
CONNECTING THE DOTS SNAPSHOT

PERINATAL SMOKING

Children's Data Network

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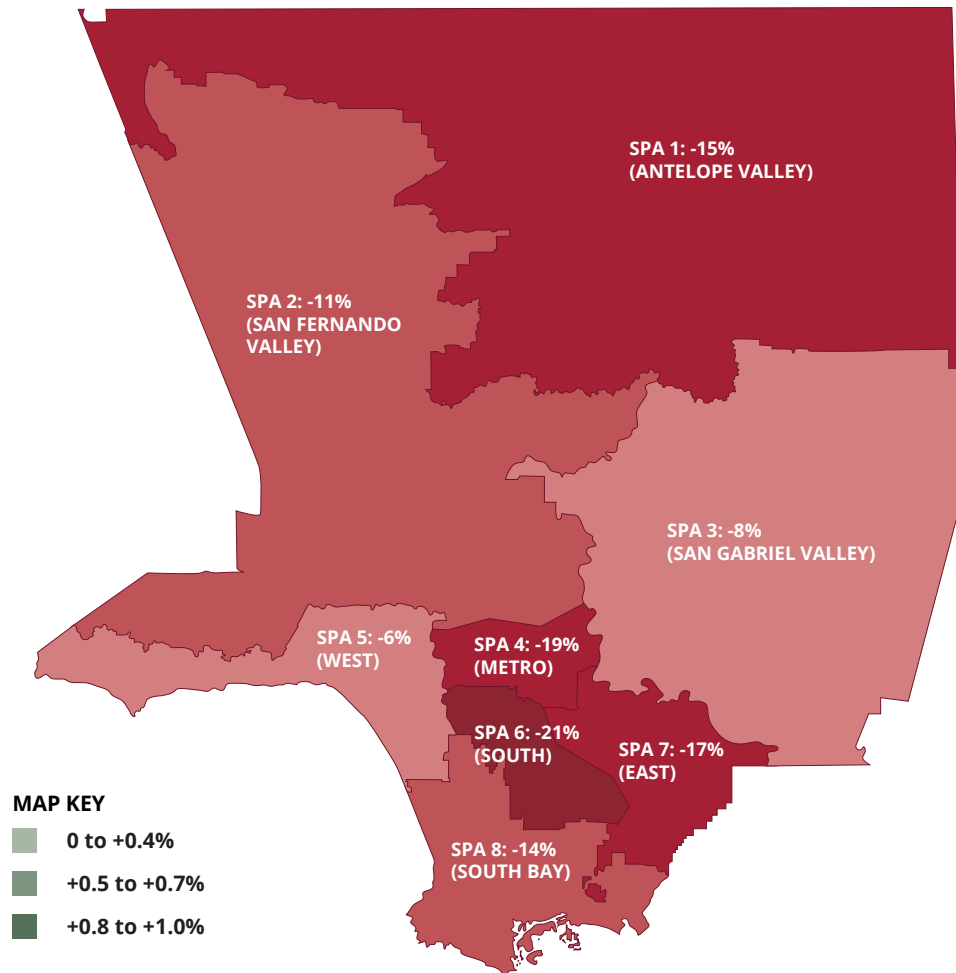
PERINATAL SMOKING IN COMMUNITIES ACROSS LOS ANGELES COUNTY: RECENT PROGRESS AND WHY IT MATTERS

- This snapshot highlights good news: The vast majority of women in Los Angeles County reported not smoking during pregnancy or in the three months before conception from 2007-2012 (latest available data from birth records). And perinatal non-smoking rates improved slightly during this period.
- Data suggest that public health efforts to reduce smoking among expectant mothers—where smoking could have two-generation consequences—seem to be working.
- All areas of the county saw improvements in perinatal non-smoking as well, though rates differed by region. While the Antelope Valley had the lowest percentage of births without perinatal smoking during 2007-2012, that region also experienced the greatest gains, e.g., figures in Service Planning Area (SPA) 1 rose from 95.5% to 96.5%.
- Among racial/ethnic groups countywide, perinatal non-smoking levels were lowest for Japanese, African American, and white mothers, though these three groups showed the largest improvements as well. Only one demographic group had greater gains during this period—those without fathers established on birth records. Specifically, perinatal non-smoking levels for births without paternity established increased from 95.1% to 97.2%.

