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Children's Exposure to Secondhand Smoke: Nearly 2.5 Million Affected in California

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SUMMARY: Despite the steady decline of smoking rates in California, over half a million children under age 12 live in homes where smoking is allowed, and another 1.9 million live with an adult or adolescent smoker. Significant differences in children's exposure to tobacco smoke and risk of exposure are found by race/ethnicity, geographic regions within the state and by poverty level. African-American children were found to have a significantly

higher rate of exposure than other racial and ethnic groups, while children in the Northern/Sierra and San Joaquin Valley regions were at the highest risk of exposure to secondhand smoke. Children living in lower-income households were also at higher risk. These findings can aid strategies to decrease children's exposure to tobacco smoke in the home through targeted public health messages and outreach to those enrolled in public programs.

This policy brief presents findings from the California Health Interview Survey (CHIS) on rates of exposure to secondhand tobacco smoke in the home among children under age 12 in California.¹ CHIS data show that although California has seen tremendous reductions in adult and teenage smoking rates over the past 20 years, approximately 561,000 children under age 12 may still be exposed to secondhand smoke in their homes each year. An estimated 1.9 million additional children live in homes where there is an adult or teen smoker in the household, but smoking is never allowed in the home. This latter group is at risk for exposure to secondhand smoke and also at higher risk of becoming smokers themselves than are children of non-smokers.

Findings in numerous studies—as well as from CHIS data—indicate that secondhand smoke is associated with serious adverse health effects, including respiratory infections, acute ear infections and asthma.²

Public Health Efforts Have Reduced Smoking Rates

Adult and teenage smoking rates have declined steadily in California since 1988 when voters approved Proposition 99, a ballot initiative that increased taxes on tobacco products to fund the world's first comprehensive tobacco control program. According to the Centers for Disease Control and Prevention, California's adult smoking rate is second only to Utah's as the lowest in the country.³ This achievement is due to a combination of public health messages about the health risks of smoking, availability of smoking cessation programs, and laws that limit where people can smoke.

Several health and safety codes have been introduced to specifically reduce children's exposure to environmental tobacco smoke. For example, smoking is prohibited within 25 feet of a playground or "tot lot sandbox area," and is not allowed on the premises of licensed child care centers and family child care homes during operating hours.⁴ More



recently, California added sections to its Health and Safety Code that make it illegal to smoke in any motor vehicle in which a minor is present, regardless of whether the vehicle is in motion.⁵ Federal law makes it illegal to permit smoking within any indoor facility that is used for kindergarten, elementary, secondary education or library services for children.⁶

On the prevention and cessation side, California has a range of public health messages and resources for people who want to quit smoking. These include effective anti-smoking radio messages from the California Department of Public Health conducted by its California Tobacco Control Program. The California Smokers' Helpline, a free state-funded cessation program that is available in six languages (English, Spanish, Korean, Vietnamese, Mandarin and Cantonese) can be accessed by calling the numbers shown in the box.

California Smokers' Helpline Toll Free Numbers

- 1-800-NO-BUTTS English
- 1-800-45-NO-FUME Spanish
- 1-800-838-8917 Mandarin and Cantonese
- 1-800-778-8440 Vietnamese
- 1-800-556-5564 Korean
- 1-800-844-CHEW Chewing tobacco users

Californiasmokershelpline.org

First 5 California, the state agency responsible for improving the health and school readiness of young children, has developed public health messages about smoking cessation for parents of children under age five. First 5 California's education and outreach efforts include informing parents and other caregivers of young children about the health benefits of smoking cessation and the health risks of secondhand smoke through advertising, public relations and grassroots outreach. In addition,

Assessing Children's Exposure to Secondhand Tobacco Smoke in California

Using self-reported data on current adult and teen smoking status and whether smoking is ever allowed in the home, key household demographic characteristics for children under age 12 were examined. Three levels of potential exposure to secondhand smoke were measured:

1. **No Exposure:** Adult and teen CHIS respondents did not smoke and smoking was never allowed in the home;
2. **At Risk for Exposure*:** Adult or teen respondent smokes but smoking is never allowed in the home; and
3. **Exposed:** Smoking is allowed in the home regardless of adult and teen smoking status.

*Estimates of the numbers and percentages of children "at risk for exposure" are likely conservative since they reflect only the smoking prevalence among the one adult and one teen in the household that were selected for CHIS participation. There are presumably households where the selected adult and teen do not smoke but others in the household do.

