acquisition sites have submitted data (FDA, UCLA, UMaryland)
- Subjective assessment of resolution does not lend consensus across sites, e.g. 6 lp/cm to 7 lp/cm being reported; more data needed before next 1C call is scheduled; mid-August a possible call date
- Dr Fenimore to follow-up with each acquisition site for acquisition status

QIBA Project Plan (Mr Buckler)

- Activities of groundwork used to analyze interdependency across various subgroup efforts and time frame
- 1C a large open effort underway; a project management point-of-view needed
- QIBA process methodology (Profiling)
- VISIO diagram of the QIBA process discussed
- Activity definitions needed, e.g. actual output to be assessed for compliance
- Acquisition baseline, acquisition follow-up time point, assessment of change per target lesion, assessment of change in tumor burden
- Match needed between *context for use* and *performance characterization*

Technical Description of Biomarker

- Technical description needed for each workflow step to properly evaluate output measurements
- Patient prep by technologists set quality standards; quality measures needed at this stage
- RSNA to reach out to technologists and invite to assess workflow and various patient prep styles
    - RadPharm technologists may be available for feedback
- Besides expert technologists, medical physicists and the vendor application training community need to be engaged

Next Steps:

- Mr Buckler to circulate diagram and requests iterative feedback
- Need to draw attention to a tractable data plan