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# **Who is Most Affected?**

## **Tobacco-related Disparities in Missouri**

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**July 2010**



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**July 2010**

**Prepared for**

**Missouri Foundation for Health**

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## **Preface**

In 2003, the Missouri Department of Health and Senior Services (MDHSS) conducted a study to collect county-specific data on tobacco use and chronic disease prevalence. It proved a valuable resource for public health professionals by providing more regionally focused data. However, the sample size of 15,000 Missouri adults limited analysis at the county level for many areas.

To address the need for updated and more comprehensive county-level data, and to establish baseline measures for the Tobacco Prevention and Cessation Initiative, the Missouri Foundation for Health (MFH) partnered with MDHSS in 2007 to expand on the previous data collection activities. Specifically, MFH and MDHSS aimed to determine county-level prevalence of behavioral risk factors, chronic diseases and conditions, and preventive practices among adults age 18 and older in Missouri.

The resulting 2007 Missouri County-level Study (CLS) was implemented by the University of Missouri's Health and Behavioral Risk Research Center, which conducted telephone interviews with Missouri adults between February 2007 and April 2008. The 2007 CLS resulted in 49,513 completed interviews.

Summary results of the 2007 CLS, as well as comparisons to the 2003 data, are available at <http://www.dhss.mo.gov/CommunityDataProfiles>. Information regarding the design and methodology of the 2007 CLS is available at [http://www.dhss.mo.gov/CLS/Design\\_Methodology](http://www.dhss.mo.gov/CLS/Design_Methodology).

## **2007 Missouri County-level Study Report Series**

The Center for Tobacco Policy Research (CTPR) at Washington University in St. Louis conducted further analyses of the 2007 CLS data to explore specific topics in greater depth. This report is the second in a series that describes the results of CTPR's analyses. These reports will be disseminated to tobacco control stakeholders throughout Missouri to support programmatic efforts and inform strategic planning of tobacco control activities. The reports are available at <http://ctpr.wustl.edu/reports>. This report presents results from the second analysis, which sought to identify tobacco-related disparities in Missouri. For more information about the CLS report series, contact Sarah Shelton at [sshelton@wustl.edu](mailto:sshelton@wustl.edu) or 314.935.3723.

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## Introduction

Reducing health disparities is a public health priority. Both Healthy People 2010 and 2020 recognize the elimination of health disparities as an overarching goal.<sup>1</sup> Identifying and eliminating tobacco-related disparities is of particular importance to tobacco control.<sup>2</sup> In 2007, the smoking prevalence across the state of Missouri was 23.2%; however, the prevalence among many groups in Missouri was much higher. For example, 41% of adult Missourians with less than a high school diploma and 35% of adult Missourians with an annual household income less than \$25,000 were current smokers in 2007.

The goal of this report is to identify tobacco-related disparities in Missouri. In the following pages, we will examine tobacco use, secondhand smoke exposure and smoking cessation through a series of two page sections based on demographic, socioeconomic and personal characteristics. Unless otherwise indicated, all data presented are from the 2007 Missouri County-level Study. The sections will provide an in-depth look at differences among the following characteristics:

- Race/Ethnicity
- Rural-Urban Status
- Education
- Income
- Health Insurance Coverage
- Sexual Orientation

These two page sections are designed to be viewed in the context of the overall report or to be used independently by tobacco control professionals, depending on relevance to their program and/or geographic area. Each section will explore disparities in smoking status, smoking level, and secondhand smoke exposure. In addition, these sections will provide information related to differences in smoking cessation within population groups.

The sections following the population-specific highlights present overall findings and recommendations. Findings include the top five groups most affected by various behaviors.

Findings from this report can be used to better understand differences in tobacco use among specific populations across the state. Addressing groups that are bearing a disproportionate burden from tobacco use will contribute to comprehensive tobacco control efforts, reducing overall tobacco use and making Missouri a healthier place to live.





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# **Priority Population Highlights**

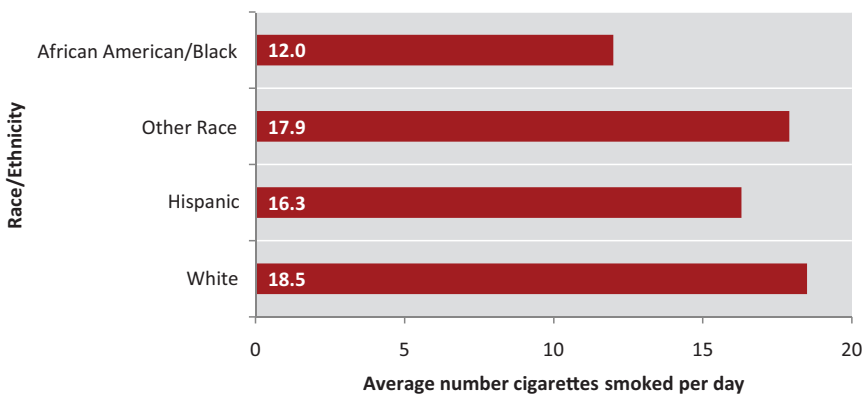
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# Race/Ethnicity

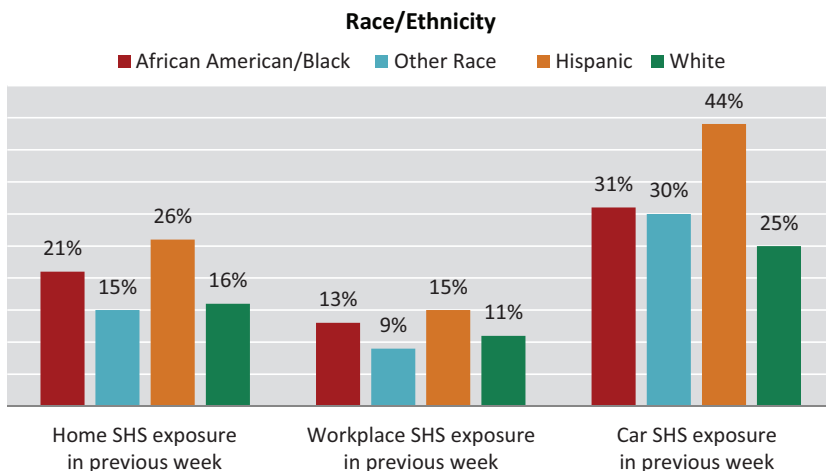
The following findings are from an analysis of the 2007 Missouri County-level Study. Respondents reported race as White (84.7%), African-American/Black (10.9%) and Other races (2.4%) and ethnicity as Hispanic (2.0%), .

- **Smoking Status:** Current smoking prevalence was significantly higher among African Americans, Hispanics and Other races compared with Whites.
- **Smoking Level:** Of those who smoked, Whites smoked the highest number of cigarettes per day on average and African Americans smoked the lowest.
- **Secondhand Smoke Exposure:** African Americans and Hispanics were more likely to be exposed to secondhand smoke in their homes and cars compared with Whites and Other races. Hispanics were also more likely to be exposed to secondhand smoke in their workplace compared with all racial groups.
- **Smoking Cessation:** African Americans were more likely to believe they could successfully quit and had a higher intention to quit compared with other racial groups. Whites were less likely to have made a quit attempt in the last year compared with the other racial groups.

