AND A SPECIAL THANKS ALSO GOES TO THE

Carolyn R. “Bo” Aldigé
*Prevent Cancer Foundation*

**STEERING COMMITTEE**

Chair:

• James L Mulshine, *Rush University*

Members:

• Laurie Fenton Ambrose
  *Lung Cancer Alliance*

• Ricardo S. Avila
  *Accumetra, Inc*

• Daniel C. Sullivan
  *Duke University*

• Elisha Malanga
  *COPD Foundation*

• Raul San Jose Estepar
  *Brigham and Women’s Hospital*

• David F. Yankelevitz
  *Mount Sinai Medical Center*
Measuring Progress

14 Workshops since 2004
1 Interim COPD Meeting

- QIBA
- FDA
- NIST
- CMS

Interim Meetings

Annual Workshop

Accelerate Integration of Quantitative Assessment Methods

- Standards & FDA Approval
- Reproducibility & Comparison
- Publications
- Large Open Image Databases
- Algorithms & Reference Methods
- Open Source Lesion Sizing Toolkit

Early Clinical Trials
NIST BioChange
Volcano

Quantitative CT Monograph
Imaging Moonshot Infrastructure

Oncology/ JTO Workshop Reports
ISP Oncology Special Issue

PCF/Cornell Database
NCIA Give-A-Scan
Slow Screening Implementation

- Ramp up to quality imaging challenging but moving slowly forward
- Reimbursement by CMS reduced, raising concerns with access and disparities
- Concerns with medical radiation harms receding but “false positivity” becoming more prominent
- Published volumetric approach associated with false positivity around 3%
- LDCT image quality inadequate in 40% of VA screening pilot cases
Issues with LDCT status quo

- Screening is a demanding complex management process
- Screening makes people think about their health in ways that are challenging
- LungRADS which is a good intermediate solution involves crude manual techniques that do not provide precise characterization of clinical aggressiveness
- Access to facile volume measurement tools limited and labor intensive
- Integration with screen-optimized smoking cessation not fully baked
Addressing QI Quality

- QIBA Small Nodule Profile undergoing internal review prior to launch
- Evolution from tape to automated, cloud-based conformance testing for imaging process using precision phantom
- Crowd sourcing plans to test this revised approach to validate national and international feasibility
- Exploration of scaling conformance to other tobacco-induced diseases (COPD)
- Need financial model to support ongoing evolution of care
Developmental Implications

• Need to define magnitude of benefit (clinical as well as cost) to support reimbursement for providing services
• Need to define economical and workflow-friendly solutions to allow for implementation especially in existing HR systems
• Need to overcome inertia of a skeptical medical community
Workshop XIV Take Aways

• Continued imaging evolution: 1024 X1024 matrix size, separate data files for visualization and quantitation
• Strategic plan to resource evolution of QI to drive tobacco-related disease care
• Align with FDA on elucidation of feasible continuous quality measures for QI-based clinical decision support
• Formalize planning on scalable cloud infrastructure to facilitate QI dissemination and CPI
Where Can We Go?

- Integration of Cancer/COPD screening at both a clinical and technical level
- Enhancing biofeedback on tobacco cessation with integrated lung cancer/COPD (CAD) focus
- Alignment with emerging FDA regulatory approaches
Moving to the Cloud

- Work with QIBA, cloud-centered services
- Profile Conformance Testing to validate appropriate CT performance to reliably measure pulmonary nodule volume change
- Serve as a central, neutral resource to enable nodule measurement precision
- Data aggregated on the cloud services as a data quality resource to monitor delivered CT performance
• Our goal is for better, cheaper, faster implementation of cloud-enabled LDCT screening of the three leading causes of tobacco-related premature death

• How do we ensure that the populations that are at the highest risk have access to these services

• How do we make sure these services are supported so that continued rapid evolution and dissemination are ensured?