

Trends in Tobacco Use and Exposure

Data from the 2019 Massachusetts Behavioral Risk Factor Surveillance System

Massachusetts Tobacco Cessation and Prevention Program

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About This Report

This report aims to present a comprehensive overview of tobacco-related risk behavior, exposure, and health outcomes in Massachusetts based on annual survey data from the Massachusetts Behavioral Risk Factor Surveillance System (BRFSS).

The tobacco-related metrics included in this report are split into four broad categories:

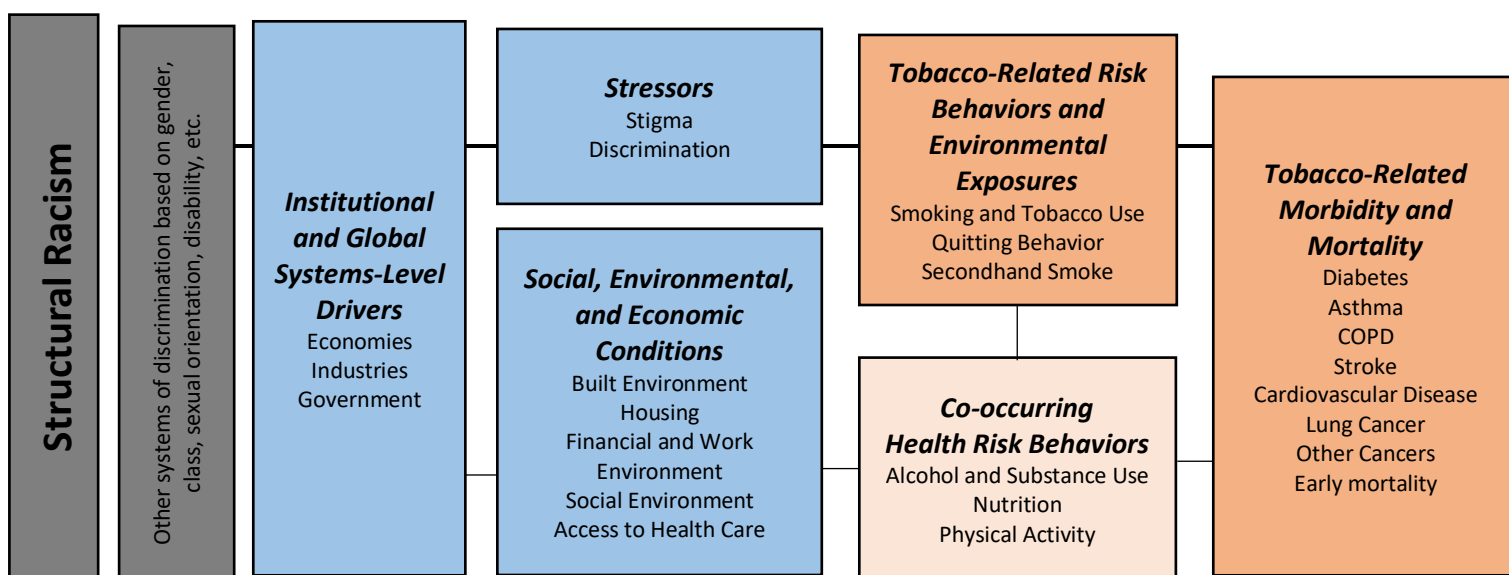
- Smoking and Tobacco Use: Who Smokes and Why
- Cessation: Who Quits and Why
- Smoking Co-Morbidities
- Exposure to Secondhand Smoke at Home

Figure 1 presents a conceptual framework of how tobacco-related behaviors and outcome are shaped by a broad range of social, environmental, and economic conditions, which occur in the context of larger societal structures. Differences in these conditions can make it more difficult for people to achieve healthy behaviors and good health.

This report not only highlights the many tobacco-related disparities that exist in Massachusetts, but also leverages historical context and peer-reviewed research to explain **how** inequitable and persistent exposure to adverse social, environmental, and economic conditions have in turn put certain populations more at risk of tobacco-related risk behavior, exposure, and diseases.

Finally, a summary of evidence-based tobacco control strategies and resources employed by the Massachusetts Tobacco Cessation and Prevention Program (MTCP) is presented at the end of the report.

Figure 1. Conceptual Framework Explaining Tobacco-Related Inequities



About BRFSS

The **Massachusetts Behavioral Risk Factor Surveillance System (BRFSS)** is an annual phone survey of Massachusetts adults (18+) that looks at health-related behavioral risk factors, chronic health conditions, and use of preventative services. All data in BRFSS is self-reported by respondents. People who chose to participate in the survey may be different from those who did not participate. As BRFSS is conducted through telephone, the sample may not adequately capture those who are institutionalized, incarcerated, or live in places or households that do not have a telephone.

Priority Populations

Many populations have long been disproportionately impacted by adverse tobacco-related outcomes. This report highlights the experiences of some of these populations, which are defined as outlined below:

Race/Ethnicity

For the purpose of this report, data is often reported for three broad racial/ethnic categories:

- White, Non-Hispanic – hereby referred to as “White”
- Black or African-American, Non-Hispanic – hereby referred to as “Black”
- Hispanic or Latino of any race, which includes several ethnicities (e.g. Mexican, Puerto Rican, Cuban) – hereby referred to as “Hispanic”

Data is often not shown or reported for Non-Hispanic Asians or Pacific Islanders, Native Americans, American Indians, or Alaskan Natives due to small sample sizes. However, these racial and ethnic subgroups may be included under the broad population category of “people of color” (POC).

Socioeconomic Status

BRFSS captures self-reported data on years of education completed, income, and employment status. Those with lower incomes, with unstable employment, and less education tend to experience a wide range of health inequities. In this report, inequities data is presented for those with incomes below \$25,000, those with a high school education or less, and those who are unemployed.

Sexual Orientation and Gender Identity

Respondents for the BRFSS are asked their biological sex (i.e. binary: male or female), if they are transgender, and their sexual orientation. Those who identify as Lesbian, Gay, Bisexual or Transgender (LGBT) tend to experience significant smoking-related inequities. Those with sexual identities that do not fit into these broad categories have the option to choose “Other.” As with certain racial/ethnic groups, data is not disaggregated by sexual orientation or gender identity due to small sample sizes.

Self-reported Poor Mental Health

Respondents who reported 15 or more days of “poor mental health” in the past month represent a group with significant tobacco-related inequities. This data is self-reported and may include both individuals with and without a clinical diagnosis of depression

Disability

Those with a disability are classified as such from a combination of several questions on the BRFSS. In this report, an individual is considered as having a disability if they report being limited in any activities due to physical, mental, or emotional problems; use special equipment such as a cane or wheelchair; are blind or have difficulty seeing; are deaf or have serious difficulty hearing; experience difficulty walking or climbing stairs; experience difficulty bathing or dressing; and experience difficulty doing errands alone. Those with severe limitations or disabilities may be unable to participate in the BRFSS and therefore may not be represented.

Shared Definitions

Developing shared definitions for foundational health equity concepts is key to understanding the root causes of the differences in outcomes experienced by different population groups. Key equity terms that are used throughout this report are defined below:

Health Disparities or Inequalities

Differences between the health of one population and another in measures of who gets disease, who has disease, who dies from disease, and other adverse health conditions that exist among specific population groups.

Health Inequities

Differences in health status and mortality rates across population groups that are systemic, avoidable, unfair, and unjust. These differences are rooted in social and economic injustice, and are attributable to social, economic and environmental conditions in which people live, work, and play.

Structural Racism

A system of advantage based on a socially constructed concept of race and skin color, created to justify and sustain a social, political, and economic hierarchy. Structural racism describes oppression and discrimination on the societal level and explains the harms of racism without blaming individuals.

Social Determinants of Health (SDOH)

The circumstances in which people are born, grow, live, work, play, and age that influence access to resources and opportunities that promote and support health. The social determinants of health include housing, education, employment, environmental exposure, health care, public safety, food access, income, and health and social services. In this report, SDOH are described as social, environmental, and economic conditions.

*Definitions adapted from the **Living Glossary for Racial Justice, Equity & Inclusion** compiled by **Southern Jamaica Plain Health Center and Racial Reconciliation and Healing***

Introduction

Smoking remains the leading cause of preventable death and disease in Massachusetts.

Smoking remains the leading cause of preventable death and disease in the United States, with nearly 500,000 Americans dying prematurely each year due to smoking. Smoking affects nearly every organ in the body and is associated with multiple preventable chronic diseases including coronary heart disease, stroke, type 2 diabetes, chronic obstructive pulmonary disease, asthma, and numerous types of cancer.¹ Nicotine is addictive and has the potential to severely compromise the long-term health of the brain, particularly for individuals under the age of 26 for whom the brain is still developing.²

In Massachusetts, the total medical cost incurred from smoking is more than \$4 billion annually. More than \$1.26 billion is incurred by Medicaid alone as a result of the high proportion of smokers covered by MassHealth insurance. This amount does not include health costs caused by exposure to secondhand smoke, smoking-caused fires, and use of other tobacco products such as smokeless tobacco, cigars, and pipe tobacco.^{3,4}

Significant gaps in the prevalence of smoking and quitting exist among different populations. Higher smoking rates, lower quit rates, and/or higher rates of tobacco-related health outcomes are reported more for the following groups of people than the Massachusetts overall population:

- Black non-Hispanics and Hispanics
- Individuals that have MassHealth insurance
- Individuals with lower income
- Individuals with less than a high school education
- Persons with disabilities
- Individuals experiencing poor mental health
- Individuals who identify as LGBTQ+

Social, environmental, and economic conditions of health such as education, employment, access to health care and quality of care, support from families and peers, and the built environment and housing impact health risk behaviors and long-term health outcomes. Differences in these conditions can make it more difficult for people to achieve healthy behaviors and good health. Historical policies that have perpetuated segregation and wealth inequities have led to inequities in many social, environmental, and economic conditions, such as greater tobacco retail density in neighborhoods of color, and decreased access to health insurance and quality health care among people of color.