Why do these trends matter? Though these increases – in percentage terms – are relatively small, they represent thousands of infants and significant progress for maternal and child health in L.A. County. Perinatal smoking not only harms the mother’s health but also increases the risk of infant death, premature birth, low birthweight, and birth defects, among other complications.



PERCENTAGE CHANGE IN BIRTHS WITH NO PERINATAL SMOKING FROM 2007 TO 2012 BY SERVICE PLANNING AREA (SPA) IN LOS ANGELES COUNTY



DATA DEFINITION: Percentage change in births to mothers who reported not smoking during pregnancy or in the three months prior to conception from 2007 to 2012, by [Service Planning Area \(SPA\)](#) in Los Angeles County.

SOURCE: Vital Records, 2002-2012. Analysis by the Children’s Data Network at the USC Suzanne Dworak-Peck School of Social Work.

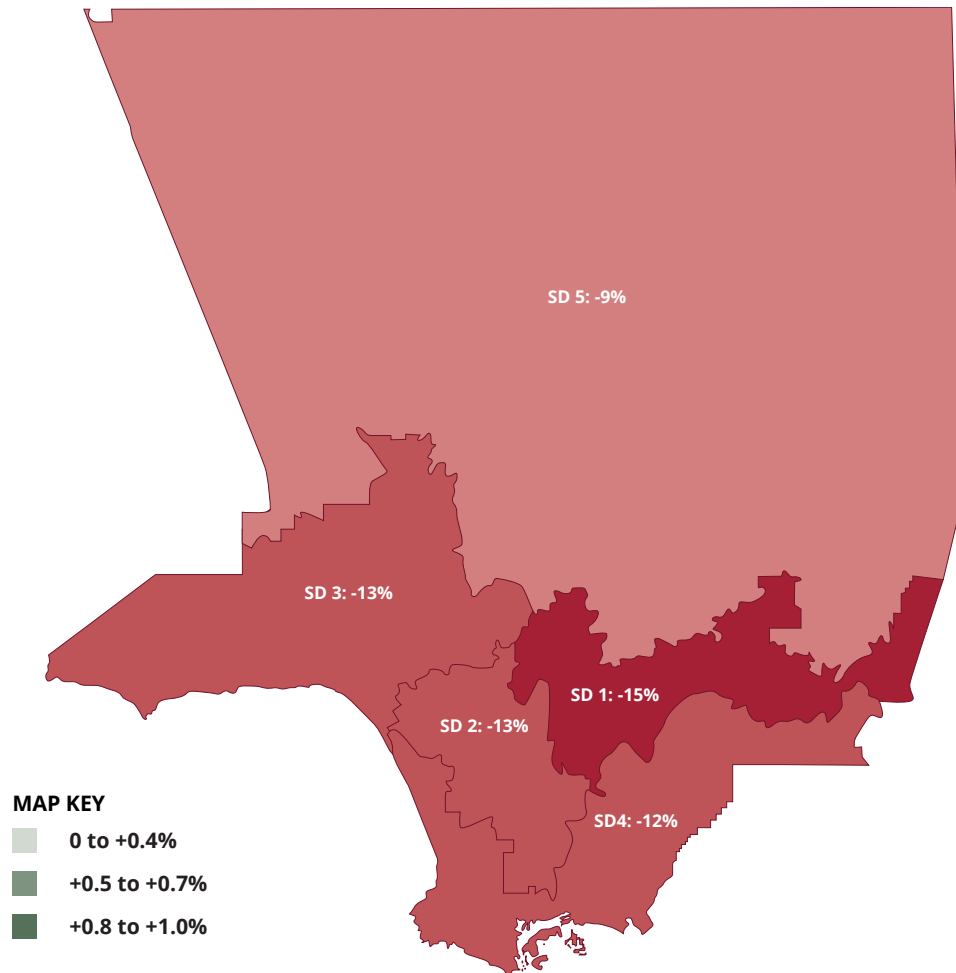
FOOTNOTES: Changes in the percentage of births with no perinatal smoking between 2007 and 2012 were statistically significant for L.A. County and all SPAs. As smoking is self-reported, this information likely is less reliable than other information collected on the birth record but is loosely in line with other self-reported data on perinatal smoking, e.g., see [Health Indicators for Women in Los Angeles County](#); [Smoking Prevalence and Cessation Before and During Pregnancy: Data From the Birth Certificate, 2014](#); and [MIHA Report 2013-2014](#).