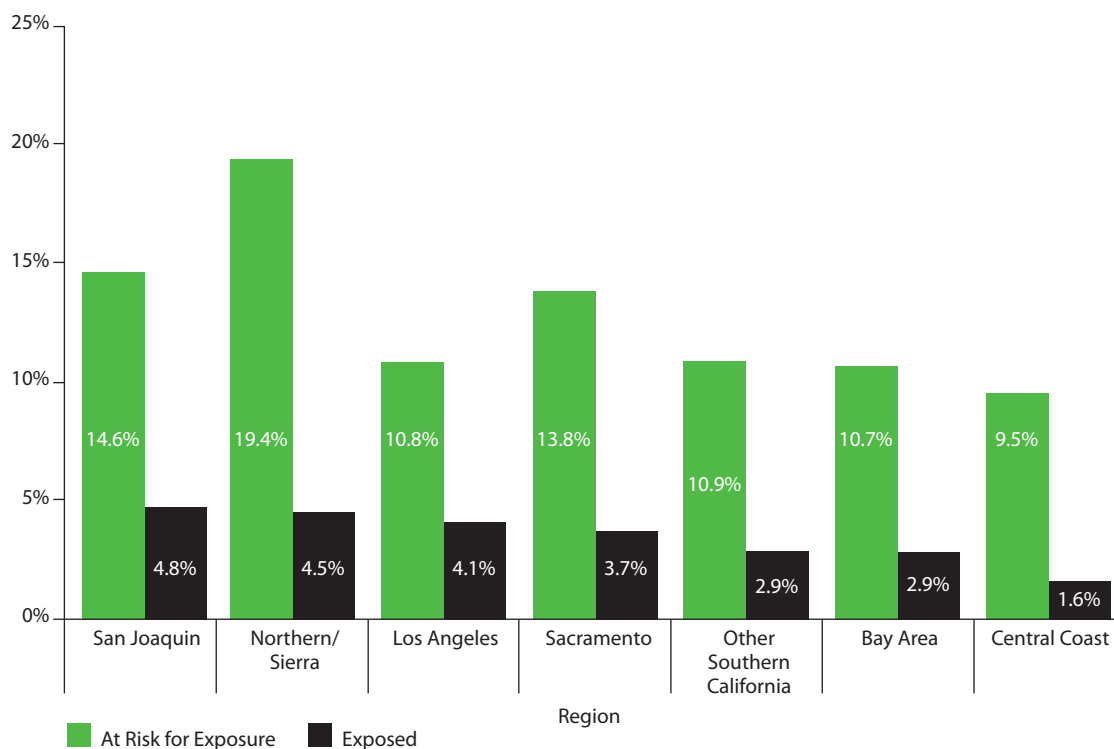
First 5 County Commissions incorporate tobacco cessation services and programs based on local needs and priorities set by their commissions.

San Joaquin Valley and Northern/Sierra Region Children at Greatest Risk

The proportions of households where children are at risk for exposure range from 19.4% in the Northern/Sierra region to 9.5% along the Central Coast (Exhibit 1).⁷ In terms of children's exposure to secondhand smoke, the Central Coast has the lowest prevalence in the state (1.6%), significantly lower than all other regions. The highest rates are in the San Joaquin Valley (4.8%) and Northern/Sierra regions (4.5%), where close to 5% of young children live in homes that permit smoking indoors. These proportions are significantly higher than those of the Other Southern California regions (excluding Los Angeles) and the Greater Bay Area, both of which are 2.9%.

Regional Differences in Children's Secondhand Smoke Exposure in the Home

Exhibit 1



Source: 2005, 2007 and 2009 California Health Interview Surveys

The Los Angeles region has a relatively low adult/teen smoking rate of 10.8%. However, 4.1% of Los Angeles region households allow smoking in the home, which is significantly higher than the rates in the other Southern California, Greater Bay Area and Central Coast regions (Exhibit 1).

