



On behalf of Insmmed Incorporated, the manufacturer of brensocatib, we appreciate the opportunity to provide feedback on the Institute for Clinical and Economic Review's (ICER's) draft evidence report evaluating brensocatib for the treatment of non-cystic fibrosis bronchiectasis (NCFB).

NCFB is a chronic, progressive lung disease marked by permanent airway dilation, persistent inflammation, daily symptoms, recurrent pulmonary exacerbations (PEX), declining lung function, and increased mortality. We commend ICER for incorporating patient and provider perspectives in its clinical assessment and agree with the draft evidence report's recognition of substantial unmet need in NCFB and brensocatib's ability to reduce PEX and slow lung function decline leading to meaningful improvements in health outcomes. Furthermore, we too acknowledge the strong evidence on the certainty of brensocatib's health benefits and the potential for even greater gains over time given the pathology of NCFB and brensocatib's novel mechanism of action targeting the activation of neutrophil serine proteases that mediate disease-related inflammation.

However, we identified several limitations regarding how the value of brensocatib is represented in the draft evidence report and respectfully submit the following considerations.

MINIMAL CLINICALLY IMPORTANT DIFFERENCE

ICER characterized brensocatib's clinical benefit as having "high certainty of at least a small net health benefit". Although ICER acknowledges the significant improvements in forced expiratory volume in one second (FEV1) and Quality of Life–Bronchiectasis questionnaire (QOL-B) respiratory symptom score (RSS), ICER suggested these outcomes did not meet established minimal clinically important differences (MCIDs); namely, 100–140 mL for FEV1 and 8 points for QOL-B RSS domain. To our knowledge, an MCID for FEV1 in the NCFB population has not been established and MCIDs represent individual-level meaningful change thresholds, cautioning their use to directly compare treatment groups. Lung function declines naturally with age, and while the rate of decline varies among individuals, the expected FEV1 loss in adults is ~30 mL annually. Patients with NCFB have accelerated decline (60mL) as shown in the ASPEN trial placebo arm. In contrast, patients receiving brensocatib 25 mg in the ASPEN trial were comparable to someone without respiratory disease. We respectfully request ICER to revise or remove statements suggesting that brensocatib's effects on patient-important outcomes did not meet MCIDs.

COST-EFFECTIVENESS MODEL BASE CASE

Disease progression

Patients with a history of PEX and particularly severe PEX are at higher risk for future PEX and hospitalizations. Furthermore, severe PEX are significant predictors of mortality. Static transition probabilities in the current cost effectiveness model (CEM) base case do not reflect

the progressive nature of this disease, which is characterized by a decline in health status over time.

Lung function

Evidence from analyses of disease registries and real-world secondary datasets suggests that lung function and PEx are correlated; lung function decline may predispose patients to more frequent PEx, and PEx can accelerate lung function decline, though each independently affects other NCFB clinical outcomes.

The ASPEN trial demonstrated brensocatib's independent treatment effect on lung function and suggested improvements in patient-reported symptoms. Exploratory analyses suggested that brensocatib 25 mg reduced lung function decline at week 52 compared with placebo, regardless of whether patients had PEx during the trial. This highlights the importance of both preserving lung function and reducing PEx in patients with NCFB.

Despite ICER's positive expectation that brensocatib's slower deterioration of lung function may lead to even greater health benefits over time, the CEM base case does not account for the independent effect of brensocatib on lung function and the indirect effects on PEx or mortality.

OTHER CONSIDERATIONS

NCFB imposes considerable patient, caregiver and societal burdens due to its chronic, progressive nature, impact on health-related quality of life (HRQoL), and resources required for its management. Although ICER duly considered all these factors in the clinical assessment, the CEM base case does not include patients' perspectives on daily symptoms, anxiety about future PEx, and caregiver/societal burdens.

Daily symptoms

Patients with NCFB experience a range of respiratory and non-respiratory symptoms that meaningfully impact their HRQoL. Managing and improving daily symptoms are important treatment goals.

In the ASPEN trial, brensocatib 10 mg showed numerical improvements, and brensocatib 25 mg showed nominally significant improvements in the QOL-B RSS domain compared with placebo at week 52. Improvements in the QOL-B RSS domain were observed as early as week 4 for both doses of brensocatib compared with placebo and were maintained through week 52. Exploratory results from the Bronchiectasis Exacerbation and Symptoms Tool (BEST) diary, administered daily in the ASPEN trial, further supported brensocatib's effect on patient-reported symptoms.

Anxiety and fear of future exacerbations

Despite the high levels of anxiety and fear for potential PEx among patients, the CEM base case only accounts for the impact of treatment on costs and quality-adjusted life years (QALYs) through a direct effect on PEx.

Caregiver/societal burdens

Daily symptoms and PEx can cause lost productivity at work, sick leave or missed workdays, or even loss of employment for patients. Caregivers of individuals with NCFB face similar challenges. Caregivers also experience productivity losses, missed workdays, and additional expenses related to the ongoing medical care of their children/dependents.

SUMMARY

We commend ICER for incorporating patient and provider perspectives in its clinical assessment and agree with the draft evidence report's findings of substantial unmet need in NCFB and the strength of the clinical evidence demonstrating brensocatib's ability to meaningfully improve health outcomes.