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PERCENTAGE CHANGE IN BIRTHS WITH NO PERINATAL SMOKING FROM 2007 TO 2012 BY SUPERVISORIAL DISTRICT (SD) IN LOS ANGELES COUNTY



DATA DEFINITION: Percentage change in births to mothers who reported not smoking during pregnancy or in the three months prior to conception from 2007 to 2012, by Supervisorial District (SD) in Los Angeles County.

SOURCE: Vital Records, 2002-2012. Analysis by the Children’s Data Network at the USC Suzanne Dworak-Peck School of Social Work.

FOOTNOTES: Changes in the percentage of births with no perinatal smoking between 2007 and 2012 were statistically significant for L.A. County and all SDs. As smoking is self-reported, this information likely is less reliable than other information collected on the birth record but is loosely in line with other self-reported data on perinatal smoking, e.g., see *Health Indicators for Women in Los Angeles County; Smoking Prevalence and Cessation Before and During Pregnancy: Data From the Birth Certificate, 2014*; and *MIHA Report 2013-2014*.



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INTRODUCTION

Perinatal smoking is one of the most common preventable causes of serious health problems in infants—and even death.¹ Cigarette smoking during pregnancy increases the risk of sudden infant death syndrome, preterm birth, fetal growth restriction, and a host of other pregnancy complications.¹ And the risk is not limited to flammable cigarettes; other forms of nicotine, such as electronic cigarettes, also can cause problems during pregnancy. Tobacco use among women before pregnancy, as well, can reduce fertility and increase the risk of birth defects.¹ These risks are compounded by the harmful effects of smoking on the mother’s own health, including cancer and heart disease. Second-hand smoke is unsafe, too, as it increases health risks for both infants and mothers.

As described in the previous Connecting the Dots snapshot on [Prenatal Care](#), it is critical to promote the overall health of reproductive-age women before pregnancies occur, ensuring that issues such as smoking and substance abuse are addressed.^{2,3} This is especially important given that nearly half of all pregnancies are unintended, and important fetal growth occurs before many women realize they are pregnant.³

This snapshot examines trends and regional variation among L.A. County women who reported not smoking during or in the three months prior to pregnancy, drawing on the most recent data available from birth records: 2007-2012.* This perspective illustrates a trajectory of change that provides useful context for understanding today’s environment. As new birth record data become available, these figures will be updated.

Overall, this snapshot highlights progress in L.A. County and suggests that public health efforts to reduce smoking among expectant mothers—where smoking could have two-generation consequences—seem to be working.

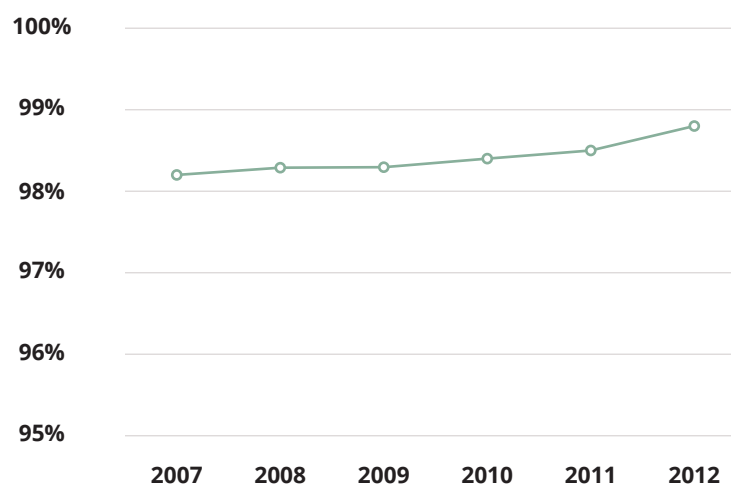
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KEY FINDINGS

The vast majority of women in L.A. County reported not smoking during or before pregnancy from 2007 to 2012. In addition, perinatal non-smoking rates improved during this period. Countywide, the percentage of births to mothers who did not smoke during pregnancy or in the three months before conception increased slightly from 98.2% in 2007 to 98.8% in 2012, as shown below. All regions of the county saw increases, as well.

