



Income Inequality and Life Expectancy

The Role of Tobacco Prevention Public Policies

By Theresa Chalhoub and Madeline Twomey | August 6, 2018

The widening income gap in the United States has been a topic of much conversation and research over the past several years. The rich continue to see most of the growth in income, while working-class people have seen wages stagnate and find it harder and harder to make ends meet. Many minimum wage workers have not received pay increases in recent years, and the gender pay gap remains wide. In addition, the high cost of necessities such as child care exacerbate the problem.¹ In fact, recent policies, such as the 2017 Tax Cuts and Jobs Act,² have only served to increase economic inequality by giving billions of dollars to wealthy individuals and corporations. This has left many working-class and lower-income individuals with few financial options and without the ability to plan for the future.

Research suggests that income may also affect a person's life expectancy. A *Journal of the American Medical Association (JAMA)* article, co-authored by Center for American Progress Senior Fellow David Cutler, examined the association between income and life expectancy. The study took individual-level data and found that life expectancy continues to increase as income goes up.³ It also showed that the difference in life expectancy between the lowest- and highest-income quartiles—the top and bottom 25 percent of income—varies across areas and is increasing over time.⁴

The same study shows that there are certain factors—such as smoking, obesity, and exercise—that help explain some of the differences in life expectancy between the highest and lowest income quartiles across commuting zones—specific geographic areas.⁵ Living in areas with higher median home values, more college graduates, and more immigrants also helps those in the lowest income quartile practice more healthful behaviors, and therefore increase their life expectancy.⁶ Overall, the research suggests that cities that tend to have healthier behaviors also have longer-living populations of lower-income people. However, this area of research and public policy is complicated and hard to unpack. This issue brief offers examples of policies that have been successful in reducing smoking rates because it is one of the major factors identified as helping explain some of the differences in life expectancy. However, the tie between income and life expectancy—and in leading healthy and fulfilling lives in general—is multifaceted.

Smoking and life expectancy

Smoking is a key factor in understanding both the variation in life expectancy and the role that public policy can play in increasing longevity. In the above study, smoking provided an explanation across geographic areas for some of the variation in life expectancy across income quartiles.⁷ Indeed, there is no question that there is an overall link between smoking and mortality. According to the Centers for Disease Control and Prevention (CDC), almost 38 million adults smoked cigarettes in 2016, and there are more than 480,000 deaths each year from cigarette smoking,⁸ with the difference in life expectancy between smokers and nonsmokers at 10 years or more.⁹ The CDC estimates that each year, 127,700 smokers die of lung cancer, 160,000 die from cardiovascular and metabolic diseases, and 113,100 die from respiratory diseases—all conditions associated with smoking.¹⁰

Public health officials have long aimed to raise awareness of the consequences of smoking, and these efforts have been largely successful: Adult smoking rates in the United States have dropped from 25.5 percent in 1990¹¹ to an estimated 13.9 percent in 2017.¹² However, lower-income individuals have not seen as large a drop in smoking rates. In 2016, 25.3 percent of adults living below the federal poverty level smoked, compared with 14.3 percent of adults living at or above the poverty level.¹³ People living below the poverty level also have higher levels of exposure to second-hand smoke.¹⁴ As a result, lower-income individuals are more likely to experience smoking-related disease.¹⁵

Smoking-related illnesses also continue to impose substantial costs on taxpayers. According to the Campaign for Tobacco-Free Kids, total annual health care expenditures from smoking in the United States are approximately \$170 billion.¹⁶ The government carries most of this burden, with \$39.6 billion in annual Medicaid expenditures, \$45 billion in Medicare payments, and \$23.8 billion in other federal tobacco-related health care costs.¹⁷ Ultimately, there are strong public health and financial incentives for communities to address tobacco control, and it makes fiscal sense for the federal government and states to encourage local programs.

