The QIBA Lung Density committee has recently finished the public comment period for the Lung Density profile and is working on revisions.

The profile establishes the following longitudinal claims:

- **Claim 1:** An increase in LAA-950 HU of at least 3.7% is required for detection of an increase in the extent of emphysema, with 95% confidence.

- **Claim 2:** Without volume adjustment, a decrease in Perc15 of at least 18 HU, is required for detection of an increase in the extent of emphysema, with 95% confidence.

- **Claim 3:** With volume adjustment, a decrease in Perc15 of at least 11 HU, is required for detection of an increase in the extent of emphysema, with 95% probability.
COPDGene 2 Phantom

I-Foam NIST 20 lb.
II-Water
III-Foam NIST 12 lb.
IV-Acrylic
V-Foam NIST 4 lb.
VI-Air

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Rodriguez, A. et al; Medical Physics Volume 41(11), November 2014, 111911.
Summary

• QIBA profile for lung density has advanced through the public comment phase
  • Claims estimate expected change for longitudinal trials to investigate emphysema progression
• Profile specifications include 0.5-0.7 mm isotropic voxel size and support airway measures
• Low dose protocols are feasible with use of iterative reconstruction
• Testing needed to confirm meets the performance requirements for CT volumetry but may well be sufficient to meet these claims