## Smoking Level

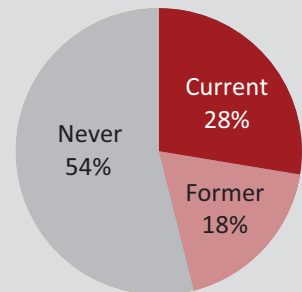


## Secondhand Smoke Exposure

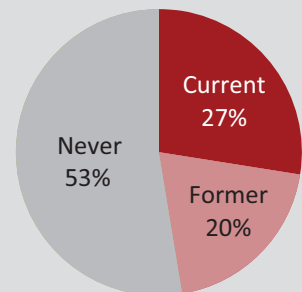


## Smoking Status

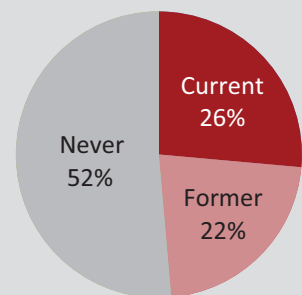
African American/Black, Non-Hispanic



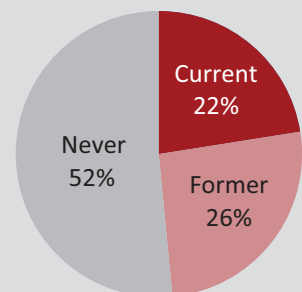
Other Race, Non-Hispanic



Hispanic

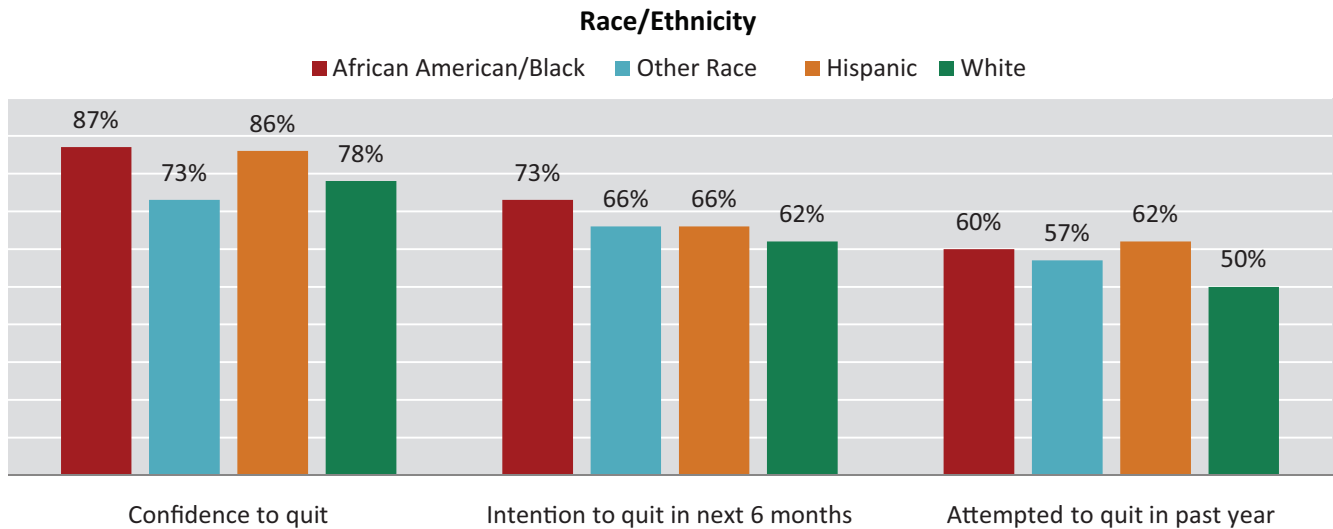


White, Non-Hispanic



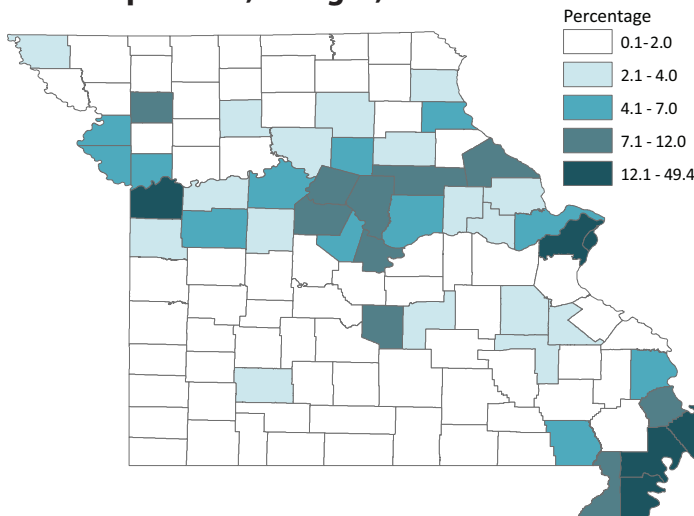
# Race/Ethnicity

## Smoking Cessation

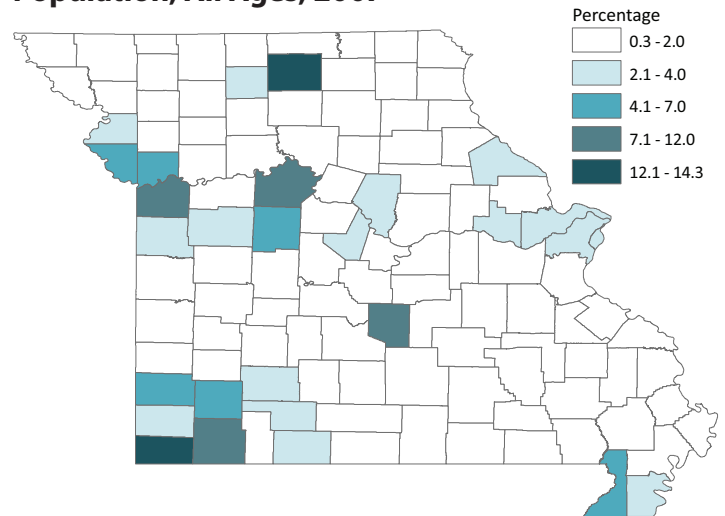


## Population Distribution in Missouri

**Percentage of African American/Black Population, All Ages, 2007\***



**Percentage of Hispanic Population, All Ages, 2007\***



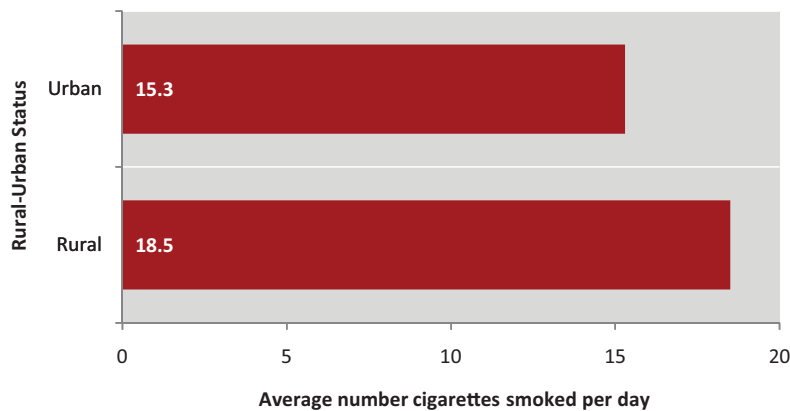
\*Percentage according to 2007 Census estimates, <http://www.oseda.missouri.edu/countypage>

# Rural-Urban Status

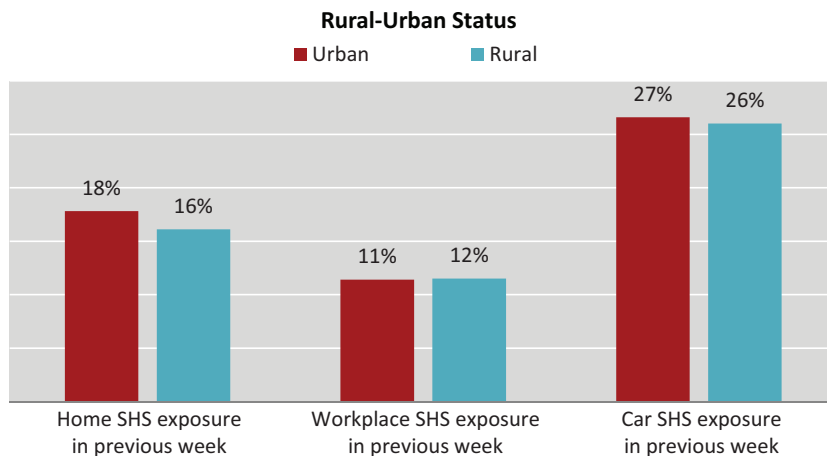
The following findings are from an analysis of the 2007 Missouri County-level Study. 76.1% of respondents reported they lived in Rural settings and 23.9% in Urban settings.

- **Smoking Status:** Current smoking prevalence was significantly higher among residents in Urban areas compared with Rural areas.
- **Smoking Level:** Of those who smoked, residents in Urban areas smoked significantly less cigarettes per day on average compared with residents in Rural areas.
- **Secondhand Smoke Exposure:** Urban residents were more likely to be exposed to secondhand smoke in the home than participants living in Rural areas. However, Rural-Urban status was not significantly related to secondhand smoke exposure in the workplace or car.
- **Smoking Cessation:** Urban smokers were significantly more likely to believe they could successfully quit, intend to quit within the next six months, and to have attempted to quit in the last year compared to Rural smokers.

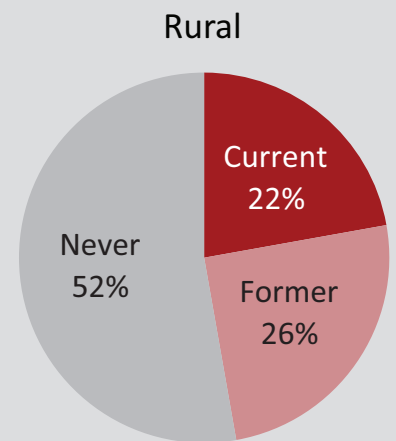
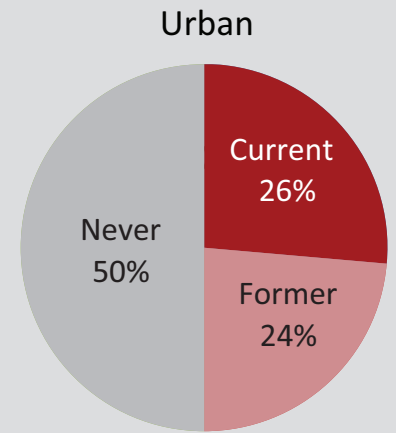
## Smoking Level



