



# Smoking in Low Socioeconomic Status Populations:

Prevalence, Health Impact, Challenges and Recommendations





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*Contributions to the California Cancer Research Fund are used to conduct research relating to the causes, detection, and prevention of cancer and to expand community-based education on cancer, and to provide prevention and awareness activities for communities that are disproportionately at risk or afflicted by cancer.*

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## INTRODUCTION

In 1988, California became the first state in the nation to implement a comprehensive tobacco control program aimed at reducing both the smoking prevalence and the number of deaths associated with tobacco use. Over the last 23 years, the smoking prevalence for the general population in California has decreased dramatically, dropping from 26.7% in 1988 to 13.1% by 2009.<sup>1</sup> There has also been a significant decrease in the number of high intensity smokers, which has been linked to lower rates of smoking initiation and higher rates of smoking cessation.<sup>2</sup> Recent studies indicate that due to the effectiveness of the California Tobacco Control Program, the state will experience faster declines in lung cancer rates than the rest of the U.S. for the next two decades.<sup>3</sup> While the program has been successful in reducing the smoking prevalence among the general population, smoking among more vulnerable populations, including low socioeconomic status (SES) populations\*, continues to remain disproportionately high.

California is not the only state experiencing higher rates of smoking among low SES populations. While smoking among the general U.S. population has decreased dramatically since 1964, smoking rates among individuals of low SES backgrounds continues to be high, contributing to increasingly high rates of smoking-related diseases, including cancer, heart disease and upper respiratory disease. Of special concern is smoking among low SES women. While men tend to smoke at higher rates than women in general, the number of female smokers has been steadily rising over the last several decades and has not shown any signs of slowing down.

This report outlines the smoking behaviors and health impacts among low SES populations throughout California. Included are challenges and recommendations for social service providers, other people who work with individuals from low SES communities, and policymakers. The overall goals of this report are to:

- Further illuminate the disproportionate burden of tobacco on low SES communities
- Increase public awareness of smoking and health consequences of smoking among low SES individuals;
- Increase smoking cessation services and prevention programs to low SES individuals;
- Improve the health of both clients and staff;

- And reduce the cost and burden of tobacco-related disease on both the low SES population and the health care system.

Women of low SES are given prominence in this report as they experience more severe health consequences from smoking.\* In addition to this report, we have also created a series of fact sheets on smoking, cancer and other health consequences of smoking among low SES women. This fact sheet is available to disseminate among your clients.

### **\*Defining Low SES**

For the purposes of this report, the following definition is used to describe low SES populations: individuals with low income (at or below the federal poverty line), individuals with low education (less than 12 years of education or GED), the working poor, the unemployed or underemployed, and the uninsured and underinsured. Specific populations included in this report are the homeless, the incarcerated, blue collar workers, individuals living in affordable housing and multi-unit housing, food insecure and food stamp eligible individuals, individuals from rural communities and veterans. Co-morbidities such as substance abuse, mental illness, HIV/AIDS, and disability are also included in this report due to high rates of tobacco use among people suffering from these diseases/ impairments.

\*Specifically, included are data on smoking rates among low SES women; health consequences of smoking among women, including general health, cancer, and reproductive health; and how the tobacco industry directly markets tobacco products to low SES women.

## BACKGROUND

Despite increased efforts in tobacco control over the last several decades, smoking continues to be the number one cause of preventable disease and death in the United States, killing more than 393,000 people every year.<sup>4</sup> More deaths are caused annually by smoking than by HIV, alcohol and other drug use, motor vehicle injuries, suicides, and murders combined.<sup>5</sup> There is also significant morbidity linked with smoking, including at least eleven different kinds of cancers, cardiovascular and heart disease, chronic lung diseases, tooth decay, reproductive problems in women and a variety of illnesses in children including allergies, asthma and sudden infant death syndrome (SIDS).<sup>6</sup>

Since the first U.S. Surgeon General's report on smoking was released in 1964, the general smoking prevalence in the United States has consistently decreased from more than 50% to 19.3%. However, individuals of low SES experience much higher rates of smoking and smoking-related diseases than the general population. In California, the smoking prevalence for low SES individuals is 18.6%, over three times higher than the smoking prevalence for more affluent populations.<sup>7</sup> Recent evidence suggests that smoking rates among low SES individuals are expected to increase, thus further widening the gap.<sup>8</sup>

