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Einstein Healthcare Network adopts AI to enhance pulmonary program

Einstein
HEALTHCARE NETWORK

First 30 days of images analyzed through PIN and Imbio LDAi:

538	55	17
total patients	presented with >5% emphysema	potential BLVR candidates identified

CHALLENGE: Strengthen lung screening and population health programs to promote earlier diagnosis and less-invasive treatment options.

SOLUTION: Nuance Precision Imaging Network (PIN) combined with Imbio's Lung Density Analysis-Inspiration™ (LDAi).

RESULTS: Delivered more informed AI imaging insights with greater visualization of patient conditions.

Einstein Healthcare Network, part of Jefferson Health, is a private, not-for-profit organization that includes three hospitals and fifteen outpatient centers and has been proudly delivering high-quality healthcare throughout the Greater Philadelphia region for more than 155 years.

"We always look for advanced technologies to help identify and treat lung diseases earlier. Utilizing Nuance PIN to deliver Imbio's LDAi quantitative patient insights enhances our clinical decision-making, facilitates earlier and more precise diagnoses, and allows for proactive interventions that may improve quality of life."

— Sadia Benzaquen, MD, Chair of the Pulmonary, Critical Care and Sleep Medicine Program, Einstein Healthcare Network

A more proactive care plan
Emphysema and other forms of COPD are often underdiagnosed with many patients not receiving a definitive diagnosis until later stages, when it is more difficult to treat. According to recent studies, approximately three-fourths of adults with COPD remain undiagnosed and of those nearly 23% will have moderate to severe emphysema.[1, 2]

To maximize imaging information in lung health and population screening programs, Einstein sought a single platform for the seamless delivery of AI-driven imaging insights directly into their workflow to direct care and better manage patients with, or at risk of, lung disease.

Pathway for improving diagnosis and treatment planning
Dr. Sadia Benzaquen, Chair of the Pulmonary, Critical Care and Sleep Medicine Program at Einstein saw Nuance PIN as an opportunity to streamline access to multiple AI algorithms on one platform that supports a growing pulmonary program.

In just the first 30 days of deployment, Einstein staff identified 17 potential candidates (out of 538 images analyzed) for whom the BLVR procedure could significantly improve lung function.

PIN brings together the power of Nuance's industry-leading workflows and vast reporting and image sharing infrastructure with the scale, security, and strength of Microsoft Azure—already in place at Einstein to deliver partner AI solutions. Specifically, the team implemented Imbio's LDAi, which offers fully automated detection, quantitative analysis, and 3D visualization of a patient study directly into PACS.

Improving the patient care journey

Together, this platform is advancing the way lung patients are diagnosed, treated, and managed. Using PIN and Imbio LDAi, Einstein has enhanced their ability to detect earlier stage disease by analyzing daily chest CTs to help identify other high-risk patients. Additionally, the platform offers physicians a valuable tool to potentially identify candidates for a broader range of treatment options to improve breathing, such as bronchoscopic lung volume reduction (BLVR). In just the first 30 days of deployment, Einstein staff identified 17 potential candidates (out of 538 images analyzed) for whom the BLVR procedure could significantly improve lung function.

By detecting lung disease earlier and identifying at-risk patients—even those that may not yet be under their care—Dr. Benzaquen and his team are improving overall lung health and quality of life across the community they serve.

LEARN MORE

To learn more about PIN, Imbio LDAi and other partner AI solutions for your lung health program, contact your local Nuance PIN senior sales executive.

nuance.com/healthcare

Endnotes
1 Diab N, Gershon AS, Sin DD, et al. Underdiagnosis and overdiagnosis of chronic obstructive pulmonary disease. Am J Respir Crit Care Med. 2018;198(9):1130-1139.
2 Steiger, D., Siddiqi, M.F., Yip, R. et al. The importance of low-dose CT screening to identify emphysema in asymptomatic participants with and without a prior diagnosis of COPD. Clinical Imaging 2021; Vol. 78:136-141.

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