

Researchers compare different systems of measuring treatment intensity in hypertension care

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It is known that more intensive management of hypertension can improve blood pressure control and thus improve cardiovascular outcomes. However, there are several different systems of measuring the intensity of management of hypertension, and they have not been previously compared. If one system performs best, it would be important to use it to measure intensity of management for research and quality improvement purposes. Researchers from Boston University have compared different measures of treatment intensity in hypertension care and have found that one of the measures should be preferred to the others. This study, which appears in the July issue of *Circulation: Cardiovascular Quality and Outcomes*, shows that the measure originally described by Okonofua, et al. (Hypertension, 2006) predicts blood pressure control more effectively than the other two measures studied.

Eight hundred nineteen hypertensive outpatients were characterized with three different scores to measure treatment intensity over time. The first examined whether a patient had any-or-none medication increases. The second approach was a norm-based method, which models the chance of a medication increase at each visit and then scores each patient based on whether they received more or fewer medication increases than predicted. The third approach was a standard-based method, which is similar to the norm-based method, but expects a medication increase whenever the blood pressure is uncontrolled. The researchers compared whether these three scores could predict the final systolic blood pressure

and discovered that the any-or-none medication increase and the norm-based measure did not predict blood pressure, and, therefore are not valid measures of treatment intensity. However, they did find that the standard-based measure was an excellent predictor of blood pressure control.

"The norm-based method did not predict systolic blood pressure in a linear fashion. Further investigation revealed a U-shaped relationship between the norm-based score and systolic blood pressure," said lead author Adam Rose, MD, MSc, assistant professor of Medicine at BUSM and investigator at the Bedford VA Medical Center. "In contrast, the standard-based score was an excellent predictor of the final [blood pressure](#), both in the overall population and in every subgroup that was examined. Many research and quality improvement efforts already measure or are proposing to measure treatment intensity in the care of chronic conditions, including diabetes, [hypertension](#) and hyperlipidemia."

This study is important to researchers who measure treatment intensity in the care of chronic conditions and healthcare systems that wish to measure treatment intensity for quality improvement or pay for performance programs. This study suggests that, at least with regard to hypertension care, the standard-based score should be the preferred measure.

Source: Boston University Medical Center

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