

Researchers focus on secondary stroke prevention after study reveals room for improvement

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A year after hospital discharge, the majority of stroke patients are listening to doctor's orders when it comes to taking their prescribed secondary stroke prevention medications, new data out of Wake Forest Baptist Medical Center shows. However, there is room for improvement, according to investigators.

"Medication non-compliance is a major risk factor for stroke and [heart disease](#), and we know that non-compliance with [stroke prevention](#) medications increases over the year or two after a stroke," said Cheryl D. Bushnell, M.D., M.H.S., director of the Wake Forest Baptist Stroke Center and lead author on the study. "This study revealed that the majority of patients are compliant in taking their medications, but it also showed us specific vulnerabilities from the patient's perspective that might explain why some patients stop medications. We found that there's a large opening for us to focus efforts towards even better compliance. Specifically, we as providers need to continue educating patients over the long term and not just the first time a medication is started."

Although the risk of a second stroke is highest within the first three months after an initial stroke, the risk is about eight percent in the first year, and five percent per year after that, according to the study. So taking [secondary prevention](#) medications long term is critical for preventing a second stroke, which is likely to be even more devastating than the first, Bushnell added.

Nearly 700,000 people in the United States have ischemic strokes each year, and about 160,000 of these events are recurrent, according to the study, published online this week by the journal *Neurology*. It is scheduled to appear in the September 20 print issue.

The [Adherence](#) eValuation After Ischemic stroke-Longitudinal (AVAIL) Registry aims to collect data on long-term use of secondary prevention medications for one year following stroke, assessing compliance issues from the patients' perspective, as well as system and provider issues, such as what type of doctor the patients saw, what kind of follow up care they had and the patients' understanding of their medications and why they were taking them.

The researchers first studied 2,598 patients from the AVAIL Registry to evaluate how many stroke patients were still taking their secondary prevention medications three months after being discharged from the hospital.

The three-month data appeared in the December 2010 issue of *Archives of Neurology*, and revealed that about 75 percent of those studied had continued with their full regimen of medications – usually including an aspirin or other type of blood thinner, blood pressure medication and cholesterol lowering medication – three months after discharge.

The one-year data evaluated "persistence," defined as continuation of all secondary stroke prevention medications prescribed at [hospital discharge](#), and "adherence," defined as continuation of all prescribed medications except those stopped according to healthcare provider instructions, to get a true read on whether patients no longer on their medications are discontinuing on their own, or if they are being told by their doctors to stop their secondary prevention regimen.

Of the 2,457 patients who completed one-year interviews, 65.9 percent

were "persistent" with their secondary prevention regimen, meaning they were still taking all of the medicines prescribed to them at hospital discharge. Even more patients – 86.6 percent – were "adherent," following doctor's orders and taking all of their medications except those they had been told to discontinue by their healthcare providers.

Although up to one third of stroke patients were no longer taking one or more of their secondary prevention medications within one year of hospital discharge, most did not stop taking the medications on their own, the study authors noted. "Self-discontinuation of these medications is uncommon."

For the nearly 14 percent of patients who did stop taking their secondary prevention medications on their own, this analysis gave investigators important insight into the reasons why patients self-discontinue.

The researchers learned that several key factors affect "non-adherence," or self-discontinuation. These include whether or not a person has health insurance and can afford their medications, whether the patient receives detailed instructions upon discharge about their medications and understands what the medications do and why taking them is important, whether or not the patient is married to a spouse who can help them remember and motivate them to take their medications, and whether the patient is discharged to his or her home or some other location such as a nursing home or in-patient rehabilitation. These findings represent opportunities for providers and support systems to intervene with the goal of improving medication adherence, Bushnell said.

As a result, Bushnell and colleagues at Wake Forest Baptist are implementing a transition coaching program, which will focus on educating stroke patients about their medications before they are discharged and directly following up with them after discharge to remind them about their doctor's appointments, make recommendations on ways

to remember taking their medicine (such as using a daily pill box), answer questions about their condition, treatment and medication, and evaluate them a few weeks after discharge for their risk of rehospitalization.

The factors associated with discontinuing medications reflect the challenges many [stroke patients](#) face, Bushnell said. "Not only are many patients disabled and unable to work, but the disability from the stroke also affects medication-taking behavior. Streamlining medication regimens, emphasizing appointment-keeping, helping with insurance applications and referring to community support services are all essential to aid in this difficult transition."

Proper education about medications is also extremely important. "Where providers and pharmacists can make a difference with long-term compliance is by reiterating why medications are taken and what the side effects are," she added. "We have incorporated these challenges into our transition coaching program, where our goal is to increase stroke prevention adherence, improve outcomes, and keep people free of a second [stroke](#)."

Provided by Wake Forest Baptist Medical Center

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