FIGURE 1. PERCENTAGE OF BIRTHS WITH NO PERINATAL SMOKING IN LOS ANGELES COUNTY



Examination of trends show differences among regions in L.A. County, as defined in two ways: [Service Planning Areas \(SPAs\)](#) and [Supervisorial Districts \(SDs\)](#).*

As shown in the map above, all SPAs and SDs experienced percentage gains in births to mothers who did not smoke before or during pregnancy from 2007 to 2012, similar to countywide improvements.

*The five Supervisorial Districts in L.A. County are defined by electoral district boundaries. Each district's elected Supervisor is a member of the Board of Supervisors, the governing body for the County. The eight SPAs were created for planning and information sharing purposes, in line with how communities think about their regions. The SPA boundaries were developed through a collaborative process, including focus groups and consultation with community organizations.



Figures 2 and 3 show these improvements over time by SPA and SD, but they also highlight variations by region. While the Antelope Valley (SPA 1 and SD 5) consistently had the lowest percentages of perinatal non-smoking, that region experienced the greatest gains, e.g., figures in SPA 1 rose from 95.5% in 2007 to 96.5% in 2012. Several other regions reached levels of 99% or higher by 2012, including the San Fernando Valley, San Gabriel Valley, Metro L.A., and South L.A. areas.

FIGURE 2. PERCENTAGE OF BIRTHS WITH NO PERINATAL SMOKING BY SERVICE PLANNING AREA (SPA)

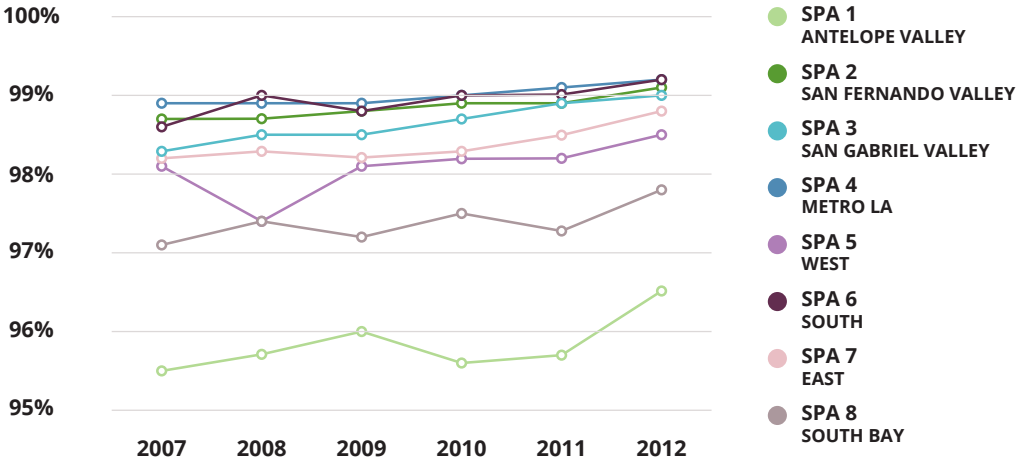
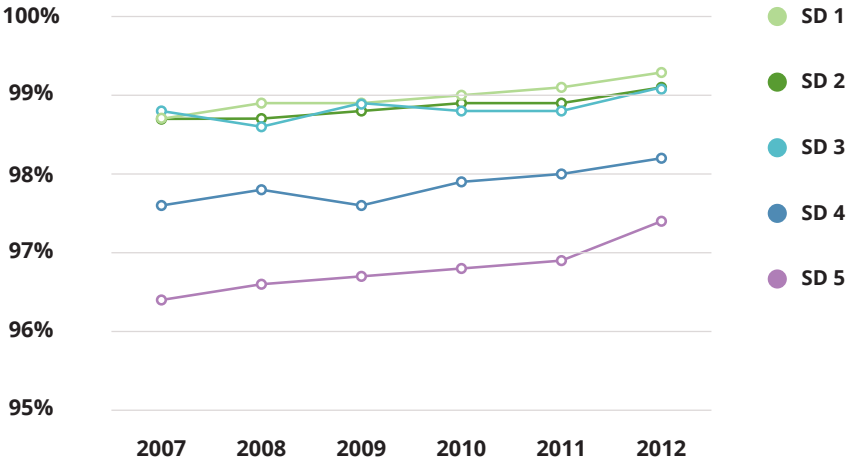


FIGURE 3. PERCENTAGE OF BIRTHS WITH NO PERINATAL SMOKING BY SUPERVISORIAL DISTRICT (SD)



NOTE: See downloadable Excel file at <http://www.datanetwork.org/cdn-apps/smoking> for additional data by SPA and SD.