Developing a de novo decision analytic model to evaluate the cost effectiveness of NCFB treatments is challenging. The impacts of treatment on disease progression, lung function, daily symptoms, and both caregiver and societal burdens are important considerations for inclusion. The current CEM's outcomes are highly sensitive when key assumptions and inputs are varied, suggesting a high degree of uncertainty surrounding the economic value presented in the draft evidence report.

The possibility of markedly underestimating the value of brensocatib, a novel first-in-disease and first-in-class treatment that offers meaningful improvements in health outcomes, is real, especially where there is substantial unmet need.

For any questions, please contact John Fastenau, Executive Director, HEOR, at john.fastenau@insmed.com.

Best Regards,



John Fastenau
Insmed Inc.



Institute for Clinical and Economic Review

Submitted via email: publiccomments@icer.org

Cambridge, MA. August 19, 2025

Re: Draft Evidence Report for Brensocatib for Non-Cystic Fibrosis Bronchiectasis: Effectiveness and Value

Dear ICER review team,

We appreciate the opportunity to submit comments to the draft evidence report on Non-Cystic Fibrosis Bronchiectasis (NCFB) from ICER.

As highlighted in the draft evidence report, patients with NCFB frequently experience exacerbations and infections, which are associated with increased risk of mortality, reduced quality of life and higher health care resource utilization and cost. Here we propose alternative inputs and assumptions to a few inputs in the cost effectiveness model (CEM), which can potentially better reflect the real world burden and risk of NCFB to patients in the US.

1. Baseline risk of exacerbation (exacerbation rate of usual care)

- **Current inputs:** The CEM currently uses 0.1075 monthly probability based on the annual placebo exacerbation rate from ASPEN trial, 1.29 per year (Chalmers, 2025).
- **Limitations of current inputs:** The placebo event rate observed in clinical trials is known to underestimate the true exacerbation risk. In the ASPEN trial, patients were required to have at least 2 exacerbations in the year prior to enroll. During the trial period (2020-2023), patients on the placebo arm on average had considerably lower event rates than prior to the trial without receiving active treatment.
- **Recommended inputs:** Real world exacerbation rate of 2.23 per year, from US NCFB patients who had similar exacerbation history as the model population (at least two exacerbations in the year before the study) (Feliciano, 2024).

2. Mortality risk associated with NCFB exacerbations

- **Current inputs:** mortality rate ratio of 1.16 for NCFB with exacerbation vs. NCFB (Chalmers, 2018)

- **Limitations of current inputs:** First, we were not able to identify the current inputs of 1.16 from the Chalmers, 2018 publication. Additionally, current input did not consider different mortality impact for severe vs. moderate exacerbation.
- **Recommended inputs**
 - Option 1: Apply additional mortality rate ratio for severe exacerbation of 1.97, adjust HR for hospitalized exacerbation from Chalmers, 2018.
 - Option 2: Consider case fatality of severe exacerbation, with estimates from US RWE at 9% in hospital mortality and 30% mortality within 1 year (Finklea, 2010). Severe exacerbations leading to ICU admission are associated with even higher in hospital mortality at 33.9% (Navaratnam, 2016).

3. NCFB mortality vs. general population (all-cause mortality)

- **Current inputs:** mortality rate ratio NCFB vs. all cause=1.77 from US RWE (Shoaib S, 2025)
- **Limitation of current inputs:** 1.77 is the HR of NCFB vs. non-NCFB comparable cohort. Clinical trial and RWE data have shown that for patients with at least two baseline exacerbations (model population), the mortality risk is higher than the general NCFB patients.
- **Recommend inputs:** Apply additional adjustment for patients with at least two exacerbations in the baseline period on top of 1.77. Potential data sources:
 - Option 1: HR for NCFB patients with 2 baseline exacerbation vs. none=1.60; HR for 3+ exacerbation vs. none=1.86 (Chalmers, 2018). So the total mortality rate ratio of NCFB patients with 2 baseline exacerbation is $1.77 \times 1.60 = 2.83$, and for patients with 3+ exacerbations is $1.77 \times 1.86 = 3.29$.
 - Option 2: HR can be estimated from survival curves in Feliciano, 2024.

4. The model assumes that the severity and thus cost of exacerbation is the same for NCFB patients with pseudomonas aeruginosa (PsA) and patients without PsA. Real world study has shown that exacerbations among patients with PsA vs. those without are associated with more hospitalization (2.58 vs. 1.18 hospitalizations) and higher cost (\$204,791 vs. 74,453) per patient per year. (Franklin, 2024)

We appreciate the opportunity to comment on this draft evidence report.