## Secondhand Smoke Exposure

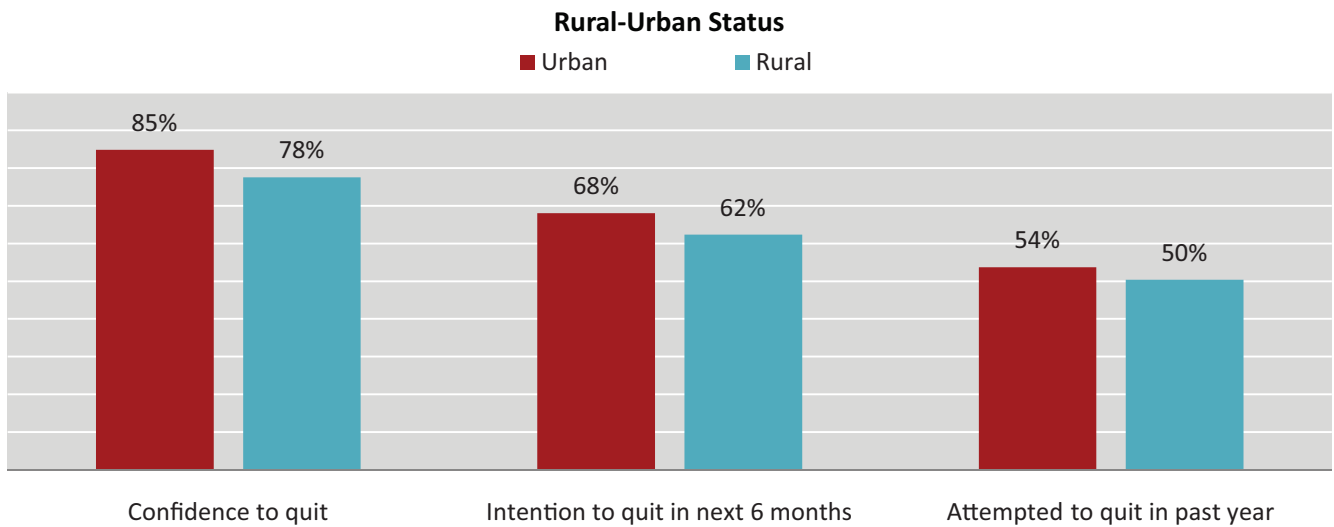


## Smoking Status



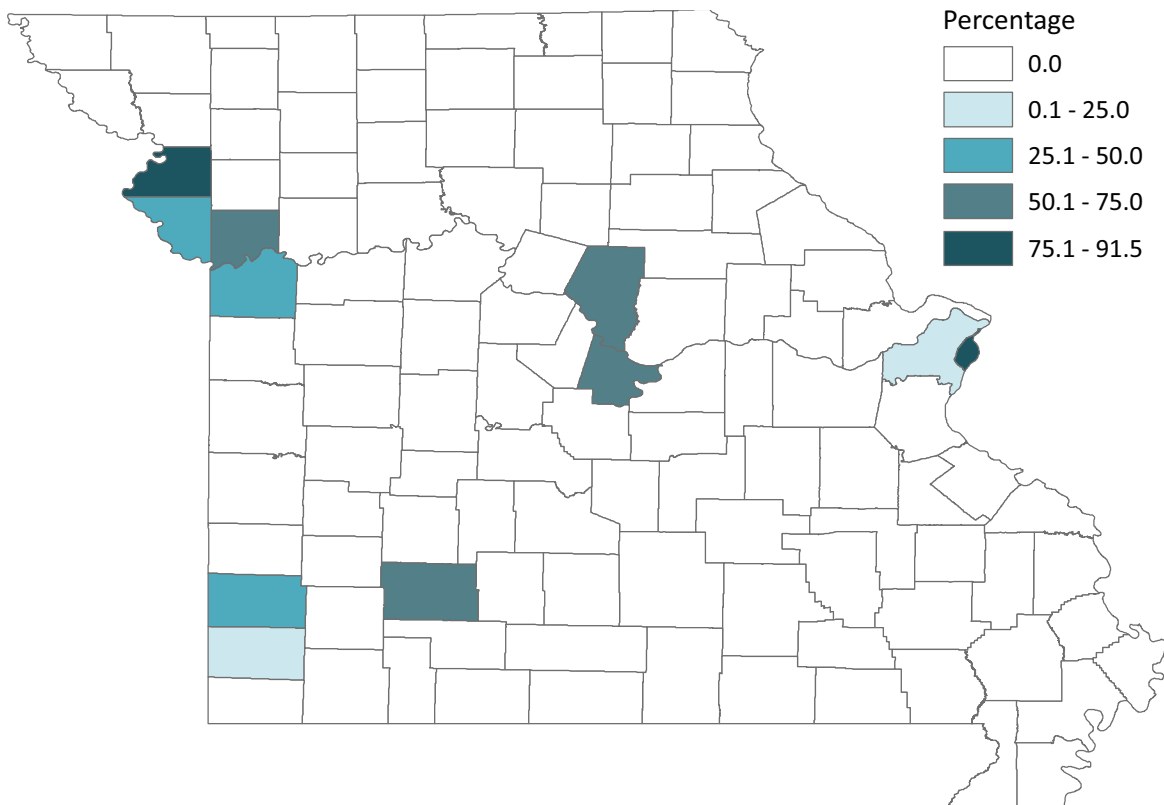
# Rural-Urban Status

## Smoking Cessation



## Population Distribution in Missouri

**Percentage of County Population Living in Urban Area, 18+ years old, 2007\***



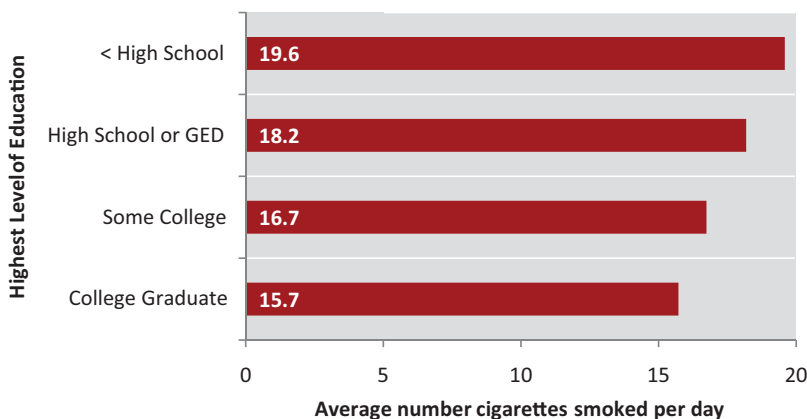
\*Classified according to the 2007 Missouri County-level Study

# Education

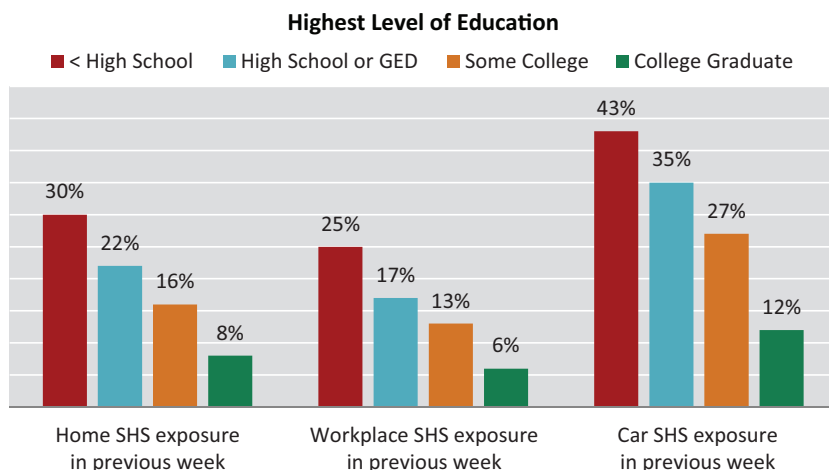
The following findings are from an analysis of the 2007 Missouri County-level Study. Respondents reported their years of education, which were categorized as: less than high school (8.7%), high school graduate or GED (32.9%), some college (26.7%), and college graduate (31.7%).

- **Smoking Status:** Current smoking prevalence was highest among Missourians with less than a high school education and lowest among college graduates.
- **Smoking Level:** Of those who smoked, Missourians with lower education levels smoked more cigarettes per day compared to participants with higher education levels.
- **Secondhand Smoke Exposure:** The lower the education level, the more likely a participant was exposed to secondhand smoke at home, in a car, and at work.
- **Smoking Cessation:** Education level was not significantly related to intending to quit within the next six months. However, college graduates were more likely to have attempted to quit and to believe they can quit than participants with lower levels of education.

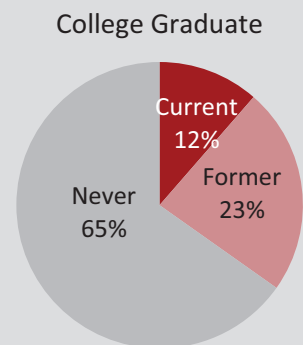
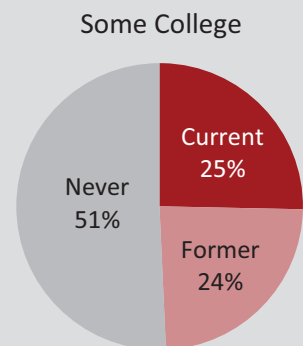
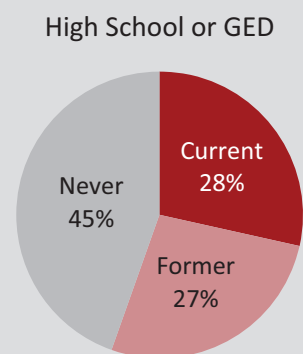
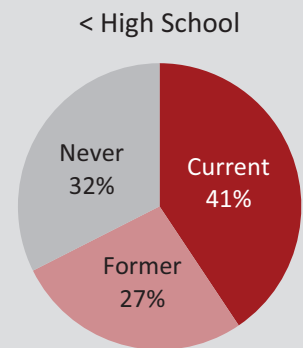
## Smoking Level



