Patient care could be enhanced and the health care system could see significant cost savings if health care professionals followed published clinical guidelines to manage and treat back pain, according to researchers at Beth Israel Deaconess Medical Center and published in the July 29 issue of *JAMA Internal Medicine*.

"Back pain treatment is costly and frequently includes overuse of treatments that are not supported by clinical guidelines, and that don't impact outcomes," says lead author John N. Mafi, MD, a fellow in the Division of General Medicine and Primary Care at BIDMC. "Improvements in the management of spine-related disease represent an area of potential for improving the quality of care and for potential cost savings for the health care system."

Americans spend approximately $86 billion annually on back or neck pain-related health issues. It is ranked as the fifth most common reason for doctor visits, which accounts for more than 10 percent of all appointments made with primary care physicians.

Lost productivity adds approximately another $20 billion per year. It is predicted that expenditures will continue to grow along with the rise of chronic back pain.

Published guidelines for routine back pain advise use of non-steroidal anti-inflammatory drugs (NSAIDs) or acetaminophen and physical therapy. Prior research shows that within three months of these treatments back pain usually resolves.

The guidelines, which have remained consistent since the 1990s, suggest the need for imaging or advanced treatments is typically unnecessary, as most cases of routine back pain improve with these conservative measures. Other discordant recommendations would include prescription of a narcotic or referral to a specialist, presumably for the consideration of a procedure.

However, if acute neurological compromise or other warning signs such as past history of malignancy are connected with the back pain, further steps can be taken to investigate.

The researchers identified 23,918 visits for spine problems, representing 73 million visits annually using nationally representative data from the National Ambulatory Medicare Care and National Hospital Ambulatory Care surveys between 1999-2010. They studied the changes in utilization of diagnostic imaging, physical therapy or referral to other physicians, and the use of medication when treating patients who complained of back pain or were diagnosed with back pain.

"We observed a significant rise in the frequency of treatments that are considered discordant with current guidelines including the use of advanced imaging, such as CT or MRI, referrals to other physicians (presumably for procedures or surgery), and the use of narcotics," says Mafi. "We also have observed a decline in the use of first-line medications such as NSAIDs or acetaminophen, but no change in referrals to physical therapy.

"Although opiate prescriptions increased markedly over this time period, we also observed lower odds of receiving narcotics among female, Black, Hispanic, and other race/ethnicity patients, which may signify the potential disparities in pain management that have also been noted previously."

Unnecessary treatment is not only expensive, but also can come with complications. A meta-analysis concluded that narcotics offer minimal benefit to relieve acute back pain and have no proven efficacy in treating chronic back pain. The data also revealed that 43 percent of the patients had concurrent substance abuse disorders. Researchers believe that the increase in narcotic
prescriptions is connected with the rise of narcotic overdose deaths, which is creating a public health crisis.

The steady increase of doctors' request for advanced diagnostic imaging has become a concern as well.

Overuse of imaging may not result in immediate problems but exposure to ionizing radiation can lead to further health complications such as cancer, Mafi notes, adding a study that linked regions with higher MRI use found an increase in back surgeries, which can be a very costly process and require recovery time.

"Increased use of advanced imaging represents an area of particular concern" says senior author Bruce Landon, MD. "Early in the course of back pain, such imaging is almost always wasteful. Moreover, there are almost always some abnormalities, which increases the likelihood that a patient will undergo expensive spine surgery that might not improve their outcomes over the longer term."

"Despite numerous published national guidelines, management of routine back pain increasingly has relied on advanced diagnostic imaging, referrals to other physicians, and use of narcotics, with a concomitant decrease in NSAIDs or acetaminophen use and no change in physical therapy referrals. With healthcare cost soaring, improvements in the management of back pain represent an area of potential cost savings for the healthcare system while also improving the quality of care," says Mafi.


Provided by Beth Israel Deaconess Medical Center