Over the past 20 years, Massachusetts has increased the passage of statewide and local tobacco control policies and protections that have reduced the availability of tobacco products and tobacco advertising and decreased smoke in the air. However, these protections are less likely to cover areas where people of color and other groups experiencing systemic discrimination live, work, and play, contributing to the inequities we continue to see in smoking rates, quitting rates, exposure to secondhand smoke, and smoking-attributable disease.

Who Smokes and Why?

Smoking is often shaped by a broad range of unequal social and environmental factors beyond an individual's choice.

Segregation and Tobacco Industry Targeting

Since the 19th century, state and federal governments engaged in systematic efforts to segregate people into distinct neighborhoods on the basis of race. These policies resulted in the systematic divestment of resources, such as education, employment, and health care, away from communities of color. Segregated neighborhoods have made it possible for tobacco companies to more easily target people of color, such as the marketing of menthol cigarettes to Black populations. Consequently, these conditions have led to disproportionate rates of smoking-attributable illness and mortality among these populations.

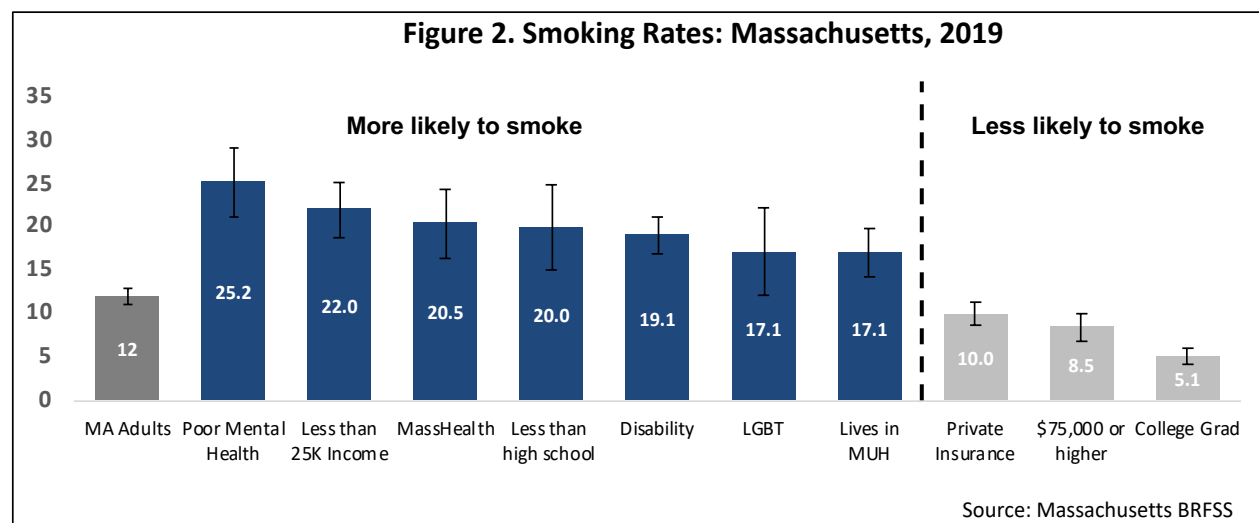
Current Cigarette Smoking Rates

In 2019, 12% of Massachusetts adults (or an estimated 638,490 residents) were current smokers, a historic low.

Gender	Race/Ethnicity
<ul style="list-style-type: none"> 14.5% (95% CI: 12.9%-16.1%) of men smoke. 9.9% (95% CI: 8.6%-11.0%) of women smoke. 	<ul style="list-style-type: none"> 12.3% (95% CI: 11.2%-13.5%) of Whites smoke. 14.4% (95% CI: 9.8%-19.0%) of Blacks smoke. 12.3% (95% CI: 9.3%-15.3%) of Hispanics smoke.
Differences in smoking rates between racial and ethnic groups are not statistically significant.	
Age	
<ul style="list-style-type: none"> 14.9% of adults ages 25-34 smoke, the highest of any age group. 7.9% of adults ages 18-24 smoke. However, this rate does not reflect use of other tobacco products (e.g. little cigars, e-cigarettes, etc.), which may be more prevalent among this age group.⁵ 	

Smoking Inequities

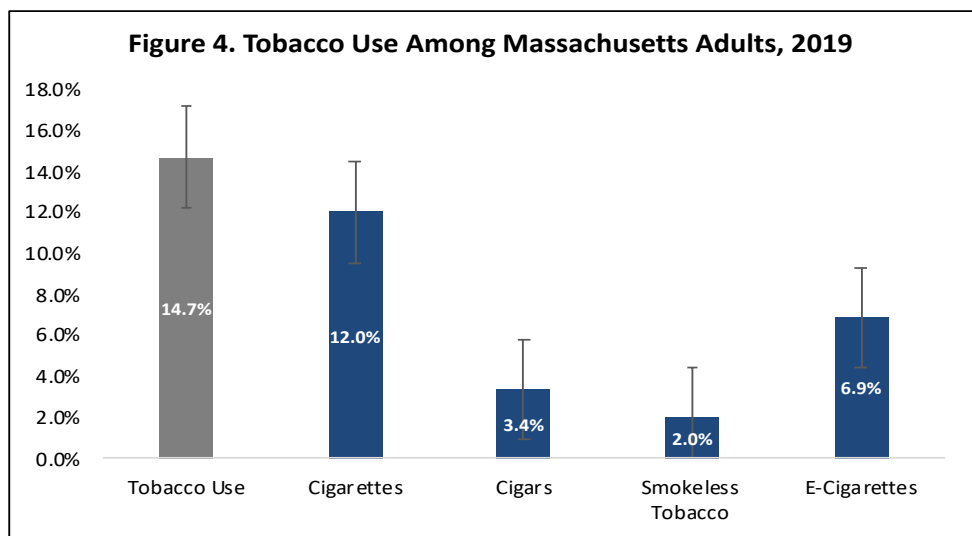
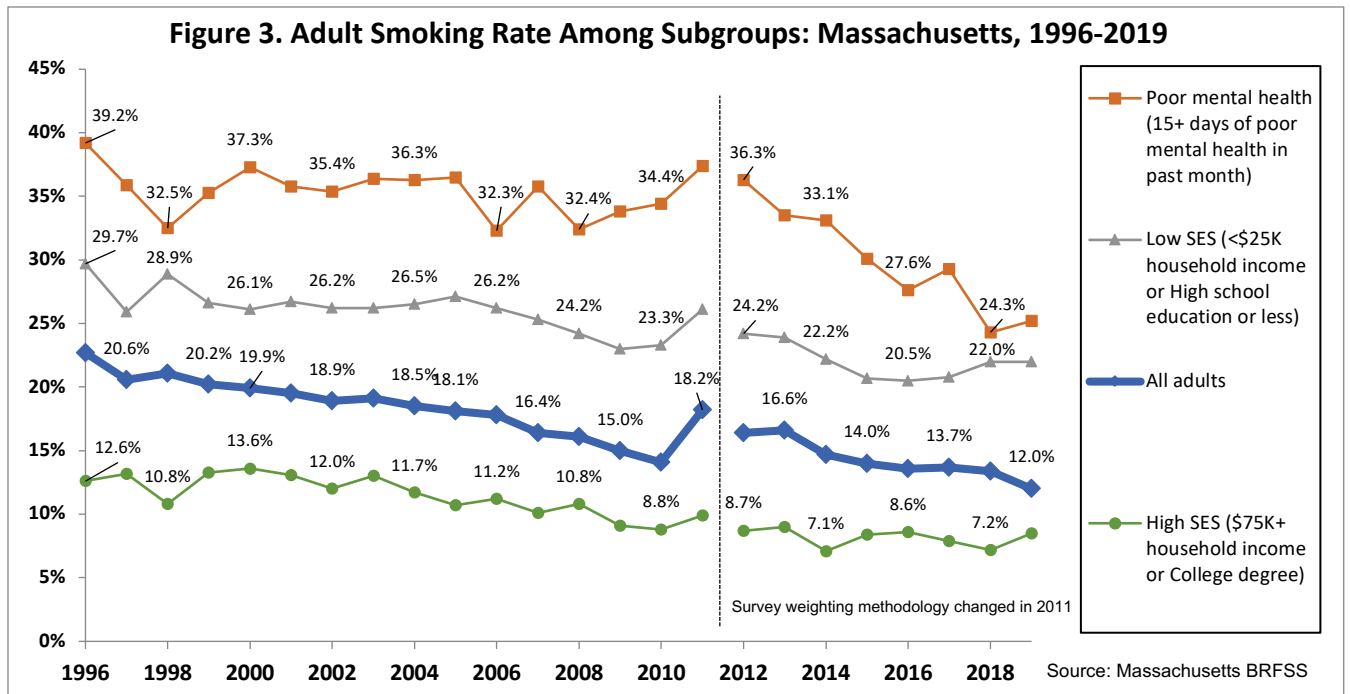
Smoking rates are highest among people who report poor mental health, low socioeconomic status (high school or less education or an income less than \$25,000), people with MassHealth insurance, people with disabilities, and people who identify as LGBT (Figure 2). All subgroup smoking rates other than LGBT and having private health insurance are significantly different from the rate for all Massachusetts adults.