While most women reported not smoking before or during pregnancy, and figures generally improved across the board, differences by demographic group persisted.

- **Race/Ethnicity:** Of the groups with available data in 2007 and 2012, countywide levels of perinatal non-smoking were lowest among Japanese, African American, and white mothers, though these three groups also saw the greatest gains during this period. For example, the percentage of births to African American women who did not smoke during or before pregnancy improved from 96.0% in 2007 to 97.2% in 2012. Perinatal non-smoking levels were highest among Chinese and Latina mothers, both at 99.4% in 2012.

Due to smaller numbers in sub-county regions, data were not available for all racial/ethnic groups by SPA and SD, though available figures showed patterns similar to countywide data, with nearly all groups improving between 2007-2012. These data also demonstrate variation by racial/ethnic group across L.A. County communities. Among African American and white women, for example, Antelope Valley (SPA 1 and SD 5) had the lowest perinatal non-smoking levels in 2012, e.g., about 93% for both groups in SPA 1, compared to 98.4% in SPA 2 (San Fernando Valley). Among Latina women, 2012 perinatal non-smoking levels ranged from 98.7% in SPA 1 to 99.7% in SPA 4 (Metro L.A.) and SPA 6 (South).

In addition, it is worth noting that in 2007, countywide numbers were large enough to break out data for the “Other” racial/ethnic group, which includes American Indians/Alaska Natives—that group had the lowest level of perinatal non-smoking that year, at 94.8% (2012 comparison not available). This is consistent with national research indicating that perinatal non-smoking rates tend to be lowest among American Indian/Alaska Native women.⁴

- **Births without Paternity Established:** In 2007, the countywide percentage of births with no perinatal smoking was 95.1% for those without fathers identified on birth records, compared to 98.4% for those with paternity established. This gap tightened by 2012, to 97.2% and 98.9%, respectively, showing solid gains for infants without fathers identified at birth.

Figures improved for both groups in all sub-county regions, but perinatal non-smoking for births without paternity established remained relatively low in the Antelope Valley in 2012: 90.6% in SPA 1 and 90.1% in SD 5.

NOTE: See downloadable Excel file at <http://www.datanetwork.org/cdn-apps/smoking> for additional data by SPA and SD.



County-level differences in perinatal non-smoking levels by maternal age, education level, and public vs. private insurance were not large, and percentages improved for all groups between 2007-2012, further reducing the small gaps.

IMPLICATIONS

Overall, data show positive trends, with most women abstaining from smoking prior to or during pregnancy and figures improving during 2007-2012. Given that percentages generally were in the high 90's at the start of this period, increases – in percentage terms – were small but represent significant progress for maternal and child health in L.A. County. A 2017 [report on women's health](#) from the Los Angeles County Department of Public Health indicates that overall rates of smoking among women have continued to improve in recent years.⁵ Public health efforts to reduce smoking in L.A. County seem to be working.

Local experts note, however, that room for improvement remains. Smoking levels vary by demographic group and community, and many infants still are at risk of smoking-related, life-threatening health issues each year. Smoking cessation efforts need to be a continued focus in the future, particularly for groups at highest risk of smoking.* Such programs also have been shown to save costs in the long run—the California Department of Public Health (CDPH) reports that an estimated \$3 is saved for every \$1 spent on prenatal tobacco cessation efforts.⁶

For many years, service providers and health care professionals throughout L.A. County have been incorporating tobacco cessation efforts into programs serving pregnant women and new moms, such as [Welcome Baby](#), [Black Infant Health](#), and [Nurse-Family Partnership](#), which offer wide-ranging support services, home visits, health education, and referrals to needed services. It is vital to maintain and expand these types of services and to ensure that tobacco cessation remains an intentional program focus.

One of the most promising strategies to reduce perinatal smoking, though, is to address it in the health care setting before women become pregnant.^{6,7,8} Primary care (and prenatal care) providers can assess tobacco use, provide intervention options, and offer referrals to services. Since second-hand smoke is harmful, too, tobacco screening and referral services should be part of regular health care for men of reproductive age as well. According to CDPH, approximately 40% of reproductive-age women report that they have not been advised by their doctor to stop smoking.⁶ The Affordable Care Act currently requires health insurance providers, including Medi-Cal, to cover comprehensive tobacco cessation

* As described in the Key Findings section of this snapshot and in other research, e.g., see references 4 and 6.



services for pregnant women. It is critical to preserve these benefits, particularly given the uncertain future of the nation's health care system.

