

# Physicians order costly, redundant neuroimaging for stroke patients, study says

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Neuroimaging for stroke patients may be unnecessarily costly and redundant, contributing to rising costs nationwide for stroke care, according to University of Michigan research.

The research, published in the [Annals of Neurology](#), found that 95 percent of [stroke patients](#) who received [magnetic resonance imaging](#) (MRI) also had a computed [tomography](#) (CT) scan.

"Compared to CT, MRI is a more accurate test for stroke," says James F. Burke, M.D., lead author of the study and a clinical lecturer in the University of Michigan Medical School's Department of Neurology. "But our results showed that MRI is not replacing CT as the primary stroke neuroimaging study — instead, patients are getting both.

"Minimizing the use of multiple studies could be a viable strategy to reduce costs."

The costs of inpatient [stroke care](#) have climbed by 42 percent between 1997 and 2007, an increase of \$3,800 per case, Burke and his University of Michigan found. Neuroimaging — MRIs and CTs — were the largest driver of costs.

Diagnostic imaging has been the fastest growing component of total hospital costs, increasing 213 percent from 1999 to 2007.

"The data shows that neuroimaging practices in stroke are neither

standardized or efficient," Burke says. "This represents an area where we have an opportunity to substantially reduce the cost of care without adversely effecting the quality of care."

Burke's research spurred an accompanying editorial in the *Annals*, written by editors S. Clairborne Johnson, M.D., Ph.D. and Stephen L. Hauser, M.D.

"The issue of duplicative imaging in stroke is just one example of wasteful care," the editors wrote. "Quite simply, it is very easy to order more test and to treat with more expensive therapies ...

"We should track waste as another measure of quality care ... The failure to find a political solution to rising healthcare costs only increases our responsibility to become leaders and not victims."

Burke and his co-authors studied patients diagnosed with [stroke](#) from 1999 to 2008 in 11 states, studying 624,842 patients. They found wide geographic variation for the use of MRI, but overall the use of MRI jumped dramatically.

"There currently is not evidence-based guidelines that preferentially recommend either MRIs or CT," Burke says. "Understanding trends like these presented in this study are essential to determining efficient and consistent [neuroimaging](#) strategies."

**More information:** *Annals of Neurology*, February 2012, Volume 71, No. 2

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