Cigarette Smoking Trends Over Time

Although all smoking rates have declined since 1996, some population subgroups report consistently higher rates compared to the state average, including people with poor mental health and low socioeconomic status (Figure 3). Due to methodological changes in the survey, recent estimates of smoking are not directly comparable to data collected before 2011.⁶

Smoking rates are also higher for people with disabilities, the LGBT population, and people with MassHealth insurance, but trends for these subgroups are not reported below due to insufficient sample sizes, underreporting, and/or changes in eligibility criteria (MassHealth), from year to year. These populations may face barriers in accessing the health care system for cessation benefits or education on how to quit smoking (See: *Who Quits and Why*).



Use of Other Tobacco Products

While smoking rates among adults have declined, cigarette use rates are still the highest among any tobacco product for Massachusetts adults (Figure 4). 14.7% of adults reported current use of any tobacco product (defined as cigarettes, cigars, smokeless tobacco and e-cigarettes). Only 6.9% of adults reported using electronic cigarettes in the past 30 days despite a high prevalence among youth users.

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INEQUITY ALERT

While use rates for tobacco products tend to be similar among different racial and ethnic groups, there are differences among **cigar use**. **1 in 10 Blacks** in Massachusetts reported current use of cigars (10.3%, 95% CI: 3.6%-17.0%) compared to **1 in 20 Whites** (4.7%, 95% CI: 3.2%-6.1%), and 1 in 25 Hispanics (4.0%, 95% CI: 0%-8.2%).

A study of tobacco retailers in Washington D.C. found that advertising and availability for little cigars and cigarillos was significantly more prevalent in African-American neighborhoods.⁷ Data from the National Youth Tobacco Survey showed an increase in current cigar use among Black high school youth from 4.7% in 2009 to 9.5% in 2016.⁸

Tobacco Industry Targeting of Specific Populations

Tobacco industry documents reveal the deliberate targeting of the LGBT population, low-income communities and communities of color.^{9,10,11} High rates of cigarette use within the LGBT community are due in part to the aggressive marketing tactics by tobacco companies that sponsored events and advertised in LGBT spaces such as gay bars, pride parades, and gay magazines.¹¹ Similarly, the industry also targeted Black Americans in magazine advertisements, event sponsorships, and the provision of funding for Black organizations.¹² In particular, historical policies such as segregation have made it possible for tobacco companies to target menthol cigarettes to people of color in the places where they live.¹³

Spotlight on Menthol Cigarettes

National data indicates that both Black youth and adults smoke menthol cigarettes at higher rates than Whites.¹⁴ In Massachusetts, in 2019, **80% of Black smokers** reported using menthol cigarettes compared to 31% of White smokers (MA BRFSS). One analysis of national data found that those who identified as LGBT had higher odds of using menthol cigarettes than their heterosexual counterparts. This was also seen for Black LGBT smokers.¹⁴

Higher rates of menthol use among Black and LGBT populations are concerning as menthol cigarettes are more addictive and harder to quit than non-menthol cigarettes. Studies have shown that menthol smokers reported greater difficulty in refraining from smoking in smoke-free environments, as well as greater social and environmental cues to smoke.¹⁴

Retail Density and Marketing

Neighborhoods of color have greater numbers of tobacco retailers, more tobacco marketing, and extensive marketing of menthol products. Studies in Washington D.C., St. Louis, Los Angeles, and nationally have shown there is more tobacco marketing in Black neighborhoods. Menthol advertisements are more common in areas with greater proportions of Blacks and low-income populations.¹⁴

Pricing and Availability

In a survey of 4129 tobacco retailers across Massachusetts (about 55% of tobacco retailers in the state) in fiscal year 2016 (July 2015-June 2016), Newport Green, a mentholated cigarette, was the second most available cigarette brand, seen in 95% of stores. Marlboro remains the most available brand in 96% of stores. In Massachusetts, Newport cigarettes tend to be cheaper than Marlboro cigarettes; their average price in fiscal year 2016 was \$9.68 compared to \$9.75 for Marlboros.¹⁵

Targeting in Massachusetts

A 2010 study in the city of Boston found that tobacco retail density near schools was higher in low-income communities and communities of color.¹⁶ Another study examining tobacco availability and advertising in communities of color found that there was more tobacco availability, more tobacco advertising and more menthol advertising in predominately Black or Hispanic neighborhoods in a sample of Massachusetts neighborhoods.¹⁷ Additionally, a 2019 study of block groups in the city of Boston found a significant decrease in the price of menthol cigarettes as the proportion of Black residents increased.¹⁸

Poorer Health Outcomes

Deliberate tobacco industry targeting of menthol to Black populations has contributed to a much higher use rate of menthol cigarettes as well as inequities in cessation and smoking-attributable death and disease, as Black adults are less likely to successfully quit smoking and disproportionately suffer from smoking attributable diseases such as asthma, lung cancer, heart disease and stroke (See: *Who Quits and Why*).

Who Quits and Why?

Why are some smokers less likely to quit than others?

Despite an overall increase in successful quitting over the past 20 years, some population subgroups consistently quit smoking at much lower rates than the general population in Massachusetts. Similar to smoking initiation, an individual's ability to quit and stay quit is determined by more than just choice.

Social, economic, and environmental conditions that impact quitting

Many individuals live at the intersection of multiple adverse conditions that make quitting smoking much more difficult to attain.

Financial and Work Environment

Completing fewer years of education can reduce an individual's ability to secure stable, high paying jobs. Economic instability can lead to increased stress, and may help sustain smoking behaviors as a coping mechanism.¹⁹

Built Environment

Tobacco retail density is higher in lower-income neighborhoods, and neighborhoods with a higher proportion of residents of color, which increases exposure to tobacco and environmental cues to smoke.²⁰ In addition, there is increased advertising, and lower prices of menthol cigarettes in neighborhoods with more residents of color.²¹ Menthol cigarettes are more addictive and harder to quit than non-menthol cigarettes.²²

Social Environment

Population subgroups living in government-subsidized multi-unit housing (MUH), such as those experiencing lower socioeconomic status, and some racial/ethnic groups, are more likely to live in close proximity to other smokers and be exposed to secondhand smoke.²³ These factors serve as environmental cues that help sustain smoking behaviors.

Healthcare Environment

Many population subgroups, such as those experiencing poor mental health or low socioeconomic status, are less likely to receive support for quitting from a health care or service provider.²⁴ In addition, Black smokers are less likely to receive screening for tobacco use and evidence-based treatments for cessation from a health care professional compared to smokers of other race/ethnicities.²⁵

Quitting Rates

Sixty percent (60%) of cigarette smokers in Massachusetts made a quit attempt (stopped smoking one day or longer) in the past year and sixty-six percent (66%) of adults who ever smoked have now successfully quit smoking (have smoked 100+ cigarettes in their lifetime, but no longer smoke).

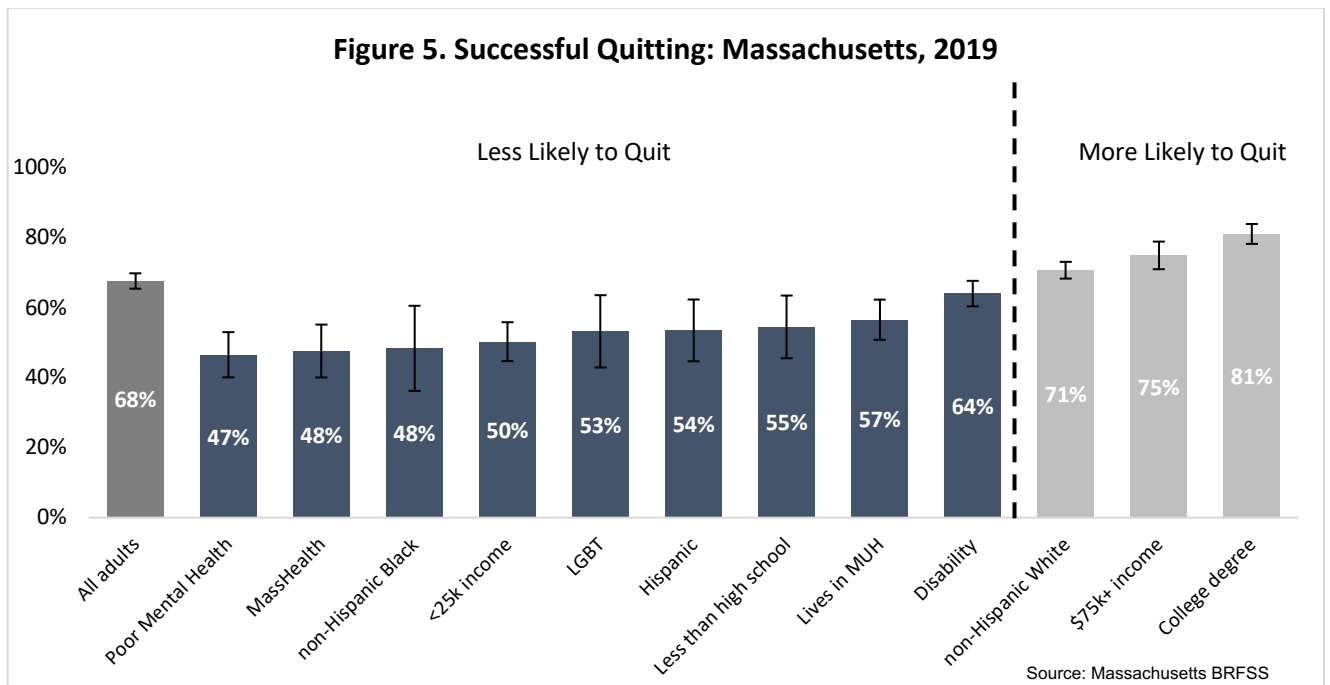
Successful quitting is dependent on a variety of factors including: social support, the presence of environmental triggers, stresses that help sustain smoking behavior, and access to appropriate, evidence-based care. In Massachusetts:

- Sub-groups with disproportionately higher smoking rates (See: *Who Smokes and Why*) also have lower rates of successfully quitting compared to the general population (Figure 5).

