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FOR IMMEDIATE RELEASE

Digital inhalers may detect early warning signs of COPD flare-ups

Digital inhalers can monitor changes in how much air is inhaled, duration of inhalation

Miami (June 17, 2025) – Digital inhalers may help predict impending acute exacerbations of chronic obstructive pulmonary disease (COPD), according to a new study. The study is published in the May 2025 issue of *Chronic Obstructive Pulmonary Diseases: Journal of the COPD Foundation*, a peer-reviewed, open-access journal.

COPD is an inflammatory lung disease, comprising several conditions, including chronic bronchitis and emphysema, and can be caused by genetics and irritants like smoke or pollution. The disease affects more than 30 million Americans and is the fourth leading cause of death worldwide.

Exacerbations, or flare-ups, can cause accelerated loss of lung function, a decrease in quality of life, and reduce a person's physical function and activity. More than 50% of people with COPD experience at least one acute COPD exacerbation within four years of an initial COPD diagnosis. Increased respiratory rates and decreased lung volumes are early signs of an exacerbation.

This new study examines how digital inhalers using remote monitoring data can help predict and identify early or impending COPD exacerbations. The digital inhaler used in this study measured peak inspiratory flow, inhalation volume, inhalation duration, time to peak inhalation, and inhaler use. The study examined whether the data collected by the digital inhaler could identify a possible early-stage exacerbation.

"While this study examined a small group of participants, the remote monitoring data showed people experienced significant decreases in the amount of air they inhaled and how long that inhalation lasted in the approximately two weeks prior to experiencing an exacerbation," said M. Bradley Drummond, M.D., MHS, professor of medicine in the Division of Pulmonary Diseases and Critical Care Medicine at the University of North Carolina, Chapel Hill School of Medicine and lead author of the study. "As these remote monitoring technologies get more advanced, we can help both patients and health care providers identify exacerbations earlier, which allows us to provide better exacerbation management and improve health outcomes."

To access current and past issues of *Chronic Obstructive Pulmonary Diseases: Journal of the COPD Foundation*, visit journal.copdfoundation.org.

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About the COPD Foundation

The COPD Foundation is a nonprofit organization whose mission is to help millions of people live longer and healthier lives by advancing research, advocacy, and awareness to stop COPD, bronchiectasis, and NTM lung disease. The Foundation does this through scientific research, education, advocacy, and

awareness to prevent disease, slow progression, and find a cure. For more information, visit copdfoundation.org, or follow us on Twitter and LinkedIn.