While the consequences of smoking and secondhand smoke affect people from all socioeconomic backgrounds, low SES individuals suffer a disproportionate burden of tobacco-related morbidity and mortality due to disparities in health care, lack of access to medical services, lack of access to smoking cessation programs and lack of support from the medical and social service communities when seeking to quit smoking.<sup>9</sup> Low SES women in particular are at greater risk for health complications as well as certain social consequences due to smoking compared to more affluent women, especially at childbearing age.<sup>10</sup>

Furthermore, tobacco is directly related to and contributes to poverty. According to the World Health Organization, tobacco use contributes to huge economic losses for individuals, families, communities, and entire countries.<sup>11</sup> Tobacco users have higher medical expenses due to tobacco-related illnesses and tend to die at younger ages, leaving their families loss of income, medical bills and other expenses related to their illnesses and deaths.<sup>9</sup> Families also suffer because lower income individuals tend to spend their money on cigarettes rather than food, shelter and other basic necessities.<sup>12</sup> On a national level, tobacco-related diseases and deaths contribute to higher health care costs and increased loss of productivity.<sup>10</sup>

### ***Tobacco Industry Marketing to Low SES Populations***

Low SES populations are also victims of the tobacco industry's unscrupulous marketing practices. The tobacco industry targets low SES individuals and communities by using deceptive marketing practices and by providing generous funding to organizations that provide services to vulnerable populations.<sup>13</sup> The most famous example comes from a mid-1990s campaign created by R.J. Reynolds called Project SCUM (Subculture Urban Marketing). Project SCUM was directly aimed at gay men in the Castro district and homeless individuals in the Tenderloin district of San Francisco. Tobacco companies have also been known to give cigarette-branded logo products to the homeless. Approximately 7,000 "Merit" blankets were given to New York homeless shelters and to homeless individuals in 1994 by Philip Morris.<sup>12</sup>

In addition to targeting social service organizations, the tobacco industry also directly targets low SES communities through excessive advertising and by increasing the availability of cigarettes and other tobacco products in these communities. Several studies have shown that both youth and adults from low-income neighborhoods are directly targeted by tobacco advertisements and are also more likely to live in neighborhoods with higher densities of tobacco retailers than those of higher socioeconomic strata. In their study of store front tobacco advertising, Seidenberg, et. al. (2010), found that low-income and minority communities had a greater number of tobacco retailers than higher-income communities, as well as larger tobacco advertisements, lower advertised prices and tobacco advertisements occurring within 1,000 feet of a school.<sup>14</sup> In a similar study, researchers found that billboards containing tobacco advertising were found predominately in low-income and African American communities.<sup>15</sup>

Military, blue collar, rural and female sub-populations are also not immune to the tobacco industry's reach. Tobacco companies have made allies with military and other government officials in an effort to continue offering military service men and women tobacco products at a discounted price. These companies also appeal to military personnel by packaging their products in order to appear "patriotic." Philip Morris specifically developed the 1776 brand for military personnel and has designed the package complete with the American flag and the colors gold, red, white and blue. The tobacco industry also markets their products in very specific ways towards individuals within the working class (blue collar) and rural populations. Companies such as R.J. Reynolds and Copenhagen routinely create ads showing rugged, "manly," and

cowboy figures to entice rural and working class individuals to buy their products. In addition, tobacco companies will also sponsor sporting events such as car racing and rodeos in an effort to promote their products towards fans.<sup>16</sup>

Perhaps one of the most exploited and sought after populations by the tobacco industry is low-income, under educated women. Tobacco companies play on women's emotions and needs through their advertisements, using body image, sexuality, desirability, and independence as main themes to convince women to buy their products.<sup>17</sup> The tobacco industry is also well aware of the fact that women have a harder time quitting than men and tend to put more of their efforts into marketing to women, low SES women in particular.<sup>18</sup> R.J. Reynolds specifically outlined their marketing strategy to aim their products directly at women with no more than a high school education and from low-income households. These same companies are also aware that women often feel guilty about smoking, especially when exposing their family to second hand smoke, and began marketing "low tar" and "light" cigarettes directly to women, creating the illusion that these products are a healthier and safer alternative. Finally, many of these companies, in keeping the theme of enticing low SES women to buy their products will often give away free household items or food products such as milk, sodas, turkeys, and cleaning products with the purchase of a pack of cigarettes.<sup>15</sup>

## SMOKING, HEALTH AND LOW SES POPULATIONS

The health consequences associated with smoking are life-threatening and far-reaching, affecting both smokers and non-smokers. Individuals of low SES are greatly impacted by the health effects of smoking due to disparities in health and access to health care services. Individuals of low SES tend to have poorer health outcomes than individuals with higher education and incomes, have higher mortality rates and are more likely to have co-occurring health complications.