- Those with a low socioeconomic status or who reported poor mental health tend to have lower quit rates than average, a trend seen over time (Figure 6).
- Trends over time indicate that people of color are consistently less likely to report successful smoking cessation compared to White smokers (Figure 7). This trend sustains over time, despite people of color smoking at similar rates and making similar numbers of quit attempts to Whites (See: *Who Smokes and Why*).

Inequities in Quitting

Some population subgroups consistently quit smoking at much lower rates than the general population in Massachusetts (Figure 5). Successful rates of quitting are lower among smokers with poor mental health, MassHealth insurance, low socioeconomic status, those who live in multi-unit housing, those who identify as LGBT, and those who identify as non-Hispanic Black or Hispanic. All subgroup quitting rates other than disability and identifying as non-Hispanic White are significantly different from the rate for all Massachusetts adults.

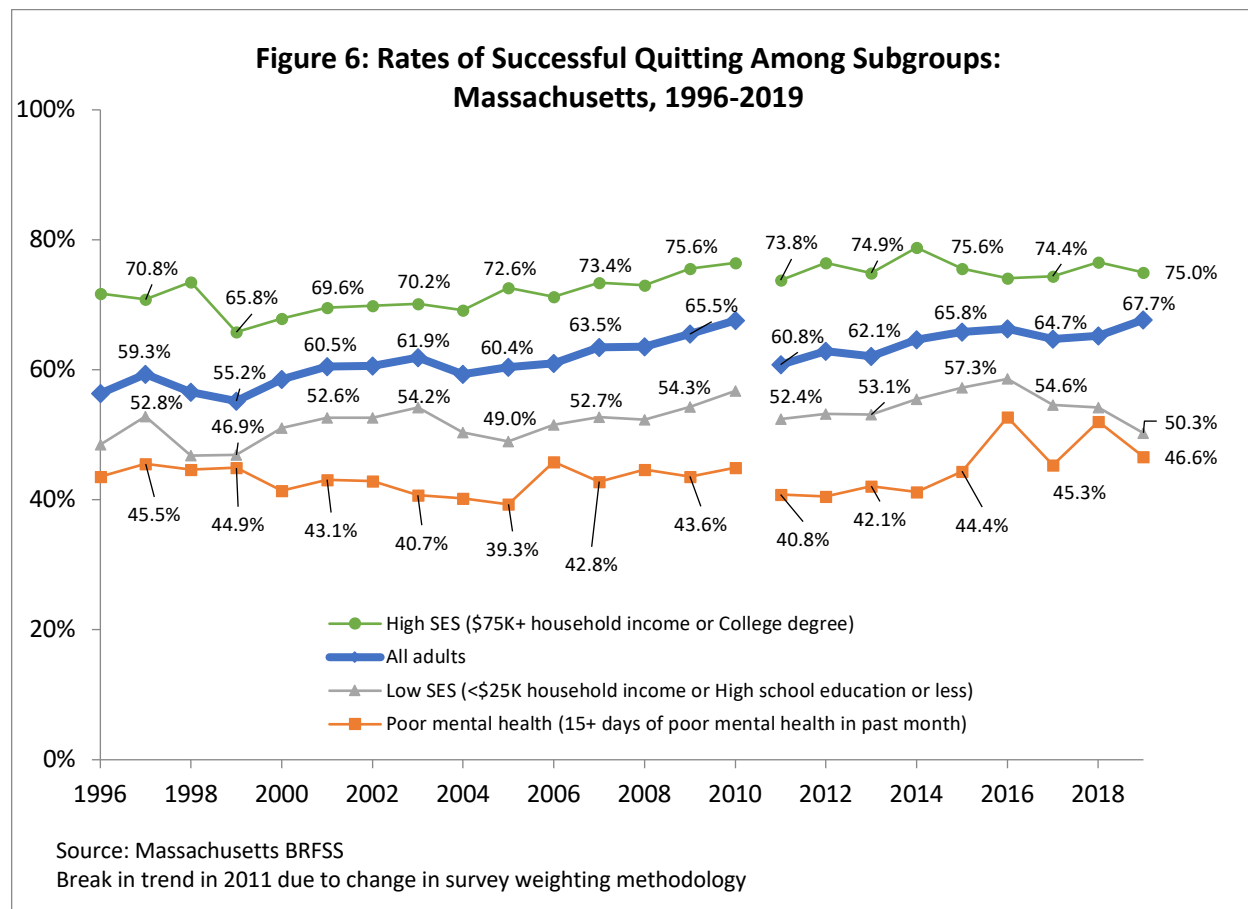


Quitting Trends Over Time

While all rates of successful quitting have increased since 1996, some subgroups report consistently lower rates compared to the state average, including smokers with mental illness and low socioeconomic status (Figure 6). Barriers to quitting for these subgroups are similar, and include using smoking as a coping mechanism for stress, not receiving support for quitting from health care providers, and community acceptance of smoking behaviors.²⁶

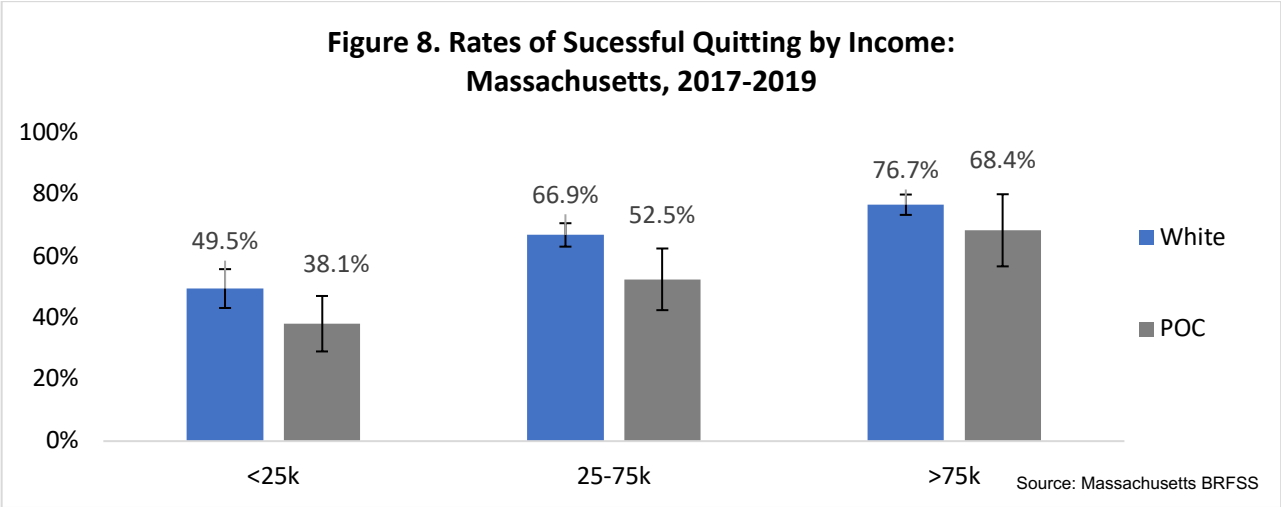
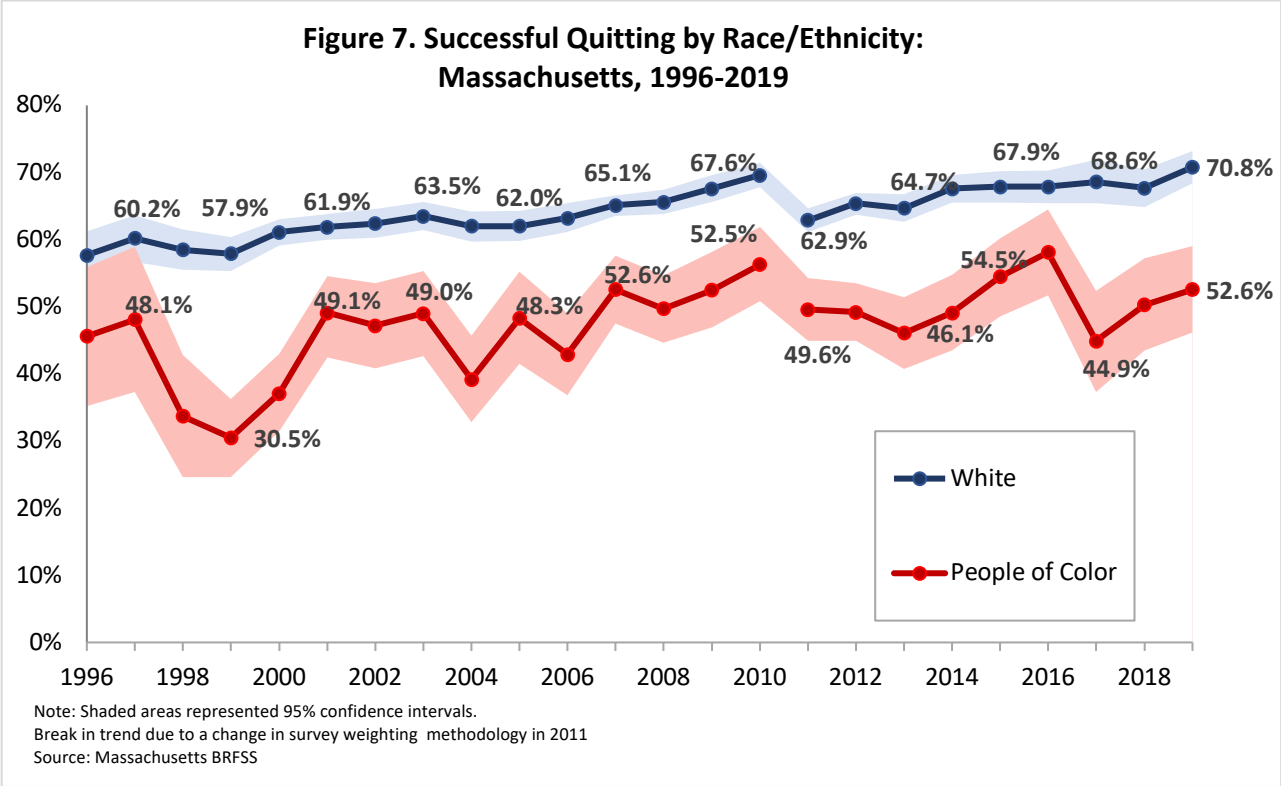
Quitting rates are also lower for smokers with disabilities, smokers with MassHealth insurance, and LGBT smokers, but trends for these subgroups are not reported below due to insufficient sample sizes, underreporting, and/or changes in eligibility criteria (MassHealth), from year to year. These subgroups also report consistently higher smoking rates compared to the state average, and barriers to quitting may be

similar to factors leading to initiation, such as coping with stress and difficulties in accessing health care (See: *Who Smokes and Why*).



