

## Fewer than one in ten older heart patients get life-saving defibrillators

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Heart attack patients age 65 and older who have reduced heart function might still benefit from implanted defibrillators, according to a Duke Medicine study published in the *Journal of the American Medical Association*. But fewer than 1 in 10 eligible patients actually get a defibrillator within a year of their heart attacks, the study found.

Advanced age, transitions in care between the hospital and an outpatient clinic, and a mandatory waiting period to get a defibrillator after a heart attack were the most likely factors for low rates of use, according to the study.

Defibrillators shock hearts back to pumping when a patient experiences a potentially fatal sudden cardiac arrest. Prior studies have primarily shown benefits to using these devices in younger patients.

"Defibrillators are life-saving therapies that have a lot of evidence supporting their use," said Tracy Wang, M.D., an associate professor of cardiology at the Duke University School of Medicine and senior author of the study. "But not every older patient wants one. There is a trade-off between the risks and benefits of the device. But current data suggests that we are grossly underutilizing this therapy."

Clinicians and researchers continue to debate the best use of defibrillators in older heart patients. As a result, Duke researchers expected less than 100 percent usage of the devices, but were surprised at just how few of the 10,318 [heart attack patients](#) with reduced [heart](#)

[function](#) in the study actually received them.

The patients in this retrospective, observational study were an average of 78 years old, and 44 percent of them were more than 80 years old. Their data were collected by 441 hospitals across the U.S. participating in a National Cardiovascular Data Registry.

Most previous clinical trials on defibrillators, which have been in use since the 1980s, have focused on patients in their 60s, Wang said, so the benefits of defibrillator use in older adults is not well established. More than 300,000 people in the U.S. die from [sudden cardiac arrest](#) each year, and previous research indicated that as many as 80 percent of these patients were eligible for but did not have a defibrillator implanted before they suffered the arrest.

"This is a big debate from a quality-of-life perspective," Wang said. "The decision about defibrillators has to be individualized. For older patients who are debilitated, providing a defibrillator could simply extend a low quality of life."

In the Duke-led study, patients who had defibrillators implanted had a one-third lower risk of death after two years than those who didn't have a defibrillator.

The findings of lower death risk are promising, Wang said, although this may be because doctors were more likely to implant [defibrillators](#) in [older patients](#) who were healthier overall.

Still, "the rates of use across the U.S. are too low," Wang said. "More work needs to be done to understand what the exact target number should be."

While researchers weigh age and the cost of the procedure, which is a

reimbursable service under Medicare for many recipients, researchers also considered another potential barrier to their effective use—a gap in care at a time when patients are most vulnerable.

"The optimal timing for implanting a defibrillator is still in question, but current guidelines recommend that patients wait at least 40 days after their [heart attack](#)," said Sean Pokorney, M.D., a cardiology fellow at the Duke University School of Medicine and lead author of the study. "If the patient's heart is still having trouble pumping blood after 40 days, they would be eligible. But a lot can happen in that 40 days."

In most cases, patients will have been discharged from the hospital and transitioned to an outpatient care team, Pokorney said. Patients who stay connected with their cardiologists and continue to attend follow-up appointments are more likely to get the devices.

But the patient's regular physician might not be aware of the patient's reduced heart function or might think the patient's advanced age makes them a poor candidate a defibrillator.

"We believe that age alone should not prevent eligible people from getting devices," Pokorney said. "We should be trying to understand how to refine patient selection towards those who are most likely to benefit from the device, and close any system-level gaps that present a barrier to optimal defibrillator use."

The study is limited as a retrospective observation, Pokorney said, and further research is needed to determine evidence-based approaches to defibrillator use in eligible [patients](#), and practices that encourage close patient follow-up and communication.

**More information:** [DOI: 10.1001/jama.2015.6409](https://doi.org/10.1001/jama.2015.6409)  
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