### Cancer

Low SES individuals are at greater risk for lung, oropharynx, larynx, bladder, and kidney cancers as well as cancers of the head, neck, upper gastrointestinal tract, cervix and uterus.<sup>19</sup> Of all these cancers, smoking can explain approximately 39% of all incidences and when specifically looking at lung cancer, can explain about 40-50% of all lung cancer cases.<sup>20</sup> Low SES female smokers are at seven

times greater risk for developing squamous cell or small cell lung cancer and are at 78% increased risk of dying from the disease, and low SES men are at 89% increased risk of dying from lung cancer.<sup>21</sup>

Smokers who continue to smoke after cancer diagnosis will have a much harder time with their treatment, as cigarette smoke interferes with chemotherapy and other cancer drug therapies. Tseng, et. al. (2010) also indicate that low SES individuals are more likely to return to smoking after cancer treatment is completed and cancer is in remission.<sup>22</sup> Louwman et. al. (2010) also found that low SES smokers with smoking-related cancer had a 50% increased risk of having a serious concomitant disease such as chronic obstructive pulmonary disease (COPD).<sup>23</sup>

Additionally, research indicates that low SES groups tend to receive less intensive care in the treatment of cancer and that low SES women in particular have poor cancer survival rates.<sup>24</sup> <sup>25</sup>This may be partially due to lack of preventive services available for individuals of low SES. According to Gornick, et. al. (2004), low SES individuals are less likely to receive routine cancer screening services, thus resulting in an increased number of both undiagnosed cancer cases and more late stage cancer cases.<sup>26</sup>

Research on cancer, both smoking related and in general, is sorely needed among low SES populations. While there are general statistics and information regarding smoking related cancers among low SES individuals as indicated above, information on specific cancers and their impacts on low SES populations is lacking. If more research were available on cancer among low SES populations, perhaps more lives could be saved through prevention and intervention.

### Other Health Impacts

In addition to cancer, low SES individuals also experience a wide array of other health complications including COPD, cardiovascular disease, stroke and dental diseases. Female smokers also experience decreased fertility and there is some evidence that tobacco smoke damages sperm DNA, causing infertility in men.<sup>5</sup>

As previously mentioned, COPD is often a co-occurring condition in low SES patients with lung cancer. COPD, a disease characterized by blockage of the airways and difficulty breathing, is strongly linked to smoking.<sup>27</sup> Cases of COPD have declined since 1999 among men, but are remaining steady among women. In fact, between 1980 and 2000, the mortality rate for COPD in women increased by 291%.<sup>28</sup> In comparison, this same rate for men increased by 60% during the same 20-year time period. The hospitalization rate for COPD among women is 42%, while the rate for men with COPD is 12%.<sup>27</sup> Although this

information may seem dismal, women who stop smoking see two and a half times greater improvement in lung function than men, so it is imperative that female smokers – especially of low SES - receive tailored cessation services.<sup>27</sup>

**Pregnancy and Smoking**

In California, the smoking rate among pregnant women is 13.3%, compared to 10.7% nationally.<sup>29</sup> Women are more likely to smoke during pregnancy if they are low-income, under educated and/or unmarried.<sup>30</sup> Pregnant women who smoke or are exposed to secondhand smoke at risk for serious medical complications, including placental damage and deformities; placental abruption; placenta previa; ectopic pregnancy and miscarriage; hemorrhaging during and after delivery; and preterm birth.<sup>31 32</sup> In addition, tobacco smoke decreases blood and oxygen supplies from mother to fetus and also decreases maternal immune functions during pregnancy.<sup>33 34</sup> Babies born to smokers are more likely to experience lung and brain damage; have low birth weight and other growth restrictions; experience allergies and asthma; be stillborn; and/or die from sudden infant death syndrome (SIDS).<sup>6</sup>

**Nicotine Addiction and Women**

Research indicates that women may have a harder time quitting smoking than men do.<sup>28</sup> Women also feel less confident in their ability to stop smoking than men, and fear gaining weight if they do quit smoking. When quitting, women experience increased anxiety, depression and irritability due to nicotine withdrawal. Women have a higher behavioral dependence on smoking and as such benefit from tailored cessation programs that include behavioral therapy aimed at reducing weight concerns. Nicotine replacement therapy (NRT) may not be as effective in assisting women who are trying to stop smoking unless combined with counseling to address the behavioral components of tobacco use (such as seeing and smelling cigarettes and the act of smoking).<sup>28</sup>

