Smoking Patterns of Household Members and Visitors in Homes With Children in the United States

Mark A. Schuster, MD, PhD; Todd Franke, PhD; Cung B. Pham, BA

Background: Environmental tobacco smoke (ETS), also called passive smoking, has been shown to have adverse effects on the health of children.

Objective: To determine the prevalence and pattern of ETS exposure in US homes with children younger than 18 years.

Design: We analyzed data from the 1994 National Health Interview Survey and Year 2000 Objectives supplement. A multistage sample design was used to represent the civilian, noninstitutionalized population of the United States.

Main Outcome Measures: Frequency of smoking by household residents and visitors in homes with children.

Results: Thirty-five percent of children in the United States—21 million children—live in homes where residents or visitors smoke in the home on a regular basis (≥1 d/wk). From the household perspective, regular smoking by residents and visitors occurs in 36% of homes in which children reside. In 92% of homes with children where residents smoke at home, they do so every day of the week. Sixteen percent of nonsmoking respondents with children report that other residents or visitors smoke in the home. In 6% of the homes where no residents smoke, there is nevertheless regular smoking by visitors. In multivariate regression analysis, the prevalence of regular smoking in homes with children varies by age of youngest child, race/ethnicity, number of parents in the home, parental educational level, income, and region of the country.

Conclusions: Many children live in homes with ETS. Most respondents who smoke report that smoking occurs in the home every day. Visitors are an additional source of ETS in homes, including some homes where residents do not smoke. Clinicians who take care of children can advise parents, whether or not they smoke, on how to limit their children’s ETS exposure.

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Various organizations that promote child health have made recommendations to decrease childhood exposure to environmental tobacco smoke (ETS).\(^1\)\(^-\)\(^3\) The American Academy of Pediatrics\(^1\) advises physicians to routinely assess a child's exposure to ETS and to inform smoking parents about the dangers of ETS. The American Medical Association\(^2\) and World Health Organization\(^3\) advise encouraging parents to quit smoking.

Environmental tobacco smoke has been associated with increased rates of acute lower respiratory tract infections,\(^4\)\(^-\)\(^7\) wheezing and asthma,\(^8\)\(^-\)\(^9\) otitis media,\(^10\)\(^-\)\(^12\) sudden infant death syndrome,\(^13\)\(^-\)\(^15\) medical visits,\(^16\)\(^-\)\(^18\) hospitalizations,\(^3\)\(^,\)\(^11\) and school absences in children.\(^9\) Healthy People 2000\(^20\) set a goal of reducing the percentage of children (aged ≤6 years) exposed to ETS to 20% or less. The more recent Healthy People 2010\(^21\) set a stricter goal of 10% or less.

Concerns over the effects of ETS on children and adults have prompted diverse actions. The United States has seen a boom in clean indoor air ordinances. During the past decade, many of the high-profile battles about ETS have been waged over public spaces such as restaurants,\(^22\) bars,\(^23\) work sites,\(^24\) and airplanes.\(^25\) As of March 2002, 437 clean indoor air ordinances had been passed in cities across the country.\(^26\) As of December 2001, 24 states had banned smoking in day care centers or limited it to areas with separate ventilation.\(^27\) Fifteen states have such restrictions for government workplaces, and 3 states (California, Utah, and Vermont) have such policies for restaurants.\(^27\) On the federal level, the Pro-Children Act of 1994\(^28\) prohibited smoking in all publicly
funded schools. An executive order in August 1997 banned smoking in federal buildings.20

Although such laws have been instrumental in limiting ETS in public spaces, they do not have a direct effect on ETS exposure in other locations. The home, for example, is the major site of ETS exposure for children.3,30 Because of the nature of their lungs and their breathing rates, children have higher relative levels of cotinine (a nicotine metabolite used as a marker of nicotine exposure) than adults after breathing comparable levels of ETS.31 Research findings are unclear on whether children exposed to smoking at home are more likely to take up smoking themselves.32-34

In light of the risks that ETS exposure poses to children, it is important to determine how many children are exposed to smoke at home. Previous national studies35,36 have examined whether household members smoke in homes with children, but not whether visitors (eg, friends, relatives, and nannies) smoke there.