Racial Inequities in Quitting

BRFSS data does not allow for analysis of quitting rates by individual racial/ethnic categories due to small sample sizes within each category. However, data does allow for comparisons between Whites and people of color (all other racial/ethnic categories combined). People of color do not smoke at higher rates than those who identify as White (See: *Who Smokes and Why*). Furthermore, people of color attempt to quit smoking at rates comparable (or higher) than Whites. In 2019, 60.2% (95%CI: 50.9-69.4) of people of color reported making a quit attempt compared to 54.1% (95%CI: 49.1 – 59.1) of Whites. However, despite similar rates of quit attempts, trends over time show that people of color have consistently lower rates of *successful* quitting than Whites (Figure 7). After accounting for income, people of color still have lower quitting rates than Whites in Massachusetts (Figure 8). National literature echo these results: even after adjusting for income, studies have shown that Black smokers are less likely to have successfully quit smoking, compared to Whites.²⁷



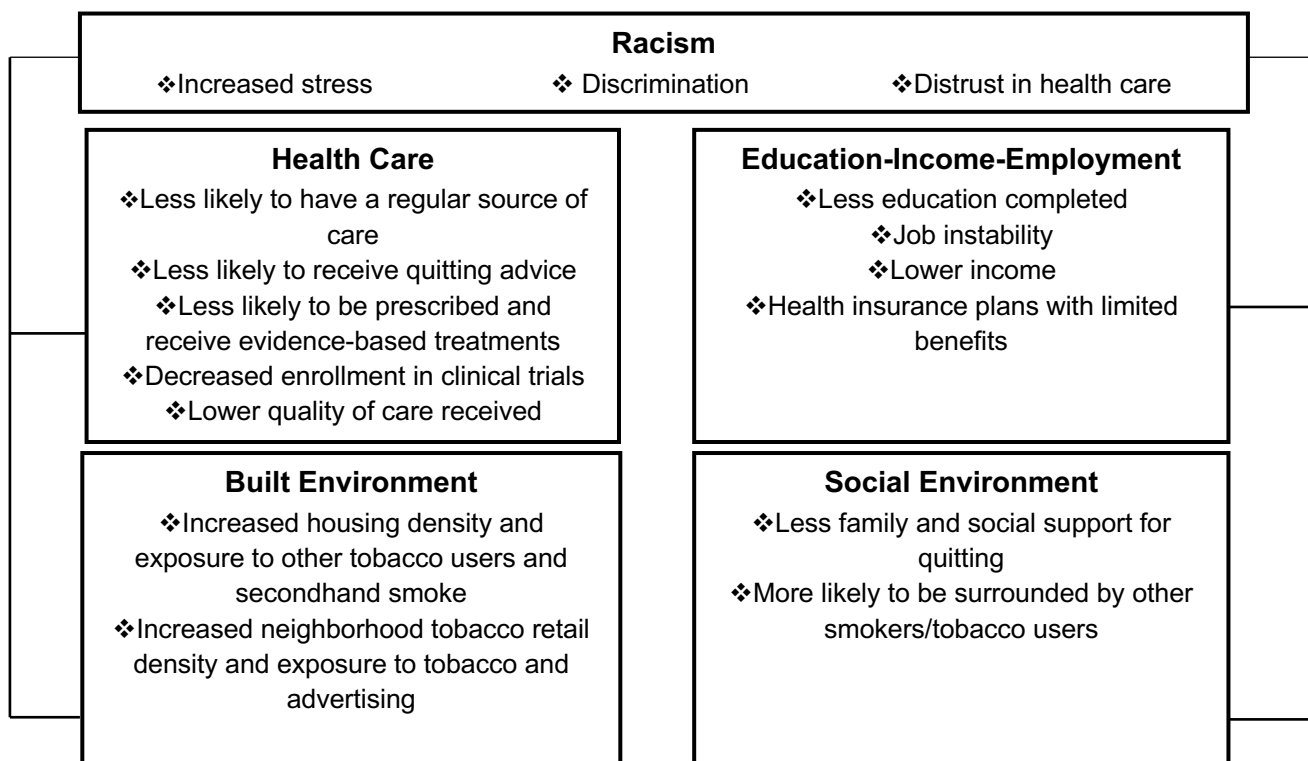
Factors leading to racial inequities in quitting success

A number of environmental, economic, and social factors can contribute to lower rates of quitting among people of color compared to Whites (see Figure 9). Structural racism is embedded in all social determinants of health, such as increased stress and discrimination among people of color compared to Whites, which can lead to not only tobacco initiation but also difficulties with quitting.²⁸ People of color are also more likely to have lower levels of educational attainment and more economic stress than Whites, which can help sustain smoking behaviors.²⁹ In addition, menthol cigarettes are disproportionately marketed towards Blacks, which has led to a higher rate of menthol cigarette use among Blacks compared to any other racial and ethnic group.³⁰ Menthol

cigarettes are biologically more addictive and harder to quit (for more information on menthol cigarettes, see *Who Smokes and Why*).³¹

Racial/ethnic differences in access to health care and quality of care also exist. Nationally, people of color are less likely to receive quitting advice from a health care professional, and are less likely to be prescribed and use evidence-based cessation treatments, such as nicotine-replacement therapy (NRT), compared to Whites. In Massachusetts, among those who smoked within the past year, only 15.9% of Blacks and 16.4% of Hispanics reported using NRT, compared to 28.1% of Whites.

Figure 9. Factors Leading to Racial Inequities in Quitting Success³²



Racial/ethnic inequities in quitting and access to/quality of care also lead to inequities in health outcomes. Rates of many tobacco and smoking-related chronic conditions and diseases are higher among people of color compared to Whites. In addition, people of color are more likely to be diagnosed with disease at increased stages of severity than Whites, and are more likely to die earlier from disease than Whites (for more information, see *Smoking Co-morbidities*).

Smoking Co-morbidities

Smoking is the leading cause of a multitude of preventable diseases. Furthermore, smoking contributes to and co-occurs with health risk behaviors and chronic diseases, but not all smokers have the same health risk factors and health outcomes. Both directly and indirectly, structural racism and other systems of discrimination shape the way that social, environmental, and economic conditions impact health risk behaviors and long-term health, leading to inequities in tobacco and smoking-attributable disease.

Social, environmental, and economic conditions contributing to co-morbidities

Many individuals experience inequities in multiple conditions. These individuals tend to have worse health outcomes, increased burden of disease management, and greater health care costs.³³ Therefore, it is essential to examine relationships between smoking, risk behaviors, and chronic disease outcomes.

Built Environment

In addition to increased tobacco retail density (See: *Who Quits and Why*), lower income neighborhoods and neighborhoods with greater proportions of residents of color, are more likely to have a higher fast-food outlet density, and fewer safe outdoor spaces to walk and exercise, which can also increase the likelihood of chronic disease.^{34,35}

Social Environment

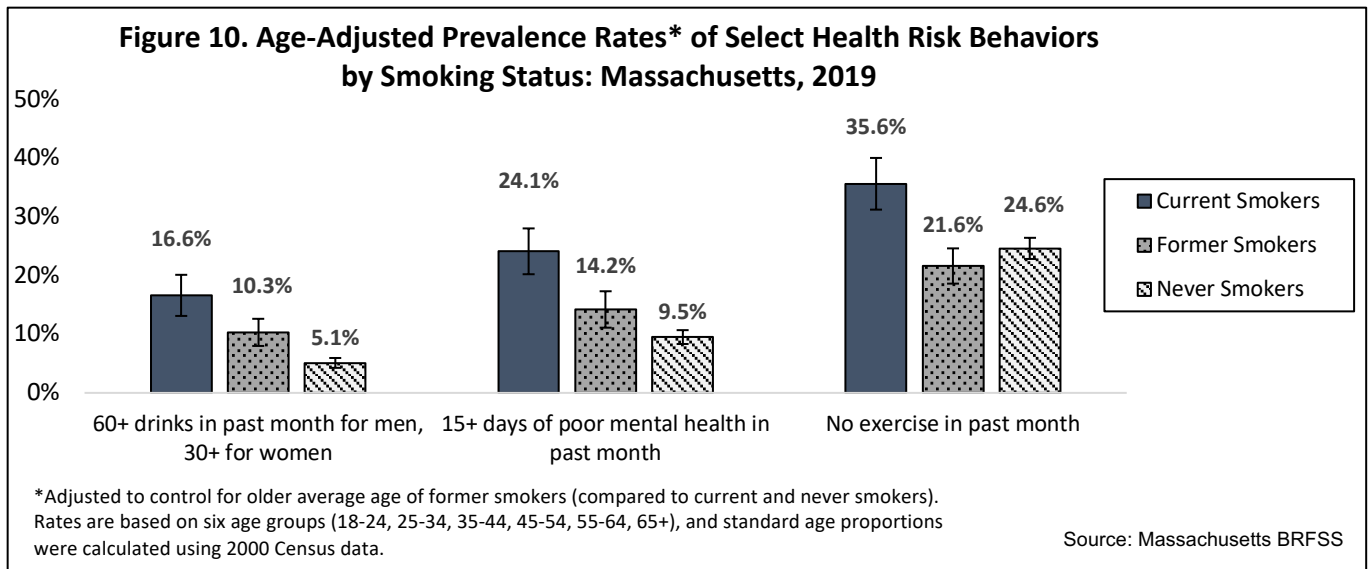
People of color are more likely to report experiencing emotional and physical stress due to treatment based on race, compared to Whites. Experiencing stress as a result of perceived racism is associated with more days of self-reported poor physical health or poor mental health.³⁶