**LOW INCOME POPULATIONS**

Low income is defined as living at or below the federal poverty line and receiving less than livable income to meet basic needs.<sup>9</sup> In 2009, 14.2% of individuals in California were found to be living below the federal poverty line.<sup>35</sup> Women and children make up a disproportionate part of the low SES population in California, and as such they are more likely to be exposed to secondhand smoke, more susceptible to tobacco carcinogens, and subsequently experience more tobacco-related illnesses.<sup>35</sup>

**California**

- Individuals making less than \$15,000 a year have a smoking prevalence of 17.7%, which is more than twice the prevalence of those making more than \$50,000 per year (7.9%).<sup>36</sup>
- The current smoking prevalence among pregnant women in California is 13.3%.<sup>37</sup> Low-income women are three times more likely to smoke when they are pregnant compared to women of higher income levels. They are also more likely to restart smoking (if they quit during pregnancy) after they give birth, even when breastfeeding.<sup>38</sup>
- Low-income women in California who smoke are more likely to live and/or work in areas where smoking is prohibited indoors or right in front of the building, making it necessary for them to go outside and away from the building to smoke. Given that many live in unsafe neighborhoods, this also puts them at higher risk for being targets of violent crime and harassment.<sup>39</sup>

**California Adult Smoking Prevalence by Income, 2010<sup>36</sup>**

INCOME	SMOKING PREVALENCE
Less than \$15,000	17.7%
\$15,999-24,999	16.2%
\$25,000-34,999	15.6%
\$35,000-49,999	11.5%
\$50,000	7.9%

**United States\***

- People participating in food stamp programs are significantly more likely to smoke (44%) than those who are income eligible for the program but are not participating (35%); both have higher smoking prevalence than higher income people not participating in the food stamp program (25%).<sup>40</sup>
- Food insecure families usually have at least one smoker in the household and spend up to 20% of total family income per month on tobacco products.<sup>12</sup>
- Individuals from lower income communities are 1.5 times as likely to die from lung cancer and chronic obstructive pulmonary disorder (COPD).<sup>7</sup>
- Children from low-income families are 91% more likely to be exposed to second hand smoke, and they are twice as likely to live with a smoker: 56% live in homes where their mother smokes; 39% live in homes where their father smokes; and 5% live in homes where another relative or household member smokes.<sup>41</sup>
- According to research on low-income women and chronic disease, 28.4% of low-income women smoke during pregnancy.<sup>42</sup> Two-thirds of pregnant smokers in the U.S. are Medicaid recipients.<sup>43</sup> Additionally, early onset of daily smoking is related to smoking during pregnancy.<sup>44</sup>

**POPULATIONS WITH LOWER LEVELS OF EDUCATIONAL ATTAINMENT**

California

- California smoking rates among those with a high school GED or less are much higher than among those with some college or more. Individuals who have a high school GED or less education have a combined smoking prevalence of 31.3% compared to those with a college degree (5.9%).<sup>36</sup>
- Lower levels of educational attainment are directly related to lower quit rates.<sup>45</sup>

**California Adult Smoking Prevalence by Educational Level, 2010<sup>36</sup>**

EDUCATION	SMOKING PREVALENCE
Less than High School	14.3%
High School or G.E.D.	17%
Some post High School	14.6%
College Graduate	5.9%

**United States\***

- The smoking prevalence for non-college bound high school seniors is 32.4%, compared to 19.2% for college bound high school seniors.<sup>46</sup>
- Individuals with some post high school education or less are exposed to secondhand smoke at two times the rate of those with college or higher level degrees.<sup>41</sup>
- Individuals with lower levels of education are twice as likely to die from lung cancer and COPD.<sup>41</sup>
- When the price of cigarettes rises, low education smokers are more worried about how they will be able to afford their cigarettes.<sup>48</sup> In particular, the smoking prevalence among low education women decreases as the price of cigarettes rises.<sup>47</sup>
- Mass media campaigns that encourage smoking cessation can be extremely successful among individuals with lower education levels if the materials are very easy to read/understand, the target audience can relate to the characters in the advertisements and the messages are culturally appropriate.<sup>48</sup> In addition, low education women seem to be more responsive to media tobacco control efforts than men of low education and women of higher education.<sup>45</sup>
- Individuals from low education backgrounds are more likely to use quitline assistance to stop smoking than any other type of smoking cessation intervention.<sup>49</sup>



\* The data in the sections titled United States may represent different regions/ states in the US and are not necessarily national studies.

## CO-MORBIDITIES

Individuals suffering from substance use disorders, mental illness, HIV/AIDS and/or disabilities have disproportionately high smoking rates when compared with the general population<sup>50 51 52 53</sup> and are often of low SES as well.<sup>9</sup> The high co-morbidity of smoking with these conditions translates to even worse health outcomes than would normally be experienced.