We found no studies based on data from a single survey that have provided a detailed profile of all smoking in US households with children. Likewise, we did not find nationally representative studies of the indoor smoking practices in households where no residents smoke at home. In this study, we use data from a nationally representative household-based interview survey to determine the prevalence and patterns of smoking by residents and visitors in homes with children in the United States.

METHODS

SURVEY AND SAMPLE

The data come from the 1994 National Health Interview Survey (NHIS) and the 1994 NHIS Year 2000 Objectives supplement. The National Center for Health Statistics, Hyattsville, Md, administers these surveys. The NHIS is an annual survey that covers demographics, health, health care utilization, and insurance. The Year 2000 Objectives supplement covers topics related to the US Department of Health and Human Services’ Healthy People 2000 health objectives, including tobacco use.

Trained survey administrators from the US Bureau of the Census, Washington, DC, conducted the interview survey in the home. A multistage sample design was used to represent the civilian noninstitutionalized US population.

Half of the households in the 1994 core NHIS sample were randomly assigned to receive the Year 2000 Objectives supplement. The tobacco items were administered to 1 randomly selected adult per family. The household response rate from the core NHIS was 94.1% (45435 households), and the response rate for households eligible for the Year 2000 Objectives supplement was 84.5%, for an overall year 2000 response rate of 79.5%. The total sample for the supplement consisted of 19738 families in 19374 households; 6990 of these families had children. We use family and home interchangeably in this article.

OUTCOME VARIABLES

The principal outcome variable for this study was smoking in the home. Some questions referred to household members' smoking practices, some to visitors' smoking practices, and some to the respondent's own smoking. The interviewer began by telling the respondent that the "next questions are about smoking inside this home," and then asked, "Does anyone who lives here smoke cigarettes, cigars, or pipes anywhere inside this home?" If the answer was yes, the respondent was asked, "On the average, about how many days per week do people who live here smoke anywhere inside this home?" The answers ranged from 0 to 7 days. To assess smoking by people other than residents, the respondent was also asked, "On the average, about how many days per week are there visitors who smoke anywhere inside this home?" Throughout the article, we refer to the combined outcome variable of residents or visitors smoking at least 1 day per week as regular smoking in the home.

Respondents were also asked about their smoking habits. For the purposes of the study, current smokers were defined as those who responded affirmatively when asked. "Have you smoked more than 100 cigarettes in your life?" and then responded "Everyday" or "Some days" when asked, "Do you now smoke cigarettes?"

INDEPENDENT VARIABLES

We selected independent variables that had been found to be significant correlates of one of the outcome variables in at least one prior study.3,35-41 These variables include age of the respondent, number of parents or other adults in the household, race/ethnicity of the respondent, highest educational level of responsible adult family members, geographic region, size of community, annual family income, and age of the youngest child. The NHIS defines children as people aged 0 to 17 years (ie, <18 years).

DATA ANALYSIS

We report univariate and bivariate statistics and results of logistic regression analyses. The data set includes variables for individual children (because a family can have >1 child) and for families. Therefore, we used the child and the family as units of analysis. Specifically, the family is the unit of analysis for Table 1 and for the second and third rows of Table 2, the child is the unit of analysis for the first row of Table 2.

