

Summa Health improves follow-up of incidental lung nodules



CHALLENGE:

High risk of missed incidental lung nodule follow-ups due to cumbersome process for identifying and facilitating follow-up of ED patients.

SOLUTION:

- mPower Clinical Analytics

RESULTS:

- Nearly 8X increase in positive identification of patients with lung nodules requiring follow-up
 - Automated management and tracking of lung nodule patients
 - Increased patient volume supported the opening of new lung nodule clinic
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“We’re identifying cancers at an earlier stage when they’re more treatable; that’s why we send all nodule sizes to our navigators and not just those that appear actionable.”

— Laura Musarra, Former Senior Business Performance Analyst, Summa Health

Challenges with incidental findings

Like other healthcare organizations evaluating ED patients, Summa clinicians are finding more incidental lung nodules—nodules at risk of not receiving follow-up.

With the emergent nature of an ED visit, the focus isn’t often on the incidental finding. “Although we identify lung nodule cases for referring physicians, it was too easy for the patients to fall through the cracks,” notes Dr. Rosenblum.

Insight to action

To improve outcomes, Summa established a lung nodule multidisciplinary team in 2014, involving pulmonologists, radiologists, pathologists, oncologists, cardiothoracic specialists, navigators, and analysts who focus on screening, diagnostics, treatment, follow-up, tracking, communication, and quality improvement.

“We had the right people in place,” said Musarra. “But we needed to find a way to automate the process of identifying and managing ED patients with incidental lung nodules to facilitate appropriate follow-up care.”

Already a longtime PowerScribe and mPower Clinical Analytics customer, Summa turned to Nuance for help.

Summa knew that mPower provided easy-to-understand, actionable information from unstructured report narrative. By expanding their use of mPower’s advanced language processing capabilities to extract actionable insights from within PowerScribe, they realized they could easily analyze all ED patients’ radiology reports to identify documented incidental lung nodules.

“It took some trial and error at first—we needed to uncover the most reliable data from thousands of imaging studies with unstructured dictated notes with various findings and terminology,” explained Musarra, but the team established an effective process. “We could now query and analyze vast amounts of data which was simply impossible before.”

Identifying priority patients

Once these patients are identified, information is sent to the lung navigator to determine next steps. “Data is extracted right from PowerScribe,” said Musarra. “It provides all the documentation our navigators need—including the radiology report with details such as nodule size and any follow-up recommendations.”

NEARLY
8X

increase in identification of lung
nodule follow-up patients

“By combining our navigators’ expertise with mPower Clinical Analytics, not only are we identifying more patients at risk for lung cancer, we’re helping reduce medical liability through better identification and coordination of follow-up care.”

— David Rosenblum, DO,
Chairman of Imaging,
Summa Health

Some cases are referred to Summa’s Lung Nodule Clinic for further consultation. Weekly, Summa’s multidisciplinary team reviews lung nodule data generated by mPower, identifying patients who may need vital pulmonary care. Cases are carefully evaluated based on national guidelines to refine the patient list and help avoid overdiagnosis.

Improving outcomes

Before mPower, an average of eight ED patients per month were referred to Summa’s lung navigators with incidental nodules. The team now identifies about 60 patients per month—nearly an 8X increase. Among these cases, over 30% presented with lung nodules greater than 8mm, the threshold at which malignancy risk increases significantly, making these findings actionable, according to Fleischner Society Guidelines.

With Summa’s new process, notified patients have higher follow-up rates. It supplements traditional lung cancer screening programs focused on those at high risk based on their smoking history. “Now, we’re able to identify cancers at an earlier stage, when they are more treatable, for many identified patients regardless of their smoking history,” said Musarra. “By sending all nodule sizes to our navigators—not just those that appear actionable—we ensure a more careful review while adhering to best practices that will help avoid overdiagnosis.”

“The patient population in our area is older, and the instance of smoking is still fairly high,” said Dr. Rosenblum. “This type of program offers a safety net for our community for people who might otherwise fall through the cracks.”

Looking ahead

“Our initial focus was to unlock valuable information in our imaging studies to strengthen our lung program, but that was only the beginning—now mPower is helping drive multiple new initiatives,” said Musarra. AI-powered language processing capabilities are enabling that effort, helping to improve population health strategies.

Summa recognizes there are many other incidental finding opportunities that can lead to earlier detection and treatment. “As radiologists, we are in a gatekeeping role. The data is there. With time being a critical factor in treatment success, clinical analytics like mPower offer us another piece of the puzzle and can help providers investigate findings sooner,” said Dr. Rosenblum.

Adds Dr. Rosenblum, “...mPower is a very powerful tool which can help improve reporting in your group, drive added imaging volumes, and increase physician satisfaction, so that referring physicians are eager to join your team.”

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