

Response to “U.S. Preventive Services Task Force Recommendation and Pediatric Hypertension Screening: Dereliction of Duty or Call to Arms?”

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The U.S. Preventive Services Task Force (USPSTF) recently published their recommendation on pediatric hypertension screening.¹ Based on an evidence review of the literature on 8 key questions, the USPSTF concluded that “there is no direct evidence to suggest that screening for hypertension in children reduces adverse cardiovascular outcomes in adults.” The implication of the USPSTF recommendation is that routine blood pressure (BP) measurement in asymptomatic children and adolescents is of little benefit. The USPSTF publication has provoked considerable alarm among the pediatric community, especially among specialists in cardiovascular and renal disease. There is general concern that the USPSTF report will be interpreted as grounds for abandoning BP measurements in childhood. Indeed, a recent “evidence-based” publication has recommended stopping BP measurement in children.² In this issue of *The Journal of Clinical Hypertension*, Drs Lo, Malaga-Dieiguez, and Trachtman³ propose a series of reasons why, in their opinion, the USPSTF may have done the subspecialty of pediatric hypertension a great service. We disagree and will consider these authors' main points below.

First, the authors conclude that “there is little risk of a policy that advocates deferring routine measurement of BP in asymptomatic children.” As a public health policy, it could be true that the child population risk may be small if BP measurement in asymptomatic children were abandoned. However, child health care is generally provided by physicians or other trained primary care providers, and the focus of primary care is to optimize health in the individual child, not the childhood population. It is well established that elevated BP is a risk factor for adverse health outcomes in individuals. There is sufficient observational data which confirm that this risk holds true for individual children as well as adults. Thus, abandonment of routine childhood BP measurement has the potential to increase risk in individual children by failing to detect conditions that are associated with elevated BP.

In considering routine BP measurement from an economic perspective, the authors concur that “practice guidelines that help balance the benefits of a procedure

or treatment are valuable even for seemingly innocuous tests such as measurement of BP in children.” It is unclear what the authors' point is about the costs of routine BP measurement in all children vs the costs of evaluating and managing a child with symptomatic hypertension. All newborn infants undergo routine blood screening for inborn errors of metabolism and metabolic disorders; this screening is more invasive, laboratory costs are not trivial, and the conditions are rare. Relative to what is now standard newborn screening, the economic cost-benefit equation of childhood BP screening is not significant and hardly sufficient to abandon the practice.

The authors question whether the USPSTF has abdicated its responsibility to promote cost-effective procedures that will improve the health of children and undermined efforts to educate doctors and lay people about the importance of hypertension. However, they consider it “premature to answer this question based on what is known.” As noted by Urbina and colleagues,⁴ the USPSTF recommendation ignores a substantial body of literature that includes many relevant observational studies, especially those that document intermediate outcomes associated with childhood hypertension such as cardiac hypertrophy, carotid artery thickening, and albuminuria. Thus, there is “evidence” well beyond that deemed acceptable to the USPSTF that contributes knowledge on the evolution of hypertension beginning in childhood. Lo and colleagues, like the USPSTF, have apparently failed to accept much that is known on target organ damage both among adults with known high BP in childhood and among hypertensive children.

As an alternative to measuring BP and identifying hypertension, or prehypertension, in childhood, the authors suggest “we could advance global strategies to reduce weight, increase physical activity, and foster healthy lifestyle choices that will correct obesity and in all likelihood restore normal BP...” While this approach may be theoretically plausible, little, if any, success has been achieved despite considerable efforts to approach these goals. Moreover the pace of success with global strategies is too slow for those adolescents who currently have hypertension with or without obesity. As estimated by Brady and colleagues,⁵ with elimination of BP screening, from 106,793 to 320,378 adolescents with primary hypertension would not be identified and, considering the number of missed diagnoses, this estimate could be higher. In addition, girls with obesity-associated hypertension who enter young adult childbearing years will have high-risk pregnancies and high-risk offspring.

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The authors conclude their commentary with a suggestion that “the USPSTF has provided a service to the community by motivating us to rethink how we approach the diagnosis of hypertension in asymptomatic children.” We would agree that instead of completely dismissing the USPSTF report, perhaps we should embrace it and work with it to improve the status of BP and cardiovascular health in children. Specifically, it is important to acknowledge that there actually is no clinical trial evidence linking high BP in childhood to adult cardiovascular disease. No controlled trial has observed children with high BP vs those with normal BP for 40 to 50 years to compare cardiovascular outcomes of stroke, heart failure, renal failure, or death. For both ethical and economic reasons it is unlikely there ever will be such a study. Lo and associates³ propose several strategies on which we could work together to gather better data about long-term consequences of elevated BP in children. We

contend that these strategies will actually require accurate BP measurements in all children; therefore, this practice should not be abandoned.

References

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