Other statewide resources have been and should continue to be leveraged by L.A. County service providers, such as the [California Smokers' Helpline](#), which offers free counseling in six languages, and California's [Text4Baby](#) program which sends free health-related text messages (including tobacco cessation information) to expectant and new parents.⁶ Other effective tobacco-control strategies, such as public awareness campaigns, can continue to be leveraged and strengthened, as well.⁸

In addition, L.A. County has benefited enormously from [First 5 LA](#), which has invested over \$1 billion in services and systems to support families with young children (prenatal to age 5) using funds from California's Proposition 10 tobacco tax. It is worth noting that while recent decreases in smoking are good news, this also means reduced tobacco tax revenues to support public health efforts.

Although L.A. County has made clear strides in reducing perinatal smoking, further reductions are needed, and certain groups and communities continue to be at increased risk of adverse birth outcomes. Concerted efforts are needed to strengthen and better align the complex network of services available throughout the county, so that gaps are filled and families are able to navigate the system and receive tobacco cessation support or other needed services.



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ABOUT THE PROJECT

This snapshot is part of the ongoing "Connecting the Dots" series by the Children's Data Network at the USC Suzanne Dworak-Peck School of Social Work. Connecting the Dots snapshots bring together data and stories to provide new insights about the health and well-being of children and families in L.A. County. The series also highlights the great work happening throughout the county.

This is the third of four snapshots to be released in 2017, drawing on data from birth records to examine regional differences in births and healthy birth indicators within L.A. County. The four snapshot topics are [Birth Trends](#), [Timely Prenatal Care](#), [Perinatal Smoking](#), and Full-Term Births (coming soon).

To learn more about this project and the Children's Data Network, please visit <http://www.datanetwork.org/snapshots/>.



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REFERENCES

¹U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Division of Reproductive Health. (2016). *Tobacco use and pregnancy*. Retrieved from:

<https://www.cdc.gov/reproductivehealth/maternalinfanthealth/tobaccousepregnancy/index.htm>

²U.S. Department of Health and Human Services. (2017). *Healthy People 2020: Maternal, infant, and child health*.

Retrieved from: <https://www.healthypeople.gov/2020/topics-objectives/topic/maternal-infant-and-child-health>

³U.S. Department of Health and Human Services. (2017). *Healthy People 2020: Family planning*. Retrieved from:

<https://www.healthypeople.gov/2020/topics-objectives/topic/family-planning>

⁴Curtin, S. C., & Mathews, T. J. (2016). Smoking prevalence and cessation before and during pregnancy:

Data from the birth certificate, 2014. *National Vital Statistics Reports*, 65(1). National Center for Health Statistics.

Retrieved from: https://www.cdc.gov/nchs/data/nvsr/nvsr65/nvsr65_01.pdf

⁵Los Angeles County Department of Public Health, Office of Women's Health and Office of Health Assessment & Epidemiology. (2017). *Health indicators for women in Los Angeles County: Highlighting disparities by ethnicity and poverty level*. Retrieved from:

<http://publichealth.lacounty.gov/owh/docs/DataReport/2017-HealthIndicatorsforWomeninLACounty.pdf>

⁶California Department of Public Health. (n.d.) *Smoking: before, during and after pregnancy*. Retrieved from:

<https://archive.cdph.ca.gov/data/surveys/MIHA/MIHAPublications/MaternalSmokingFactSheet.pdf>

⁷Witt, W. P., et al. (2015). Predictors of alcohol and tobacco use prior to and during pregnancy in the US: The role of maternal stressors. *Archives of Women's Mental Health*, 18(3), 523–537. Retrieved from:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4445689/>

⁸Tong, V. T., et al. (2013). *Trends in smoking before, during, and after pregnancy – Pregnancy Risk Assessment Monitoring System, United States, 40 sites, 2000–2010*. Morbidity and Mortality Weekly Report, Centers for

Disease Control and Prevention. Retrieved from: <https://www.cdc.gov/mmwr/preview/mmwrhtml/ss6206a1.htm>