African-American Children Three Times More Likely to be Exposed to Secondhand Smoke

California has a diverse population—nearly two-thirds of children under age 12 are Latino, African American or Asian.⁸ The large and representative CHIS sample (45,000-54,000 households) allows for analysis of racial/ethnic differences in children's exposure and risk for exposure to secondhand smoke in the home. CHIS data can be used to examine both the *rate* of exposure and the total *number* of children exposed to secondhand smoke among

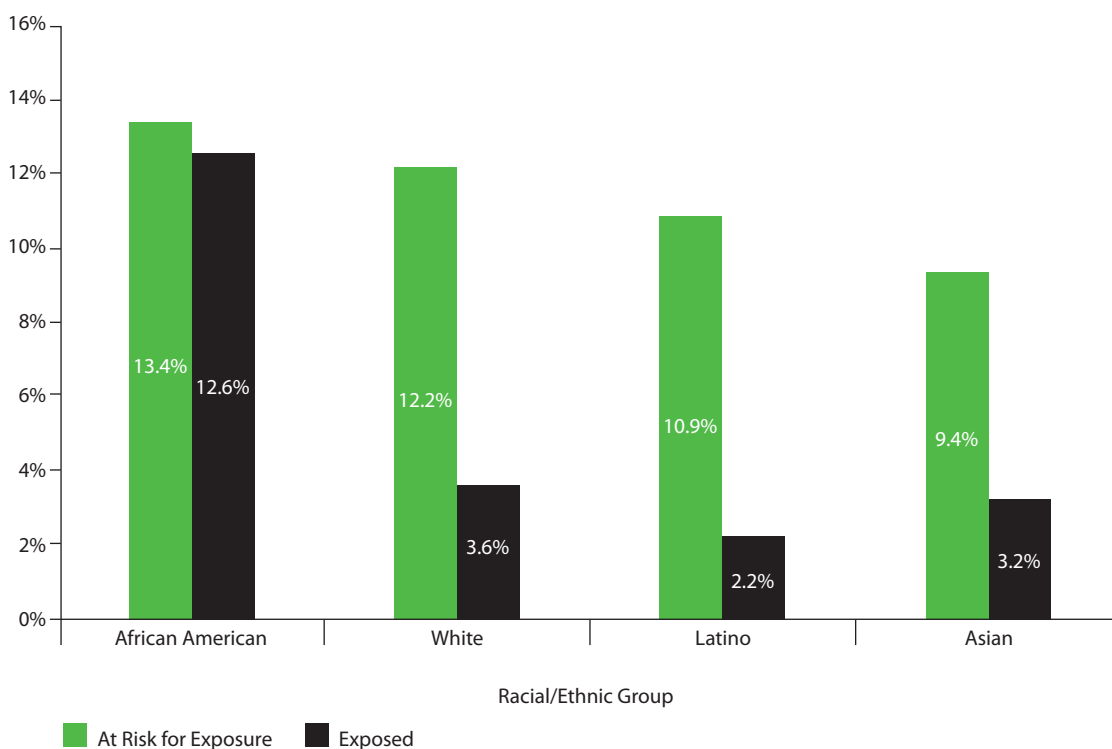
the state's four main racial/ethnic groups: White, Latino, African American and Asian.

African-American (13.4%) and White children (12.2%) are significantly more likely to have an adult or teen smoker in the household than either Latino (10.9%) or Asian children (9.4%). However, there is no statistical difference between White (3.2%), Latino (2.2%) and Asian children (3.2%) in the percentage who live in homes where smoking is permitted. African-American children have the highest level of exposure—12.6%. This rate is statistically higher than that of all other racial/ethnic groups and particularly striking at triple the rate of all other groups.

In terms of the *number* of children exposed to secondhand smoke, White children have the highest number (180,616), followed by

Exhibit 2

Racial/Ethnic Differences in Risk for Exposure and Exposure in the Home



Source: 2005, 2007 and 2009 California Health Interview Surveys

Latino children (168,285), African-American children (121,126) and Asian children (49,016). These numbers show that while the prevalence of exposed children is relatively low among White and Latino children, hundreds of thousands of children are affected. And, although the *number* of African-American children who are exposed is lower than that of White and Latino children, the fact that smoking is permitted in over 12% of African-American homes where young children live points to the need for health providers and educators to vigorously address the topic in this population (Exhibit 2).