The National Center for Health Statistics provides household weights and person weights in the core data set so national population-based estimates can be made. We consulted the National Center for Health Statistics about adjustment of weights for use with the Year 2000 Objectives supplement. We used the core household weight for family-level analyses and the core person weights for child-level analyses. Because the supplement was administered to a random sample of half of the core NHIS households, we multiplied the weights by 2 and adjusted for the supplement’s nonresponse rate. Standard errors were computed with standard methods that incorporate the complex sampling design.42

RESULTS

SMOKING IN HOMES WITH CHILDREN

Regular smoking (≥1 d/wk) by residents occurs in 32% of homes in which children live. When smoking by visitors is included as well, the percentage increases to 36%, representing more than 11 million households with more than 21 million children. Sixteen percent of nonsmoking respondents with children in the home report that other residents or visitors smoke there. In 6% of homes where neither the respondent nor other residents smoke, visitors regularly smoke.

There is wide variation in the demographic characteristics of homes with children (Table 1). Homes with

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at least 2 adults have less regular smoking than single-parent households (33% in homes with at least 2 adults vs 43% in father-only homes and 46% in mother-only homes, \( P < .001 \)). The amount of regular smoking in the home increases with decreasing age of respondent, adult educational level, family income, and metropolitan statistical area size. The amount of regular smoking in the home is highest for African American (41%) and white (38%) respondents compared with Hispanic (25%) and other (25%) respondents (\( P < .001 \)).

In regression analysis, most bivariate patterns remain. However, the differences in respondent age (\( P = .41 \)) and metropolitan statistical area size (\( P = .52 \)) are no longer statistically significant. Also, the racial/ethnic differences change substantially, with African American (odds ratio, 0.59; \( P < .001 \)) and Hispanic/Latino (odds ratio, 0.34; \( P < .001 \)) respondents less likely than white respondents to report regular smoking in the home. Compared with respondents from the South, those from the West are less likely to have regular smoking in the home (odds ratio, 0.63; \( P < .001 \)).

The data presented so far cover smoking in homes with children, but we also examined child-level data: 30% of children live in homes with smoking by residents at least 1 day per week, and 35% live in homes with any smoking by residents or visitors.

### Table 1. Percentages, Population Estimates, and Adjusted Odds Ratios of Homes With Children That Have Regular Smoking*