Scott Greig

Head of Global Market Access, Specialty Care

Reference

1. Chalmers JD, Aliberti S, Filonenko A, et al. Characterization of the "Frequent Exacerbator Phenotype" in Bronchiectasis. *Am J Respir Crit Care Med*. Jun 1 2018;197(11):1410-1420. doi:10.1164/rccm.201711-2202OC
2. Chalmers JD, Burgel PR, Daley CL, et al. Phase 3 Trial of the DPP-1 Inhibitor Brensocatib in Bronchiectasis. *N Engl J Med*. Apr 24 2025;392(16):1569-1581. doi:10.1056/NEJMoa2411664
3. Feliciano J, Lewing B, Mohanty M, et al. Survival Outcomes in US Medicare Patients with Non-Cystic Fibrosis Bronchiectasis by Rate of Baseline Exacerbations. *Pulm Ther*. 2024 Dec;10(4):439-450. doi: 10.1007/s41030-024-00275-x
4. Finklea JD, Khan G, Thomas S, et al. Predictors of mortality in hospitalized patients with acute exacerbation of bronchiectasis. *Respir Med*. 2010 Jun;104(6):816-21.doi: 10.1016/j.rmed.2009.11.021
5. Franklin M, Minshall ME, Pontenani F, et al. Impact of Pseudomonas aeruginosa on resource utilization and costs in patients with exacerbated non-cystic fibrosis bronchiectasis. *J Med Econ* 2024 Jan-Dec;27(1):671-677. doi: 10.1080/13696998.2024.2340382.
6. Navaratnam V, Muirhead CR, Hubbard RB, et al. Critical care admission trends and outcomes in individuals with bronchiectasis in the UK. *QJM: An International Journal of Medicine*, Volume 109, Issue 8, August 2016, Pages 523-526. doi.org/10.1093/qjmed/hcv206
7. Shoaib S, Feliciano J, Dasenbrook EC, et al. Real-world disease burden, mortality, and healthcare resource utilization associated with bronchiectasis. *Chronic Respiratory Disease*. 2025;22:14799731241310897. doi:10.1177/14799731241310897



July 31, 2025

Dear ICER Team,

On behalf of Tactile Systems Technology, Inc. (“Tactile Medical”) I would like to thank the Institute for Clinical and Economic Review (ICER) for its comprehensive evaluation of Brensocatib and for the opportunity to provide input to the ICER Draft Scoping Document for Brensocatib for Non-Cystic Fibrosis Bronchiectasis (NCFB): Effectiveness and Value. Your diligent efforts to assess the clinical effectiveness and overall value of this therapy are both commendable and essential to advancing patient care.

Tactile Medical is a medical technology company that specializes in chronic disease management and manufactures and provides medical devices, such as High Frequency Chest Wall Oscillation (HFCWO) vests, that treat symptoms of NCFB by loosening and clearing mucus from the lungs. These devices are prescribed for at-home use to patients suffering from chronic respiratory conditions including NCFB. That said, we would like to highlight a few key considerations that we believe justify further attention in your review.

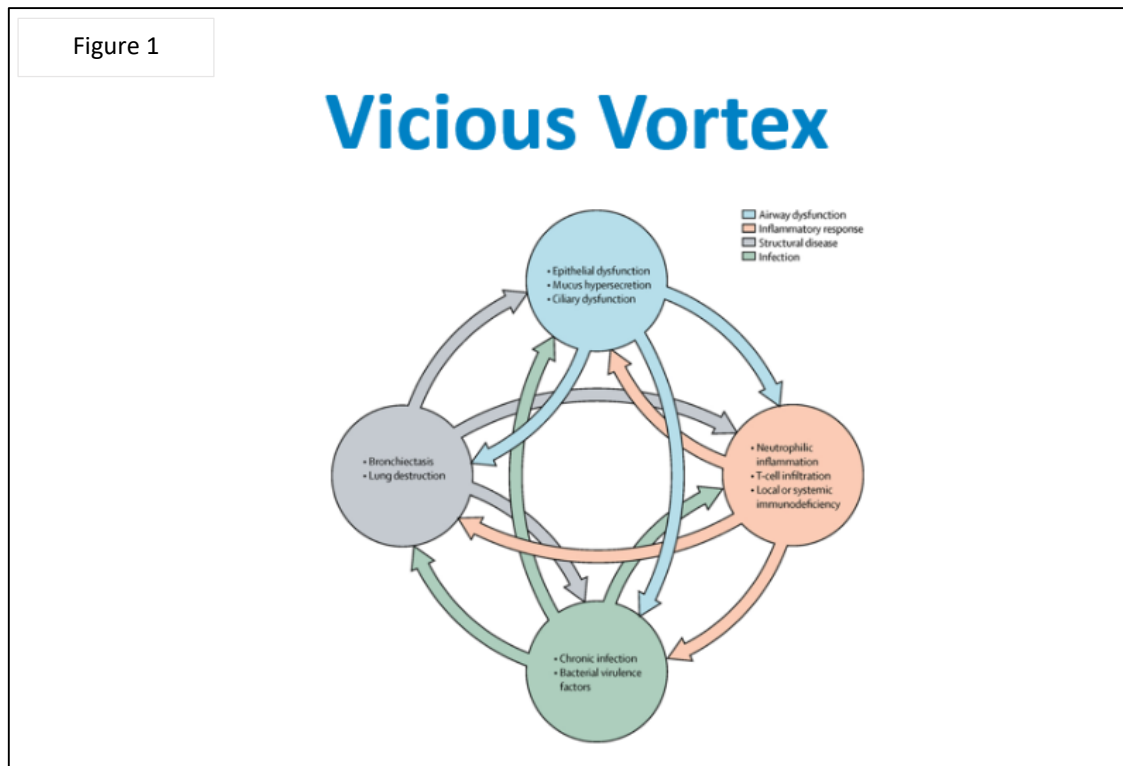
1. A Multimodal Treatment Approach is Required for Bronchiectasis.

