

Ten or more medications, often prescribed to older heart failure patients, raises concerns

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More than half of older patients hospitalized for heart failure, a progressive condition in which the heart doesn't pump blood as well as it should, are discharged from the hospital with prescriptions for 10 or more medications, according to new research published today in *Circulation: Heart Failure*, an American Heart Association journal.

"High [medication](#) burden, also known as polypharmacy, is commonly associated with adverse events and reactions," said Parag Goyal, M.D., M.Sc., senior study author and assistant professor of medicine at Weill Cornell Medicine and a geriatric cardiologist at New York-Presbyterian/Weill Cornell Medical Center in New York City. "As the treatment options for various conditions including heart failure expand and the population ages, it is becoming increasingly important to weigh the risks and possible benefits of multiple medications."

To explore the medication burden of older adults with heart failure, researchers examined the medical charts of 558 adults, aged 65 and older, covered by Medicare and hospitalized for heart failure between 2003 and 2014 at one of 380 hospitals in the U.S. All were participants in the Reasons for Geographic and Racial Differences in Stroke (REGARDS) study, a large nationwide prospective observational cohort of over 30,000 participants that began in 2003 and continues with ongoing follow-up.

For this analysis, the number of medications for each patient was tallied at hospital admission and discharge. Medicines were categorized by the

primary condition they treat: heart failure; other types of heart disease (such as aspirin and statin drugs for [coronary heart disease](#)); or non-heart-related (such as medications for lung, kidney disease or Type 2 diabetes).

Researchers found:

Upon admission to the hospital, 84% of the study participants took five or more medications, and 42% took 10 or more.

Participants were discharged from the hospital with prescriptions for more medications than when they were admitted: 95% were prescribed five or more medications; and 55% were prescribed 10 or more at hospital discharge.

Polypharmacy has become increasingly common, with 10 or more medications prescribed at discharge for 41% of participants hospitalized between 2003-2006, and 68% for those hospitalized between 2011 and 2014.

Most of the medications taken by participants with heart failure were not to treat heart failure or a heart condition.

"The medication burden for older adults with heart failure was higher following a heart failure hospitalization. Some of these drugs may be appropriate. However, our prior work has shown that many patients are discharged with prescriptions for medications that can worsen heart failure. This supports the ongoing need for improved and routine medication review processes prior to hospital discharge, and particularly in the immediate post-discharge period where the risk of [hospital](#) readmission is particularly high," said Goyal, who also directs the Heart Failure with Preserved Ejection Fraction Program at Weill Cornell Medicine and at NewYork-Presbyterian/Weill Cornell Medical Center.

According to researchers, this study was conducted prior to the approvals of several new heart failure medications, so the number of people with heart failure prescribed 10 or more medications may be even higher today.

"Advances in medicine have provided patients with an increasing number of treatment options. This is a good thing. However, it is important to also consider the negative consequences of more medications prescribed for each patient," Goyal said.

While all adults with [heart](#) failure can experience adverse effects from their medication, the researchers suggest that people with [heart failure](#) taking 10 or more medications may be especially vulnerable to negative interactions due to possible medication use.

"Our findings support the need to tailor decisions related to medication prescribing for each patient while considering their overall health status," Goyal said "The key to managing polypharmacy is medication review during each appointment. With regular review, the hope is that the right medications—where the possible benefit outweighs the risks—will be started or continued, and if the risks outweigh possible benefits, those medications are discontinued."

Researchers noted because their study focused on older adults with Medicare coverage, these findings may not be generalizable to younger adults, or anyone not enrolled/eligible for Medicare or without health insurance.

More information: Ozan Unlu et al, Polypharmacy in Older Adults Hospitalized for Heart Failure, *Circulation: Heart Failure* (2020). [DOI: 10.1161/CIRCHEARTFAILURE.120.006977](https://doi.org/10.1161/CIRCHEARTFAILURE.120.006977)

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