<table>
<thead>
<tr>
<th>Demographic Characteristic</th>
<th>Prevalence of Regular Smoking in Homes With Children</th>
<th>Correlates of Regular Smoking</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% of Homes (95% CI)</td>
<td>Estimated No. of Homes</td>
</tr>
<tr>
<td>All households with children</td>
<td>36.1 (34.7-37.4)</td>
<td>11 475 000</td>
</tr>
<tr>
<td>Parents or adults in household</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Father only</td>
<td>42.6 (34.0-51.1)</td>
<td>2 767 000</td>
</tr>
<tr>
<td>Mother only</td>
<td>46.4 (43.5-49.2)</td>
<td>2 504 000</td>
</tr>
<tr>
<td>Other adult</td>
<td>50.3 (44.3-56.3)</td>
<td>631 000</td>
</tr>
<tr>
<td>≥2 Adults</td>
<td>32.9 (31.4-34.3)</td>
<td>8 049 000</td>
</tr>
<tr>
<td>Age of respondent, y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-29</td>
<td>43.4 (40.6-46.2)</td>
<td>3 198 000</td>
</tr>
<tr>
<td>30-39</td>
<td>35.3 (33.2-37.3)</td>
<td>4 868 000</td>
</tr>
<tr>
<td>40-49</td>
<td>30.3 (28.1-32.5)</td>
<td>2 472 000</td>
</tr>
<tr>
<td>≥50</td>
<td>37.3 (33.0-41.6)</td>
<td>937 000</td>
</tr>
<tr>
<td>Age of youngest child, y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;1</td>
<td>28.5 (24.9-32.2)</td>
<td>896 000</td>
</tr>
<tr>
<td>1-4</td>
<td>36.0 (33.7-38.3)</td>
<td>3 609 000</td>
</tr>
<tr>
<td>5-12</td>
<td>37.3 (35.1-39.5)</td>
<td>4 675 000</td>
</tr>
<tr>
<td>13-17</td>
<td>37.4 (34.5-40.4)</td>
<td>2 295 000</td>
</tr>
<tr>
<td>Race/ethnicity of respondent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td>40.5 (37.2-43.8)</td>
<td>1 641 000</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>25.3 (21.4-29.2)</td>
<td>903 000</td>
</tr>
<tr>
<td>Other</td>
<td>25.4 (19.2-31.5)</td>
<td>359 000</td>
</tr>
<tr>
<td>White</td>
<td>37.6 (36.1-39.2)</td>
<td>8 572 000</td>
</tr>
<tr>
<td>Highest educational level of responsible adult family member</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grades 1-11</td>
<td>52.9 (48.5-57.3)</td>
<td>1 874 000</td>
</tr>
<tr>
<td>Grade 12</td>
<td>48.3 (46.2-50.4)</td>
<td>5 273 000</td>
</tr>
<tr>
<td>1-3 y college</td>
<td>36.0 (33.8-38.3)</td>
<td>2 937 000</td>
</tr>
<tr>
<td>4 y college</td>
<td>19.7 (17.2-22.2)</td>
<td>952 000</td>
</tr>
<tr>
<td>≥5 y college</td>
<td>9.7 (7.9-11.6)</td>
<td>419 000</td>
</tr>
<tr>
<td>Annual family income, $</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;10 000</td>
<td>53.2 (49.5-56.9)</td>
<td>1 661 000</td>
</tr>
<tr>
<td>10 000-19 999</td>
<td>48.0 (44.3-51.6)</td>
<td>2 270 000</td>
</tr>
<tr>
<td>20 000-34 999</td>
<td>41.6 (39.0-44.3)</td>
<td>2 968 000</td>
</tr>
<tr>
<td>35 000-49 999</td>
<td>32.6 (29.9-35.2)</td>
<td>1 847 000</td>
</tr>
<tr>
<td>≥50 000</td>
<td>19.5 (17.6-21.4)</td>
<td>1 529 000</td>
</tr>
<tr>
<td>Metropolitan statistical area size</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nonmetropolitan statistical area</td>
<td>41.2 (38.7-43.7)</td>
<td>3 089 000</td>
</tr>
<tr>
<td>&lt;100 000</td>
<td>41.8 (38.8-44.9)</td>
<td>2 100 000</td>
</tr>
<tr>
<td>100 000-249 999</td>
<td>42.3 (39.7-49.0)</td>
<td>846 000</td>
</tr>
<tr>
<td>250 000-999 999</td>
<td>36.5 (33.6-39.3)</td>
<td>3 047 000</td>
</tr>
<tr>
<td>≥1 000 000</td>
<td>31.8 (28.8-33.7)</td>
<td>4 282 000</td>
</tr>
<tr>
<td>Region</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Midwest</td>
<td>41.9 (39.5-44.3)</td>
<td>3 344 000</td>
</tr>
<tr>
<td>Northeast</td>
<td>35.2 (32.6-37.8)</td>
<td>2 178 000</td>
</tr>
<tr>
<td>South</td>
<td>39.0 (36.4-41.5)</td>
<td>4 076 000</td>
</tr>
<tr>
<td>West</td>
<td>26.0 (23.1-28.9)</td>
<td>1 878 000</td>
</tr>
</tbody>
</table>

*Regular smoking is defined as smoking in the home ≥1 day per week. Unweighted n = 6873. CI indicates confidence interval; NA, not applicable. †Logistic regression analysis predicting regular smoking in homes with children.

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surveys with those of a 1988 survey, we looked specifically at children 5 years or younger and found that 34% live in homes with regular smoking.

**FREQUENCY OF SMOKING IN HOMES WITH CHILDREN**

In most homes with smoking, smoking occurs on a daily basis (Table 2). In 92% of homes with children where residents smoke at least once a week (accounting for 28% of all children), the residents smoke at home every day. In 25% of homes where only visitors smoke, visitors smoke every day.