## SUBSTANCE ABUSE

### California

- In California, Alcohol and Other Drugs (AOD) Counselors must be certified. However, tobacco, nicotine, and smoking are not part of the AOD Counselor certification education.<sup>54</sup>
- A California study found that pregnant women who smoked also had 21 times the rate of amphetamine and methamphetamine use than pregnant nonsmokers.<sup>44</sup>

### United States

- The smoking prevalence among the substance abuse population is just under 50%. Alcoholics make up 26% of the smokers within the substance abuse population.<sup>55</sup>
- The prevalence of smoking is even higher for those enrolled in substance abuse treatment programs.<sup>51</sup>
- Most AOD programs do not offer smoking cessation services as part of treatment. Some counselors and/or treatment facilities even discourage smoking cessation during the AOD treatment process.<sup>55</sup>
- Smokers who are enrolled in or completed a substance abuse program are more likely to die of smoking-related disease/causes than die of causes related to other substances.<sup>55</sup>
- Pregnant smokers with substance abuse disorders are not only at risk from their substance abuse and smoking behaviors for a variety of health complications, but they are also substantially more at risk for low maternal weight gain, preterm labor, spontaneous abortion, stillbirth, placenta previa and abruption, and ectopic pregnancy.<sup>44</sup>
- Smokers with co-occurring substance abuse are generally more heavily addicted to nicotine than smokers who are not co-occurring substance abusers.<sup>55</sup>
- When substance abuse treatment includes a smoking cessation component, it is associated with a 25% increase in long term abstinence from other drugs.<sup>56</sup>

## MENTAL ILLNESS

### United States

- Smoking prevalence varies among individuals with mental illness. Forty to 85% of persons with a mental illness smoke compared to 19.3% of the general population.<sup>57</sup>
- The more mental illnesses diagnosed for one person, the more likely they are to be a heavy smoker.<sup>58</sup>
- The smoking prevalence of soldiers with post-traumatic stress disorder (PTSD) is two to three times greater than the general population.<sup>55</sup>
- Individuals with mental illness live about 25 years less due to smoking-related causes, than non smokers.<sup>58</sup> They also suffer from tobacco-related diseases at twice the rate as peers who are not mentally ill.<sup>58</sup>
- Tobacco use/smoking often is not seen as an addiction or disorder among those who treat mentally ill patients.<sup>55</sup>
- Cigarettes and smoking breaks are often used as rewards in psychiatric treatment facilities. Sometimes, smoking cessation is discouraged by providers because there is a fear it will interfere with treatment.<sup>58</sup>
- Individuals with mental illness attempt to quit at the same rate as smokers without mental illness, but are far less successful.<sup>58</sup>
- Smoking cessation does not interfere the mental health treatment and recovery of clinically depressed patients.<sup>59</sup> Depressive symptoms in patients being treated concurrently for smoking and mental illness decreased significantly compared to smokers only being treated for depression.<sup>59</sup>

## HIV/AIDS

### United States

- The smoking prevalence for the HIV/AIDS population in the U.S. is between 46-76%, compared to 19.3% of the general population.<sup>53</sup>
- Smoking is an immunosuppressant, and coupled with HIV (also an immunosuppressant), increases patients' risks of infection, disease and death significantly compared to those who smoke who are not HIV positive.<sup>60</sup>
- HIV-associated cancers such as anal and cervical cancers are seen more often in HIV patients who smoke.<sup>61</sup>

- Cancers associated with smoking, such as lung cancer, are seen more often in HIV patients who smoke compared to HIV patients who do not smoke.<sup>61</sup>
- Bacterial pneumonia and other pulmonary diseases occur more often in HIV-patients who smoke.<sup>61</sup>
- The benefits of HIV antiretroviral treatments are decreased by smoking, which results in higher rates of both AIDS and non-AIDS related diseases.<sup>61</sup>

## INDIVIDUALS WITH DISABILITIES

### California

- The smoking prevalence among individuals with disabilities in California is 20.9%, compared to the general smoking prevalence in California (13.1%).<sup>1</sup>

### United States

- Individuals who are disabled often have greater respiratory and cardiovascular problems, which smoking exacerbates by further damaging the heart and lungs.<sup>62</sup>
- Disabled individuals are more likely to have issues with mental illness and substance abuse, putting them at risk for severe nicotine addiction.<sup>62</sup>
- Individuals with severe mobility issues are less likely to be asked by their doctors about their smoking habits.<sup>62</sup>
- In one study by Armour, et. al. (2007), more than 40% of smokers with disabilities who were told by their healthcare providers to quit smoking were not given information about smoking cessation programs and treatments.<sup>52</sup>
- There is a limited number of studies conducted on individuals with disabilities and smoking.<sup>62</sup>

