

QIBA CT Volumetry Biomarker Ctte (BC) Call

23 January 2017 at 11 AM CT

Draft Call Summary

In attendance:			RSNA:
Gregory Goldmacher, MD, PhD, MBA (Co-Chair)	Ritu Gill, MD, MPH	Nancy Obuchowski, PhD	Joe Koudelik
Ehsan Samei, PhD (Co-Chair)	Lubomir Hadjiiski, PhD	Kevin O'Donnell, MASc	Julie Lisiecki
Hubert Beaumont, PhD	Edward Jackson, PhD	Nicholas Petrick, PhD	
Andrew Buckler, MS	Rudresh Jarecha, MBBS	Marthony Robins, PhD	
Heang-Ping Chan, PhD	Yongguang Liang, PhD	Na Sun, PhD	
Matthew Fuld, PhD	James Mulshine, MD	Ying Tang, PhD	

Profile Checklist Review – Section 4 (Mr. O'Donnell)

- Three groups (Duke, Columbia and Rush) have completed feasibility testing thus far and feedback is being reviewed
- A set of tests to confirm repeatability were used
- Section 4 (Conformance) uses preferred segmentation results to compare against the Profile recommendations in order to get a sense of the learning curve
- Dr. Robins noted that a single case can take up to 15 minutes to segment, and that this should be a consideration
 - Some of the cases are not straightforward, e.g. ROI determination, making segmentation difficult
 - If time-consuming, will radiologists without protected academic time be able to complete these protocols?
 - More tangible feedback is needed regarding time and effort from radiologists and technologists; is the conformance segmentation procedure a “reasonable test”?
 - What *should* the standard of performance be?
 - Although easier to analyze, phantom datasets cannot replace the RIDER CT data as they will not provide a true sense of clinical repeatability
- Considerations to address the problem of time-consuming case review included:
 - Reduce complexity of the harder cases
 - Consider removing some of the outlier, or extremely difficult cases to reduce variability by operator or by radiologist
 - Determine what is needed -
 - Is it the operator performance being tested? *or*
 - Is it the operator performance and the case difficulty being tested?
 - Suggestion made to segment CT lesions that have distinguishable boundaries

Other performance considerations:

- Consider changing the segmentation requirement from 1.0-2.5 mm to simply less than 2.5 mm for slice thickness
- Clarification on whether on algorithm is semi or fully automated will be needed
- The RIDER data is not the only dataset that can be used
 - It was agreed that additional groundwork to obtain data may be needed
 - Dr. Mulshine's stressed that a lesion of 100 mm should remain the upper limit re this Profile, since a lesion >100 mm would likely be associated with metastatic disease and not lend itself to quantitation
 - The high end of the data will correlate to various metastatic diseases
 - It is more important to focus on the clinical pivot

Follow up items:

- Dr. Gill volunteered to review the non-contrast CTs once provided the link to the cases
- Mr. Buckler to compile information from informatics tool developers and online calculator details in Excel
- The Profile and checklist comments will need to be updated to match
- Dr. Goldmacher suggested that temporary task forces be set up to address and resolve comments by topic

Action items:

- Feasibility testing participants will report back to the group with their progress on the 1/30 WebEx call
- A dataset from Dr. Petrick for the Lungman phantom data is still needed for the QIDW
- Drs. Robins and Samei are working on making a BETA version of the MTF software available for analysis
- Additional spreadsheets for a regression module as well as for the coordinates for the RIDER tumors are being compiled by Mr. Tervé

Next Call: Monday, January 30, 2017 at 11 am CT