

## Study suggests worsening trends in headache management

### Improving the treatment of headache could cut health care spending and improve quality of care

Each year more than 12 million Americans visit their doctors complaining of headaches, which result in lost productivity and costs of upward of \$31 billion annually. Researchers from Beth Israel Deaconess Medical Center (BIDMC) suggest some of that cost could be offset by physicians ordering fewer tests and an increased focus on counseling about lifestyle changes.

A new study of more than 9,000 physician visits for headaches between 1999 and 2010 found that, rather than talking to patients about the causes and potential sources of relief from headache pain, clinicians are increasingly ordering advanced imaging and providing specialist referrals, both of which are considered to be of little value in the treatment of routine headaches. The findings of the study<sup>1</sup> appear in the *Journal of General Internal Medicine*<sup>2</sup>, published by Springer.

The assessment of headaches depends on identifying the relatively rare instances where serious underlying causes are suspected, says lead author John N. Mafi, MD, a fellow in the Division of General Medicine and Primary Care at BIDMC, who notes that evidence-based guidelines for routine headache, including those from the American Academy of Neurology, suggest conservative treatments such as counseling on stress reduction or avoiding dietary triggers.

“I was particularly alarmed about the overall trend of more imaging tests, medications, and referrals alongside less counseling,” says Mafi. “These findings seem to reflect a larger trend in the US healthcare system beyond just headache: over-hurried doctors seem to be spending less time connecting with their patients and more time ordering tests and treatments.

“To me, this study suggests that the current 20-minute visit-based model of healthcare is broken and that we need to move towards promoting and reimbursing innovative solutions such as doctors and patients electronically collaborating on their healthcare outside the office visit.”

The study, which analyzed an estimated 144 million patient visits, found a persistent overuse of low-value, high-cost services such as advanced imaging, as well as prescriptions of opioids and barbiturates. In contrast, the study found clinician counseling declined from 23.5 percent to 18.5 percent between 1999 and 2010.

The use of acetaminophen and non-steroidal anti-inflammatory drugs like ibuprofen for migraine remained stable at approximately 16 percent of the medications. Meanwhile, the use of anti-migraine medications such as triptans and ergot alkaloids rose from 9.8 percent to 15.4 percent. Encouragingly, guideline-recommended preventive therapies – including anti-convulsants, anti-depressants, beta blockers and calcium channel blockers – rose from 8.5 percent to 15.9 percent. Unlike with treatment of back pain, researchers found no increase in the use of opioids or barbiturates, whose usage should be discouraged, although they were used in 18 percent of the cases reviewed.

Researchers also found a significant increase in advanced imaging such as CT scans and MRIs, from 6.7 percent of visits in 1999 to 13.9 percent in 2010. The use of imaging appeared to rise more rapidly among patients with acute symptoms, compared to those with chronic headache.

The data reflect a nationally representative sample of clinical visits for headaches from the National Ambulatory Medical Care Survey and the National Hospital Medical Care Survey. The data excluded visits with “red flags” such as neurological deficit, cancer or trauma.

Mafi notes that “despite the publication of numerous practice guidelines, clinicians are increasingly ordering advanced imaging and referring to specialists while less frequently suggesting first-line lifestyle modifications to their patients. The management of headache represents an area of particular concern for our healthcare system and stands out as an important opportunity to improve the value of healthcare in the United States.”

The findings raise concerns on both a treatment and a cost basis, adds senior author Bruce Landon, MD, MBA, MSc, also of BIDMC. A 2010 report in the *Journal of the American College of Radiology* “found 62 percent of CT head/brain scans are inappropriate according to evidence-based guidelines, most frequently ordered inappropriately for chronic headache,” he says. “This overuse has significant consequences, because incidental findings provoke unnecessary patient anxiety, can lead to more invasive procedures and often require follow-up testing.”

**References:**

1. Mafi, J.N., et al (2014). Trends in the Ambulatory Management of Headache: Analysis of NAMCS and NHAMCS Data 1999-2010, *Journal of General Internal Medicine*. DOI 10.1007/s11606-014-3107-3
2. The *Journal of General Internal Medicine* is the official journal of the Society of General Internal Medicine.

**The full-text article is available to journalists on request.**

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