## SPECIFIC POPULATIONS

### HOMELESS POPULATIONS

#### United States

- The homeless population has a 73% smoking prevalence, compared to 19.3% of the general population, although this number is most likely underreported given the challenges in surveying this population.<sup>63 64</sup>
- Homeless people tend to engage in alternative smoking behaviors, particularly when they do not have the

money to buy their own pack of cigarettes. These behaviors include: smoking discarded cigarette butts or used filters; borrowing or sharing cigarettes; selling cigarettes to make money; buying single cigarettes; “sniping” cigarettes off the ground or out of ashtrays; and making their own cigarettes out of organic products. Not only does this increase the risk for smoking-related diseases, but these behaviors also put homeless smokers at greater risk for infectious diseases.<sup>64</sup>

- Reasons for smoking among the homeless population include boredom, stress relief, camaraderie and social interaction with others, preserves dignity and gives sense of hope, and service providers offer little support for quitting.<sup>64</sup>
- Many homeless smokers would prefer to quit, if given the opportunity and resources. Reasons they would like to quit include improving their appearance; concerns over short-term and long-term health consequences; concerns for their children and other non-smokers exposed to second hand smoke; rising prices; and smoking as a gateway back to alcohol and other drug use.<sup>64</sup>

## RURAL POPULATIONS

### California

- The smoking prevalence among rural communities in California is substantially higher (between 16% and 21%) than non-rural California communities, and much higher than the general population in California (13.1%).<sup>1</sup>
- The top five California counties with the highest smoking prevalence are all rural counties<sup>1</sup>:
  - > Tuolumne: 21.9%
  - > Butte: 21.0%
  - > Calaveras: 18.1%
  - > Humboldt and Merced: 17.7%

### United States

- Individuals from rural communities have several risk factors for increased tobacco use including poverty, substandard housing and low education levels. Furthermore, a substantial number of women living in these communities are raising children on their own, working between one and three jobs, and suffer from a great deal of stress and depression.<sup>65</sup>
- Often times, individuals from rural communities are unaware of the serious nature of smoking and smoke to relieve stress and depression.<sup>65</sup>

- Individuals from rural communities also have a harder time quitting due to lack of services in their area and lack of knowledge of resources available to them for quitting.<sup>65</sup>
- Smokers from rural communities often have lower self-efficacy, especially among female smokers. These female smokers often have less confidence to quit than rural smokers with higher levels of self-efficacy.<sup>66</sup>
- Smoking is a strong predictor for breastfeeding failure in female smokers from rural communities.<sup>67</sup>

## BLUE COLLAR WORKERS

### California

- While California's smoke free law (see Appendix A) has had an important impact on the general population, one in seven California workers still do not have a smoke-free workplace due to loopholes in the current legislation. Many of the workplaces that still allow smoking can be described as blue collar employment (hotel lobbies and banquet rooms, warehouses, owner-operated businesses, long-term health facilities and licensed family day care homes except during hours of operation).<sup>68</sup>
- In a study of female bartenders in San Francisco, researchers found that stand-alone bars generally do not follow California's workplace smoking law and as a result, low SES women who work in such places are often exposed to secondhand smoke.<sup>69</sup>

### United States

Blue collar workers who smoke are at increased risk for lung cancer, heart disease, and respiratory diseases, and even more so when their job exposes them to hazardous chemicals.<sup>70</sup>

- Many blue collar workers who smoke find it difficult to quit due to a variety of challenges. These challenges include: work environment that supports and encourages smoking; smoking relieves stress and breaks up monotony of job related tasks; belief that smoking will increase alertness on the job; and lack of access to smoking cessation services through job site or employer.<sup>70</sup>

## INCARCERATED INDIVIDUALS

### California

- There is a total smoking ban in place in California Prisons as well as no smoking cessation programs or tools in place for prisoners to utilize.<sup>71</sup>

### United States

The smoking prevalence for incarcerated men is between 70 – 80%; three to four times higher than the general population.<sup>72</sup>

