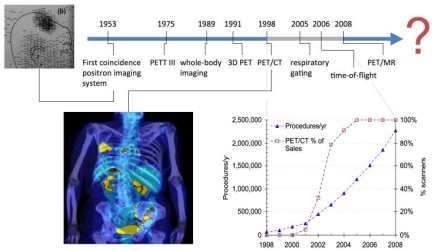
Quantitative FDG-PET/CT

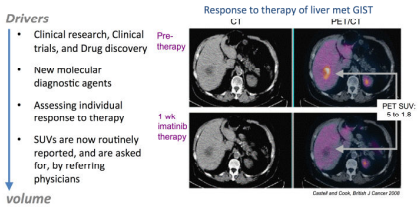
Accelerating development of new therapies and improving assessment of response

Quantitative Imaging Biomarkers Alliance — RSNA

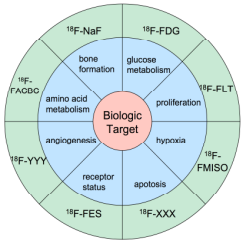
PET-CT: A Proud History of Innovation



What's next? *Quantitative PET to* Characterize Disease Hallmarks



Biomarkers To Quantify Hallmarks of Cancer



- New molecular diagnostic agents
- New uses for existing agents

Quantitation Improves Characterization of Disease Hallmarks

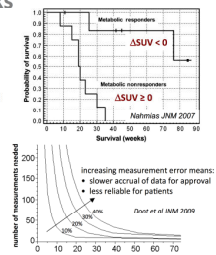
Improve individual patient care

- Clinically proven detection and longitudinal quantitation for follow-up
- Moves imaging from diagnostics and staging to therapy assessment

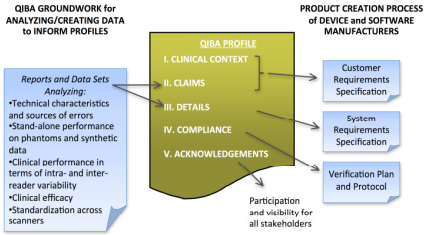
Accelerate adoption of new molecular diagnostics

Make clinical trials of new therapies more effective

All tied to quantitative accuracy



The QIBA Profile Provides Guidance for all aspects of quantitative FDG-PET/CT



What we've done and how you can participate

- ✓ Collection of recommendations for quantitative FDG-PET
- ✓ Presentation (joint with FNIH) to FDA
- ✓ NIBIB grant application
- ✓ Year 1 research targets
- ✓ Year 2 research targets
- ✓ FDG-PET/CT Profile published and publically reviewed

Completed

- Collaboration with UPICT on Protocols
- Bi-weekly telephone conferences
- Annual QIBA meetings and updates at RSNA
- Working visits with vendors
- Profile development
- Year 3 research targets
- Profile testing

In progress

- o Implementation of Profiles by QIBA and vendors)
- o Clinical use of Profiles

TBD

More information at http://rsna.org/QIBA.aspx

QIBA FDG-PET/CT TC Projects: Completed

Title	PI
Meta-analysis to analyze the robustness of FDG SUV changes as a response marker, post and during systemic and multimodality therapy, for various types of solid extracerebral tumors.	O. Hoekstra, U of the Netherlands
QIBA FDG-PET/CT Digital Reference Object Project	P. Kinahan, U of Washington
Analysis of SARC 11 Trial PET Data by PERCIST with Linkage to Clinical Outcomes	R. Wahl, Johns Hopkins U
Personnel Support for FDG-PET Profile Completion	E. Perlman, PAG P. Kinahan, U of Washington
Evaluation of the Variability in Determination of Quantitative PET Parameters of Treatment Response Across Performance Sites and Readers	R. Wahl, Johns Hopkins U
Evaluation of FDG-PET SUV Covariates, Metrics and Response Criteria	J. Yap, Dana Farber CI
Integration of Retrospective Reviews of 2-3 Groupings of Clinical Trial Datasets (This includes the current Hoekstra proposal) Will utilize the PERCIST analysis	O. Hoekstra, U of the Netherlands
FDG-PET/CT Publically Reviewed Profile	QIBA FDG PET/CT Technical Committee

QIBA FDG-PET/CT TC Projects: Underway

Title	PI
FDG-PET/CT Profile Field Test	T. Turkington, Duke University R. Boellaard, U of the Netherlands M. Lodge, Johns Hopkins University
QIBA FDG-PET/CT Digital Reference Object Project Extensions	P. Kinahan, University of Washington
Uniform Protocol for Imaging in Clinical Trials (UPICT) for FDG-PET/CT: Public Comment phase	J. Yap, University of Utah
Amyloid PET Neuroimaging Profile	TBD

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