Tobacco prevention public policies

As the dangers of smoking have become clear over the past several decades, the federal government, states, and cities have taken specific steps to pass and strengthen tobacco prevention public policies. Three types of policies in particular—cigarette taxes, smoke-free air laws, and tobacco control programs—have played a strong role in decreasing smoking rates, including among lower-income populations. Smoke-free air laws have traditionally applied to workplaces, bars, and restaurants, but some localities also include places such as parks and other outdoor spaces on their lists of

where individuals are not allowed to smoke.¹⁸ Tobacco control programs are generally geared toward reducing smoking rates by preventing individuals from beginning to smoke and encouraging current smokers to quit, along with reducing secondhand smoke exposure.¹⁹

Cigarette taxes have been shown to be a highly effective policy in stopping smoking.²⁰ Studies have shown a relationship between price increases and smoking rates. For every 10 percent increase in the price of cigarettes, there is roughly a 2 percent reduction in adult smoking, a 6 percent to 7 percent reduction in smoking among children, and a 3 percent to 5 percent reduction in cigarette smoking altogether.²¹ In addition, lower-income individuals, along with people of color and younger groups, have been shown to be more likely to smoke less or stop altogether because the price of cigarettes is raised.²² Given these findings, cities and municipalities should consider higher tobacco taxes as part of their efforts to decrease smoking rates among lower-income populations, which could in turn decrease the life expectancy gap.

Many of the localities shown in the *JAMA* study with the highest life expectancies for lower-income populations have had strong tobacco prevention policies in place for years or even decades. New York and New Jersey have long been leaders in taxing tobacco products and currently have state cigarette taxes of \$4.35 and \$2.70 per pack, respectively—some of the highest in the nation.²³ These states have also had some of the higher tax rates historically. Using 1995 as an illustrative year, which is the year before the *JAMA* study began using data from the Behavioral Risk Factor Surveillance System to study health behaviors, New York's tax rate was 56 cents and New Jersey's stood at 40 cents.²⁴ In contrast, states with localities that rank lower in life expectancy for lower-income populations—such as Ohio and Indiana—have a current state cigarette tax of \$1.60 and \$0.995, respectively, with tobacco taxes of 24 cents and 15.5 cents in 1995.²⁵ Similarly, many of the leading cities have also historically had smoke-free air laws for places such as workplaces, restaurants, and bars. California, New York, and New Jersey all have such laws currently in place at the state level, with California's going into effect starting in the 1990s, and New York's and New Jersey's beginning in 2003 and 2006, respectively.²⁶ Lastly, current spending on tobacco prevention and control efforts also correlates with the top localities in the *JAMA* study. For example, California—where 6 of the top 10 localities are located—spent \$75.7 million in fiscal year 2017 and has jumped to first place among states, spending \$327.8 million in FY 2018.²⁷

There is no single source of funding for tobacco initiatives at the state level. There are federal, state, and sometimes local tobacco taxes, and some states have used this revenue for tobacco control and prevention. Furthermore, in 1998, 46 states, the District of Columbia, Puerto Rico, and four other territories, and the main tobacco manufacturers signed a Master Settlement Agreement that, among other things, provides payments to states for tobacco-related health care costs.²⁸ States have received more than \$100 billion under the agreement; however, as states are able to decide how to utilize this money, only a small percentage of these funds are used for tobacco prevention.²⁹

Many states have used the payments for health care purposes such as expanding Medicaid or their State Children’s Health Insurance Program, though some have used them for tax reductions or other purposes.³⁰ The Centers for Disease Control and Prevention also provides funding for all states, calling investment in tobacco control one of the “best buys” in public health and reporting that states with robust programs have seen a \$55 return on investment in health care costs for every dollar spent.³¹

As cities and states look to enact additional policies, it is critical that officials take into account the ever-changing nature of the tobacco industry and market. While the rate of smoking cigarettes has declined significantly across the United States, rates of other forms of tobacco use, such as electronic cigarettes, are on the rise. E-cigarettes sales increased by 14.4 percent over 2014 and 2015,³² with 2.4 million middle and high school students current users in 2014.³³

Examples of city and state tobacco prevention initiatives

In the *JAMA* study on income and life expectancy, the authors provide a ranking of race and ethnicity adjusted expected age at death by commuting zone and income quartile. The areas where the bottom income quartile has the highest life expectancy are New York City, New York; Miami, Florida; Newark, New Jersey; Port St. Lucie, Florida; and several commuting zones in California—Santa Barbara, San Jose, Los Angeles, San Diego, San Francisco, and Santa Rosa.³⁴ While states such as New York and California are clear leaders in tobacco prevention policies—with some local policies going as far back as the 1980s³⁵—they do not represent all places with robust tobacco prevention campaigns.