## Secondhand Smoke Exposure

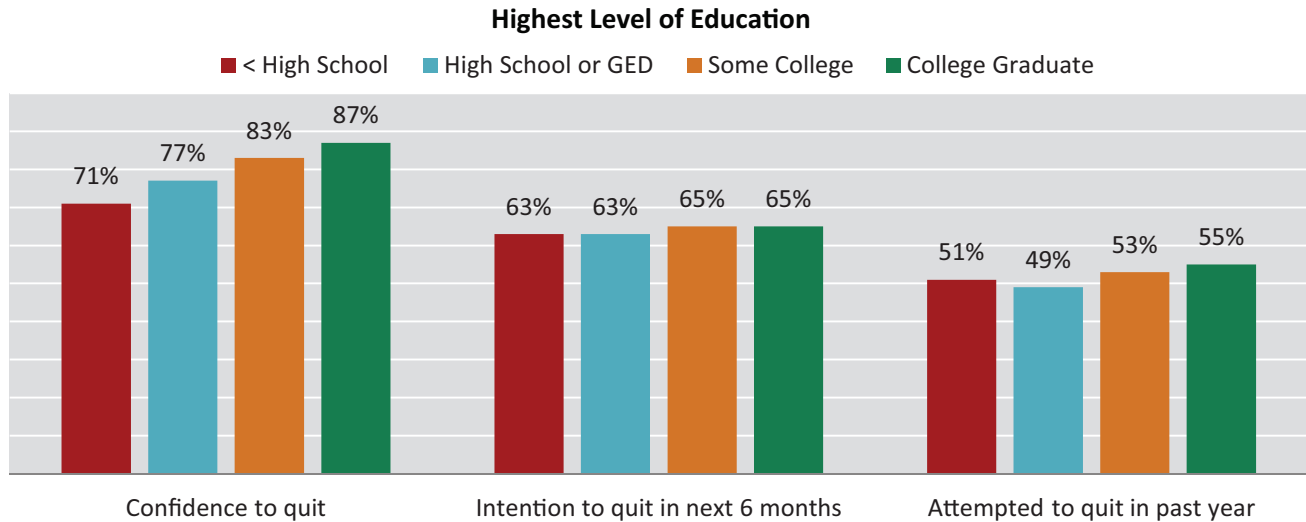


## Smoking Status



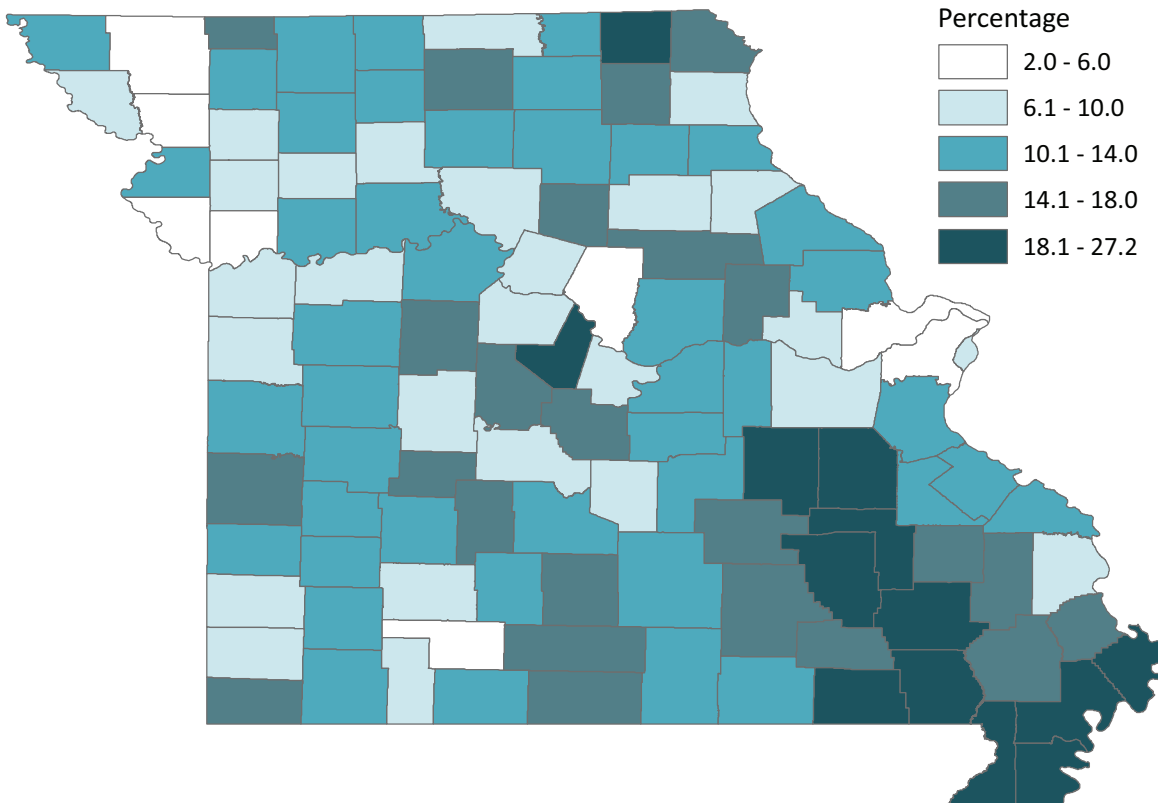
# Education

## Smoking Cessation



## Population Distribution in Missouri

**Population with Less Than High School Education, 18+ years old, 2007\***



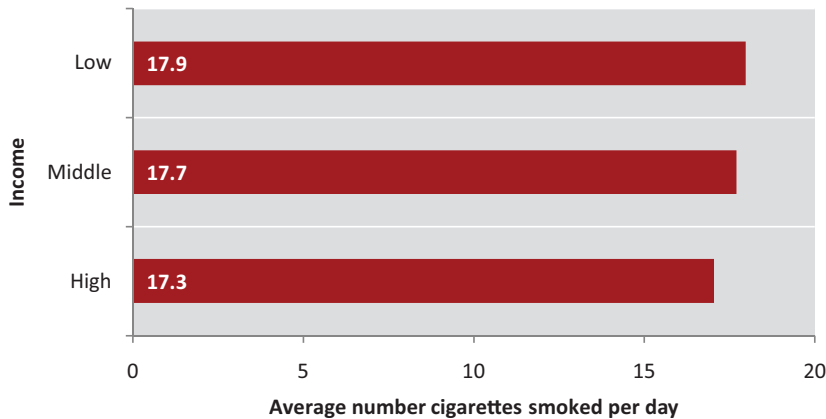
\*Self-reported from the 2007 Missouri County-level Study

# Income

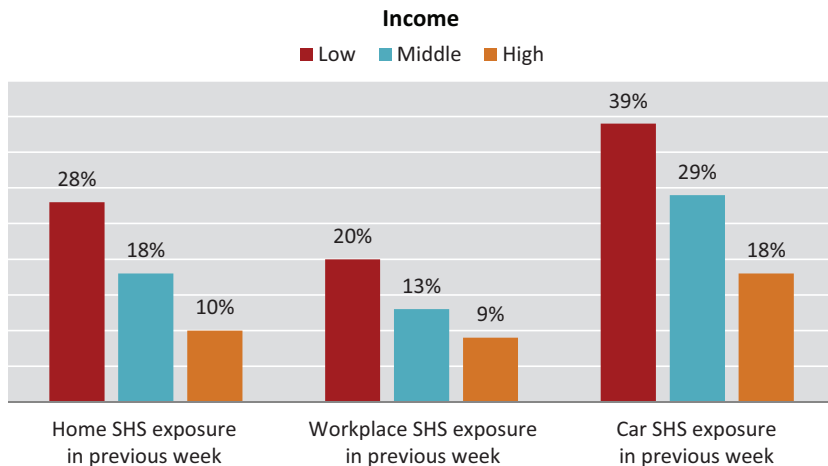
The following findings are from an analysis of the 2007 Missouri County-level Study. Respondents reported their annual household income, which was categorized as: Low (24.8%), Middle (30.1%), and High (45.1%).

- **Smoking Status:** Current smoking prevalence was significantly related to income, ranging from 35% of participants in the low income category to 16% of participants in the high income category.
- **Smoking Level:** There were no significant differences in the number of cigarettes smoked per day by income.
- **Secondhand Smoke Exposure:** Income level was significantly related to secondhand smoke exposure. The lower the income level, the more likely a participant was exposed to secondhand smoke at home, in a car, and at work.
- **Smoking Cessation:** Although Missourians from the lowest income category were more likely to have made quit attempts in the last year and were more likely to intend to quit in the next six months, they were less likely to believe they would be successful in a quit attempt.