Lower-Income Children at Greater Risk of Exposure

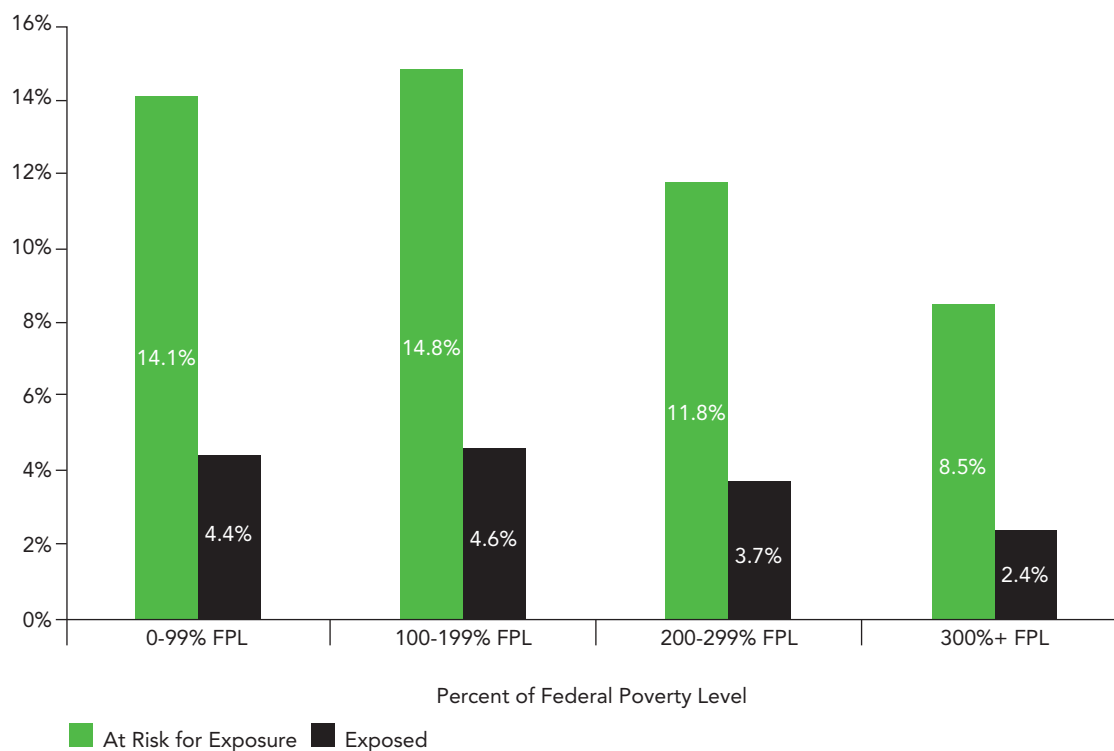
The findings show a clear relationship between income level and children at risk for exposure to secondhand smoke. The lower a household's

income the more likely it is that the household has an adult or teen smoker. Income was measured as a percent of the federal poverty level (FPL) using four categories: 0-99% FPL; 100-199% FPL; 200-299% FPL and 300%+ FPL. There was no statistical difference in *at-risk* status between children living in households at 0-99% FPL (14.1%) and those at 100-199% FPL (14.8%), but the percentage of children at risk for exposure was statistically lower in the two higher income categories: 11.8% of children with household incomes at 200-299% FPL, and 8.5% of those with income at or above 300% FPL had an adult or teen smoker in the home but did not allow indoor smoking.

Children living in households at or above 300% FPL (2.4%) were far less likely to be exposed to secondhand smoke than children

Income Differences in Children's Secondhand Smoke Exposure in the Home

Exhibit 3



Source: 2005, 2007 and 2009 California Health Interview Surveys

in any of the other three, lower-income categories. However, there were no statistical differences among the three lower-income categories (Exhibit 3).

Implications and Recommendations

People in California are becoming increasingly sensitive to the effects of exposure to secondhand smoke, and new restrictions on smoking in public places reflect this awareness. Following the successful efforts to pass legislation that prohibits smoking in a vehicle in which a minor is present, the next big public health push should be to reduce smoking in the home, particularly in homes where young children live. Findings from the California Health Interview Survey on the characteristics of families that allow smoking in the home can help guide the development

of targeted messages about the adverse health effects secondhand smoke can have on children. The regions of the state with high rates of exposure are prime areas for introducing media campaigns against smoking in the home. Public health, social service and medical providers should also be addressing this issue with their patients and clients, particularly those working in African-American communities, where children are at high risk of exposure. The discussions can address the risk to children's health and to their own, and should include information on cessation programs for the adults.

The relative differences between smoking rates and permitting smoking in the home indicate that the Los Angeles region is an area with high potential for a successful media campaign to reduce children's exposure to

secondhand smoke in the home. The large population of young children in the Los Angeles region (4.5 million) means that a successful media campaign could have a huge impact in terms of the numbers of children who would no longer be exposed to tobacco smoke in their homes.