The sections below outline public policies and efforts in Chicago, Illinois; Houston, Texas; and Austin, Texas, places that have implemented tobacco control public policies in an effort to increase the health and well-being of residents in their communities. Unless otherwise noted, the information in the following case study sections was collected through phone interviews between the Center for American Progress and individuals at the Chicago Department of Public Health, Houston Health Department, and Austin Public Health.³⁶ Where possible, CAP also supplemented some of the information collected through the interviews with additional public information and resources.

Chicago

Under Mayor Rahm Emanuel (D), Chicago has implemented a set of strong tobacco prevention initiatives over the past five years, with a particular focus on prevention and reduction of tobacco use among young people. Such action was prompted by a priority to invest in youth, education, and health and well-being, as well as tackle tobacco use overall—one of the city’s biggest public health concerns. The city already

had a comprehensive smoke-free indoor air law,³⁷ as well as local taxes,³⁸ but starting in 2013, it added a suite of policies that were created to prevent young people from beginning to use cigarettes or other tobacco products and to keep up with the ever-changing nature of the tobacco industry. This plan, part of which was integrated into the city Department of Public Health's Healthy Chicago and Healthy Chicago 2.0 initiatives, was developed over several months and focused heavily on health equity and addressing disparities in life expectancy, as well as other factors, across the city.³⁹

To tackle youth cigarette use, the city looked to institute high-impact policy changes that would make cigarettes and related tobacco products less affordable, accessible, and attractive to youth. It worked to partner with Chicago Public Schools, the Park District, the Housing Authority, and other important community entities. City officials began major policy change in 2013 by regulating the sale of flavored tobacco products, including menthol, that are particularly appealing to young people. The city now prohibits sale of these products within 500 feet of high schools.

Following this, the city continued to put a number of measures in place, including raising the tax on cigarettes and taxing e-cigarette liquid; expanding smoke-free air laws to all parks, beaches, and many college campuses; passing a number of regulations regarding e-cigarettes; eliminating coupon redemption and price discounting for tobacco; and raising the age to buy tobacco products to 21, among other policies.⁴⁰ As of 2018, Chicago also has the highest cigarette tax rate in the nation at \$6.16 per pack, which combines Chicago's tax of \$1.18 with Cook County's tax of \$3 and Illinois' tax of \$1.98.⁴¹ In response to implementing this robust set of policies and tax increases, cigarette use among young people in the city was 6 percent in 2017, a 59 percent decrease from 2011.⁴²

This complementary set of laws, in conjunction with media campaigns, prevented many young people from starting to smoke and helped others quit. As particular products become more popular, however, public policy must also keep up with ever-changing demand. Specifically, e-cigarette use is prevalent among young people; it is particularly attractive given the flavored liquids used.⁴³ Tobacco companies use the flavored nature of these products, and of products such as cigarillos and dip, to market them to youth, with e-cigarette use often leading to use of cigarettes.⁴⁴ In an effort to stay ahead of the tobacco industry, Chicago has continued to implement policies that address the increased marketing of new products.⁴⁵

