

Multiple medications could help frail older adults live longer after heart attack but may impact function

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Credit: American Heart Association

Nursing home residents prescribed multiple medications following a heart attack were less likely to die within 90 days than those who took only one medication, but more medication may contribute to functional decline, according to new research in *Circulation: Cardiovascular Quality and Outcomes*, an American Heart Association journal.

Certain [prescription medications](#) – including antiplatelets, beta blockers, statins, and renin-angiotensin-aldosterone system inhibitors – can help prevent new and repeated heart attacks by controlling [high blood pressure](#) and high cholesterol. Previous research has shown that the use of these medications can help prevent deaths among [older adults](#) in the general population after a heart attack. Less clear, however, were their effects among the frailest and oldest post [heart attack patients](#) such as long-term nursing [home residents](#).

In this study, investigators analyzed deaths, hospitalizations and decreased ability to manage [daily activities](#) among nursing home residents prescribed one or more of these four medications at hospital discharge after heart attack. Residents prescribed three or four medications were 26 percent less likely to die within 90 days than those prescribed one medication. In contrast, the risk of death within 90 days did not differ between residents with two medications compared to those with one.

Less clear was the effect of multiple medications on the ability to manage daily activities. Results ranged from no effect to an increased risk of being unable to manage daily activities. The number of

medications did not affect the likelihood of hospitalization.

"Based on our findings, using more medications to prevent another [heart attack](#) may be useful for vulnerable older adults who wish to live longer," said study lead author Andrew R. Zullo, Pharm.D., Ph.D., assistant professor of Health Services, Policy, and Practice at Brown University in Providence, Rhode Island. "However, since using more medications may interfere with older adults' ability to do their daily activities, more medications should not be taken by older adults who wish to maintain their independence and daily functioning rather than live longer. Using more medications after a [heart attack](#) does not simply improve all health outcomes."

The investigators used information from Medicare claims and the national U.S. Minimum Data Set, 2007-2010, which contains clinical information collected by nursing homes receiving federal funds. Study participants included 4,787 nursing home residents. Most of the residents were white females, and their average age was 84. Follow-up was 90 days after hospital discharge, excluding the first two weeks when deaths or hospitalizations were difficult to link to medications.

Although this study found an association, it could not prove cause and effect. Several limitations could have affected the results, including the possibility that patients with more severe disease received either more or fewer medications than those with milder disease. Another limitation is that the focus on prescribed medications could not account for other factors, such as dosage and over-the-counter drugs, including aspirin. Additionally, a longer follow-up could have yielded different results.

Achieving a mortality benefit while potentially increasing frailty caused by medication-related harms presents a dilemma for clinicians, according to an accompanying editorial by Susan K Bowles, Pharm.D., M.Sc., and Melissa Andrew, M.D., Ph.D.

"Decisions about starting (and stopping) medications require consideration of potential benefits and risks in the context of patient specific factors, including goals of care and patient preference," they wrote. "Some patients may elect to take more medications to reduce short-term risk as they perceive benefit to exceed harm. Others may place a higher value on symptom control over longevity and choose fewer or no medications."

Bowles and Andrew note that although more study is needed, the work by Zullo and colleagues makes an important contribution to the discussion and emphasizes the need for appropriate monitoring of medications in the nursing home environment, as well as addressing [medication](#)-related harms should they arise.

More information: Andrew R. Zullo et al. Association Between Secondary Prevention Medication Use and Outcomes in Frail Older Adults After Acute Myocardial Infarction, *Circulation: Cardiovascular Quality and Outcomes* (2019). [DOI: 10.1161/CIRCOUTCOMES.118.004942](#)

Susan K. Bowles et al. More or Less Medication: Is One Better than the Other?, *Circulation: Cardiovascular Quality and Outcomes* (2019). [DOI: 10.1161/CIRCOUTCOMES.119.005530](#)

Provided by American Heart Association

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