In 2018, the CTVD Profile reached the Technically Confirmed Stage, which means that field testing confirmed the requirements and procedures in the Profile are practical and feasible when executed in a normal imaging environment. Field testing feedback resulted in a number of revisions and simplifications.

The field testing was performed at:
- Duke University School of Medicine
- Rush University Medical Center
- Columbia University Medical Center

The Technically Confirmed version of the CTVD Profile is published at: http://qibawi.rsna.org/index.php/Profiles

The next stage is Claim Confirmed, which involves field testing the profile again with a focus on confirming it is possible to achieve the performance stated in the Claim by conforming to the Profile requirements and procedures. Please see below for opportunities to get involved in the effort.

**QIBA 2018 CT Volumetry Biomarker Committee: Overview and Status Update**

Marthony Robins, PhD; Jennifer Siegelman, MD, MPH; Jayashree Kalpathy-Cramer, PhD; Qin Li, PhD; Benjamin Berman, PhD; Rudresh Jarecha, MBBS, DNB, DMRE; Maria Athelougou, PhD; Andrew Buckler, MS; Kevin O’Donnell, MA; Nancy Obuchowski, MD; Nicholas Petrick, PhD; Berkman Sahiner, PhD; Ehsan Samei, PhD

**Advanced Disease Profile is now Technically Confirmed**

**Hybrid Data for CT Volumetry Testing**

Creation of a set of blended CT scans that “look and feel” like clinical scans of patients with tumors. Will allow testing of algorithms for measurement of tumors with known volumes.

1. Use projection and image-domain lesion insertion tools to virtually insert lung and liver lesions of known shape, volume, and texture into clinical CT images.

**CT Quantification Beyond Volume: Texture, Morphology**

Creation of a library of anthropomorphic lesion simulations with a priori intental texture, morphology, and volumes.

1. Simulate heterogeneous structures (texture) within lesions to evaluate internal properties of texture, texture and volume interaction.

Results:
- ▪ Nodules virtually inserted using three methods: 2.
  - CT Virtual Clinical Trial Grand Challenge
  - Test the precision and accuracy of your algorithm's output volume.
- ▪ CT: 2018
  - Approaches to reduce variability and improve accuracy.

Study 2: impact of mean algorithm

- ▪ CT: 2018
  - Variability and precision of lesion size estimates.

Results:
- ▪ Data from 21 national and international participants were analyzed for bias and precisio

**Voluumetry in Dynamic Contrast-Enhanced Liver CT**

Clinically accurate and precise liver lesion sizing depends on local anatomi
cal complexity, underlying disease, patient physiology, contrast injection, and CT technical acquisition.

Aims: To create a phantom simulating clinical conditions for evaluating sizing of low contrast hepatic lesions and to use it to investigate hepatic lesion sizing error as a function of:
- ▪ Acquisition: Reconstruction: Lesion Size/Dose/Contrast

Study 1: impact of acquisition and lesion characteristics

**Voluumetry of Pulmonary Lesions in Thoracic CT**

- ▪ CT: 2018
  - Methods: Three technical approaches to simulate heterogeneous structures (texture) within lesions: 2.5

**Advanced Disease Profile is now Technically Confirmed**

Next step: Claim Confirmed

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