Healthcare Environment

People with lower paying or unstable employment are more likely to have health insurance with prohibitive costs, or to not have health insurance at all, which can lead to delayed treatment of disease, and lower quality of care received. In addition, people of color may wait longer than Whites to seek out care, are less likely than Whites to receive recommendations for surgery, and are also less likely to be enrolled in clinical trials (limiting research on the most effective race-specific treatments).³⁷

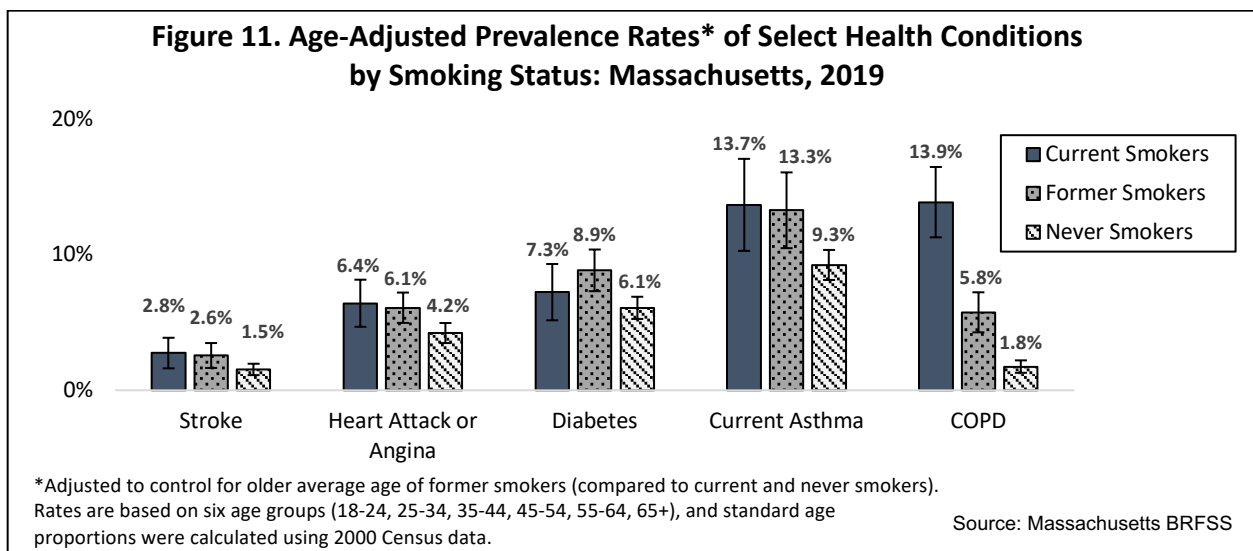
Health risk behaviors

In Massachusetts, significantly more current smokers reported having poor mental health, being heavy drinkers, and engaging in less physical exercise compared to former smokers and never smokers (Figure 10).



Smoking-attributable Disease

Prevalence of select smoking-attributable diseases is also higher among current smokers (Figure 11). Prevalence of most smoking-attributable diseases is higher for former smokers compared to never smokers, but the risk of developing these diseases is lower for former smokers than current smokers. Between former smokers and current smokers, the difference in prevalence of COPD (Chronic obstructive pulmonary disease) is statistically significant. For some conditions, such as heart attack and stroke, prevalence for former and current smokers is similar. However, this is likely due to smokers changing their smoking behavior after diagnosis; one study found that about 50% of smokers quit after being diagnosed with cardiovascular disease.³⁸



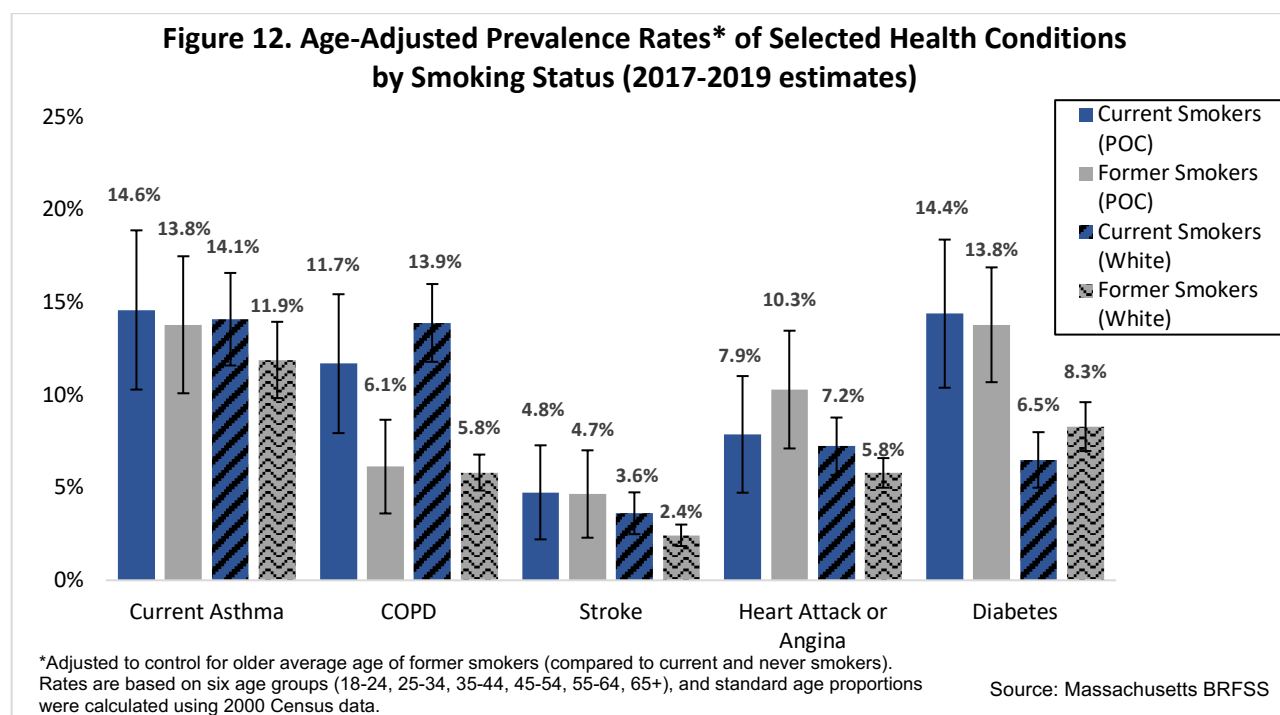
Racial inequities in smoking-attributable disease

Structural racism contributes to inequities in smoking-attributable morbidity and mortality. In health care institutions, diagnosis and treatment can vary for people of different races. Blacks and Hispanics are also less likely to be on health insurance plans with comprehensive health benefits compared to Whites, and may be

less likely to seek out treatment.³⁹ This is reflected in Massachusetts data; in 2019, the percent of Blacks and Hispanics who reported having an annual check-up was similar to Whites, but inequities exist in non-routine visits. Blacks (15.5%) and Hispanics (15.5%) are significantly more likely than Whites (7%) to report cost as a reason that they could not see a doctor at some point in the past year. Additional barriers to care among people of color include: lack of culturally competent care, distrust of health care providers and/or the health care system, and lack of transportation to services.⁴⁰

BRFSS data does not allow for analysis of smoking co-morbidities by individual racial/ethnic categories (e.g. Black, Hispanic, Asian), due to small sample sizes within each category. However, data does allow for comparisons between Whites and people of color (all other racial/ethnic categories combined):

- Among smokers, rates of diabetes are significantly higher for people of color (POC) than Whites (Figure 12; 2017-2019 age-adjusted rates)
- In addition, though COPD rates are higher for White smokers compared to POC smokers, among former smokers, rates of COPD drop by 58% in Whites, but only by 48% among POC.



Similarly, when looking at cancer outcomes, Blacks have lower survival rates than Whites. These differences may be attributed in part to later diagnosis of cancer when treatment options are less effective and higher rates of co-morbid health conditions among Blacks compared to Whites.⁴¹

Years of life lost

In 2006, an analysis on the impact of smoking-attributable morbidity and mortality in Massachusetts found that smoking contributed to a collective total of 104,752 years of potential life lost due to smoking-attributable disease. This represented an average of 12.8 years of life lost for every smoker in Massachusetts.⁴² Other states have conducted similar analyses and found racial inequities in years of life lost. For example, an analysis conducted in Missouri found that from 2003-2007, Black smokers had an 18% higher rate of potential life lost due to smoking-attributable disease than Whites.⁴³

Secondhand Smoke at Home

Housing is one environmental condition that contributes to an individual's health status. Historically, housing patterns in Massachusetts have been linked to practices such as segregation and racial redlining that resulted in the systematic divestment of resources, such as education, employment, and health care away from communities of color. These practices have historically, and continue to, contribute to poor housing conditions that have been linked to health risk behaviors, such as smoking and tobacco use, as well as exposure to harmful elements such as secondhand smoke.⁴⁴

Where do people live and why?