Houston

Houston has also been a place of local innovation around tobacco prevention public policies and efforts. Texas ranks 29th among states and the District of Columbia for state tobacco taxes, with a tax of \$1.41 per pack.⁴⁶ There is no additional city tax in Houston, given restrictions at the state level. However, the city has taken on a number of initiatives that have successfully reduced smoking, including passing local laws

and engaging in public media campaigns. This helped move its smoking rate to 13.1 percent in 2016, the most recent year for which data are available.⁴⁷ In 2006, Houston passed Ordinance No. 2006-1054, which removed smoking from a variety of public places and workplaces.⁴⁸ This policy was a multistakeholder effort that included the City Council; Houston Health Department; and community stakeholders, including health and environmental groups, among others. With this collective effort and a recognition that the health of Houston residents was of ultimate importance, the effort passed. According to city officials, the passage of this ordinance initiated not just a policy change but also a culture change, as it created an atmosphere where smoking was less acceptable, particularly in public places. Residents were able to emphasize to others that smoking was not allowed in certain places and may even have helped drive people to quit lines or other resources available to reduce or quit smoking.

Additional efforts have built on this initial success. For instance, starting in 2011, Houston received three years of funding at half a million dollars each year in the form of a Community Transformation Grant from the Centers for Disease Control and Prevention to work on tobacco prevention and other community health efforts. In 2012, the city began work with the Houston Housing Authority, Houston Public Library, and Houston Parks and Recreation Department to enact policies in 2014 banning smoking in public housing, at parks, and on library campuses.⁴⁹ Such measures were aimed at improving quality of life across the city and reducing health concerns such as exposure to secondhand smoke. The city also worked with the University of Houston and MD Anderson Cancer Center to develop a toolkit guide in 2014 regarding tobacco-free higher education institutions. In 2016, the Houston Boots Smoking campaign was launched to celebrate the 10-year anniversary of the 2006 smoking ordinance.⁵⁰ The initiative raised awareness about smoke-free environments and smoking cessation efforts and included a variety of media coverage. This weeklong event kicked off in front of one of the Housing Authority's developments and, again, was a multistakeholder engagement that had backing from 45 advocacy groups, hospitals, insurance companies, and other entities.⁵¹

Recent efforts focus on maintaining the reductions in smoking rates seen over the past several years through enforcement of current laws. Officials are beginning to look at policies around e-cigarettes and other tobacco products, as well as the potential for tobacco-free campuses in Houston. The city is working to engage people who identify as smokers through health clinics and other community efforts, particularly for younger individuals and those of childbearing age. There is some discussion around the state raising the minimum purchasing age for tobacco to 21,⁵² but significant community support would be required for such a change. At this time, resources for tobacco prevention are scarce—the Community Transformation Grant has ended—and the city sees funding as one of the major impediments to maintaining gains made, further reducing smoking rates, and continuing efforts to raise awareness about the dangers of smoking.

Austin

Austin is another Texas city that has been ahead of the curve for tobacco control. About 800 people die yearly in Travis County, where Austin is located, due to cigarette and tobacco use.⁵³ Like Houston, Austin does not impose a local tax on tobacco; nevertheless, Austin has aggressively targeted smoking rates through other public health policies, particularly smoking bans. Austin implemented smoke-free restaurants during certain times of day in 1994 and added many public places, such as bars, bowling alleys, and music venues, in 2005.⁵⁴ More recently, Austin passed ordinances around smoke-free parks and e-cigarette use.⁵⁵

As other cities do, Austin sees a lack of funding as a barrier to maintaining a robust tobacco control program, and officials' actions largely depend on the resources available. However, in 2010, the city received nearly \$7.5 million in CDC funding through the federal Communities Putting Prevention to Work (CPPW) initiative to devote to tobacco use reduction and exposure to secondhand smoke.⁵⁶ This grant specifically targeted individuals with disproportionate incidence of chronic disease, including lower-income individuals. Austin officials primarily used this funding to implement strong tobacco-free and smoke-free policies, in addition to supporting ongoing media campaigns and general education.⁵⁷ For example, officials worked with private companies to implement smoke-free workplaces and partnered with public schools to develop educational programs and signage for promoting tobacco-free campuses.