Current literature from bronchiectasis experts highlights that the condition is highly heterogeneous, requiring a comprehensive, multimodal approach to symptom management. Clinical trials of Brensocatib, including the WILLOW¹ and ASPEN² trials, demonstrated a statistically significant reduction in pulmonary exacerbations, a slowing of lung function decline, and improvements in patient-reported symptoms and quality of life. However, these trials did not show complete elimination of symptoms associated with bronchiectasis.

There is no single “typical” bronchiectasis patient, as the disease can present with diverse clinical features and arise from a wide range of underlying causes.³ However, regardless of the underlying cause, research shows that bronchiectasis shares four fundamental pathophysiological features across all patient subgroups, regardless of age, race, or gender. These four fundamental pathophysiological features include chronic infection, inflammation, impaired mucociliary clearance, and structural airway damage—forming a self-perpetuating process known as the “vicious vortex” that drives disease progression.⁴

2. Interrelated Pathological Processes Create the Vicious Vortex.

The "vicious vortex" of bronchiectasis comprises four interrelated pathological processes that are active within the lungs. These processes—1) impaired mucociliary clearance, 2) chronic



infection, 3) persistent inflammation, and 4) structural lung damage—are tightly interconnected, with each one amplifying the others. This dynamic interplay creates a self-sustaining cycle that drives disease progression and contributes to its persistence, regardless of the initial cause.^{3,5} See Figure 1⁵.

In bronchiectasis, impaired mucociliary clearance leads to mucus accumulation, which fosters chronic infection and inflammation, further damaging the airways. This vicious vortex underscores the importance of airway clearance techniques, which are essential for mobilizing and removing excess mucus and secretions. These techniques help prevent complications and manage the daily symptoms associated with mucociliary dysfunction and mucus hypersecretion. In bronchiectasis, early diagnosis and implementation of airway clearance can reduce morbidity, mortality, and improve quality of life⁹. Importantly, airway clearance helps to reduce airway damage by slowing the vicious vortex of bacteria and subsequent inflammation.¹⁰ This aspect reduces the number of pulmonary exacerbations and decreases hospitalizations.¹¹

3. There is no single treatment capable of eliminating bronchiectasis.

Healthcare providers must continue to rely on a combination of therapies to manage this complex and costly disease. Recognizing the complex and chronic nature of bronchiectasis described as a “vicious vortex” of mucociliary dysfunction retention, infection, inflammation, and airway damage, high frequency chest wall oscillation (HFCWO) plays a critical role in symptom management, disease progression and reducing healthcare utilization. While emerging treatments like Brensocatib offer promise, they do not fully address all aspects of the disease or eliminate symptoms entirely. Therefore, a multimodal approach that includes airway clearance therapies like HFCWO remains essential in managing the full spectrum of bronchiectasis.

4. Airway clearance therapy should be included in the ICER assessment.

An area not fully addressed in the current ICER assessment is the role of airway clearance therapy in managing a bronchiectasis patient. Airway clearance is the non-pharmacological intervention that helps to remove secretions from the lungs, resulting in fewer exacerbations^{6,7}. A variety of airway clearance techniques are used in bronchiectasis management, and are often tailored to individual patient needs and preferences to ensure adherence to therapy and to appropriately manage the severity of their condition. Airway clearance is a key therapy used to help bronchiectasis patients manage their secretions, clear mucus from the airways, decrease the need for antibiotics, hospital admissions and emergency room visits. Among the available treatments, HFCWO devices, such as the AffloVest® (which has no contraindications) stands out as a preferred treatment option¹² for individuals with chronic symptoms of bronchiectasis.

5. Transparent cost data is necessary for patients and payors to make informed treatment decisions.

A clear understanding of the costs associated with antibiotics (oral, inhaled and intravenous), airway clearance therapies such as HFCWO, and emerging treatments like Brensocatib is essential. Transparent cost data will empower patients, providers, and payors to make informed decisions and shape effective treatment and reimbursement policies. The annual cost of care for patients with bronchiectasis can range from approximately \$3,579 to \$82,000 with hospitalizations representing the largest portion of these expenses.¹³ AffloVest®, a HFCWO device, has shown to be cost effective by demonstrating 96% reduction in hospitalizations, 82% reduction in emergency room visits, and 87% reduction in antibiotic use in patients with bronchiectasis and COPD.⁸

HFCWO therapy is durable medical equipment that is a well-established, clinically supported, widely reimbursed with no pharmacologic side-effects. It is used in the home and designed for long-term use with multiple sizes for use in a broad range of patients with bronchiectasis.

Thank you for considering these important clinical inputs. Including these factors in your assessment can offer a more systemic perspective of the role of Brensocatib and other treatment strategies to support better outcomes in caring for bronchiectasis patients.

