

QIBA Lung Density Biomarker Committee (BC)

Wednesday, September 22, 2021, 2 PM CT

Call Summary

In attendance

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| Charles Hatt, PhD (Co-Chair) | Raul San Jose Estépar, PhD | John Newell, Jr., MD |
| Miranda Kirby, PhD (Co-Chair) | Sean Fain, PhD | Nancy Obuchowski, PhD |
| Samuel Yoffe Ash, MD | Philip Judy, PhD | Kevin O'Donnell, MASc |
| Rick Avila, MS | Annelise Malkus, PhD | Gonzalo Vegas-Sanchez-Ferrero, PhD, MSc |
| Michael Boss, PhD | | |

RSNA

Julie Lisiecki

Moderators: Drs. Hatt and Kirby

Biomarker Proposals Update

- The biomarker proposals were submitted to QIBA leadership for review
- Drs. Kirby and Hatt met with CT Coordinating Committee and QIBA leadership in July for their recommendations
 - QIBA leadership suggested starting with a focus on one biomarker, with the understanding that the BC would work on both biomarkers in parallel over time
- A revised [biomarker proposal](#) will need to be submitted; more information on the review process can be found on the [QIBA wiki](#)
- [Notes](#) posted to the [Lung Density BC QIBA wiki page](#) can be referenced for detailed descriptions of biomarkers

Lung Density Profile / Checklist

- Drs. Kirby and Hatt met with Drs. Lynch and Humphries in August to discuss if / how the Profile might be feasibility tested at COPDGene sites to make sure that all actors can execute items
 - Changes to the checklist were suggested, including the removal of any redundant requirements or repetition of the same requirement for different actors
 - There were some redundancies re: image quality and resolution
 - Requirements should be aligned with one actor to simplify checklists
- Mr. Avila offered assistance with open-source software solutions
- After additional review, either a poll or vote will be taken to move forward with the checklist
- Mr. O'Donnell recommended that the BC focus on how checklist items affect the claim
 - If items are not directly impacting the claim, they may not be necessary and should be removed
- Dr. Boss suggested asking if something is truly a requirement or merely a best practice to narrow down the list
 - If there are some redundancies for multiple actors, it may be possible to group related specs together, e.g., "patient positioning" to place the responsibility with one actor
 - The checklist was created retrospectively; so, revisiting logical workflow may be helpful
- Mr. Avila suggested that the BC consider building in a periodic review or adding a QA actor withing the Profile, as QA methods will be addressed differently on a site-by-site basis
 - Finding a way to compile results of QA in a central repository with crowd sourced results could be very beneficial for future updates

Guiding questions for simplifying the Profile (Mr. O'Donnell/Dr. Boss):

- Does it impact the claim?
- Does it routinely occur in practice?
- What is the cost benefit vs. effort involved?
- If there is an impact on the claim, consider whether you would make the item a requirement or degrade the claim slightly
- Requirements will need periodic expert review
- Dr. Kirby volunteered to translate the latest checklist into a Google doc format for review and comment by BC members and subsequent voting to determine if it is ready for real-world application

Prioritize Order for Next Profile

- It was decided that all BC members will be asked to review the proposals again, considering what the claims would be, and then would vote on which new biomarker the BC should work on first
- Task forces would be dissolved for now and work would continue on the BC calls
- Dr. Kirby to provide a Google-based poll along with latest proposals for BC review

Action items:

- Dr. Kirby to provide a Google-based Checklist for BC review (and subsequent poll / vote)
- Dr. Kirby to provide a Google-based poll along with latest proposals for BC review

Next meetings: 10/27, 11/24, 12/22-?

| Parametric Response Map Gas-trapping | Airway Measurements Analysis |
|---|------------------------------|
| Ehsan Abadi, PhD | Samuel Ash, MD, MPH |
| Rachel Eddy, PhD | Raul San Jose Estepar, PhD |
| Sean Fain, PhD | Philip F. Judy, PhD |
| Chuck Hatt, PhD | Miranda Kirby, PhD |
| Joe Mammarrappallil MD, PhD | John D. Newell Jr., MD |
| Lars Nordenmark, PhD | Nancy Obuchowski, PhD |
| Yoshiharu Ohno, MD, PhD | Samuel Peterson, MS |
| Gonzalo Vegas-Sanchez-Ferrero, PhD, MSc | Claudio Silva, MD, MSc |

References: [Profile Stages page](#) | [Technical Confirmation Process](#)