

High-intensity statin prescriptions after heart attacks vary by geographic region

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Researchers from the University of Alabama at Birmingham Division of

Cardiovascular Disease and School of Public Health have published new research that suggests geographic region is the strongest correlate of high-intensity statin use after a heart attack, leading to large treatment disparities.

According to the study, published in *JAMA Cardiology*, [regional variation](#) in care processes and health outcomes across the United States have been documented for cardiovascular diseases and many other health conditions for years. The goal of this study was to describe variation in high-intensity [statin](#) use by geographic region and explore the relative contributions of geographic region and hospital and patient characteristics in a contemporary cohort of patients discharged after a [heart attack](#).

"The main question we wanted to ask was "What drives variation in high-intensity statin use after heart attacks among older adults?" lead author and UAB Professor of Medicine Vera Bittner, M.D., said.

The analysis used Medicare administrative claims and enrollment data to evaluate fee-for-service Medicare beneficiaries 66 years or older who were hospitalized for [myocardial infarction](#)—or a heart attack—from Jan. 1, 2011, through June 30, 2015, with a statin prescription claim within 30 days of discharge. Data were analyzed from Jan. 4, 2017, through May 12, 2019. The investigators looked at patient characteristics, hospital characteristics and geographic region as possible determinants of high-intensity statin prescription claims after a heart attack.

After analyzing the research, Bittner and her team discovered that high-intensity statin claims after heart attacks varied widely by region, with the greatest use in New England and the lowest use in the South, even after accounting for the large number of academic hospitals—which tend to prescribe more high-intensity statins—in the Northeast.

"Among Medicare patients, there is regional variation in filling prescriptions for high-intensity statins after myocardial infarction that is not explained by patient characteristics or hospital characteristics," Bittner said.

She added that we know from clinical trials that high-intensity statins after a heart attack improve prognosis and decrease recurrent heart attacks. Thus, disparities in filling the high-intensity statins are likely to lead to disparities in [health outcomes](#)—more heart attacks and more hospitalizations—for those who did not fill a prescription for high-intensity statins.

Department of Epidemiology Associate Professor Emily B. Levitan, Sc.D., says many older adults did not use a high-intensity statin after a heart attack even though these medications reduce the risk of future heart disease and there are generic versions available. The overall findings were a surprise to her.

"I found it surprising that region was associated with filling a prescription for a high-intensity statin after a heart attack more than individual characteristics like age, sex and health conditions," Levitan said.

Moving forward, Bittner says, future research needs to determine why these regional disparities exist.

"Is it that physicians are less likely to prescribe these agents in some regions? Is it that patients are less likely to fill the prescriptions in some regions, or are there other factors we don't know about that drive this regional variation?" Bittner said.

However, in the meantime, Bittner believes each physician, each hospital and each patient with a [heart](#) attack—and their families—should try to

improve the situation.

"Hospitals should audit their own data and develop quality improvement programs as appropriate—physicians should write the prescriptions at discharge, post-MI patients and families should ask for such a prescription if it is not offered, and post-MI patients should fill the [prescriptions](#) and take the medication unless contra-indicated for some reason," she said.

More information: Vera Bittner et al. Association of Region and Hospital and Patient Characteristics With Use of High-Intensity Statins After Myocardial Infarction Among Medicare Beneficiaries, *JAMA Cardiology* (2019). [DOI: 10.1001/jamacardio.2019.2481](https://doi.org/10.1001/jamacardio.2019.2481)

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