- The smoking prevalence for incarcerated women is between 44 – 91%; two to four times higher than the general population.<sup>72</sup>
- Prisoners who smoke have greater number of heart, circulatory, respiratory, kidney and liver problems.<sup>72</sup>
- Prisoners have greater number of co-morbidities, including mental illness and substance abuse issues. Both of these are associated with a higher number of heavy smokers and a more severe nicotine dependence.<sup>72</sup>
- Medical costs for prisoners make up 11% of most state correctional budgets and most of these costs are expected to double in the next 10 years. Smoking-related diseases make up a large portion of the medical costs for prisoners.<sup>73</sup>
- Female prisoners spend all of their limited income on cigarettes, and when they run out of money, their family members supply them with additional cigarettes. Female prisoners will also barter, smuggle, cadged, and steal to get cigarettes.<sup>73</sup>
- Ninety-seven percent of individuals who are incarcerated in a smoke-free prison usually return to smoking within six months of their release.<sup>72</sup>
- Recent studies have shown that without smoking cessation programs in place at prisons with total smoking bans, male prisoners are more likely to smuggle cigarettes, and only reduce the amount of cigarettes smoked.<sup>75</sup>

## U.S. MILITARY VETERANS

### California

- California men who currently serve in the military have a smoking prevalence of 22.1%, compared to the general smoking prevalence in California (13.1%).<sup>76</sup>

- California women who currently serve in the military have a smoking prevalence of 18.4%, compared to the general smoking prevalence in California (13.1%).<sup>76</sup>

### United States

- The smoking prevalence for rural veterans is 21.5% while the smoking prevalence for urban veterans is 19.4%. Veterans from suburban areas smoke at a rate of 17.2%.<sup>77</sup>
- The current smoking prevalence among active military personnel is 31%. Of these smokers, 79% are male smokers and 21% are female smokers.<sup>78</sup>
- The lowest paid military personnel have a much higher smoking prevalence than officers from higher pay grades.<sup>78</sup>
- The Department of Defense (DoD) spends more than \$1.6 billion each year on tobacco-related medical costs, hospitalizations, and loss of productivity.<sup>79</sup>
- The VA spent \$5 billion in 2008 to treat COPD in veterans.<sup>79</sup>
- Military personnel who smoke are less productive and do not perform as well on physical fitness tests compared to nonsmoking personnel.<sup>79</sup>

## CONCLUSIONS AND RECOMMENDATIONS

The immediate and long-term benefits of smoking cessation extend to men and women of all income and education levels but are more pronounced among low SES adults. The risk of lung and other cancers, cardiovascular diseases, chronic lung diseases, and acute heart attack all significantly decrease when individuals quit smoking. While cessation may seem near impossible for many low SES individuals, there are several effective tools that can help make quitting more likely. Below is a list of recommendations for social service providers and policy recommendations to help provide smoking cessation assistance to low SES individuals, raise funding for additional research on smoking among vulnerable populations, and further prevent the smoking initiation among these populations.

### Organizational Recommendations for Social Service Providers and Others Serving Low SES Populations

Tobacco control policy can have a significant impact on reducing smoking rates and health consequences of smoking among low SES individuals. Below is a list of organizational policies that can help reduce smoking among clients:

- Regulate and/or prohibit tobacco use within your facility. (Please see Appendix A for an explanation of the current law regarding smoking in the workplace.)
- Integrate tobacco cessation programs/counseling into the existing services (if not already available).
- Train staff to provide positive reinforcement and support to those making a quit attempt or contemplating a quit attempt.
- Establish support groups within your agency for those making a quit attempt.
- Enhance programming that targets pregnant low income women with education on how secondhand smoke affects children and babies.
- Provide different types of smoking cessation classes (if possible). Women would benefit from more specifically tailored cessation programs, particularly those that include counseling and behavior modification.
- Hire non-smoking staff.
- Make tobacco cessation a priority within your agency and increase the number of case managers and/or appropriate staff who are trained in treating nicotine addiction.
- Provide basic tobacco and health education classes for clients that include tobacco education information and information regarding the dangers of secondhand smoke.
- Seek out local tobacco control coalitions and partner with them to identify collaborative opportunities and resources.
- Contact the California Smokers' Helpline for resources and to learn more about services for individuals looking to stop smoking. The California Smokers' Helpline has a variety of free educational materials for specific populations.
- Encourage clients to contact the California Smokers' Helpline for cessation services and support: 1-800-NO-BUTTS
- Disseminate helpful information on tobacco prevention and cessation that is specifically tailored for low SES populations.

