

Lifesaving lung screens hit the road

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Breathe Easy Bus. CHI Memorial, Chattanooga

(HealthDay)—Irene Johnson noticed a big, blue bus bearing the words "Breathe Easy" outside the Benton, Tenn., library during the 2019 Labor Day weekend.

Inside, a librarian told Johnson that the bus was a mobile CT unit that travels around screening smokers for [lung cancer](#).

Former longtime smokers, both Johnson and her husband, Karl, fit the criteria for getting screened, so they decided to step inside and find out what was what.

The CT scan revealed that each had a mass in the upper part of their right lung, later verified as stage 1 lung [cancer](#).

"I think an angel pushed me in there," said Johnson, 77. "Why I went in there, I can't even answer that. There is no physical warning that you have an early-stage lung cancer in you. Don't look for a sign, because it could be too late."

The bus is part of an ongoing effort to make screening more easily available to folks like the Johnsons who might have lung cancer, said Dr. Rob Headrick, chief of thoracic surgery at CHI Memorial Chest and Lung Cancer Center, in Chattanooga, Tenn.

The built-from-scratch \$650,000 bus visited 104 sites in eastern Tennessee during its first year, performing 548 low-dose CT scans to check for lung cancer, Headrick and his colleagues reported in the July 14 issue of the *Annals of Thoracic Surgery*.

The bus now has been in operation for more than two years and averages about 100 screenings per month.

The Johnsons had been vacationing in Tennessee, so they headed back to their home in Lake Placid, Fla., for treatment. Karl underwent surgery in November and Irene in December, and both now are cancer-free.

"I was apprehensive to do it because I didn't want to know," Irene said of

the screening. "You know, out of sight, out of mind. If I'm told, will it be bad? My parents died of lung cancer, and my husband's father died of lung cancer. I lost a brother two years ago to it," she explained.

"I really didn't want to know that I had it, but Dr. Headrick convinced me," Irene continued. "He said, 'Mrs. Johnson, if you have it you need to know so they can remove it or treat it.' And he really convinced me that I'm really pretty silly if I don't do it."

Irene and Karl Johnson at home in Reliance, Tenn.

Boosting access

The U.S. Preventive Services Task Force recommended CT screening for lung cancer back in 2013, and doctors at the time figured it would be a breakthrough in their ability to catch lung cancers earlier and save lives, Headrick recalled.

Just one problem—there weren't many takers.

"We all sat in our offices and our imaging centers and our clinics, and nobody showed up," Headrick said. Nationally, only 2% to 3% of the current and former smokers eligible for screening have bothered to have themselves checked out.

Was it that people didn't know they needed the test? Or that the test was too inconvenient for people?

"If our biggest pocket of lung cancer is 45 minutes away from our hospital, they're not going to drive an hour and a half to get a test, to sit an hour and a half to wait for a test, which means they've got to take a

day off from work, which means they're spending money and not sure why they're doing it," Headrick said.

Headrick and his colleagues dreamed up a plan to address both problems—a bus that would promote lung screening and also could perform the scan right then and there.

They ordered the biggest bus frame possible from Winnebago, and had an imaging company custom build a CT scanner that would fit into the vehicle, Headrick said.

The prototype wasn't perfect. With all equipment loaded and lead shielding installed, the vehicle came to just under the maximum weight of what the frame and chassis could handle, which was hell on the brakes and tires, Headrick said.

And to protect the CT scanner from heat and humidity, the air conditioning had to be run 24 hours a day. They wound up burning out about 10 AC units during the year on the road, Headrick said.

More buses to come

The surprise was that the CT scanner never broke, no matter how many pot holes they hit or other environmental factors they fretted over.

"It was a lot more rugged than we thought," Headrick said.

A next-generation bus costing \$850,000 is being built that will address the issues that came up during the maiden voyage. For example, the new bus will have a commercial AC unit installed that should last longer, Headrick said.

The bus turns away no one for screening, which usually takes 10 to 15

minutes. Folks without insurance can pay \$150 if they can afford it, or the tab will be picked up by a charitable foundation.

"There's nobody turned away because they can't pay," Headrick said.

The bus wound up detecting five cases of lung cancer in its first year, four of which were in the early stage, the researchers reported. The screening also revealed significant lung problems like emphysema in 51 patients.

The CT scanner also revealed other potential health problems. For example, 101 people learned that they had moderate to severe clogged arteries.

"Depending on the county you're in in Tennessee, the leading cause of death is either heart disease or it's lung cancer," Headrick said. "If you can screen somebody for the number one and number two cause of death, I think you're going to make an impact."

Tennessee plans to ultimately have eight buses traveling throughout the state to make CT scans available to folks, Headrick said.

Early treatment

Other states like North Carolina also have been exploring mobile platforms to promote lung cancer screening, said Dr. Albert Rizzo, chief medical officer of the American Lung Association.

Such efforts "bring the scanning that's needed to this eligible population who would not travel into a city a few hours away," Rizzo said. "It is one more way we can increase the number of eligible people who get scanned early and potentially save lives by finding them at stage 1 as compared to stage 3 or 4."

The U.S. Preventive Services Task Force last week recommended changes to [lung](#) screening guidelines that would nearly double the number of current and former smokers eligible for screening.

However, Rizzo said such screening efforts need to be followed up by steering sick people into treatment.

"You can't just go out there and do the scan and say here's your scan, do the best you can now that you have this result," Rizzo said.

Researchers found that the farther the bus traveled from its home base in Chattanooga, the more difficult it was to provide follow-up assistance to patients. They tightened the service area of the bus down to a 1.5-hour drive from CHI Memorial to make it easier to care for those diagnosed with a condition.

Dr. Bill Cance, chief medical and science officer for the American Cancer Society, agrees that follow-up care is crucial.

"When you can get a patient in the screener, if they have a finding it can be hard to get care for that patient because of insurance issues," Cance said. "I applaud this group for going head on, getting these patients screened, and having a mechanism for their subsequent care."

More information: The U.S. Preventive Services Task Force has more about [lung cancer screening](#).

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