The higher rates of exposure among children living in households below 300% FPL, and particularly in those below 200% FPL, can serve to focus our attention on opportunities to reach parents who participate in publicly-funded programs. In California, families with children who have household incomes below 200% FPL are eligible for a variety of state and federal assistance programs, such as Medi-Cal and WIC (Women, Infants and Children). When these families present for services, providers and case workers have an excellent opportunity to educate parents about the potential risks that secondhand smoke poses to the health of their young children. Since Medi-Cal and WIC providers usually screen patients/clients for smoking status, they can focus their messages on those at highest exposure risk. It is also an opportunity to give parents information about smoking cessation programs in their area.

Specific recommendations include:

- Develop a comprehensive media and outreach campaign using tailored, culturally-competent approaches to reduce children's exposure to secondhand smoke.
 - Target the Northern/Sierra and San Joaquin regions, where the smoking and exposure rates are the highest.
 - Launch a media campaign in the Los Angeles region, where the exposure rate is high, the *number* of children exposed is the greatest, and where media can reach millions of households.
 - Focus efforts on the African-American community to decrease smoking in the home. Such efforts could include public service announcements on popular radio stations and frank discussions by health care and social service providers.
 - Ensure that public health, social service and medical providers consistently address smoking and exposure with their patients and clients, especially those working in African-American communities.
 - Outreach to parents in publicly-funded programs such as WIC and Medi-Cal, which are prime settings for smoking cessation messages, referrals to the Smokers' Helpline, and education about the risks of secondhand smoke to children's health.
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Data Source

This report is based on data from the 2005, 2007 and 2009 California Health Interview Surveys. CHIS is a population-based telephone survey of randomly selected California households, the largest state survey in the nation. Interviews were completed from every county in the state and conducted in English, Spanish, Chinese (Mandarin and Cantonese dialects), Vietnamese and Korean. Data were weighted to the California Department of Finance's Population Estimates and Population Projections. All statements in this policy brief that compare rates for one group with those of another reflect statistically significant differences ($p < 0.05$), unless otherwise noted. For more information on the California Health Interview Survey, please visit www.chis.ucla.edu.

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Endnotes

- 1 In order to maximize statistical stability and disaggregate the data in meaningful ways, the samples from CHIS 2005, 2007 and 2009 were combined. Because the sample for children 0 to 5 years of age would not yield statistically stable results, the analysis includes all children under 12 years of age.
- 2 Oberg, Jaakkola, Woodward, Perugo and Pruss-Ustun. Worldwide burden of disease from exposure to secondhand smoke: a retrospective analysis of data from 192 countries. *The Lancet*, published online November 26, 2010.
- 3 *Morbidity and Mortality Weekly*, November 5, 2010/59(43);1400-1406.
- 4 Assembly Bill No. 188, signed into law on August 6, 2001 (see <http://www.cdph.ca.gov/programs/tobacco/Documents/CTCPAb-188-150-chaptered.pdf> for more information).
- 5 California Health and Safety Code Sections 11847-11849.
- 6 Technical Assistance Legal Center, Tobacco Laws Affecting California, 2009.
- 7 The counties comprising each region are as follows:
Northern/Sierra region: Butte, Tuolumne, Inyo, Calaveras, Amador, Mariposa, Mono, Alpine, Shasta, Sutter, Del Norte, Siskiyou, Lassen, Trinity, Modoc, Plumas, Sierra, Humboldt, Tehama, Glenn, Colusa, Nevada, Mendocino, Yuba, Lake.
San Joaquin Valley: Fresno, Kern, San Joaquin, Stanislaus, Tulare, Merced, Kings, Madera.
Greater Bay Area: Santa Clara, Alameda, Contra Costa, San Francisco, San Mateo, Sonoma, Solano, Marin, Napa.
Sacramento: Sacramento, Placer, Yolo, El Dorado.
Central Coast: Ventura, Monterey, Santa Barbara, Santa Cruz, San Luis Obispo, San Benito.
Los Angeles: Los Angeles.
Other Southern California: Orange, San Diego, San Bernardino, Riverside, Imperial.
- 8 Source: 2009 California Health Interview Survey, *As CHIS "Race OMB/Department of Finance."* Los Angeles, CA. UCLA Center for Health Policy Research.



This publication contains data from the California Health Interview Survey (CHIS), the nation's largest state health survey. Conducted by the UCLA Center for Health Policy Research, CHIS data give a detailed picture of the health and health care needs of California's large and diverse population. Learn more at: www.chis.ucla.edu

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