Segregation and racial redlining have determined where people of color can live.⁴⁵ A lack of affordable housing may limit people's choices in where they can live in Massachusetts and a lack of income and good credit can prevent home ownership among certain populations.⁴⁶ In Massachusetts, those who are Black, Hispanic, low-income, have less education, have MassHealth insurance, have a disability or identify as LGBT (lesbian, gay, bisexual, or transgender) are more likely to report living in multi-unit housing.

Many of these same populations who live in multi-unit housing also report more exposure to secondhand smoke at home. Communities of color and low income populations are more likely to rent instead of own. Renters may lack control over their housing environment, including differential quality and exposure to hazards, such as environmental smoke.

Secondhand smoke exposure and health

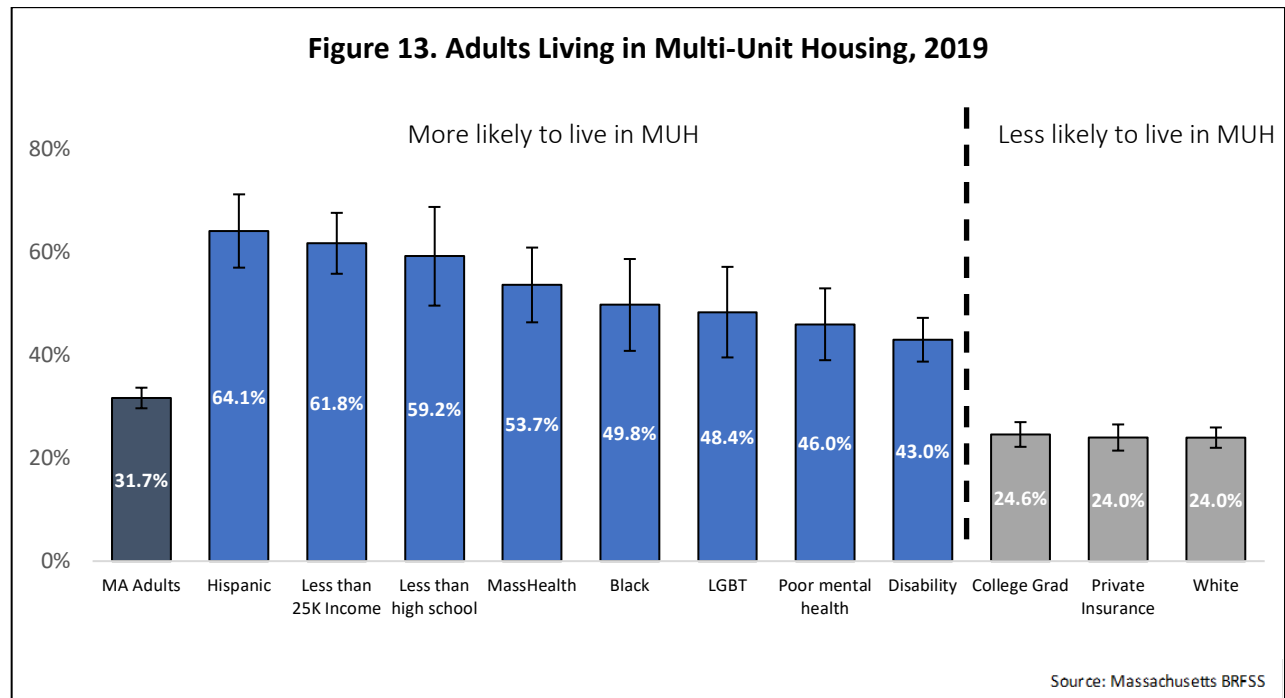
Although Massachusetts established a Smoke-Free Workplace Law in 2004 that has drastically reduced the amount of exposure to secondhand smoke for residents of the Commonwealth, many people are still exposed to secondhand smoke in their homes. Among those who allow smoking inside their single-family homes and those who live in multi-unit housing without a smoke-free policy, over 1.4 million people may still be exposed to secondhand smoke at home (1.2 million adults and 167,000 children).⁴⁷ According to the Centers for Disease Control and Prevention, the home remains the primary exposure to secondhand smoke for both adults and children.⁴⁸ This represents an important public health issue as there is no safe amount of exposure to secondhand smoke. Secondhand smoke can cause a number of adverse effects in infants, children and adults that have never smoked including cardiovascular disease, lung cancer, sudden infant death syndrome, asthma and bronchitis.⁴⁹

Where are people exposed to secondhand smoke?

Those who live in multi-unit homes are 2.19 times more likely to be exposed to secondhand smoke at home than those in single-family homes.⁵⁰ Smoking rates are also significantly higher among residents of multi-unit homes compared to single-family homes (17.1% of residents in multi-unit homes smoke compared to 8.7% of residents in single-family homes). Almost a third of Massachusetts BRFSS respondents reported that they lived in multi-unit housing, such as apartments, condos or duplexes (31.7%, 95% CI: 29.7%-33.7%). Those who live in multi-unit households are especially vulnerable to secondhand smoke because 55.6% of these residents did not live in buildings with a smoke-free policy in place in 2019.

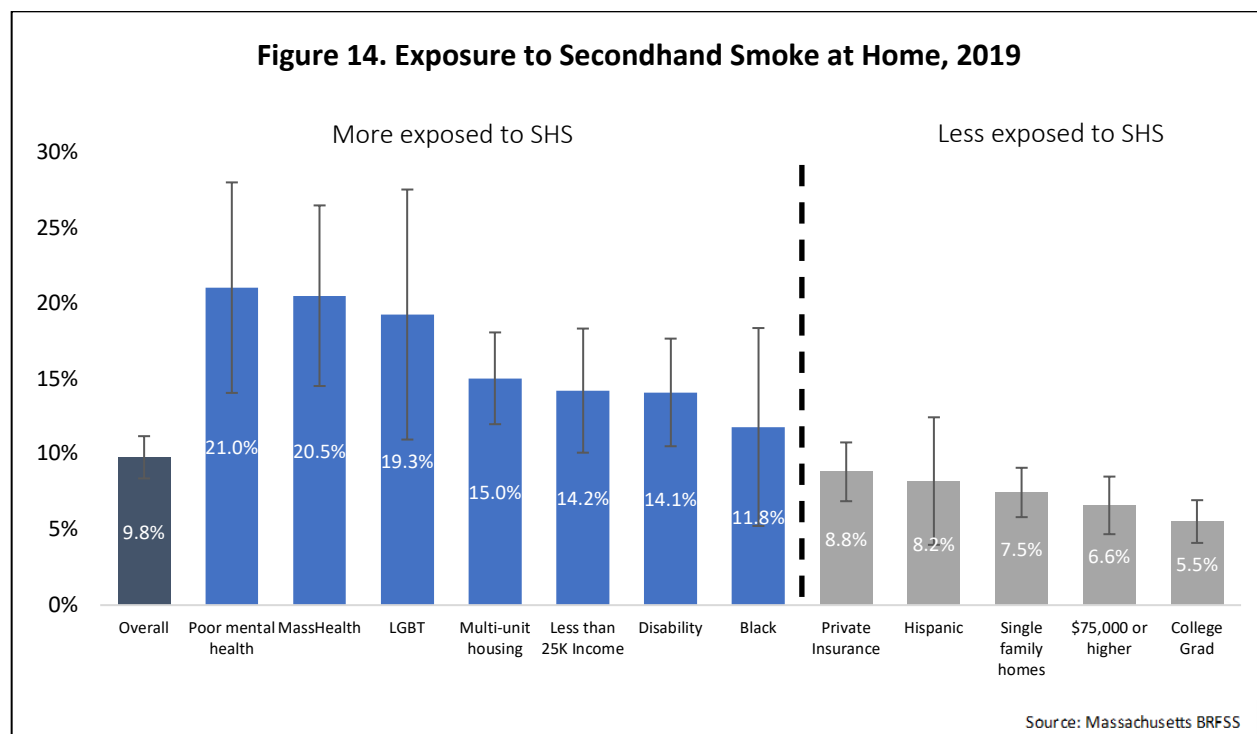
Examining housing type is important as housing in Massachusetts is not achievable to everyone in an equitable way. Certain populations are more likely to live in multi-unit housing than in single-family homes (Figure 13). In 2019, 61.8% of low-income respondents and 59.2% of respondents with less than a high school education

reported living in multi-unit housing. Additionally, 64.1% of Hispanics and 49.8% of Blacks reported living in multi-unit housing compared to 24.0% of Whites.



Inequities in exposure to secondhand smoke at home

Given policies such as redlining and residential segregation, data shows that people of color and other populations are more likely to live in multi-unit homes.⁵¹ Accordingly, exposure to secondhand smoke at home is greater among Blacks, low socioeconomic groups, those with MassHealth insurance, those reporting poor mental health, those with disabilities, and those who identify as LGBT (Figure 14).