**DO SMOKERS DISALLOW SMOKING IN THE HOME?**

Most smokers who live with children do not prevent all smoking in their homes. Among respondents who are smokers and who live with children, 85% report that regular smoking in their homes. Among respondents who are smokers and who live with children, 85% report that regular smoking in their homes. Among respondents who are smokers and who live with children, 85% report that regular smoking occurs in their homes. Among respondents who are smokers and who live with children, 85% report that regular smoking occurs in their homes.

**COMPARISONS WITH HOMES WITHOUT CHILDREN**

Regular smoking (by residents or visitors) is less common in homes without children than in homes with children (32% vs 36%, P < .001). However, controlling for the independent variables that appear in Table 1, except for parents or adults in the household and age of youngest child, which do not apply to homes without children, in a regression analysis that includes all homes, the presence of children is not significantly associated with smoking in the home (P = .22).

We also found that most smokers do not restrict smoking to outside the home. Among respondents who are smokers and who live with children, 85% report regular smoking in their homes by residents or visitors. Studies using state-level data have found that many people restrict smoking at home, although there appears to be wide variation in the prevalence of such restrictions. In a 1993 telephone survey of Massachusetts adolescents, 25% who lived with an adult smoker reported that there was no smoking in their homes, and 22% reported that adults restricted smoking to specific rooms. Twenty-three percent of adolescents who lived with smokers reported that visitors were not allowed to smoke in the home. A telephone survey in 1996 and 1997 found that 76% of California residents (including 43% of smokers) banned smoking in the home and an additional 10% had some smoking restrictions in the home. In another 1996 California telephone survey, 38% of smokers reported living in homes with a complete smoking ban, 26% reported partial home smoking restrictions, and the rest had no restrictions. A 1997 telephone survey found that 60% of Connecticut residents did not permit smoking in their homes.

We found that 16% of nonsmoking respondents with children at home report regular smoking there by other residents or visitors. This represented 3.7 million families in the United States. In 6% of homes in which residents do not smoke, visitors smoke at least once a week. Prior national studies have not collected information on smoking in homes without smokers, although some of the statewide studies have looked at this issue. In the Connecticut study, 38% of nonsmokers reported ETS exposure in their homes, and the Massachusetts study found that 54% reported a smoking ban for visitors.

Our study builds on the findings of several earlier national reports. A 1988 survey reported that 42% of children in the United States 5 years and younger were living in households with a smoker, whereas our study showed a lower percentage (34%) of children in the same age range living in homes with regular smoking. One reason our number is lower may be that the former study measures whether smokers live in the home, not whether they actually smoke there. Other factors contributing to the differences could be an overall decrease in smoking since 1988, an increase in awareness of ETS effects, and other factors.

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### Table 2. Percentages and Estimates of Days per Week Residents and Visitors Smoke in the Home*

<table>
<thead>
<tr>
<th>Unit of Analysis</th>
<th>Days per Week Residents Smoke in Home</th>
<th>Days per Week Visitors Smoke in Home</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>1-6</td>
</tr>
<tr>
<td><strong>Children</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% (SE)</td>
<td>69.1 (0.7)</td>
<td>2.4 (0.2)</td>
</tr>
<tr>
<td>Estimated No. of children</td>
<td>46,450,000</td>
<td>1,613,000</td>
</tr>
<tr>
<td><strong>Homes with children</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% (SE)</td>
<td>68.4 (0.6)</td>
<td>2.4 (0.2)</td>
</tr>
<tr>
<td>Estimated No. of homes</td>
<td>21,871,000</td>
<td>782,000</td>
</tr>
<tr>
<td><strong>Homes without children</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% (SE)</td>
<td>72.8 (0.5)</td>
<td>2.6 (0.2)</td>
</tr>
<tr>
<td>Estimated No. of homes</td>
<td>43,239,000</td>
<td>1,543,000</td>
</tr>
</tbody>
</table>