The CPPW grant also supported the Live Tobacco-Free Austin media campaign, which aimed to educate citizens about the general dangers of smoking and encourage cessation services.⁵⁸ The Live Tobacco-Free Austin initiative has continued through Austin Public Health even after the end of the CPPW grant and primarily serves to refer individuals to cessation services. For example, city officials target young people by directing them to SmokefreeTXT, a mobile messaging service that connects people to cessation resources.⁵⁹ Under this program, smoking among people ages 18 to 24 went from 14.9 percent under the 2011–2013 baseline to 7.4 percent in 2014.⁶⁰

Officials cite a 34 percent decrease in Travis County's smoking rate between 2011 and 2014, hitting a record low of 10.7 percent in 2014. Unsurprisingly, this reduction in smoking coincides with the timing of the CDC grant funding. However, Travis County's smoking rate has inched back up to approximately 14 percent. City officials note that funding has become more limited in recent years.

Stronger tobacco prevention policies increase life expectancy and reduce expenditures

As seen in the research and local initiatives described above, comprehensive, evidence-based public health policies play a key role in lowering smoking rates and changing behaviors and cultural attitudes around tobacco use. These policies are also

essential to efforts focused on increasing life expectancy and improving population health, especially among lower-income populations. Policies such as smoke-free air laws, higher tobacco taxes, and tobacco control programs—especially when used together—create an environment where tobacco use is unattractive, expensive, and restricted, and may help close the gap in life expectancy between higher-income and lower-income populations.

Passing stronger tobacco prevention public policies will also save money down the road. Reducing smoking rates lowers medical costs,⁶¹ decreasing expenditures for federal programs such as Medicare. Lowered smoking rates can also be directly helpful to states. The Centers for Disease Control and Prevention provides state costs from smoking: For example, Texas sees annual health care costs of \$8.85 billion.⁶² Access to funding plays a key role in efforts to reduce smoking rates—as seen in the lessons learned from the case studies above—with, for example, funding from the CDC being used to help lower Travis County’s smoking rate to a record low. Examples such as these show that a relatively small amount of upfront funding, particularly when sustained, can lower smoking rates and prevent smoking-related illness and diseases, likely leading to cost savings down the road. The federal government should provide increased and dedicated funding to localities to build on current programs and implement additional tobacco prevention efforts in a comprehensive and sustained manner.

Conclusion

The evidence is overwhelming that evidence-based tobacco prevention policies lower smoking rates. These policies also have little to no downside; they improve public health and lower future health care costs. Moreover, they hold the promise of helping increase life expectancy for lower-income individuals. However, these policies alone cannot solve the issues of growing income inequality and diverging life expectancy across the nation, as such challenges are multifaceted and run deep. While state and city policymakers can and should adopt targeted tobacco prevention policies within their communities to help individuals thrive, the federal government must contribute to these efforts by providing financial resources to implement robust programs.

Theresa Chalhouh is a senior policy analyst for Health Policy and the Women’s Initiative at the Center for American Progress. Madeline Twomey is the special assistant for Health Policy at the Center.

This publication was made possible in part by a grant from the Peter G. Peterson Foundation. The statements made and the views expressed are solely the responsibility of the Center for American Progress.

