

# Study probes why and how patients with lung cancer initially get diagnosed with the disease

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UT Southwestern Medical Center researchers are looking into the widespread implementation of computed-tomography (CT) scanning for the early detection of lung cancer in a public health setting, asking two key questions: Without screening, why and how do patients with lung cancer get diagnosed with the disease in the first place? And what proportion of these cases would be captured by screening efforts?

Dr. David Gerber, an oncologist and assistant professor of [internal medicine](#), has used the [electronic medical records](#) data of more than 400 [patients](#) in a single-center study that is further exploring results from the National Lung Screening Trial (NLST) released in 2010. The NLST already showed a reduction in [lung cancer](#) mortality may result in widespread CT-based screening of select populations. This population was strictly defined according to age (55 to 74 years) and smoking history (at least 30 years of one-pack-a-day smoking).

Dr. Gerber and his team, in a study published today at [PLoS ONE](#) – the Public Library of Science's online journal, reviewed the records of patients who were diagnosed with Stage 1 or Stage 2 non-small cell lung cancer over a recent 10-year period, and found that the proportion of cases identified by [CT scan](#) (without preceding chest X-ray) increased almost 50 percent during this period. Simultaneously, the proportion of patients who underwent initial chest imaging to evaluate symptoms declined more than 30 percent. Finally, the researchers found that only half of early-stage lung cancer cases would meet NLST criteria for lung cancer screening.

"Our results suggest that a substantial proportion of patients currently presenting with early-stage lung cancer would continue to do so independently of radiographic screening if such a program were implemented according to NLST criteria," Dr. Gerber said. "The possibility of frequent detection of early-stage disease outside of a screening context seems more likely with lung cancer than with other malignancies, as chest imaging is a more common practice in non-screening clinical care than are mammograms, Pap smears, and colonoscopies."

Whether radiographic screening for lung cancer should be extended to a broader population is not yet known.

"Adhering to specific guidelines may be challenging for clinicians," Dr. Gerber said. "For instance, in our sample, almost 25 percent of patients with early-stage disease would be ineligible for screening because they are too old under NLST criteria."

Dr. Gerber pointed out that certain professional organizations, such as the National Comprehensive Cancer Network, have omitted a maximum age cut-off from their screening recommendations.

"Until there is sufficient evidence to offer [screening](#) to a broader population," Dr. Gerber said, "clinicians should remain aware of the diverse reasons for and circumstances of early-stage lung cancer presentation to expedite further evaluation and potentially curative treatment."

Provided by UT Southwestern Medical Center

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