## Smoking Level

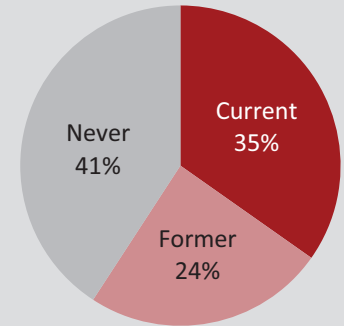


## Secondhand Smoke Exposure

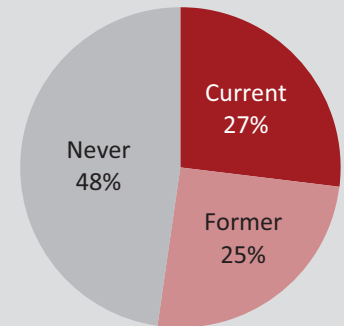


## Smoking Status

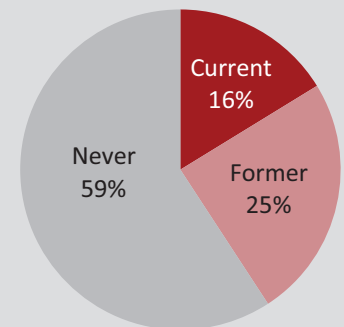
Low (<\$25,000)



Middle (\$25k-49,999)



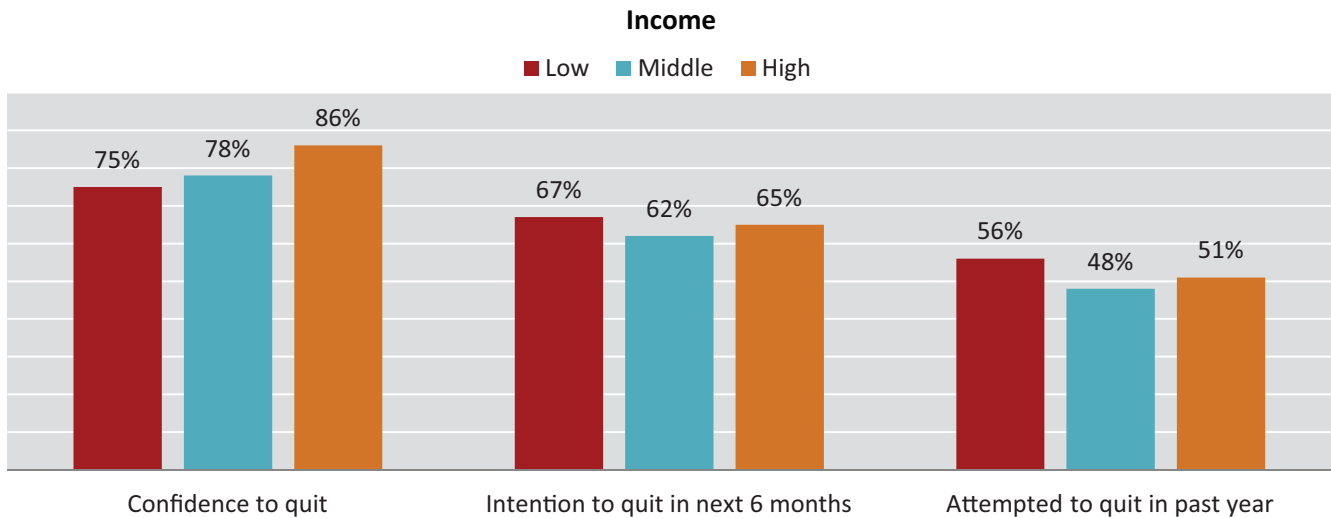
High (\$50,000+)





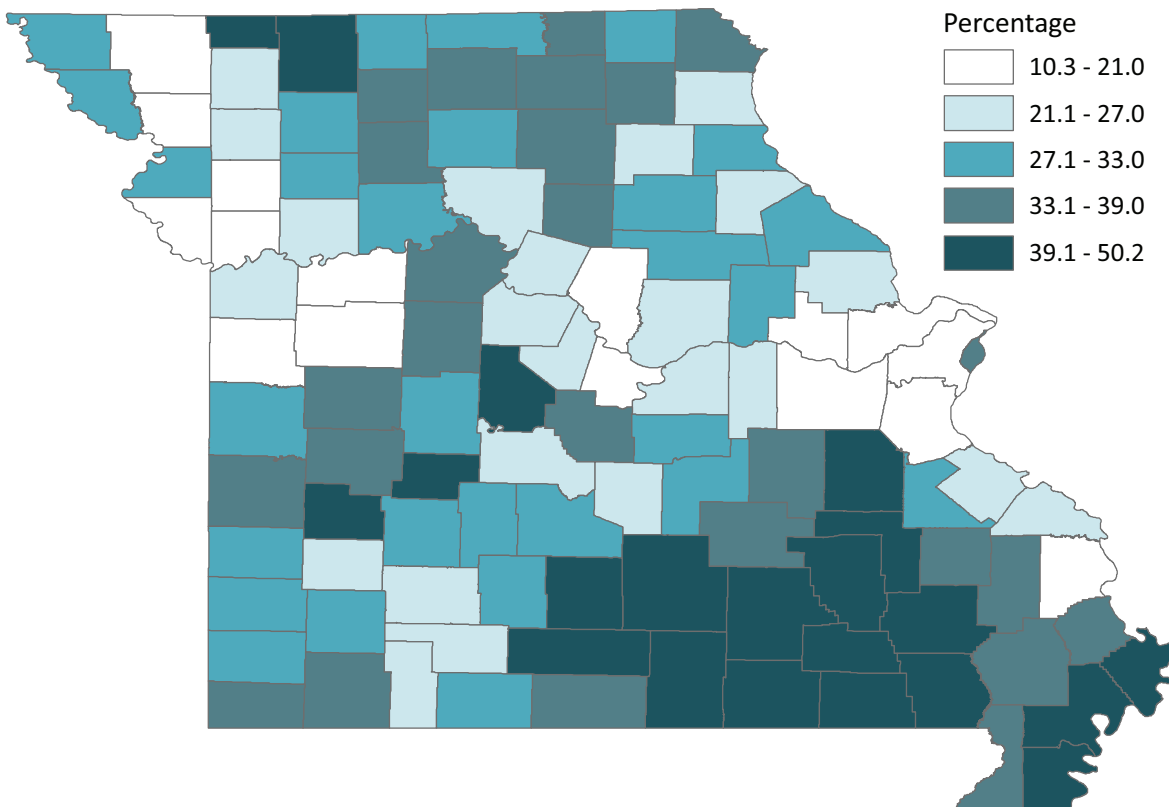
# Income

## Smoking Cessation



## Population Distribution in Missouri

**Population with Low Annual Income (<\$25,000), 18+ years old, 2007\***



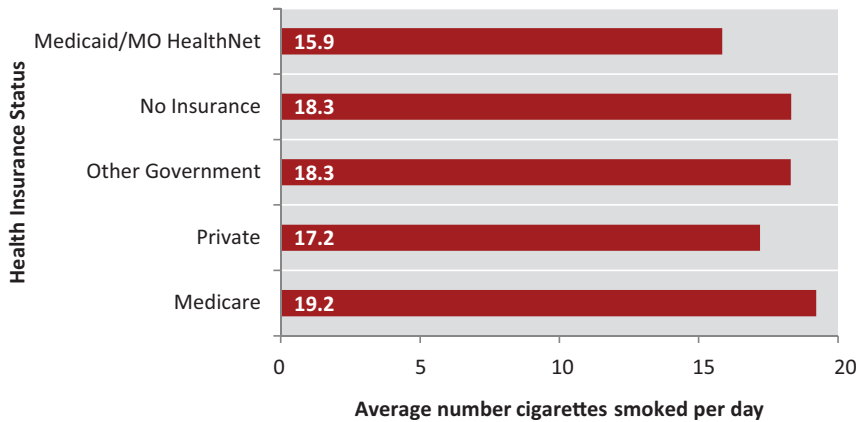
\*Self-reported from the 2007 Missouri County-level Study

# Insurance Status

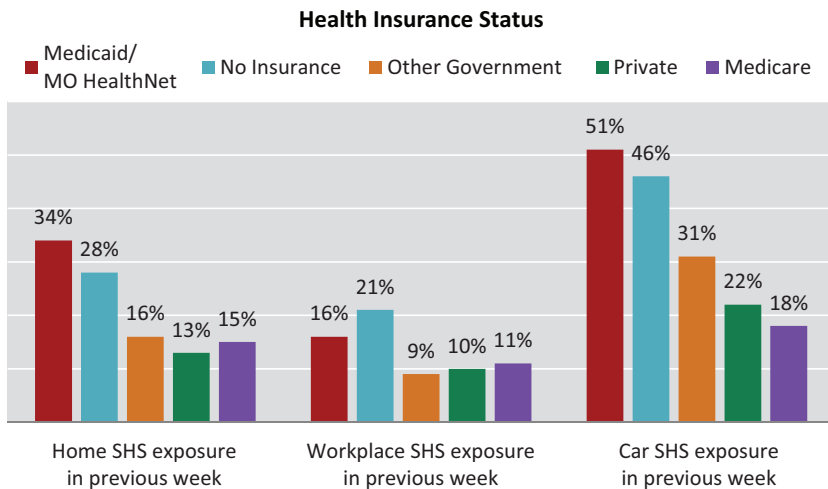
The following findings are from an analysis of the 2007 Missouri County-level Study. Respondents reported their insurance status, which was categorized as: Private (62.0%), Medicare (16.0%), Medicaid (4.1%), Other Government (2.8%), and None (15.1%).

- **Smoking Status:** Current smoking prevalence was significantly higher among Medicaid recipients at 48% and uninsured Missourians at 40% compared with other insurance groups.
- **Smoking Level:** Of those who smoked, Missourians with Medicare smoked the highest number of cigarettes per day on average and Medicaid recipients smoked the lowest.
- **Secondhand Smoke Exposure:** Medicaid recipients and the uninsured were significantly more likely to be exposed to secondhand smoke in the home, car, and workplace than participants with other types of insurance.
- **Smoking Cessation:** Missourians with private insurance were more likely to believe they would be successful in a quit attempt compared with participants in other insurance categories. Medicaid recipients were more likely to have made quit attempts in the last year and were more likely to intend to quit in the next six months.

