Conflict of Interest:

Dr Pletcher has received National Institutes of Health funding to support research on targeting of cholesterol-lowering medications for prevention of cardiovascular disease. Drs Hulley and Newman have nothing to declare.

REFERENCES


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Universal Lipid Screening: Response Regarding Implications for Primary Care Practice

The Expert Panel guidelines for cardiovascular health and risk reduction in childhood,1 commissioned by the National Heart, Lung, and Blood Institute, are a valuable resource for pediatric care providers, addressing the major risk factors associated with development of atherosclerosis. Endorsed by the American Academy of Pediatrics, the recommendations correspond with the age and developmental stages in Bright Futures2 so they can be incorporated into routine health maintenance. The recommendations are presented with a summary of the evidence, allowing clinicians to apply their own knowledge and experience in deciding what is necessary for each child and family. The Expert Panel was selected to include representatives from pediatrics, family medicine, cardiology, nutrition, and nursing. Each brought their expertise to evaluation of the evidence and recommendations that can be readily integrated into practice. For example, there are specific recommendations for safely transitioning to lower intake of energy-dense foods, such as fat-free milk. Recommended daily calories by age, gender, and activity level are provided, as well as age-specific diet recommendations that practitioners can use to promote cardiovascular health. Practical and specific recommendations like this are provided for each of the major risk factors.

Universal lipid screening is the most discussed issue in the guidelines. It was also widely debated within the subgroup reviewing the evidence, risks, and benefits, as well as by the entire panel. The consensus recommendation is to assess all children between 9 and 11 years of age with a nonfasting non–high-density lipoprotein cholesterol (non–HDL-C = total cholesterol – HDL-C) level. The primary purpose of screening is to identify the ∼1 in 500 children who are heterozygous for familial hypercholesterolemia (FH), realizing that other forms of important dyslipidemia would be identified as well. Children with FH have elevated total and low-density lipoprotein cholesterol levels from birth and are at risk for early cardiovascular disease; 5% of individuals with this condition will have a coronary artery event before 30 years of age. Previous guidelines have relied on family history to initiate screening, but the evidence shows this approach to be insufficient.3,4 The panel concluded that universal screening was necessary to detect this important, common family condition. The nonfasting non–HDL-C level is an accurate screen for dyslipidemia, and elimination of the need to be fasting should make testing easier. Age 9 to 11 years was selected because most children entering fifth or sixth grade are required to have a health maintenance examination and because low-density lipoprotein cholesterol levels fall with puberty before rising to prepuberty levels. An additional benefit to screening of children is the identification of parents who are unaware that they have FH. Knowing a child’s cholesterol level can initiate family screening and a targeted lifestyle intervention.

Providers of children’s health care are familiar with screening to identify disease states that do not present on physical examination. As the medical home for children and families, we use behavioral screening to identify conditions such as maternal depression, developmental delay, and autism. We assess for disease states and behaviors throughout childhood, although their sequelae may not be manifest until adulthood. An example is screening for tobacco use. Pediatric care providers are therefore well positioned to identify children with dyslipidemia who need early intervention to prevent development of premature cardiovascular disease.

The guidelines have only been available for 1 year, and it will take more time to become familiar and comfortable with the recommendations. Following the risk factor algorithms makes it clear that the guidelines only rarely recommend specialist referral. Rather, the approach is risk identification and management by the primary care practitioner. Just as those of us who care for children have
learned to use various treatment modalities for diagnoses such as attention-deficit/hyperactivity disorder; implementation of these new guidelines will help us to optimize cardiovascular health for children and their families.

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Members of the Expert Panel on Integrated Guidelines for Cardiovascular Health and Risk Reduction in Child

REFERENCES
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Author's Response
Universal Lipid Screening: In Response to Ongoing Debate
The 3 eletters highlight concerns regarding the Expert Panel's recommendation for universal screening of lipids in children. These concerns continue to be debated as noted in the commentary by Gillman and Daniels, both panel members with opposing viewpoints on this issue. The evidence for an important role of elevated low-density lipoprotein cholesterol in accelerated atherosclerosis beginning in childhood is extensive, and for adults, the benefits of lipid-lowering therapy are definitive. However, for children, the evidence for benefit is inferential, the long-term risks are unknown, and costs over a lifetime have not been projected. The number of assumptions that would have to be made to provide an estimate quantifying net benefit versus risks/costs would render conclusions suspect. Nonetheless, as stated in the guidelines, the panel agrees wholeheartedly that this screening should be pursued and informed by more definitive evidence.

Our management of potential conflicts of interest did not conform to the recommendations of the 2009 Institute of Medicine report, which postdated formation of our panel by 3 years. The panel was formed by inclusion of members with the greatest expertise, and it did include family medicine practitioners, nurse practitioners, and pediatricians, as well as specialists in preventive cardiology. In pediatrics, expertise in lipid management in childhood is limited, and elimination of all those with potential conflicts of interest would have precluded formation of an “expert” panel. No panel member had a fiduciary or promotional relationship with industry. Some panel members had potential financial conflicts of interest that were declared but did not preclude participation in deliberations or drafting recommendations. Uy and Agawu bring up the potential of intellectual conflicts of interest, which are much harder to recognize and to avoid. Should guidelines be developed by content experts or strictly by methodologists? We recognize that some of our recommendations would have been given lower evidence grades, and some areas would have no recommendation in the absence of sufficient evidence, had the panel been composed exclusively of methodologists. Indeed, the US Preventive Services Task Force in 2007 made no recommendation for lipid screening during childhood, concluding that there was insufficient evidence. The differences in approach to that of our panel are discussed in the commentary by Gillman and Daniels. By the time the next set of guidelines in this area are developed, we anticipate that the process will be more informed and may use the Institute of Medicine's conflicts of interest recommendations. We agree that the production of a guideline alone is insufficient. It is best if accompanied by strategies for knowledge translation and implementation, driven by a research program aimed at resolving evidence gaps and assessing impact, and entailing a feedback loop for revision; all of these actions have been explicitly advocated by the panel. The National Heart, Lung, and Blood Institute is conducting a randomized trial of guideline implementation in pediatric practice, to be completed in January 2013, and will use the findings in developing forthcoming implementation materials. We feel that our guideline was not paternalistic but conceded that it would have been preferable for knowledge translation and implementation materials to be released coincident with the guidelines.

Finally, the Expert Panel guidelines provide an integrated approach to detection, assessment, and management of all cardiovascular risk factors, aimed at both primordial and primary prevention of atherosclerotic cardiovascular disease. We remain seriously concerned that an epidemic of unhealthy behaviors and risk factors now
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