PROTECTIVE FACTOR SPOTLIGHT

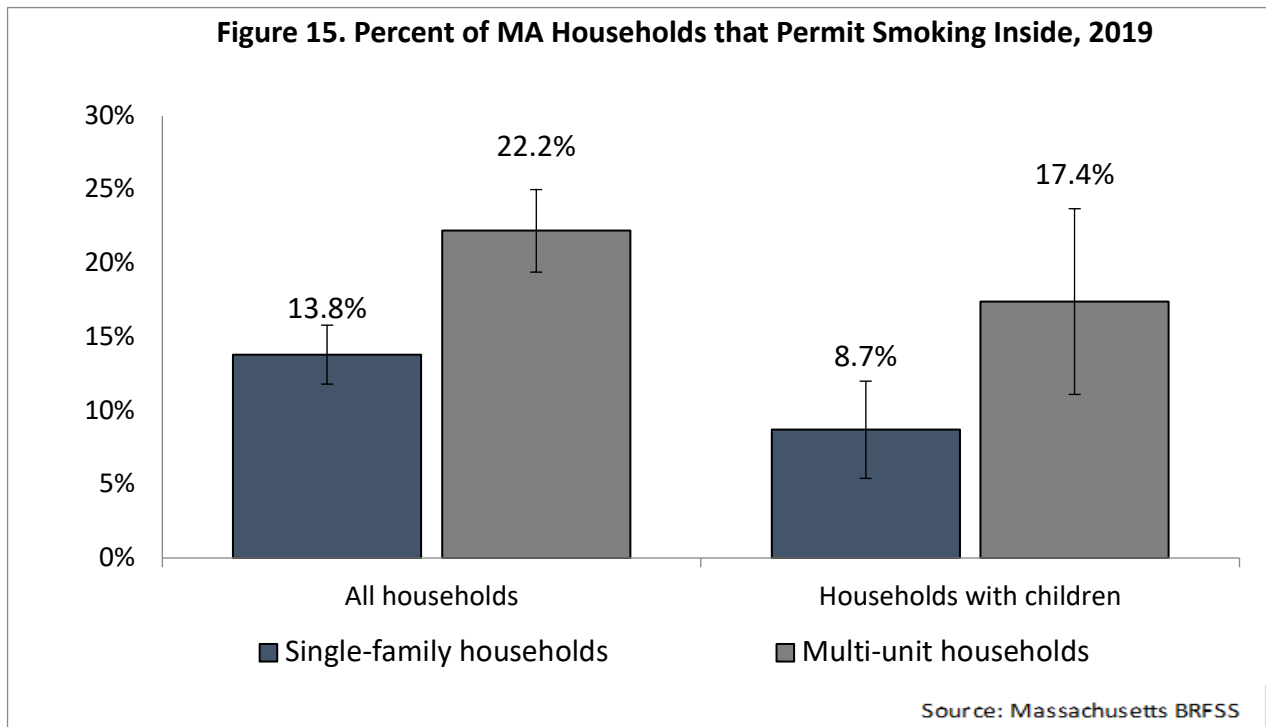
Although the majority of Hispanic respondents reported living in multi-unit housing in Massachusetts, fewer than 1 in 10 Hispanic respondents reported exposure to secondhand smoke at home. Qualitative data collection from a California study found that Hispanic respondents who lived in multi-unit housing favored smoke-free policies. Cultural values such as *familismo* (dedication and loyalty to family) and *respeto* (respect) motivated respondents to protect their families from secondhand smoke. Those who smoked favored separate smoking areas away from the home.⁵²

Home smoking rules

In 2019, 83.5% of Massachusetts BRFSS respondents and 88.4% of respondents with children did not permit any kind of smoking inside their homes. While a large majority of respondents protect their homes from secondhand smoke, there are still those who may permit smoking in some places inside their homes. Total home bans of smoking may delay the initiation of youth smoking and reduce exposure to secondhand smoke.⁵³

Individuals with a household income less than \$25,000 and individuals with disabilities were significantly more likely to allow smoking in some places or anywhere in the home. Differences in cultural norms or differential exposure to messaging about secondhand smoke may explain why some populations are less likely to have a total home smoking ban.⁵⁴

Home smoking rules vary by housing type as those in single family homes report significantly lower rates of permitting smoking inside compared to multi-unit homes (Figure 15). Adults in multi-unit households are 1.78 times more likely to allow smoking inside as those in single-family homes (CI: 1.38-2.29, $p < 0.01$).



Smoke-free Housing

An increasing number of private and public properties have instituted smoke-free policies that prohibit smoking indoors in an effort to curb home exposure to secondhand smoke. Residents of multi-unit homes who do not allow smoking within their unit remain at risk from secondhand smoke from other units if their building does not have a smoke-free policy in place. In recent years, support for smoke-free policies has increased among residents (MA BRFSS 2018):

- 83% of those living in smoke-free housing support a policy that bans smoking in all personal living spaces.
- 47% of those not currently living in smoke-free housing would support this type of policy.

With assistance from the Massachusetts Tobacco Cessation and Prevention Program, many municipal housing authorities across the state have already implemented a smoke-free policy that prohibits smoking inside any unit.

As of January 2020:

- 147 public housing authorities, spanning 150 Massachusetts communities have implemented smoke-free policies.
- These policies cover over 62,000 individual units, protecting residents from indoor exposure to secondhand smoke.

Policy Action

- As of August 1, 2018, the US Department of Housing and Urban Development (HUD) requires all federally-aided housing authority buildings to be smoke-free. In April 2014, the Massachusetts Department of Housing and Community Development encouraged housing authorities to make all of their buildings smoke-free.
- The statewide smoke-free workplace law was changed in 2018 and includes all electronic nicotine delivery or vaping devices as of December 31, 2018. The use of electronic nicotine delivery or vaping devices is prohibited in all enclosed common entrance ways, stairways, and hallways in multiunit buildings. Many towns and cities have passed similar restrictions at the local level.

Future Directions

Strategies that focus on the reduction of secondhand smoke at home need to acknowledge that built environment and housing quality can often determine who is and is not exposed. While changing social norms may influence an individual's behavior of smoking inside the home, and rules around smoking within the home, the vast majority of those exposed at home lack control over their living conditions and exposure to secondhand smoke at home. Future directions should look to mitigate the effects of racial residential segregation and promote smoke-free housing policies.

Strategies and Resources

The Massachusetts Tobacco Cessation and Prevention Program (MTCP) focuses on reducing the health and economic burden of tobacco use by preventing young people from starting to use tobacco and nicotine products, helping current tobacco and nicotine users to quit, protecting children and adults from secondhand smoke, and identifying and eliminating tobacco-related disparities.

MTCP will invest in and work with communities, especially with historically-oppressed communities, to reverse unjust policies, share decision-making power, and build community capacity to live a life free of commercial tobacco and nicotine.

Prevention

Local policies

Strategies aimed at preventing youth initiation of tobacco products include local policies that change the retail environment where youth frequent. Municipalities can pass policies that raise the minimum price of cigars and can pass policies that limit the number of tobacco retailers per town (capping). To learn more about policies in your community, visit: <http://makesmokinghistory.org/my-community/>

Statewide policies

In December 2018, a statewide Minimum Legal Sales Age (MLSA) of 21 and pharmacy ban law took effect. This law raised the minimum legal sales age of tobacco in Massachusetts from 18 to 21, and banned the sale of tobacco in healthcare institutions such as pharmacies. In June 2020, An Act Modernizing Tobacco Control took full effect, which is a statewide law that includes the following provisions: a restriction on sales of all flavors (including menthol) for all types of tobacco products (including vape products) to adult-only smoking bars; a restriction on sales of high-nicotine (>35 mg/ml; e.g. 5% JUUL) vape products to adult-only retailers and smoking bars; a ban on advertisements for tobacco products that a retailer cannot sell. For more information on the statewide law, visit: <https://www.mass.gov/guides/2019-tobacco-control-law>

Youth Engagement

Another strategy to decrease youth initiation of tobacco products includes youth engagement in tobacco prevention work. High school youth in The 84 Movement, which represents the percent of youth who did not use tobacco when the movement began, work to combat tobacco industry influence by engaging with stakeholders in their own communities. As of 2019, over 95% of high school youth don't smoke. To learn more about The 84, visit <https://the84.org/>

Tobacco cessation

Quit Now

Quitting tobacco, at any age, reduces risk of disease. In Massachusetts, providers can refer smoker patients who want to quit to the QuitWorks program, which offers patients free, telephone-based treatment and links patients to local tobacco treatment services. Additionally, the Massachusetts Quitline is the state sponsored quitline offering free evidence-based counseling and nicotine replacement therapy to all Massachusetts residents. Since the Health Care Reform Act was implemented in 2006, all MassHealth members are eligible for FDA approved cessation medication and counseling.

- For more information about the QuitWorks program, visit <http://quitworks.makesmokinghistory.org>
- For more information about the Quitline program, visit <https://ma.quitlogix.org/en-US/> or call 1-800-QUIT-NOW
- For more information on chronic disease prevention, visit: <https://www.mass.gov/info-details/bureau-of-community-health-and-prevention-directory>

Smoke-free environments

Due to the dangers of secondhand smoke exposure, Massachusetts workplaces are largely smoke-free, as well as an increasing amount of housing facilities. Just like prohibiting pets, landlords and condo associations can prohibit smoking. Smoke-free policies are not discriminatory. The policy only prohibits smoking in the building or on the property and does not prohibit smokers from living in the building.

The Smoke-Free Housing Project provides free information and technical assistance to landlords and condo associations interested in implementing a smoke-free rule. For more information, contact the Massachusetts Smoke-Free Housing Project's toll-free line at 877-830-8795. Tenants calling the number can receive additional information about their rights and can receive referrals to organizations that may be able to help. For more information on smoke-free environments, including smoke-free housing, visit:

<http://makesmokinghistory.org/smoke-free-environments/>

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