1. INTRODUCTION

1. Scope of the Clinical Practice Guideline

Interest in childhood hypertension (HTN) has increased since the 2004 publication of the "Fourth Report on the Diagnosis, Evaluation, and Treatment of High Blood Pressure in Children and Adolescents" (Fourth Report).[1] Recognizing ongoing evidence gaps and the need for an updated, thorough review of the relevant literature, the American Academy of Pediatrics (AAP) and its Council on Quality Improvement and Patient Safety developed this practice guideline to provide an update on topics relevant to the diagnosis, evaluation, and management of pediatric HTN. It is primarily directed at clinicians caring for children and adolescents in the outpatient setting. This guideline is endorsed by the American Heart Association.

When it was not possible to identify sufficient evidence, recommendations are based on the consensus opinion of the expert members of the Screening and Management of High Blood Pressure in Children Clinical Practice Guideline Subcommittee (henceforth, "the subcommittee"). The subcommittee intends to regularly update this guideline as new evidence becomes available. Implementation tools for this guideline are available on the AAP Web site (https://www.aap.org/en-us/about-the-aap/Committees-Councils-Sections/coqips/Pages/Implementation-Guide.aspx).

1.1 Methodology

The subcommittee was co-chaired by a pediatric nephrologist and a general pediatrician and consisted of 17 members, including a parent representative. All subcommittee members were asked to disclose relevant financial or proprietary conflicts of interest for members or their family members at the start of and throughout the guideline preparation process. Potential conflicts of interest were addressed and resolved by the AAP. A detailed list of subcommittee members and affiliations can be found in the Consortium section at the end of this article. A listing of subcommittee members with conflicts of interest will be included in the forthcoming technical report.

The subcommittee epidemiologist created a detailed content outline, which was reviewed and approved by the subcommittee. The outline contained a list of primary and secondary topics generated to guide a thorough literature search and meet the goal of providing an up-to-date systemic review of the literature pertaining to the diagnosis, management, and treatment of pediatric HTN as well as the prevalence of pediatric HTN and its associated comorbidities.

Of the topics covered in the outline, ~80% were researched by using a Patient, Intervention/Indicator, Comparison, Outcome, and Time (PICOT) format to address the following key questions:

1. How should systemic HTN (eg, primary HTN, renovascular HTN, white coat hypertension [WCH], and masked hypertension [MH]) in children be diagnosed, and what is the optimal approach to diagnosing HTN in children and adolescents?
2. What is the recommended workup for pediatric HTN? How do we best identify the underlying etiologies of secondary HTN in children?
3. What is the optimal goal systolic blood pressure (SBP) and/or diastolic blood pressure (DBP) for children and adolescents?
4. In children 0 to 18 years of age, how does treatment with lifestyle versus antihypertensive agents influence indirect measures of cardiovascular disease (CVD) risk, such as carotid intimamedia thickness (cIMT), flow-mediated dilation (FMD), left ventricular hypertrophy (LVH), and other markers of vascular dysfunction?

To address these key questions, a systematic search and review of literature was performed. The initial search included articles published between the publication of the Fourth Report (January 2004) and August 2015. The process used to conduct the systematic review was consistent with the recommendations of the Institute of Medicine for systematic reviews.[2]

For the topics not researched by using the PICOT format, separate searches were conducted. Not all topics (eg, economic aspects of pediatric HTN) were appropriate for the PICOT format. A third and final search was conducted at the time the Key Action Statements (KASs) were generated to identify any additional relevant articles published between August 2015 and July 2016. (See Table 1 for a complete list of KASs.)

A detailed description of the methodology used to conduct the literature search and systematic review for this clinical practice guideline will be included in the forthcoming technical report. In brief, reference selection involved a multistep process. First, 2 subcommittee members reviewed the titles and abstracts of references identified for each key question. The epidemiologist provided a deciding vote when required. Next, 2 subcommittee members and the epidemiologist conducted full-text reviews of the selected articles. Although many subcommittee members have extensively published articles on topics covered in this guideline, articles were not preferentially selected on the basis of authorship.

Articles selected at this stage were mapped back to the relevant main topic in the outline. Subcommittee members were then assigned to