## Smoking Level

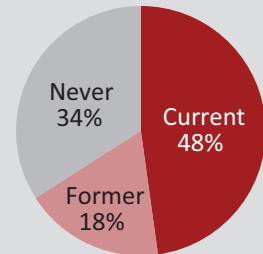


## Secondhand Smoke Exposure

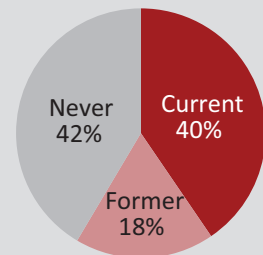


## Smoking Status

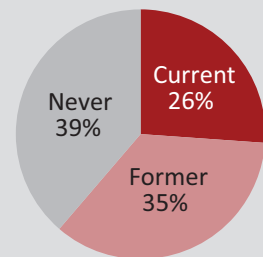
Medicaid/MO HealthNet



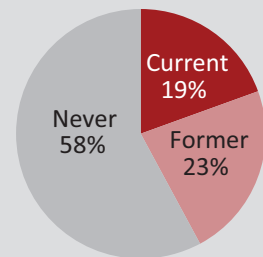
No Insurance



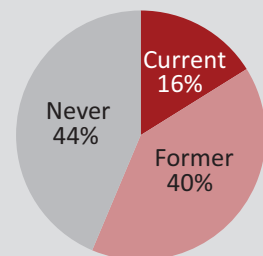
Other Government\*



Private



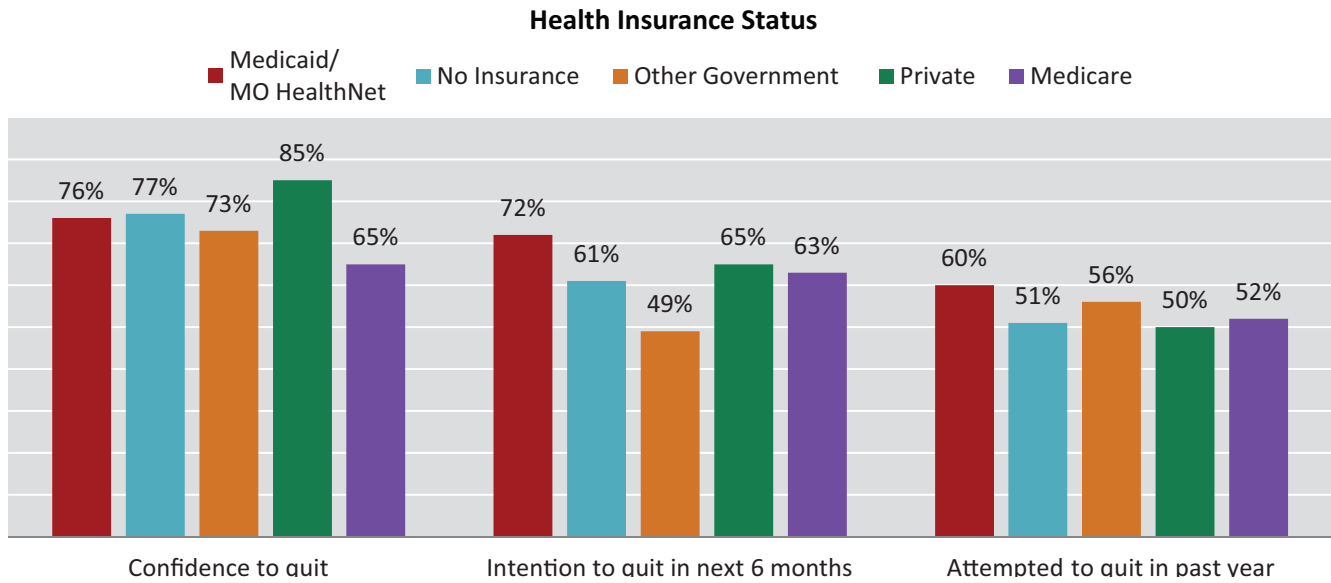
Medicare



\*Military, Veterans Affairs and Indian Health Service

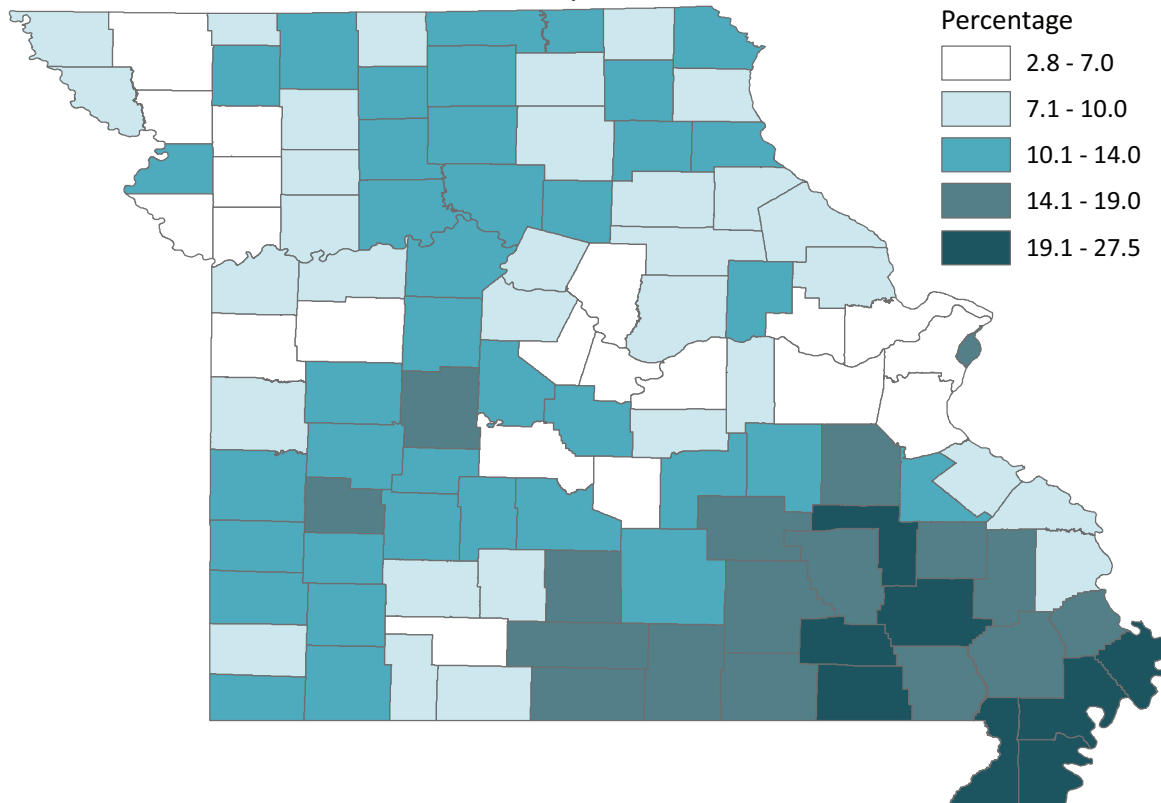
# Insurance Status

## Smoking Cessation



## Population Distribution in Missouri

**Population with Medicaid/MO HealthNet Insurance, 18+ years old, 2007\***



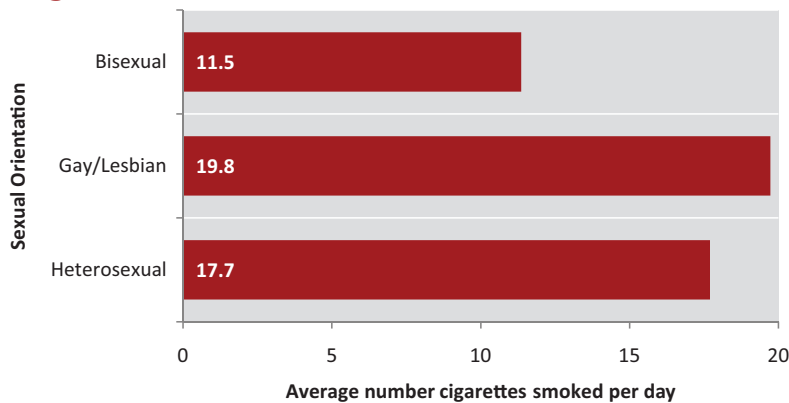
\*Percentage calculated according to Missouri Department of Health and Senior Services 2007 Medicaid data, <http://www.dhss.mo.gov/mica/medicaid.php> and 2007 Census estimates, <http://www.oseda.missouri.edu/countypage>

# Sexual Orientation

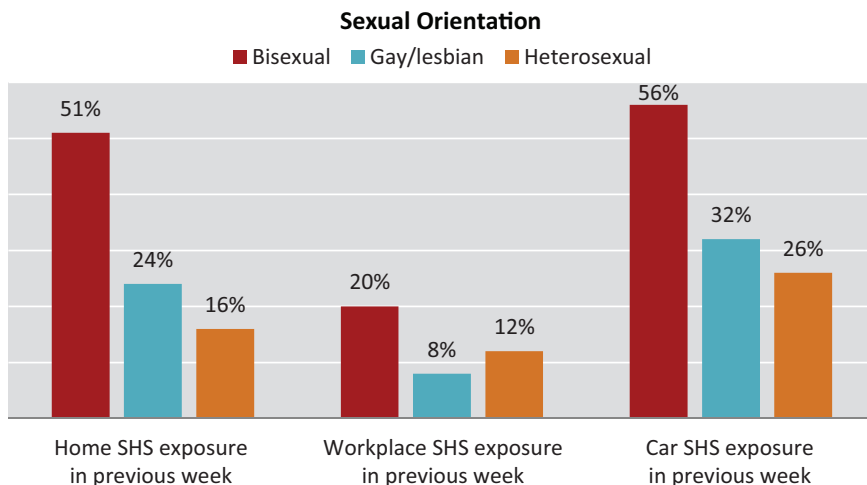
The following findings are from an analysis of the 2007 Missouri County-level Study. Respondents reported their sexual orientation as: Heterosexual (98.1%), Gay/Lesbian (1.1%), and Bisexual (0.8%).