*Unweighted numbers for children, homes with children, and homes without children are 13,125,6873, and 12,540, respectively.
†28.5% Rounds down to 28%, which is how it appears in the text.
or a combination of the two. Parents may be making a
greater effort to prevent their children’s exposure to ETS.
Although we do not have US data, Canadians increas-
ingly believe that parents who spend time at home with
small children should not smoke (70% in 1996, com-
pared with 51% in 1992).67

Another study35 reported that about 15 million chil-
dren were exposed to ETS in their homes. Our data found
that many more children (about 21 million) lived in homes
with regular smoking. The other study was not household-
specific, but rather combined 3 different surveys to make
estimates; calculations were based on households with
adult smokers and thus omitted smoking by teenagers
and visitors.

Smoking by visitors was also omitted in the esti-
mates of a third study.36 It found in 1988 to 1991 that
41%, 44%, and 36% of children aged 2 months to 3 years,
4 to 11 years, and 12 to 16 years, respectively, were liv-
ing in homes where at least 1 household member smoked.
These percentages are higher than our estimate of 33%
of children aged 0 to 17 years who live in homes with
ETS (from residents or visitors). There may have been
some decline in home smoking rates over time with in-
creased publicity about the risks of ETS for children, or
there may have been differences in methods. Another
study48 using the 1991 NHIS found that 37% of children
lived in homes with smoking.

We found that the prevalence of smoking in homes
with children varies by demographic characteristics. When
controlling for other characteristics, smoking in the home
is less likely in homes with younger children, homes with
at least 2 adults, higher parental educational level, higher
annual family income, and location in the West com-
pared with the South. In addition, African American and
Hispanic/Latino respondents are less likely to have smoking
in the home than white respondents.

A study43 of California families reported that, among
smokers who stated that most of their friends also smoked,
the odds of having a ban on smoking in the home were
more than 6 times higher for homes with children than
for homes without children. By contrast, in our national
sample, we found that the presence of children does not
predict whether regular smoking occurs in the home.
Compared with most states, though, California has been
more aggressive in regulating smoking and educating the
public about risks of ETS.49,50

A strength of the NHIS is that it covers a nationally
representative sample with a high response rate. As with
any survey covering stigmatized behaviors, there could
be underreporting of smoking in general or in the home.
Respondents may have been embarrassed about their
smoking habits and refrained from reporting them to the
interviewer. Objective markers of ETS exposure (eg, co-
tinine levels and ambient room smoke levels) were not
collected. However, several studies36,31-53 have found that
responses to questions about one’s own smoking tend to
be valid. The tobacco items were incorporated into an
extensive interview covering many less-sensitive health
topics, so interviewers had time to develop a rapport with
respondents. Also, it might have been difficult to hide
smoking behavior during in-home interviews, if smoking
paraphernalia (eg, ashtrays) were present.

There may be other sources of ETS exposure for chil-
dren (eg, cars and homes of friends and relatives).43,54 and
a recent study35 found that smoking sometimes occurs
in homes in which respondents report that smoking is
banned.

Our study may have undercounted some homes with
daily smoking. There could have been daily smoking if
a resident and visitor each smoked several days per week
but smoked on different days. However, we did not know
which days people smoked, so we were unable to com-
bine smoking by residents and visitors who smoked at
least 1 day but fewer than 7 days a week.

Factors such as the size of homes and quality of room
ventilation can affect how much a child is actually ex-
posed to ETS. However, most organizations recom-
 mend restricting smoking to outside the home, because
limiting smoking to rooms without children and to well-
ventilated rooms does not eliminate a child’s ETS expo-
sure.

