Policy Options to Promote Smokefree Environments for Children and Adolescents

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Secondhand smoke (SHS) exposure among children is associated with a wide variety of adverse health risks, including: asthma, otitis media, respiratory infections, impaired lung growth and function, decreased exercise tolerance, cognitive impairments, behavior problems, and sudden infant death syndrome. Unfortunately, over 40% of children aged 3–11 years—15.1 million children—are currently exposed to SHS, with nearly 70% of black children in this age group being exposed. Over the past three decades, great strides have been made in establishing smokefree environments for adults, ultimately reducing their SHS exposure. Regulations have been passed at the organizational, local, and state levels that increasingly ban smoking in the workplace and public places. Children's SHS exposure patterns, however, differ from adults' exposures, with greater time spent in the home and other potentially unregulated venues (school, child care, and car). This means that children have been afforded relatively less protection from SHS by these smokefree regulations. It is imperative, therefore, to seek alternative options for promoting smokefree environments for children throughout the United States. This article explores policy options that promote smokefree environments for children and adolescents: comprehensive smokefree/tobacco-free policies covering indoor/outdoor public places, housing, private vehicles, and child care, as well as Clinical Guidelines regarding patient/family interviews on smoking, SHS, cessation, and voluntary smokefree efforts. The policy section highlights the role of child and adolescent health practitioners in promoting these policies with the hope of fostering engagement of these key stakeholders in the policy process. Note, there are a wide range of important policy and regulatory strategies aimed at reducing tobacco initiation and use among children, adolescents, and young adults; while essential in tobacco prevention and control efforts, a discussion of these strategies is beyond the scope of this article.

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> Nonsmokers have as much right to clean air and wholesome air as smokers have to their so-called right to smoke, which I would redefine as a "right to pollute" … It is high time to ban smoking from all confined public places.[1]

Introduction

Secondhand smoke (SHS) exposure among children causes death, disease, and dysfunction. The staggering array of adverse child health effects posed by exposure to SHS includes: sudden infant death syndrome (SIDS),[2–5] impaired lung growth and function,[3–5] respiratory infections,[3–6] the frequency and severity of asthma attacks,[4,7] otitis media,[3,8] invasive meningococcal disease,[9] metabolic syndrome,[10] decreased exercise tolerance,[4] endothelial dysfunction,[5] cognitive impairment,[4,11] behavior problems,[12] dental caries,[13] school absenteeism,[14] and possibly the onset of asthma[4,15] as well as the development of childhood cancers.[5,a] It is imperative, therefore, to promote smokefree environments for children throughout the United States.

Over the past decades, great strides have been made in establishing smokefree environments for adults. Regulations have been passed at the organizational, local, and state levels that increasingly ban smoking in the workplace and public places. Children's SHS exposure patterns, however, differ from adults' exposures, with greater time spent in the home and other potentially unregulated venues (school, child care, and car).[16] Children, therefore, have been afforded relatively less protection from SHS by smokefree policies thus far.

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[a] For a more comprehensive review of the adverse health effects of secondhand smoke exposure among infants and children – as well as the toxicology and measurement of secondhand smoke—see, Zhou, S. et al. (2014). Physical, Behavioral, and Cognitive Effects of Prenatal Tobacco and Postnatal Secondhand Smoke Exposure. *Current Problems in Pediatrics and Adolescent Health Care, 44*; 219–241.

This article will explore policy options that can remedy this disparity—policy options that promote smokefree environments for children. While the focus of this article is on means by which we can reduce SHS among children, the policy options discussed naturally overlap (to varying degrees) with smokefree efforts among adolescents. Those areas of overlap and/or variation will be highlighted and discussed. Each policy section will also explicitly address the potential role for child and adolescent health practitioners in promoting these policies. As key stakeholders in child and adolescent health, practitioners are highly respected—yet under-represented—participants in the policy process. Great deference is accorded by policymakers to input from practitioners, given their level of expertise and the general view that practitioners serve the best interests of their patients and/or clients (personal communication). Consider, for example, that during testimony regarding a proposed merger involving a religiously affiliated Florida hospital several years ago, a lone obstetrician testified about potential adverse effects of the merger on reproductive health; that testimony was instrumental in staving off closure of the only local hospital that provided comprehensive reproductive health services (personal communication). This is but one example of the crucial role practitioners can play in policy development and adoption.

The article begins with an overview of the pathways for and scope of SHS exposure among children, and includes three general policy issues related to SHS (air quality, thirdhand smoke, and electronic cigarettes). This section lays the foundation for understanding the targets and mechanisms of the policy options presented. The discussion then moves into an overview of the "policy landscape," providing a basic framework for understanding "what policy is and how it works." The focus then shifts to a presentation of the policy options to reduce SHS among children—and, to a lesser extent, adolescents:

- Comprehensive smokefree/tobacco-free policies covering:
  - Indoor and outdoor public places
  - Multi-unit and rental housing
  - Private vehicles
  - Child care facilities
- Clinical guidelines regarding patient/family interviews on smoking, SHS, cessation, and voluntary smokefree efforts.

There are a wide range of important policy and regulatory strategies aimed at reducing tobacco initiation and use among children, adolescents, and young adults. Although these strategies are essential in tobacco prevention and control efforts—which, in turn, impacts SHS exposure among peers—a discussion of these strategies is beyond the scope of this article.

Secondhand Smoke Exposure Among Children

Over 40% of children 3–11 aged years—more than 15 million children—are exposed to SHS in the United States, marking the highest SHS exposure rate of any age group.[17,b] The Centers for Disease Control and Prevention's (CDC) 2015 analysis of SHS exposure, as measured by serum cotinine (a biomarker for tobacco smoke exposure), reveals that overall SHS exposure in the United States declined by over half between 1999 and 2012: from a 52% exposure level in 1999–2000 to 25% in 2011–2012.[17] There were, however, notable disparities among subgroups within this dramatic improvement. The 40% exposure level among children aged 3–11 years represented the lowest decline in SHS exposure of any age group at a 37% decline, while adolescents aged 12–19 years declined 46% to a current 34% exposure level, and adults aged 20+ years achieved a 56% decline to a current level of 21%.[17] There were additional disparities in SHS exposure noted: black children aged 3–11 years experienced only a 20% decline during this time period, with a current SHS exposure level of nearly 70% (that is, an alarming seven in 10 black children in this age group) as compared to 37% among white children aged 3–11 years.[17] That racial disparity

Children aged 3–11 years have the highest secondhand smoke exposure rate of any age group in the United States, with over 40% of children aged 3–11 years exposed—and nearly 70% of black children in this age group.

[b] Children under 3 years were not included in the Centers for Disease Control and Prevention's (CDC) survey or analysis.