- **Smoking Status:** Current smoking prevalence was significantly higher among bisexuals and gays/lesbians compared with heterosexuals.
- **Smoking Level:** Of those who smoked, gays/lesbians smoked the most at 20 cigarettes per day, followed by 18 cigarettes per day for heterosexuals, and 12 cigarettes per day for bisexuals.
- **Secondhand Smoke Exposure:** Sexual orientation was significantly associated with being exposed to secondhand smoke in the home, workplace, and car. Specifically, gays/lesbians and bisexuals were more likely to be exposed to secondhand smoke in their homes and cars. Bisexuals were also more likely to be exposed in their workplaces compared to heterosexual and gay/lesbian participants.
- **Smoking Cessation:** Bisexuals were significantly more likely to believe they will be able to be successful if they try to quit. Participants identifying as bisexual or gay/lesbian were less likely to intend to quit in the next six months compared with heterosexuals. There was no significant difference in quit attempts in the past year based on sexual orientation.

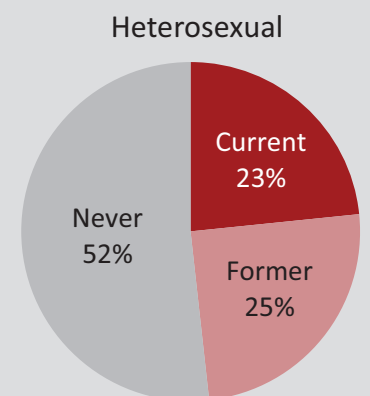
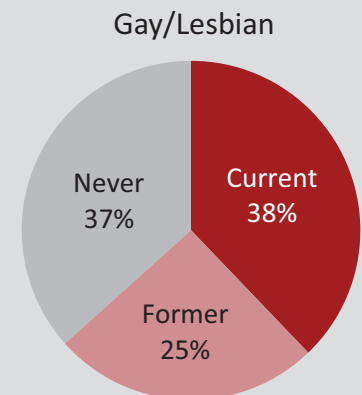
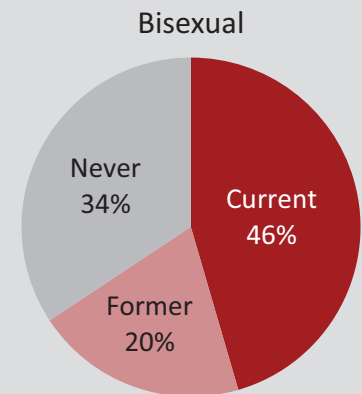
## Smoking Level



## Secondhand Smoke Exposure

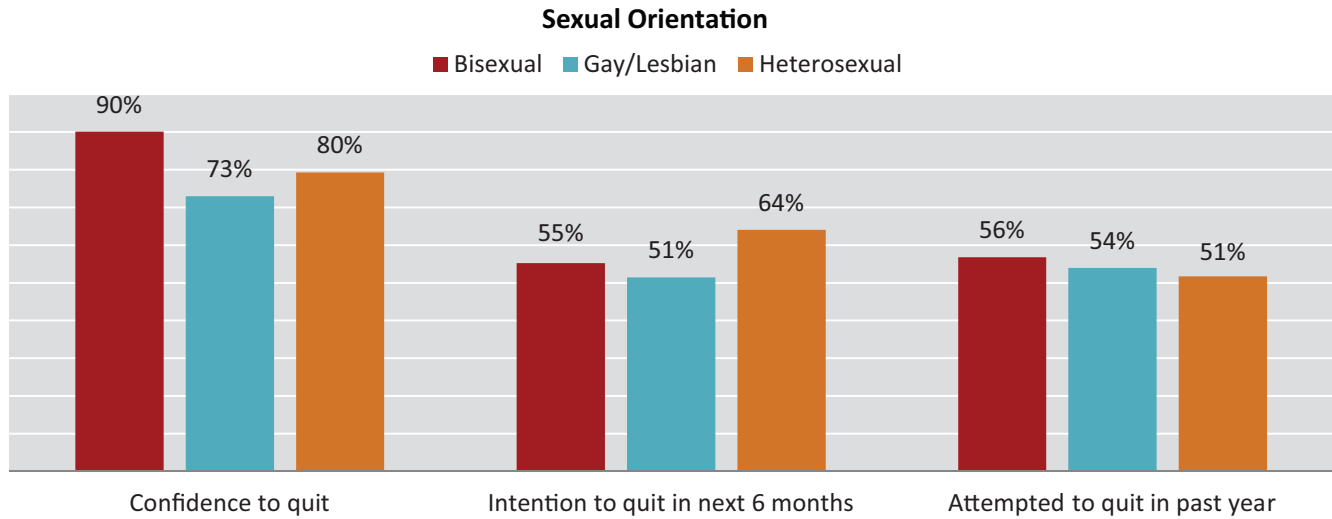


## Smoking Status



# Sexual Orientation

## Smoking Cessation



## Data Considerations

Due to an insufficient sample size in numerous counties, it is not possible to display the bisexual and gay/lesbian populations in a map. It is also important to note with this population that more people indicated that they did not know their sexual orientation (n = 1317) or answered “other” (n = 722) than those who answered lesbian (n = 123), gay (n = 111), or bisexual (n = 222) combined.

## Who is Most Affected?

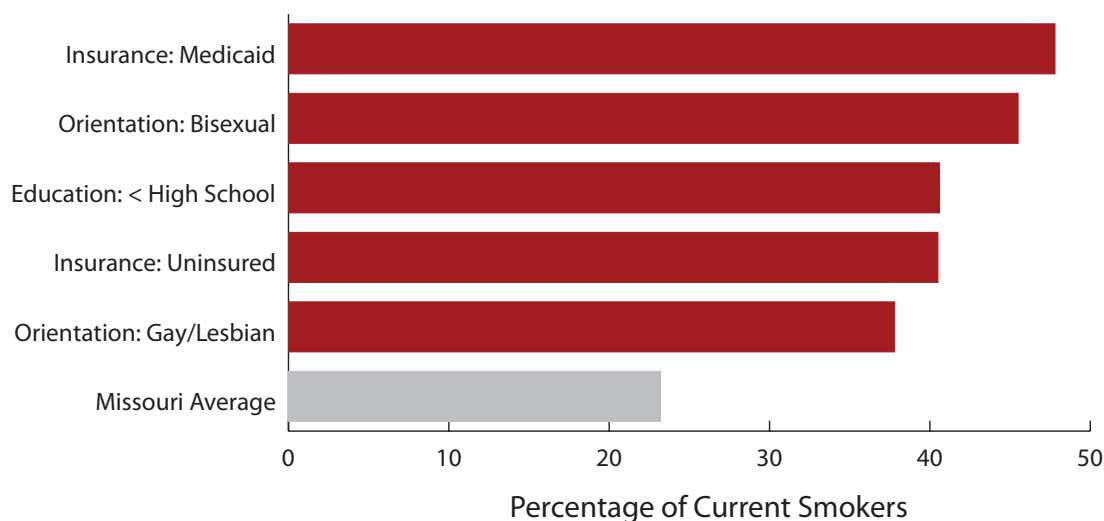
Missouri maintains one of the higher statewide smoking prevalences in the country at 23.2%, and there are clearly some differences across the state in terms of who is smoking, who is exposed to secondhand smoke, and who is quitting.

The following section presents the top five groups by smoking prevalence, secondhand smoke exposure, and smoking cessation issues in comparison with the Missouri average. The groups included represent sub-categories of the demographic, socioeconomic, and personal characteristics highlighted in the previous priority population sections. For example, the socioeconomic characteristic of Education is divided into four groups: Less than High School, High School or GED, Some College, and College Graduate. Readers should note that these groups are not necessarily mutually exclusive (*e.g.*, respondents who have less than a high school education may also be uninsured).

Also keep in mind that some of these groups represent a limited target population, which may vary depending on geographic location. For example, across the state, 2.0% of respondents were Hispanic, and at the county-level this population ranges from 0.3% in Worth County to 14.3% in Sullivan County.

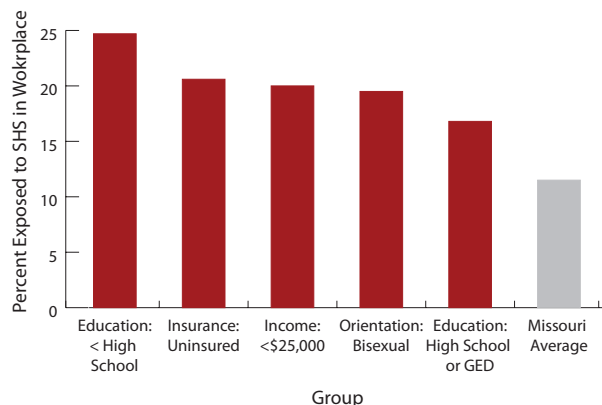
Among the characteristics studied, significant differences were noted between the various groups. Groups with the highest smoking prevalences included: Medicaid recipients (47.8%), bisexual respondents (45.5%), those with less than a high school education (40.6%), uninsured respondents (40.5%), and gay/lesbian respondents (37.8%). These rates are considerably higher than the Missouri average (23.2%).