Sincerely,



Sheri Dodd
Chief Executive Officer
Tactile Medical
Sdodd@tactilemedical.com

References Enclosed

References:

1. Chalmers, J. D., Haworth, C. S., Metersky, M. L., Loebinger, M. R., Blasi, F., Sibila, O., et al. (2023). *Phase 2 trial of the DPP1 inhibitor brensocatib in bronchiectasis*. New England Journal of Medicine, 386(10), 889–899. <https://doi.org/10.1056/NEJMoa2021713>
2. Chalmers, J. D., Haworth, C. S., Metersky, M. L., Loebinger, M. R., Blasi, F., Sibila, O., et al. (2023). *Phase 2 trial of the DPP1 inhibitor brensocatib in bronchiectasis*. New England Journal of Medicine, 386(10), 889–899. <https://doi.org/10.1056/NEJMoa2021713>
3. Keir HR, Chalmers JD. Pathophysiology of bronchiectasis. *Semin Respir Crit Care Med* 2021; 42: 499–512.
4. Chalmers JD, Elborn S, Greene CM. Basic, translational and clinical aspects of bronchiectasis in adults. *Eur Respir Rev* 2023; 32: 230015 [DOI: 10.1183/16000617.0015-2023].
5. Flume PA, Chalmers JD, Olivier KN. Advances in bronchiectasis: endotyping, genetics, microbiome, and disease heterogeneity. *Lancet (London, England)*. 2018 Sep;392(10150):880-890.
6. <http://bronchiectasis.com.au/physiotherapy/principles-of-airway-clearance/choosing-a-technique>.
7. Lee A. et al. Airway clearance techniques for bronchiectasis. *Cochrane Database Syst Rev*. 2015 Nov 23;2015(11).
8. Foley, B. et al. Reduction in Antibiotic Use, Emergency Visits and Hospitalizations in COPD and Bronchiectasis Patients after Initiating AffloVest HFCWO Therapy. *RT Magazine*. January/February 2021.
9. Volsko, T. Airway Clearance Therapy: Finding the Evidence. *Respiratory Care*. October 2013.
10. O'Neill, K. et al. Airway Clearance. *Mucoactive Therapies and Pulmonary Rehabilitation in Bronchiectasis*. *Respirology* 2019.

11. Ramirez, J. et al. Adults Hospitalized with Pneumonia in the United States. Incidence, Epidemiology, and Mortality. *Clinical Infection Diseases*. December 2017.
12. Wetherby, M. Dunn, N. et al. A Patient Preference Study on HFCWO Devices. *RT Magazine* May/June 2023.
13. Roberts JM, Goyal V, Kularatna S, Chang AB, Kapur N, Chalmers JD, Goeminne PC, Hernandez F, Marchant JM, McPhail SM. The Economic Burden of Bronchiectasis: A Systematic Review. *Chest*. 2023 Dec;164(6):1396-1421. doi: 10.1016/j.chest.2023.06.040. Epub 2023 Jul 8. PMID: 37423293.

August 19, 2025

Sarah K. Emond, MPP
President and Chief Executive Officer
Institute for Clinical and Economic Review
14 Beacon Street, Suite 800
Boston, MA 02108

RE: Comments on Institute for Clinical and Economic Review (ICER) Draft Evidence Report and Draft Voting Questions for the Assessment of Brensocatib for Non-Cystic Fibrosis Bronchiectasis

Dear Ms. Edmond:

The Bronchiectasis and NTM Association (Association) appreciates the opportunity to comment on the ICER Draft Evidence Report (Report) and Draft Questions for Deliberation and Voting (Questions) for its assessment of brensocatib for the treatment of non-cystic fibrosis bronchiectasis (NCFB). The Association is dedicated to improving the lives of people affected by bronchiectasis and NTM lung disease. The Association is committed to advancing high-quality care, research, education, support, and advocacy within the bronchiectasis and NTM lung disease communities to help people live longer, healthier lives.

It is important to frame these comments in the larger context of the significant burden, unmet medical need, and correspondingly urgent demand for more effective treatment facing people living with NCFB and their care partners. NCFB patients who experience frequent exacerbations have their lives uprooted, careers shortened, and future expectations shattered by the constant challenges of this condition. For many, a treatment that would increase time between exacerbations provides hope for regaining control over their quality of life. Many people living with NCFB suffer through a devastating vortex of infection, treatment, deterioration, and reinfection. They live in fear of exacerbations. The value of a medication that would provide some people affected by bronchiectasis an opportunity again to travel, see family, and participate in their communities is incalculable. Specific contextual considerations follow.

- Bronchiectasis is characterized by a ‘vicious vortex’ of inflammation, recurrent infection, impaired mucociliary clearance (i.e., the way that the body clears the lung of mucus), and structural lung changes. Bronchiectasis is identified by the finding of dilatation of the bronchi on computed tomography (CT) scans of the lungs. The diagnosis of bronchiectasis as a clinical syndrome also requires the appearance of typical symptoms related to breathing and coughing.¹ Bronchiectasis results in significant negative effects on quality of life due to impaired social and physical functioning related to the chronic cough and impaired lung function. Most people will have periodic exacerbations causing worsened symptoms. Adding to the impaired quality of life is the significant burden related to the various treatments that are recommended for many people.^{2,3}
- For stable outpatients, regular airway clearance therapy at home can include use of devices (hand-held oscillatory appliances and high frequency chest wall oscillation vests) that mechanically provide chest-physical therapy, nebulized hypertonic saline solution to loosen the mucus, chest percussion therapy, and breathing maneuvers. This therapy is usually recommended to be performed at least twice daily and can be quite time-

COPD Foundation, Inc.

