

## QIBA fMRI Reproducibility Work Group Update

Tuesday, December 20, 2011 at 11 AM CST

Draft Call Summary

### In attendance

James Voyvodic, PhD (Chair)

Barbara Croft, MD

Ted DeYoe, PhD

Cathy Elsinger, PhD

Feroze Mohamed, PhD

Jay J. Pillai, MD

Daniel Sullivan, MD

Domenico Zaca, PhD

### RSNA

Joe Koudelik

Julie Lisiecki

### News

- A manuscript which was accepted and published by *JMRI* focused on language reproducibility using clinical fMRI protocol for patients with healthy controls
- Dr. Voyvodic will distribute the article to the group

### Project Updates

- Working with three datasets - organizing patient data for about 400 patients
  - Looking at consistency within scans and functional connectivity
    - Possible biomarker for fMRI
  - Using fBIRN – functional MRI and repeated scans
  - Comparison of GLM to N (T Test comparisons or direct temporal correlations)
    - Puzzled by popularity of GLM as it does not seem to apply quantitatively
    - T Test = amplitude expressed in standard deviations of the variance in the signal
    - T Values get smaller if the signal gets higher, similar to signal-to-noise
  - Also using a “key” test – analyses of repeated datasets
- Working with AMPLE software – collaboration between Drs. Voyvodic and DeYoe
  - Looking at sampling distributions
  - Goal to determine consistent borders of activation
  - Spatial extent seems to be the main issue
  - Need to have a strong signal for this to work
- Future items for consideration:
  - ROI settings
  - Subsets that are measurable and realistic

### Next Steps

- More frequent regular meetings of fMRI Reproducibility needed to move projects forward (every two weeks)
- RSNA Staff to Doodle Poll the group for a new time to better accommodate schedules

### Next Calls

- QIBA fMRI Technical Committee, *Wednesday, January 4, 2012 at 11 am CST*
- QIBA fMRI Reproducibility Working Group, *Tuesday, January 10, 2012 at 2 pm CST*