Endnotes

- 1 Center for American Progress, “Bold Ideas for State Action,” (2018), available at <https://www.americanprogress.org/issues/general/reports/2018/05/10/450580/bold-ideas-state-action/>.
- 2 *The Tax Cuts and Jobs Act*, Public Law 97, 115th Cong., 2d sess. (December 22, 2017), available at <https://www.congress.gov/115/plaws/publ97/PLAW-115publ97.pdf>.
- 3 Raj Chetty and others, “The Association Between Income and Life Expectancy in the United States, 2001–2014,” *The Journal of the American Medical Association* 315 (16) (2016): 1750–1766, available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4866586/>.
- 4 Ibid.
- 5 As stated in the *JAMA* study, “Commuting zones are geographic aggregations of counties based on commuting patterns in the 1990 Census that are widely used as measures of local labor markets.” For more information, see *ibid.*
- 6 Ibid.
- 7 Ibid.
- 8 Centers for Disease Control and Prevention, “Current Cigarette Smoking Among Adults in the United States,” available at https://www.cdc.gov/tobacco/data_statistics/fact_sheets/adult_data/cig_smoking/index.htm (last accessed July 2018).
- 9 Centers for Disease Control and Prevention, “Tobacco-Related Mortality,” available at https://www.cdc.gov/tobacco/data_statistics/fact_sheets/health_effects/tobacco_related_mortality/index.htm (last accessed July 2018).
- 10 Ibid.
- 11 Centers for Disease Control and Prevention, “Trends in Current Cigarette Smoking Among High School Students and Adults, United States, 1965–2014,” available at https://www.cdc.gov/tobacco/data_statistics/tables/trends/cig_smoking/index.htm (last accessed July 2018).
- 12 Centers for Disease Control and Prevention, “Early Release of Selected Estimates Based on Data from the 2017 National Health Interview Survey,” available at <https://www.cdc.gov/nchs/nhis/releases/released201806.htm> (last accessed July 2018).
- 13 Ahmed Jamal and others, “Current Cigarette Smoking Among Adults – United States, 2016,” *Morbidity and Mortality Weekly Report* 67 (2) (2016): 53–59, available at <https://www.cdc.gov/mmwr/volumes/67/wr/mm6702a1.htm>.
- 14 Campaign for Tobacco-Free Kids, “Tobacco and Socioeconomic Status” (2018), available at <https://www.tobaccofreekids.org/assets/factsheets/0260.pdf>.
- 15 Ibid.
- 16 Campaign for Tobacco-Free Kids, “Toll of Tobacco in the United States of America” (2018), available at <https://www.tobaccofreekids.org/assets/factsheets/0072.pdf>.
- 17 Ibid.
- 18 American Nonsmokers’ Rights Foundation, “Summary of 100% Smokefree State Laws and Population Protected by 100% U.S. Smokefree Laws” (2018), available at <https://no-smoke.org/wp-content/uploads/pdf/SummaryUS-PopList.pdf>. See also, for example, Mia Radford and Syan Rhodes, “Smoking banned at Houston city parks, libraries,” *Click2Houston.com*, July 23, 2014, available at <https://www.click2houston.com/news/texas/smoking-banned-at-houston-city-parks-libraries>.
- 19 See Centers for Disease Control and Prevention, *Best Practices for Comprehensive Tobacco Control Programs* (U.S. Department of Health and Human Services, 2014), available at https://www.cdc.gov/tobacco/stateandcommunity/best_practices/pdfs/2014/comprehensive.pdf.