DBA Bronchiectasis and NTM Association

Headquarters: 3300 Ponce de Leon Boulevard, Miami, Florida 33134

Mailing Address: PO Box 160112, Miami, FL 33116

866.731.COPD (2673) | www.copdfoundation.org

833.411.LUNG (5864) | www.bronchandntm.org

consuming, contributing to the impairment of quality of life suffered by people with bronchiectasis.

- Impacts to quality of life from bronchiectasis are significant due to clinical and socioeconomic burdens.^{4,5,6}
- Bronchiectasis symptoms profoundly affect daily activities of living.
- Early diagnosis of bronchiectasis is possible with chest CT for people who are often misdiagnosed with asthma, chronic bronchitis, or chronic obstructive pulmonary disease (COPD).

The Association is investing in research, regulatory reform, and access to quality care and encourages ICER to recognize these realities as their assessment of NCFB treatment unfolds. In particular, our Clinical Trials Network is a platform designed to expedite development of better treatments. It builds on the success of our Bronchiectasis and NTM Care Center Network, a nation-wide network of centers designed to positively impact the patient's journey, including diagnosis, treatment and longitudinal care access.

This ICER review creates assumptions for NCFB treatment value assessment that will likely endure. Therefore, it is critical for ICER to accurately portray the burden of NCFB and the associated treatment paradigm. In regards to the Report, we offer the following comments to support this result.

1. Patient-reported outcome evidence should inform utility gains

The ASPEN trial demonstrated statistically significant and clinically meaningful improvement in symptoms for patients receiving brensocatib. Specifically, patients reported a mean +8.6-point gain on the QOL-B Respiratory Symptoms Score (RSS), representing a ~14% relative improvement from baseline and a 78% greater improvement compared to placebo at week 52. This treatment effect was observed consistently across study visits indicating a sustained, direct quality-of-life benefit from brensocatib beyond its effect on reducing exacerbation frequency..

In addition, improvements in pulmonary function, including slower decline in FEV₁ and FVC, were observed among patients treated with brensocatib as acknowledged in ICERs model Scenario 4. These clinical gains further supporting the argument that the treatment provides multidimensional benefit to patients.

Therefore, it is inaccurate to model the treatment effect of brensocatib exclusively through exacerbation avoidance. The observed improvements in both symptom burden and lung function independently contribute to enhanced quality of life and should be reflected in the cost-effectiveness framework.

To better represent real-world patient experience, the ICER model should incorporate a direct utility increment for patients in the stable on treatment health state, reflecting symptom relief between exacerbations. For example, an 8-point QOL-B RSS improvement conservatively mapped equates to a 0.05 utility gain, for an approximately 0.02 incremental monthly utility benefit compared to placebo. Incorporating this type of adjustment would enhance the face validity of the QALY estimates, particularly in a chronic symptomatic condition like NCFB, where quality of life is a core concern for patients.⁷

Excluding these incremental benefits——risks undervaluing the full real-world impact of brensocatib on daily patient functioning and well-being. Excluding this incremental benefit, despite evidence of sustained improvement in respiratory symptoms and pulmonary function, risks undervaluing the true real-world impact of brensocatib on patients' daily functioning and well-being.

2. Real-world disease burden is likely underrepresented in the model

ICER assumes baseline rates of exacerbation and disease progression based on the placebo arm of the ASPEN trial. However, clinical trial participants typically receive more intensive care and closer monitoring than patients in everyday practice, leading to lower exacerbation rates than would be expected in a real-world, natural history population. Applying treatment effects to a trial-based comparator underestimates the true burden of untreated disease and dilutes the relative impact of a treatment. Treatment effects should be applied to real-world population inputs that reflect typical care patterns and outcomes.

In addition, the ICER model appears to underestimate the duration and burden of exacerbations. Patients report burden well beyond the actual exacerbation due to the illness itself, requirement for physician care, and the uncertainty of when an exacerbation will occur.⁷ However, ICER assumes 90% of exacerbations resolve within one month thereby limiting associated costs and utility decrements to a single cycle. This fails to capture real-world evidence showing that exacerbations often last multiple weeks, with lingering symptoms and incomplete recovery long-term for many patients.^{8,9} By applying overly short event durations and simplified cost modeling the true health and economic impact of exacerbations is likely underestimated. ICER should amend this assumption to more accurately reflect the chronic impact of exacerbations.

3. Simplified age assumption at model entry may reduce model accuracy

ICER appears to enter all patients into the model at age 60 instead of using the full population range incorporated in ASPEN trial. This overlooks age-related variation in mortality, treatment duration, and QALY gain over a life time. ICER should clarify the rationale for this or clarify in the main report that a more representative age distribution was included in the base-case model.

