



Pediatric Guideline Recommended Blood Pressure Follow-up: Health Record Data from a Massachusetts Healthcare System

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Overview

An estimated 1 in 30 children in the United States have hypertension (high blood pressure), and 1 in 12 children in the US are affected by elevated blood pressure. Children who are overweight or obese, or who are of Hispanic or Black race and ethnicity are more likely to have hypertension or elevated blood pressure. These conditions put children at increased risk for developing hypertension and cardiovascular disease as adults. Therefore, it is important for providers to identify and manage these conditions in children. Diagnosis of elevated blood pressure and hypertension is based on high readings at 3 time points, therefore following up after the first high reading is important. In 2017, the American Academy of Pediatrics (AAP) issued guidelines for clinicians recommending regular blood pressure screening and follow-up, the extent to which these guidelines are followed in clinical practice was unknown.

Researchers wanted to know

- How many children with elevated or hypertensive blood pressure readings received the follow-up care recommended by the AAP guidelines?
- What child characteristics are related to receiving guideline recommended follow-up?
- What clinic characteristics are related to receiving guideline recommended follow-up?

Study

This study analyzed data from UMass Memorial Health (UMMH), the largest not-for profit health care system in Central Massachusetts. The child-level data was from the electronic medical records (EHR) and clinical-level data from the Office of Clinical Integration. The study identified 19,111 children of ages 3 to 17 years who had visited one of 27 pediatric or family medicine clinics in the UMMH system during the first year after the AAP guidelines were released (from January 1, 2018 to December 31, 2018). A total of 4,563 of these children had an elevated or hypertensive blood pressure reading during 2018, requiring a follow-up according to AAP screening guidelines. The first visit when their blood pressure was high was considered their starting point, and we examined data on their visits for one year after that.

Bottom Line

Early recognition of elevated blood pressure and hypertension is important to decrease the risk of cardiovascular conditions in children and improve their overall health. However, fewer than 20% of children in need of follow-up visits to monitor elevated or hypertensive blood pressure readings, received this care. Clinic factors were found to be associated with follow-up visits.

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Source

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Spotlight on Results:

- Less than one fifth (17%) of children received a follow-up BP in the timing recommended by the AAP guidelines. Of those whose first blood pressure reading was elevated, more than a quarter (27.4%) had a guideline recommended follow-up, while only 5.4% of those whose first screening was hypertensive had guideline recommended follow-up.
- There was an average number of 264 days \pm 152 (almost 9 months) between children's first high blood pressure and their first follow-up reading.
- Children who were patients at clinics with fewer providers, larger patient panels, and larger Medicaid populations were less likely to receive guideline recommended BP screenings follow-ups. More factors related to clinics, as opposed to the child, were related to receiving blood pressure follow-up.

Call for Action

Efforts are needed to increased follow-up after an elevated or high blood pressure screening. System-level interventions to support clinics' ability to conduct follow-up may best address this need.

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