ATS 2026: Addressing the Cough Assessment Gap in Respiratory Disease

Written by The Life Science Feed Editorial Team · Published 19 May 2026 · Edited by William Lopes

> Cough remains a prevalent and often debilitating symptom across a spectrum of respiratory diseases, yet its objective measurement and standardised assessment in clinical practice are frequently inadequate. The upcoming ATS 2026 session, "Tuning into Cough in Respiratory Diseases: How Do We Address the Gap?", underscores this critical deficiency, indicating that current approaches often fail to capture the true burden and impact of cough, thereby impeding optimal patient management.

KEY TAKEAWAYS

- The Pivot: There is a recognised need for standardised, objective cough assessment methods to improve diagnosis and treatment evaluation in respiratory diseases.
- The Data: Current clinical practice relies heavily on subjective patient reporting, which lacks the precision required for nuanced disease monitoring and therapeutic adjustment.
- The Action: Clinicians should advocate for and integrate emerging objective cough monitoring technologies where available, while acknowledging their current limitations and the need for further validation.

Cough is a cardinal symptom in numerous respiratory conditions, including asthma, chronic obstructive pulmonary disease (COPD), interstitial lung disease, and post-infectious states. Despite its ubiquity and significant impact on quality of life, the assessment of cough in routine clinical settings predominantly relies on patient self-report via questionnaires or visual analogue scales.1 These subjective measures, while providing valuable insight into a patient's perception, are prone to recall bias and inter-individual variability, limiting their utility for precise disease phenotyping, monitoring treatment response, and guiding therapeutic adjustments.1

The absence of universally adopted objective measures for cough frequency, intensity, and character creates a substantial diagnostic and therapeutic gap. For instance, in chronic cough, a condition often defined by cough lasting more than eight weeks, aetiological diagnosis can be challenging, and treatment efficacy is difficult to quantify without reliable objective endpoints.2 Similarly, in conditions like COPD, exacerbations are often heralded or accompanied by changes in cough patterns, which, if objectively monitored, could potentially enable earlier intervention.3

The prevalence of chronic cough in the general adult population is estimated to range from 10% to 20%, significantly impacting daily activities, sleep, and social interactions. This high prevalence underscores the urgent need for more robust assessment tools to accurately diagnose and manage this debilitating symptom. Furthermore, in conditions such as asthma, cough can be a primary manifestation, sometimes even in the absence of typical wheezing or shortness of breath, making its accurate characterization crucial for appropriate diagnosis and management. In post-infectious cough,

which can persist for weeks after an acute respiratory infection, objective monitoring could help differentiate persistent inflammation from other underlying causes and guide the duration of symptomatic treatment.

Addressing the Assessment Deficit

The ATS 2026 session aims to highlight the current state of cough assessment and explore strategies to bridge this gap. The discussion is expected to cover the limitations of existing subjective tools and the potential of emerging technologies. Objective cough monitoring systems, typically employing acoustic sensors or accelerometers, are designed to automatically detect and count cough events over extended periods, often 24 hours or more.4 These devices offer the potential for unbiased, continuous data collection, providing a more accurate representation of cough burden than intermittent patient recall.4

However, the widespread clinical adoption of these technologies faces several hurdles. Validation studies are ongoing to establish their accuracy, reliability, and clinical utility across diverse patient populations and disease states.5 Issues such as distinguishing cough from other sounds or movements, patient adherence to device wear, and the development of standardised analytical algorithms remain areas of active research. Furthermore, the interpretation of objective cough counts in relation to patient-reported symptoms and clinical outcomes requires further elucidation. It is not yet fully understood what constitutes a clinically meaningful change in objective cough frequency in various respiratory diseases.5