- 20 Campaign for Tobacco-Free Kids, “Raising Cigarette Taxes Reduces Smoking, Especially Among Kids (And the Cigarette Companies Know It)” (2017), available at <https://www.tobaccofreekids.org/assets/factsheets/0146.pdf>.
- 21 Ibid.
- 22 Centers for Disease Control and Prevention, “Response to Increases in Cigarette Prices by Race/Ethnicity, Income, and Age Groups—United States, 1976–1993,” *Morbidity and Mortality Weekly Report* 47 (29) (1998): 605–609, available at <https://www.cdc.gov/mmwr/preview/mmwrhtml/00054047.htm>.
- 23 Campaign for Tobacco-Free Kids, “State Cigarette Excise Tax Rates & Rankings” (2018), available at <https://www.tobaccofreekids.org/assets/factsheets/0097.pdf>.
- 24 Orzenchowski and Walker, “The Tax Burden on Tobacco: Historical Compilation, Volume 51” (2016). Provided by Campaign for Tobacco-Free Kids, February 28, 2018. On file with authors.
- 25 Campaign for Tobacco-Free Kids, “State Cigarette Excise Tax Rates & Rankings”; *ibid.*
- 26 American Nonsmokers’ Rights Foundation, “Summary of 100% Smokefree State Laws and Population Protected by 100% U.S. Smokefree Laws.”
- 27 Campaign for Tobacco-Free Kids, “California,” available at <https://www.tobaccofreekids.org/what-we-do/us/statereport/california> (last accessed July 2018).
- 28 Four other states—Mississippi, Minnesota, Florida, and Texas—settled separately. See National Association of Attorneys General, “The ABCs of the Tobacco Master Settlement Agreement,” available at http://www.naag.org/publications/naagazette/volume_1_number_2/the_abc_of_the_tobacco_master_settlement_agreement.php (last accessed July 2018).
- 29 Tobacco Control Legal Consortium, “The Master Settlement Agreement: An Overview” (2015), available at <http://www.publichealthlawcenter.org/sites/default/files/resources/tclcfmsa-overview-2015.pdf>.
- 30 U.S. General Accounting Office, “Tobacco Settlement: States’ Use of Master Settlement Agreement Payments,” GAO-01-851, Report to the Honorable John McCain, Ranking Minority Member, Committee on Commerce, Science, and Transportation, U.S. Senate, June 2001, available at <https://www.gao.gov/new.items/d01851.pdf>.
- 31 Centers for Disease Control and Prevention, “National Tobacco Control Program Funding,” available at <https://www.cdc.gov/tobacco/about/osh/program-funding/index.htm> (last accessed July 2018).
- 32 Centers for Disease Control and Prevention, “Economic Trends in Tobacco,” available at https://www.cdc.gov/tobacco/data_statistics/fact_sheets/economics/econ_facts/index.htm (last accessed July 2018).
- 33 Centers for Disease Control and Prevention, “E-cigarette Ads and Youth,” available at <https://www.cdc.gov/vitalsigns/ecigarette-ads/index.html> (last accessed July 2018).
- 34 For the ranking of these commuting zones, see Chetty and others, “The Association Between Income and Life Expectancy in the United States, 2001–2014.”
- 35 Institute of Medicine of the National Academies, *Second-hand Smoke Exposure and Cardiovascular Effects: Making Sense of the Evidence*, Chapter 5 (2010), pp. 110–112, available at <https://www.nap.edu/read/12649/chapter/7#110>.