Our data from the 1994 NHIS show that we were
falling far short of achieving the Healthy People 2000 and
Healthy People 2010 goals of reducing children’s ETS ex-
posure. Although rates may have declined since this study,
they were high enough that it is unlikely that children
are no longer being exposed to ETS in their homes. Pro-
posed strategies to reduce children’s ETS exposure in-
clude policy-based restrictions, legal sanctions, media and
educational efforts, and clinical interventions.5,56 Legis-
lation and litigation have been used in many communi-
ties to promote smoke-free public buildings and work
sites, but they have been used in only limited ways to regu-
late smoking in the home—primarily in child-custody
cases57,58 and multiresident dwellings.59 One study60 found
that smoking restrictions in the home were more strongly
associated with successful smoking cessation efforts than
workplace smoking bans.

Education may have greater potential to reduce ETS
in the private home. Organizations like the US Environ-
mental Protection Agency, Washington, and the Ameri-
can Heart Association, Dallas, Tex, have sponsored pub-
lic education campaigns.2 Pediatricians and other
clinicians who take care of children can provide health
education to parents.5,61 One study62 showed that many
clinicians, especially pulmonologists and allergists, re-
port taking a history of passive smoke exposure. How-
ever, other studies report that clinicians often do not coun-
sel parents about strategies to reduce passive smoking
exposure62 or stop smoking altogether.63,64 We do not have
clear evidence on the effect of clinical interventions on
smoking in homes with children. One randomized con-
trolled study65 showed that a 1- to 2-minute interven-
tion by pediatricians in the context of well-baby care can
increase maternal smoking cessation and have a posi-
tive effect on relapse prevention. Another randomized con-
trolled study66 did not show an effect of a 10- to 15-
minute intervention on maternal smoking cessation but
did show a sustained effect on where smoking occurred
and did improve knowledge of the health effects of ETS
on children. However, recent reviews65,67 of the litera-
ture on physician-patient counseling found that one-
time clinical smoking interventions are marginally effi-
cacious at best, but that repeated minimal interventions
Despite the health risks of ETS, children in the United States are more likely to be exposed to ETS in their homes than anywhere else. Prior national studies have examined smoking in households with children, but have not offered a comprehensive view of all sources of ETS in the home, including parents, other residents, and visitors (eg, friends, relatives, and nannies). In this study of a nationally representative sample of 6990 homes with children, the authors report that 33% of children in the United States live in homes where household residents or visitors regularly smoke, representing 21 million children living in 11 million homes. In addition, 16% of nonsmoking respondents with children report regular smoking in their homes by other residents or visitors, revealing an understudied population of children at risk for ETS exposure and the associated negative health outcomes.

by physicians and nurses can lead to higher rates of smoking cessation. There is evidence that clinicians’ efforts to reduce ETS exposure can improve the health of children, such as by the prevention of asthma. Education regarding smoking counseling techniques can also benefit clinicians, especially those in training, by giving them confidence in their counseling skills and encouragement to counsel parents.

Although smoking cessation would have the most far-reaching benefits, some parents may be more receptive to counseling to reduce ETS exposure for their children than to stop smoking altogether. Several studies have shown decreased exposure to ETS among children whose parents have received repeated clinician counseling about the effects of ETS and suggestions for reducing exposure. In homes with children, 16% of respondents who do not smoke report regular smoking in the home by others. Therefore, we found that physicians who want to reduce smoking in their patients’ homes must ask not only whether the parent accompanying the child smokes but also whether other residents and visitors smoke. More than 3 million households with ETS exposure would be missed if the clinician prematurely ended the tobacco screening after being assured that the child’s accompanying parent does not smoke. Some homes where no residents smoke have regular smoking by visitors, so clinicians may need to address ETS with all families, regardless of whether the parent who accompanies the child is a smoker and regardless of whether there is a smoker living in the home.

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Corresponding author and reprints: Mark A. Schuster, MD, PhD, RAND, 1700 Main St, Santa Monica, CA 90407-2138 (e-mail: schuster@rand.org).

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