Better treatment, not more spending, saves heart attack patients, study finds

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A new long-term look at heart attack care and spending in America since the turn of the century shows more survival, more spending, and more variation between hospitals on both scores.

And while some of that spending - on rapid angioplasty to open clogged heart arteries - appears to be paying off, a lot of the dollars spent in the six months after a heart attack don't seem to be making much of a difference in the long-term death rate for patients.

The findings are published in *JAMA Cardiology* by a team led by members of the University of Michigan Institute for Healthcare Policy and Innovation and the Dartmouth Institute for Health Policy and Clinical Practice. The team analyzed data from nearly 480,000 people covered by traditional Medicare who were treated for acute myocardial infarction at 1,220 hospitals nationwide between 1999 and 2014.

The findings come out just a month after the federal government announced the cancellation of a "bundled payment" program that was supposed to incentivize better and more cost-effective care across all settings for the first three months after a heart attack.

Recent government programs to incentivize better heart attack care have focused on capping the total payment a hospital or health system can get for the first 30 days of post-heart attack care, and publicly reporting how hospitals stack up against others in heart attack deaths.

And indeed, the study shows, in the years since these programs rolled out, 30-day heart attack care spending has stayed flat while mortality has dropped.

Lead author Donald Likosky, Ph.D. of U-M's Department of Cardiac Surgery says, "while healthcare policies have resulted in little variation in 30-day hospital expenditures for heart attacks, they have had little impact on spending beyond 30 days. We see unwarranted variation in spending by hospitals beyond 30 days without much measurable benefit in mortality."

Survival and spending

Overall, the percentage of heart attack patients who survive the first six months after their attack has gone up since 1999 - from 73 percent to 78.5 percent. Americans, in fact, are much more likely to survive the immediate aftermath of a heart attack than people in other developed countries, according to the World Health Organization.

Spending on the care of heart attack patients has gone up in that time, too - nearly 14 percent across the 15 years of the study, with a plateau in costs in the last six years.

But these across-the-board numbers mask huge variation in both mortality and dollars depending on which hospital patients were treated at, and what kind of care they received.

For instance, Medicare spending rose 44 percent in 15 years for one group of hospitals at the high end of spending growth. But Medicare heart attack spending dropped nearly 19 percent for those at the low end.

Early PCI: Cost-effective but varying use

Hospitals that focused on getting heart attack patients diagnosed and onto the angioplasty table within the first 24 hours after their first symptoms achieved the biggest gains in survival. As a whole, these hospitals actually lowered the average cost for a patient's post-heart attack care measured over six months, the analysis shows.

The percentage of patients getting this procedure done rapidly—called early percutaneous coronary intervention or PCI—doubled in the time period of the study. And hospitals that increased their use of early PCI the most actually had lower spending on several types of post-hospital care for their patients, including nursing home and in-home care.

"We also find that patients at high-volume hospitals benefit the most from early stenting treatments by interventional cardiologists", says co-author Jessica Van Parys, Ph.D. of Hunter College. "This finding is most likely because physician and nursing staff learn over time what works best for their heart attack patients."

Meanwhile, when looking across all hospitals, spending on skilled nursing facility care and home care doubled during the study period, and spending on outpatient care tripled.

But patients who saw doctors in outpatient visits more often after their heart attack were no less likely to die in those first six months, on average.

Going forward

The analysis also reveals a lot of opportunity to improve the care heart attack patients get in the first six months, and the value that the nation gets from the dollars spent on it.

Part of that effort could include providing hospitals and individual

providers regular reports on their patterns of care their patients are receiving across all health care settings, and the related costs. This would also offer a chance to inform providers and administrators about the evidence behind - or against - certain practices.

"If we don't provide feedback they won't know where to improve," says Likosky. "We need to develop and implement models for evaluating ways to address both quality and spending. Better involvement of frontline providers in designing and implementing change is crucial, especially if we seek to reduce variability in quality and spending. Clinical providers are likely best suited to both know what works, and why."

Likosky and colleagues note that in Michigan and northern New England, cardiac care providers and hospitals have come together across their regions to pool data and feed reports back to each hospital and provider to drive improvement efforts. A similar effort for heart attack care nationwide could start with looking at what differentiates hospitals from one another, and what the low-cost/low-mortality hospitals can teach their peers.

"Right now, there's no disincentive to use cost-ineffective types of care," says Likosky. "Providers are well-intentioned, but many of the current management and treatment strategies are both expensive and don't appear to be effective at reducing mortality following heart attacks."

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