- 36 Julie Morita, commissioner; Jesse Lava, director of policy; Kate McMahon, director, Chronic Disease Prevention and Health Promotion; and Melissa Buenger, senior policy analyst, Chicago Department of Public Health, phone interview with Theresa Chalhoub, April 3, 2018; Dr. Faith Foreman, assistant director, and Rita Cromartie, community involvement coordinator, Houston Health Department, phone interview with Theresa Chalhoub, May 21, 2018; Dr. Philip Huang, medical director and health authority, Austin Public Health, phone interview with Theresa Chalhoub, May 16, 2018.
- 37 City of Chicago, "Clean Indoor Air Ordinance (No Smoking: Including E-Cigarettes)," available at https://www.cityofchicago.org/city/en/depts/cdph/supp_info/inspections--permitting/smoke_free_illinoisact.html (last accessed July 2018).
- 38 City of Chicago, "Cigarette Tax (7056)," available at https://www.cityofchicago.org/city/en/depts/fin/supp_info/revenue/tax_list/cigarette_tax.html (last accessed July 2018).
- 39 Smart Chicago, "Healthy Chicago 2.0 Indicators," available at <https://www.chicagohealthatlas.org/healthy-chicago> (last accessed July 2018).
- 40 Chicago Department of Health, "Healthy Chicago Data Brief: 2017 Youth Tobacco Use" (2018), available at https://www.cityofchicago.org/content/dam/city/depts/cdph/tobacco_alcohol_and_drug_abuse/DataBrief-YouthTobaccoUse2018.pdf. The Illinois legislature also recently passed a bill to raise the age to purchase tobacco to 21 across the state. See Kristen Thometz, "Tobacco 21 Bill Heads to Rauner's Desk," Chicago Tonight, May 31, 2018, available at <https://chicagotonight.wttw.com/2018/05/31/tobacco-21-bill-heads-rauner-s-desk>.
- 41 Campaign for Tobacco-Free Kids, "Top Combined State-Local Cigarette Tax Rates" (2018), available at <https://www.tobaccofreekids.org/assets/factsheets/0267.pdf>.
- 42 Chicago Department of Health, "Healthy Chicago Data Brief: 2017 Youth Tobacco Use."
- 43 Julie Morita, "Chicago health commissioner: Big Tobacco is targeting our youth and we must stop them," *The Hill*, May 21, 2018, available at <http://thehill.com/opinion/healthcare/388561-chicago-health-commissioner-big-tobacco-is-targeting-our-youth-and-we-must>.
- 44 Ibid.
- 45 Ibid.
- 46 Campaign for Tobacco-Free Kids, "State Cigarette Excise Tax Rates & Rankings."
- 47 Texas Health and Human Services, Texas Department of State Health Services, "Texas Health Data: Center for Health Statistics" available at <http://healthdata.dshs.texas.gov/HealthRisks/BRFSS> (last accessed July 2018).
- 48 Houston Health Department, "2016 Houston Boots Smoking" (2016), available at https://www.houstontx.gov/health/documents/Smoking_Brief_2016.pdf.
- 49 Cindy George, "Smoking banned at Houston public housing," *Houston Chronicle*, January 24, 2014, available at <https://www.chron.com/news/health/article/Smoking-banned-at-Houston-public-housing-5173898.php>; Radford and Rhodes, "Smoking banned at Houston city parks, libraries."
- 50 Go Healthy Houston, "Houston Boots Smoking," The WayBack Machine, available at <https://web.archive.org/web/20171231144023/http://gohealthyhouston.org/houstonbootssmoking/> (last accessed July 2018).
- 51 Go Healthy Houston, "Houston Boots Smoking Sponsors" (last accessed June 2018). This webpage is no longer available online.
- 52 Lauren McGaughy, "Texas may snuff out smoking for anyone younger than 21," Dallas News, January 2017, available at <https://www.dallasnews.com/news/texas-legislature/2017/01/16/texas-may-snuff-smoking-anyone-younger-21>.
- 53 Austin Public Health, "Critical Health Indicators Report" (2017), available at http://www.austintexas.gov/sites/default/files/files/Health/Epidemiology/CHI_Report_3.2017.pdf.
- 54 R.U. Steinberg, "No Smoking, Austin: 10 Years Later," *The Austin Chronicle*, September 4, 2015, available at <https://www.austinchronicle.com/daily/news/2015-09-04/no-smoking-austin-10-years-later/>.
- 55 City of Austin, Texas, *An Ordinance Amending Chapter 10-6 of the City Code, Smoking in Public Places, by Prohibiting Smoking in Parks; Providing Certain Exemptions; and Providing a Penalty up to \$2000 for Each Offense*, Ordinance Number 20111215-019 (December 15, 2011), available at https://www.austintexas.gov/sites/default/files/files/Parks/Special_Events/PETF/smoking_Ordinance_20111215-019.pdf; City of Austin, Texas, *An Ordinance Amending Chapter 10-11 of the City Code Relating to Electronic Smoking Devices and Updating the Name of the Austin Public Health Department in Chapters 10-4 and 10-11*, Ordinance Number 20170622-024 (June 22, 2017), available at https://library.municode.com/tx/austin/ordinances/code_of_ordinances?nodeId=836589.
- 56 City of Austin, Texas, "Communities Putting Prevention to Work: Tobacco," available at <https://austintexas.gov/page/communities-putting-prevention-work-tobacco> (last accessed July 2018).
- 57 Ibid.
- 58 Ibid.
- 59 City of Austin, Texas, "Tobacco/Smoking Cessation and Prevention," available at <http://www.austintexas.gov/departments/tobaccosmoking-cessation-and-prevention> (last accessed July 2018).
- 60 City of Austin, Texas, "Young Adults and Smoking: Getting to 'QUIT,'" available at http://www.austintexas.gov/sites/default/files/files/Health/Chronic_Disease/Young_Adults_and_Smoking.pdf (last accessed July 2018).
- 61 Wayne Hall and Chris Doran, "How Much Can the USA Reduce Health Care Costs by Reducing Smoking?," *PLoS Medicine* 13 (5) (2016): e1002021.
- 62 Centers for Disease Control and Prevention, *Best Practices for Comprehensive Tobacco Control Programs*.