4. Population-cost misalignment and input structure underrepresents disease burden

ICER's economic model appears to underrepresent the true cost burden of bronchiectasis due to a mismatch between the modeled patient population and the structure and source of some cost inputs. Several key issues should be addressed:

- *Mismatch between patient severity and cost inputs:* ASPEN enrolled a high-risk population with ≥ 2 exacerbations per year with 35% of the population positive for *Pseudomonas aeruginosa* (PsA) at baseline. However, ICER appears to average cost inputs derived from broader or lower-risk populations (e.g., “0 exacerbation” groups). Tkacz 2024 Table S3 provides cost data stratified by exacerbation history that can be used to more accurately reflect the disease burden of the modeled population.¹⁰

- *Downward bias in cost inputs without justification:* ICER references studies like Tkacz (2024) for cost inputs but reports substantially lower values than those in the source literature. For example, ICER uses \$1,108 as the monthly cost of an exacerbation, while Tkacz Table S3 reports bronchiectasis-related costs of approximately \$1,500 (after excluding inpatient hospitalization) in patients with 1 exacerbation. Additionally, key components of daily costs like physician visits, pharmacy, other outpatient visits, and post-acute care appear underweighted or excluded without explanation. CPI inflation adjustments and data-filtering methods are not transparently documented. These omissions likely understate the baseline cost burden and diminish the modeled value of reducing exacerbations.
- *Inconsistent cycle length and cost structuring:* While ICER applies a 1-month model cycle, many cost inputs are sourced from annualized data and divided evenly across 12 months. This assumes health care costs occur uniformly, which ignores the clustering of resource use around exacerbations, including pre-event care, acute treatment, and prolonged recovery periods. This misalignment can distort both costs and treatment-related offsets.
- *Unclear PsA cost application:* ICER also applies a \$3,097/month cost from Blanchette (2017), seemingly derived from a change post-PsA infection in costs in PharMetrics Plus claims (collected from 2007 to 2013).¹¹ ICER should more clearly describe how this cost is applied in the model (e.g., percent incurring cost at model entry and approximate number of cycles to achieve resolution and transition from this health state).

ICER should address or clarify these structural mismatches between the modeled cohort, cost inputs, and cycle framework to avoid understating the true burden of NCFB.

5. Clarify the methods to obtain and apply expert input that is used as the basis for a model assumption or model input.

ICER does not describe the method used to obtain comprehensive expert input when expert input was used as the basis of a model input or assumption. ICER should describe more clearly the number of experts providing input, the method used to obtain the expert input (e.g., structured survey, semi-structured interviews, Delphi panel) included as the basis for an assumption or input. ICER should also clarify how the expert input was applied when referencing scientific literature and expert input for the same model assumption or input.

6. Overstated uptake assumption inflates budget impact

ICER assumes that 100% of diagnosed patients (461,206) are treated over 5 years with 20% added annually. Although the model costs are based on the subset of the more severe subset of this population included in the ASPEN trial. Use of this unrealistic assumption to estimate 5 year “Cumulative Per Patient Budget Impact”. No therapy reaches full penetration to every diagnosed individual with a condition due to clinical variation, payer restrictions, and patient preferences. A more realistic uptake curve would better inform affordability thresholds and payer relevance.

7. Recognize evolving efforts to improve diagnosis and access to care

While missed and delayed NCFB is common, resources such as the Bronchiectasis and NTM Care Center Network are increasing access to care by promoting earlier and accurate diagnosis for all patients not limited by geography or insurer. ICER should acknowledge and incorporate these efforts in the report.

Additionally, we urge you to consider the following comment regarding the Questions.

1. In consideration of the patient perspective, the following question should be included in the final Question list for deliberation and voting on the September 25, 2025 Public Meeting: “The treatment is likely to produce substantial improvement in patients’ quality of life and/or ability to pursue their own education, work, and family life.” If ICER is unable to add an additional question to the existing list, this proposed question should replace the existing question regarding caregiver quality of life (question 4).

Thank you for consideration of these comments. Please let us know any questions.

Sincerely,



Jean Wright, MD, MBA
Chief Executive Officer
COPD Foundation

References

¹ Aliberti, Stefano et al. “Criteria and definitions for the radiological and clinical diagnosis of bronchiectasis in adults for use in clinical trials: international consensus recommendations.” *The Lancet. Respiratory medicine* vol. 10,3 (2022): 298-306. doi:10.1016/S2213-2600(21)00277-0

² Henkle, Emily et al. “US Patient-Centered Research Priorities and Roadmap for Bronchiectasis.” *Chest* vol. 154,5 (2018): 1016-1023. doi:10.1016/j.chest.2018.06.032

³ Herrero-Cortina, Beatriz et al. “European Respiratory Society statement on airway clearance techniques in adults with bronchiectasis.” *The European respiratory journal* vol. 62,1 2202053. 20 Jul. 2023, doi:10.1183/13993003.02053-2022

⁴ Chalmers, James D et al. “A systematic literature review of the clinical and socioeconomic burden of bronchiectasis.” *European respiratory review : an official journal of the European Respiratory Society* vol. 33,173 240049. 4 Sep. 2024, doi:10.1183/16000617.0049-2024

⁵ Al Oweidat, Khaled et al. “The prevalence of anxiety and depression in bronchiectasis patients and their association with disease severity: a cross-sectional study.” *Scientific reports* vol. 13,1 20886. 28 Nov. 2023, doi:10.1038/s41598-023-48276-1

⁶ Gao Y-H, Zheng H-Z, Lu H-W, et al. The impact of depression and anxiety on the risk of exacerbation in adults with bronchiectasis: a prospective cohort study. *Eur Respir J* 2023; 61: 2201695 [DOI: 10.1183/13993003.01695-2022].

