

Ten percent of heart patients may be inappropriately prescribed aspirin

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More than 10 percent of patients treated with aspirin therapy for primary cardiovascular disease prevention were likely inappropriately prescribed medication, according to a new study in the *Journal of the American College of Cardiology* that examined practice variations in aspirin therapy.

Accessing data from the National Cardiovascular Disease Registry Practice Innovation and Clinical Excellence (PINNACLE) Registry, researchers examined a nationwide sample of 68,808 [patients](#) receiving aspirin for primary [cardiovascular disease](#) prevention. By evaluating aspirin guidelines by the American Heart Association, the U.S. Preventative Services Task Force, and other organizations, researchers determined aspirin use to be inappropriate in patients with a 10 year [cardiovascular disease risk](#) of less than 6 percent.

Researchers identified patients from 119 practices who were prescribed aspirin between January 2008 and June 2013, excluding patients receiving aspirin as a [secondary prevention](#) due to history of cardiovascular disease such as myocardial infarction, prior stroke, and atrial fibrillation. The study found nearly 12 percent of the patients receiving aspirin for primary prevention were receiving it inappropriately. The frequency of inappropriate aspirin use was higher among women, at nearly 17 percent compared to men at 5 percent. Patients inappropriately receiving aspirin were, on average, 16 years younger than those receiving aspirin appropriately. Inappropriate aspirin use decreased from 14 percent in 2008 to 9 percent in 2013.

In practices with more than 30 patients receiving aspirin for primary prevention, researchers found a median practice-level frequency of inappropriate use of 10 percent and varied significantly across practices at a range of 0 to 72 percent. Researchers used median rate ratio to suggest that between two "identical" patients treated at two random practices, one patient was 63 percent

more likely to be prescribed aspirin inappropriately than a similar patients due to the practice where they receive care.

Aspirin therapy is not shown to reduce adverse cardiovascular events in patients without cardiovascular disease and a low risk of developing disease. However, it is associated with an increased risk of gastrointestinal bleeding and hemorrhagic strokes which often outweighs any potential benefits. The U.S. Food and Drug Administration recently denied a request to allow the marketing of aspirin for primary prevention, following that decision the FDA also issued a public advisory against the general use of aspirin for primary prevention. As aspirin is available over the counter, it is also possible inappropriate aspirin use is higher if patients are taking it by their own choosing.

"Medical providers must consider whether the potential for bleeding outweighing the potential benefits of aspirin therapy in patients who don't yet meet the guidelines for prescribing [aspirin therapy](#)," said the study's lead and senior author, Ravi S. Hira, M.D. and Salim S. Virani, M.D., Ph.D., of the Baylor College of Medicine in Houston. "Since aspirin is available over the counter, patient and public education against using aspirin without a medical provider's recommendation will also play a key role in avoiding inappropriate use."

In an accompanying editorial, Freek W.A. Verheugt, M.D., of Onza Lieve Vrouwe Gasthuis Radboud University Nijmegen Medical Centre in Amsterdam said, "Major coronary events are reduced 18 percent by aspirin, but at the cost of an increase of 54 percent of major extracranial bleeding. Each two major coronary events have shown to be prevented by prophylactic aspirin at the cost of one major extracranial bleed. Yet, [primary prevention](#) with [aspirin](#) is widely applied."

Provided by American College of Cardiology

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