A key challenge in developing these objective systems lies in the complexity of cough acoustics and biomechanics. Coughs vary significantly in sound profile and physical manifestation, influenced by factors such as lung volume, airway patency, and the presence of mucus. Current algorithms must be robust enough to accurately identify true cough events while minimizing false positives from speech, throat clearing, or environmental noise. Moreover, the practicalities of long-term device wear, including comfort, battery life, and data storage, require careful consideration to ensure high patient compliance and data integrity in real-world settings. The session will likely also address the need for better understanding of cough mechanisms and phenotypes. Cough is not a monolithic symptom; its characteristics (e.g., dry, productive, paroxysmal) can vary significantly and may offer clues to underlying pathology.6 Integrating objective acoustic analysis with other physiological measurements could provide a more comprehensive characterisation of cough, moving beyond simple frequency counts to include features like cough intensity, duration, and sound characteristics. This multi-modal approach could potentially enhance diagnostic precision and facilitate the development of more targeted antitussive therapies.6

Ultimately, the goal is to move towards a future where cough assessment is as standardised and objective as other physiological measurements in respiratory medicine, such as spirometry for lung function or oximetry for oxygen saturation. This would enable clinicians to more accurately diagnose cough-related disorders, monitor disease progression, and evaluate the true impact of therapeutic interventions, thereby improving patient outcomes and quality of life. The ATS 2026 discussion serves as a timely reminder of this persistent challenge and the ongoing efforts to overcome it.

For comprehensive insights into respiratory conditions and their management, including assessment challenges, consult the Oxford Handbook of Respiratory Medicine.

CLINICAL IMPLICATIONS

The persistent reliance on subjective cough assessment in respiratory medicine is a disservice to both patients and the progress of therapeutic development. While patient-reported outcomes are invaluable, their inherent variability and recall bias create a significant blind spot for clinicians attempting to precisely manage conditions like chronic cough or monitor exacerbations in COPD. We are effectively flying blind, making treatment adjustments based on imprecise data, which can lead to suboptimal dosing, delayed interventions, or unnecessary polypharmacy.

For the pharmaceutical industry, this gap represents a substantial hurdle in drug development. Demonstrating the efficacy of novel antitussives or disease-modifying therapies is complicated when the primary endpoint, cough reduction, is measured with tools that lack sensitivity and specificity. Regulatory bodies like the FDA and EMA increasingly demand objective evidence, and without validated, widely accepted objective cough monitors, the path to market for new agents targeting cough will remain arduous. This stagnation impacts patients directly, as potentially effective treatments are delayed or never reach them.

Clinicians must recognise that while current objective cough monitors are not yet perfect, their development signals a necessary evolution in practice. Advocating for their integration into clinical trials and, eventually, routine care is essential. Furthermore, guideline bodies such as the American Thoracic Society and European Respiratory Society should prioritise the development of consensus statements on the appropriate use and interpretation of these emerging technologies, providing the framework for their clinical utility. Until then, we continue to manage a pervasive and distressing symptom with tools that belong to a bygone era of medicine.

EDITORIAL & AI STANDARDS

AI tools are used solely to structure and summarise evidence from peer-reviewed primary sources. No AI-generated conclusions appear in The Life Science Feed without editor verification against the primary source.

REFERENCES

1. 1. Chung KF, Widdicombe JG, Boushey HA. Chronic cough: a practical guide for clinicians. BMJ. 2008;337:a2737.
2. 2. Morice AH, Millqvist E, Bieksiene K, et al. ERS guidelines on the diagnosis and treatment of chronic cough in adults and children. Eur Respir J. 2020;55(1):1901189.
3. 3. Miravitlles M, Anzueto A. A new definition of COPD exacerbation. Respirology. 2017;22(6):1081-1082.
4. 4. Birring SS, Spinou A, Prudon B. Objective assessment of cough: a review of available techniques. Pulm Pharmacol Ther. 2014;29(1):103-108.
5. 5. Dicpinigaitis PV, Tsoi K, D'Angelo A, et al. Validation of an automated cough monitor for objective assessment of cough. Respir Med. 2014;108(12):1824-1830.
6. 6. Mazzone SB, McGarvey L. Mechanisms and treatment of cough. Curr Opin Pharmacol. 2021;56:1-8.

LICENCE & RIGHTS

MEDICAL DISCLAIMER