⁷ Dudgeon, Emily K et al. "'The missing ingredient': the patient perspective of health related quality of life in bronchiectasis: a qualitative study." *BMC pulmonary medicine* vol. 18,1 81. 22 May. 2018, doi:10.1186/s12890-018-0631-7

⁸ Brill, Simon E et al. "Lung function, symptoms and inflammation during exacerbations of non-cystic fibrosis bronchiectasis: a prospective observational cohort study." *Respiratory research* vol. 16,1 16. 7 Feb. 2015, doi:10.1186/s12931-015-0167-9

⁹ Laska, Irena F, and James D Chalmers. "Treatment to prevent exacerbations in bronchiectasis: macrolides as first line?." *The European respiratory journal* vol. 54,1 1901213. 18 Jul. 2019, doi:10.1183/13993003.01213-2019

¹⁰ Tkacz J, Lewing B, Feliciano J, et al. Real-world treatment patterns, health care resource utilization, and costs in a US Medicare population with bronchiectasis. *J Manag Care Spec Pharm*. Sep 2024;30(9):967-977. doi:10.18553/jmcp.2024.30.9.967

¹¹ Blanchette CM, Noone JM, Stone G, et al. Healthcare Cost and Utilization before and after Diagnosis of *Pseudomonas aeruginosa* among Patients with Non-Cystic Fibrosis Bronchiectasis in the U.S. *Med Sci (Basel)*. Sep 23, 2017;5(4). doi:10.3390/medsci5040020

August 19th, 2025

With a bronchiectasis/NTM diagnosis my life took a rapid downturn. In a matter of 2 years I have devoted up to 4 hours a day doing airway clearance and less and less time to the activities I love doing: lovemaking with my partner, spontaneous gatherings with friends, trips with my girlfriends and hiking buddies, hiking 2 days a week, spin class 3 days a week, Zumba once a week, jewelry making any day my muse inspired me. My ability to do many of these things has been greatly reduced. My disease is a constant reminder that I have limitations which my family and friends little understand.

I have read the section on patient insights and realize that living with this disease is the same for all of us: the shame of having a disease that no one understands, the withdrawal from society, the anxiety of knowing that social gatherings can create a life-threatening infection.

It is a terrible thing to lose hope, which is what sustains us. BRINSUPRI has given us that hope we have so longed for. It promises to reduce the inflammation that causes exacerbations, which occur without warning and all too frequently. I am in hopes that it will also help my rheumatoid arthritis, which came on as a result of my BE/NTM.

Sincerely,

Kate Secrest

Hello,

I am responding to the invitation to submit a public comment on the Draft Report and Voting Questions for Brensocatib.

As a long term patient with Bronchiectasis which I have had for 35 years, I am waiting desperately for this treatment to become available.

I am 65 years old and have already had two lung resections. I am unable to have any more surgery as it would have a profoundly negative effect my breathing capacity.

Having participated in the patient interviews about my experience living with the severe limitations that Bronchiectasis causes, I am happy to have the opportunity to read the report and draft questions for deliberation and voting. I have registered for attendance at the Public Meeting.

In reading the draft questions, I would strongly support the statement under Clinical Evidence #1. Absolutely YES.

For those of us living and suffering with this lung disease, the “net health benefit of brensocatib as an add-on therapy to usual care is greater than that of usual care alone”.....I would like to strongly remind the committee that there is really NO usual care that is considered “treatment for Bronchiectasis. Brensocatib would be the first ever treatment available to us.

The daily regime that those of us with bronchiectasis must adhere to (exhausting and time consuming airway clearance at least twice per day), frequent use of antibiotics for exacerbations, avoidance of people with any potential to carry illness...even the common cold, maintaining a clean and relatively sterile home environment. Avoiding drinking water unless it is sterilized, avoiding showers due to the mist potentially carrying micro bacteria which could enter the lungs ect. IS NOT treatment. It is merely a way to slow down progression and hopefully minimize exacerbations.

Even with taking all of these precautions and measures, we still become easily ill. Bronchiectasis exacerbations are unpredictable and the vicious vortex of cycles are unbearable.

BENEFITS BEYOND HEALTH...

1. There is not only a substantial unmet need “despite” currently available treatments”....Let me strongly reiterate that there are NO “currently available treatments”

Regarding” judgements of overall long-term value for money”....I can only say that given the clinical evidence of reduction of exacerbations, that alone is worth the financial investment in this medication. For me personally, I will do whatever it takes to be able to afford this

medication. It is my only hope for a future without all of the suffering I have endured and the chance to improve my quality of life.

If pricing becomes available and a vote is taken on long term value for brensocatib, I would plead for a vote that it has a “High long-term value for money at assumed pricing.”

I hope this letter will be of some help in reiterating what has already been addressed from both a clinical/research perspective as well as from the experiences gathered from interviews of patients like myself .

Thank you for the opportunity to express my feelings and thoughts on brensocatib and the importance of its release to those of us living (and dying) with bronchiectasis.

Sincerely,

Maggie Hart