

QIBA Multi-parametric Metrology TF Call

20 January 2021 at 10 AM CT

Call Summary

In attendance

Nancy Obuchowski, PhD (Chair)

Andrew Buckler, MS

Alexander Guimaraes, MD, PhD

Timothy Hall, PhD

Charles Hatt, PhD

David Raunig, PhD

Ying Tang, PhD

Xiaofeng Wang, PhD

Gudrun Zahlmann, PhD

RSNA

Joe Koudelik

Julie Lisiecki

Moderator: Dr. Raunig

Approval of Call Summary

- The notes from January 4, 2021 were approved as presented.

Review of Use case #1 (Dr. Raunig): topics included:

- Review consistency of terms across use cases, to parallel the overview paper
- Keeping the scoring term for multi-parametric QIBs consistent - suggest using “z”
- Discussion of “intended use,” vs. “context of use”
 - Mr. Buckler and Dr. Tang explained that “context of use” (COU) is used in FDA biomarker qualification
 - It may be helpful to confer with FDA representatives
 - Dr. Obuchowski to add COU to the overview paper to standardize terminology
 - “Intended use” was typically used in a broader context, not as appropriate here
- Dr. Raunig has modeled the paper for use case #1 after the QIBA claim guidance document
 - Needs to be consistent with phase of development
 - Will review the wording in detail
- Discussed including multiple reference cases e.g., cancer implications, cardiovascular disease, COPD, echo, etc., to cover many different phenotypes
- QIB requirements need to be ratio-variable and linear to the measurand
- Validation of the model will need to incorporate common methods for different use cases
 - It might be necessary to impute some of the data
- Each biological domain claimed should have at least one QIB
 - Regression-based variable reduction methods to be discussed next time
- Dr. Raunig will update the paper with suggested edits and redistribute for review

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 #2 (Dr. Delfino) on Monday, February 1st at 2 pm CT

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

Date:	Topic:	Lead:
Monday, Feb 1 (2 pm CT)	Use case 2: Phenotype classification	Dr. Delfino
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

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