**Figure 1. Top 5 Smoking Prevalences in Missouri**



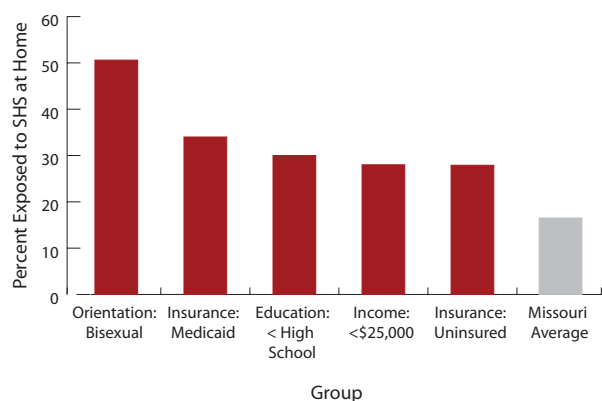
Differences were also found with regards to secondhand smoke exposure. In the workplace, low-education and uninsured respondents were more likely to be exposed than Missourians in general, 24.7% and 20.6% compared with 11.5%.

**Figure 2. Top 5 Groups Exposed to Secondhand Smoke in *Workplace* During Previous Week**



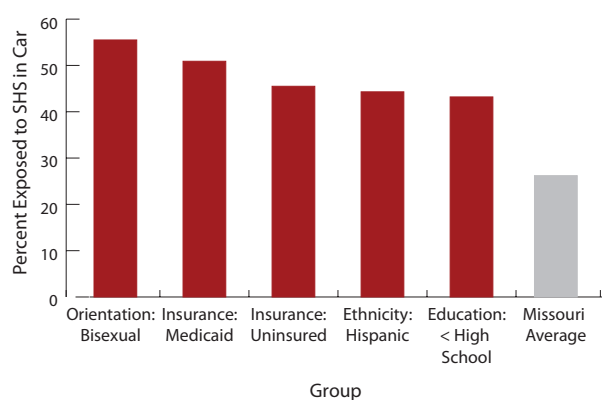
At home, more than half of bisexual respondents (50.6%) were exposed to secondhand smoke. This percentage is over three times higher than the Missouri average of 16.5%.

**Figure 3. Top 5 Groups Exposed to Secondhand Smoke in *Home* During Previous Week**



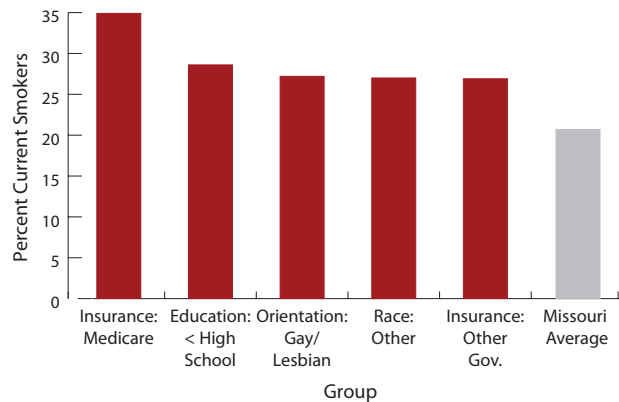
Car exposure was greatest among bisexual (55.5%) and Medicaid (50.9%) groups and significantly higher than the Missouri average of 26.2%.

**Figure 4. Top 5 Groups Exposed to Secondhand Smoke in *Car* During Previous Week**



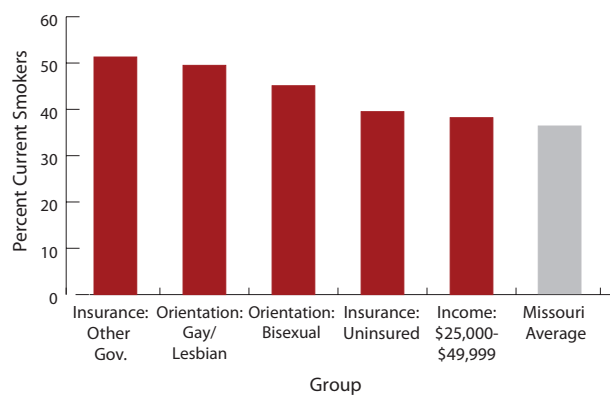
Groups also differed on cessation related questions. Medicare recipients (34.9%) and those who did not graduate from high school (28.6%) were the highest percentage of respondents who do not believe that they can successfully quit smoking. These percentages are significantly higher than the Missouri average of 20.7%.

**Figure 5. Top 5 Groups Who Do NOT Believe They Can Successfully Quit Smoking**



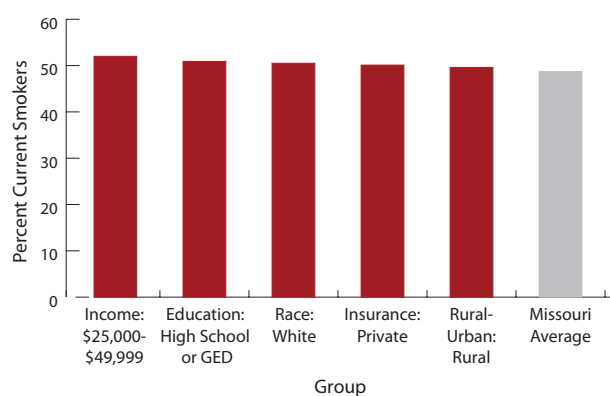
Many groups had a higher percentage of respondents who do not intend to quit smoking compared with the Missouri average of 36.2%. Groups with the highest percentage of respondents who do not intend to quit included individuals with government insurance other than Medicaid or Medicare (51.3%) and gay/lesbian respondents (49.5%).

**Figure 6. Top 5 Groups Who Do NOT Intend to Quit Smoking in the Next Six Months**



Regarding a quit attempt during the previous year, there were only slight differences among groups when compared with the Missouri average of 48.7%. The highest percentage of respondents who did not attempt to quit within the past year were reported among respondents within income ranges of \$25,000-\$49,999 (52.0%) and respondents with a high school education or GED (50.9%).

**Figure 7. Top 5 Groups Who Did NOT Attempt to Quit Smoking in the Past Year**





## What Does All of This Mean?

The considerable differences in tobacco use and secondhand smoke exposure between Missouri population groups present a significant public health challenge. To achieve future reductions in overall smoking prevalence and secondhand smoke exposure, disparate groups need to be considered in tobacco control policies and programs. Comprehensive tobacco control efforts that include a combination of policy change, tobacco cessation services and prevention messaging campaigns work best.<sup>3</sup>

Based on the findings presented in this report, the following are recommendations for the Missouri tobacco control community:

### **Implement comprehensive, population-level tobacco control policies.**

Tobacco control policies such as increasing the tobacco excise tax and 100% clean indoor air policies have the potential to significantly reduce tobacco-related disparities.<sup>1,2</sup> Currently, Missouri has the lowest cigarette excise tax rate, \$.17, of all 50 states<sup>4</sup> and only 14.6% of Missourians are protected by 100% comprehensive smoke-free workplace policies.<sup>5</sup>

As shown in this report, tobacco use behavior and exposure differ with respect to race, income, education, geographical location, insurance status and sexual orientation. Comprehensive policies have the ability to benefit many disparate groups equally.<sup>2,3</sup>

### **Address the need for affordable, accessible, and relevant cessation services.**

Evidence-based guidelines recommend removing cost and other barriers to tobacco-dependence treatment for groups disproportionately affected by tobacco use.<sup>6-8</sup>

Respondents with Medicaid/MO HealthNet insurance had the highest percentage of smokers who have attempted to quit in the previous year, compared to those with another type of insurance or no insurance (page 15). However, this group had the highest smoking prevalence of all those examined, suggesting they have not had access to adequate support to quit smoking. This is one group that would benefit from free, evidence-based tobacco dependence treatment.

Compared with the Missouri average, Medicare recipients had the highest percentage of smokers lacking confidence in quitting (Figure 5). These recipients likely represent an older population with previous unsuccessful attempts who may no longer see the benefit of quitting. Cessation services relevant to this community need to be offered. Specifically, encouragement and education on the benefits of quitting at any age should be communicated.

### **Tailor health messages.**

In Missouri, racial and ethnic minorities and individuals with lower incomes and education levels were more likely to smoke and be exposed to secondhand smoke. These groups are also more likely to have low health literacy.<sup>9</sup> Therefore, it is important to design and test health messages to make sure they are easily understood by targeted groups. It is also important to use culturally relevant messages and a group's native language when applicable.

### **Continue county-level surveillance, making improvements where needed.**

Given the tobacco-related disparities identified in this report, it will be important to continue county-level surveillance of tobacco use, exposure to secondhand smoke and cessation

behaviors. This will be instrumental in planning for working with disparate populations, looking at changes over time, and answering additional questions.

Future county-level surveillance activities should assess sexual orientation and gender identity using validated questions. Lesbian, gay, bisexual and transgender (LGBT) individuals are more likely to smoke than the population as a whole, making the LGBT population an important group to examine.<sup>3,10</sup> Since the 2007 administration of the Missouri County-level Study, more refined questions on sexual orientation have been identified.<sup>3</sup> These questions should be included in future administrations of the Missouri County-level Study.

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