

QIBA Multi-parametric Metrology TF Call

01 February 2021 at 2 PM CT

Call Summary

In attendance

Nancy Obuchowski, PhD (Chair)
Andrew Buckler, MS
Patricia Cole, PhD, MD
Jana Delfino, PhD
Nandita deSouza, MD

Charles Hatt, PhD
Erich Huang, PhD
Chaya Moskowitz, PhD
Gene Pennello, PhD

David Raunig, PhD
Ying Tang, PhD
Xiaofeng Wang, PhD
Gudrun Zahlmann, PhD

RSNA

Joe Koudelik
Julie Lisiecki

Moderator: Dr. Delfino

Approval of Call Summary

- The notes from January 20, 2021 were approved as presented.

Review of Use case #2 (Dr. Delfino): topics included:

- The group discussed some revisions to the overview paper
- The paper states that “Phenotypes have a ground truth, but phenotypes are not ratio variables so are not quantitative biomarkers themselves.” (example needed)
- Multivariate biomarker should start with inputs where measurement stability/rigor is established
 - Select variable on basis of precision metrics – need to validate inputs/components used in the model
- Dr. Raunig explained that there needs to be a better definition for precision which includes change
 - A biomarker needs to be measurable with a “ruler” to be a biomarker
- Mr. Buckler noted that some biomarkers may not be measurable, and this was considered acceptable
- The emphasis in these papers is on Phases II and III trials, as Phase IV (evaluation of clinical benefit) is beyond QIBA at the present time
 - It is about agreement, not accuracy
- Achieving practical balance with utility in terms of what radiology can do is important
 - Cannot strain radiology’s capability by expecting it to address more than is possible
 - Granularity is unimportant unless it affects treatment decisions; it can also be increased over time
- Dr. Delfino is working on updates to use case #2 paper and will share prior to the next discussion of this topic
- Summer of 2021 has been set as a goal timeline to submit the suite of papers for publication consideration

Action items:

- Use case #4 - Dr. Wang to incorporate edits and send updated paper for review
- Use case #3 - Request review of sections 3 and 4, with comments to Dr. Huang: erich.huang@nih.gov
- Dr. deSouza to share any available literature regarding progression with the group

Next call: Use case #3 (Dr. Huang) on Wednesday, February 17th at 10 am CT

Call Schedule: **Presenters: please review.**

Date:	Topic:	Lead:
Wednesday, Feb 17 (10 am CT)	Use case 3: Risk prediction	Dr. Huang
Monday, March 1 (2 pm CT)	Use case 4: Radiomics	Dr. Wang
Wed., March 17 (10 am CT)	Use case 1: Multi-dimensional descriptor	Dr. Raunig
Monday, March 29 th (2 pm CT)	Use case 2: Phenotype classification	Dr. Delfino

Use cases:

- Use case 1:** (Multi-dimensional descriptor) a panel to determine how to care for a patient
- Use case 2:** (Phenotype classification) rule or decision tool to diagnose phenotype
- Use case 3:** (Risk prediction) several biomarkers will be evaluated to create a prediction or risk score
- Use case 4:** (Radiomics) may not have a specific biomarker for reference