

QIBA fMRI Reproducibility Work Group Update

Thursday, February 21, 2012 at 11 AM CST

Call Summary

In attendance

James Voyvodic, PhD (Chair)

Paul Carson, PhD

Barbara Croft, MD

Ted DeYoe, PhD

Jeffrey Petrella, MD

Jay J. Pillai, MD

Laura Rigolo, MS

David Soltysik, PhD

Daniel C. Sullivan, MD

Domenico Zaca, PhD

RSNA

Joe Koudelik

Julie Lisiecki

Discussion

- Discussion regarding expected numbers and deliverables from the three fMRI projects that will fill gaps in the Profile
- Some rewording of the claims may be needed to reflect final numbers more accurately
 - Trying to get a measure that might reflect variability in the borders of activations
 - Variance is a key factor in the claims
 - Looking at different ways of quantifying the overlap of border measurements
- Goal of the two first-year projects is to figure out *what* is reproducible and to what degree
 - What matters is what image quantitation numbers can be reproduced
 - There is still an issue with thresholding, which is an essential component of fMRI cases
- Each major clinical target, e.g., motor, language, and visual activation, may require different metrics of reproducibility
 - Predefining critical parameters remains difficult; however, starting with the activation's relationship to a lesion (e.g., activation edge adjacent to lesion) may be helpful
 - Would like to determine what is responsible for variance in reproducibility and what is responsible for residual information
 - Important to figure out how to make a clinical case more reproducible
 - Dr. Petrella cautioned that cases can be made highly reproducible without the appropriate clinical relevance
 - Clinical relevance must be kept in mind during this exploratory process

Next Steps

- More work needed to determine claim language
- Next call (3/6) will focus on Dr. Zaca's recent analyses
- Technical Committee call to discuss Strategic Plan on 2/29
- Dr. Voyvodic to follow up with RSNA regarding project deadlines

Next Calls

- QIBA fMRI Technical Committee, **Wednesday, February 29, 2012 at 11 am CST**
- QIBA fMRI Reproducibility Working Group, **Tuesday, March 6, 2012 at 11 am CST**