### **Excise Taxes on Tobacco**

Increasing tobacco excise taxes can be an *effective policy intervention* for: 1) reducing tobacco initiation; 2) reducing tobacco product consumption; and 3) increasing tobacco cessation attempts. Fully addressing these three aspects of tobacco use can also produce significant health care savings for states. In California, reducing the persistently high smoking prevalence among low SES populations would decrease the approximately \$9.14 billion spent annually on tobacco-related healthcare expenditures, as well as the roughly \$2.90 billion spent by the state's Medicaid program treating smoking-related causes.<sup>80</sup>

Directing additional funds from a tobacco tax increase toward tobacco prevention programming and research could also have a considerable positive impact on low SES populations in California. Programming strategies at the state level to reduce smoking among vulnerable populations include targeting health centers that serve low SES populations; promoting smoking cessation in mental health and substance abuse facilities; encouraging smoking cessation programs among social service organizations serving low SES populations; encouraging employers and labor groups to implement smoking cessation programs and support for their employees; and using place-based campaigns (going directly to the affected populations) to reach low SES populations.<sup>81</sup> As indicated in this report, data on tobacco-related cancer among low SES populations is very limited; a boost in funding could help close this gap and ultimately save lives.

### **Policy Recommendations for Social Service Providers and Others Serving Low SES Populations:**

- Support initiatives for increasing cancer research in California. Increasing cancer research will save lives.
- Ensure implementation and adherence to existing policies and laws pertaining to smoking.
- Support tobacco tax increases, and advocate that a portion of the tax should be dedicated to tobacco prevention programming for low SES populations.
  - > The tobacco industry successfully defeated 14 consecutive attempts on increasing the cigarette tax in California, and consequently it has not been raised since 1999.
- Encourage state and local governments to fund tobacco cessation and prevention programs specifically directed at low SES populations.
- Support initiatives to mandate that cigarettes, nicotine, smoking and tobacco are addressed in the California AOD Counselor Certification process.
- Support local initiatives to further create smoke-free environments such as smoke-free multi-unit housing, smoke-free workplaces, and smoke-free parks.

## Appendix A

California Assembly Bill 13 (AB 13)

Labor Code 6404.5

California Workplace Smoking Restrictions

**General Provisions:** "No employer shall knowingly or intentionally permit, and no person shall engage in, the smoking of tobacco products in an enclosed space at a place of employment."<sup>82</sup>

On January 1, 1995, California AB 13 went into effect in an effort to reduce smoking and exposure to secondhand smoke in the workplace. Local law enforcement agencies and public health departments are responsible for overseeing this law and Cal/OSHA is responsible for investigating complaints only when the employer has been found guilty of violating the law three times in one year.<sup>60</sup> Under this law, smoking is prohibited indoors at a place of employment and requires the employer to post "No Smoking" signs and also regulate smoking of nonemployees who are inside the business. However, there are exceptions to this law, thus increasing the likelihood of exposure to secondhand in specific types of jobs. The following is a list of exceptions<sup>60</sup>:

- 65% of the guest rooms of hotels, motels, and similar transient lodging;
- Lobby areas of hotels, motels, and similar transient lodging designated for smoking (not to exceed 25% of the total lobby floor area or, if the lobby area is 2,000 square feet or less, not to exceed 50% of the total lobby floor area);
- Meeting and banquet rooms except while food or beverage functions are taking place (including set-up, service, and clean-up activities or when the room is being used for exhibit activities);
- Retail or wholesale tobacco shops and private smokers lounges;
- Truck cabs or truck tractors, if no nonsmoking employees are present;
- Warehouse facilities with more than 100,00 square feet of total floor space and 20 or fewer full-time employees working at the facility, but does not include any area within such a facility that is utilized as office space;
- Theatrical production sites, if smoking is an integral part of the story;
- Medical research or treatment sites, if smoking is integral to the research or treatment being conducted;

- Private residences, except for homes licensed as family day care homes, during the hours of operation and in those areas where children are present;
- Patient smoking areas in long-term health care facilities.
- Breakrooms designated by employers for smoking, under specified conditions; and
- Employers with five or fewer full or part-time employees, under specified conditions

Businesses that fall under these exceptions can choose to make their establishments smoke free and are encouraged to do so.

- <sup>1</sup> Al-Delaimy, W., White, M., Mills, A., Pierce, J., Emroy, K., Boman, M., Smith, J., & Edland, S. *Two Decades of the California Tobacco Control Program: California Tobacco Survey, 1990-2008*. 2010. Available at: [http://www.cdph.ca.gov/programs/tobacco/Documents/CDPH\\_CTS2008%20summary%20report\\_final.pdf](http://www.cdph.ca.gov/programs/tobacco/Documents/CDPH_CTS2008%20summary%20report_final.pdf)
- <sup>2</sup> Pierce, J., Messer, K., White, M., Cowling, D., & Thomas, D. Prevalence of Heavy Smoking in California and the United States, 1965-2007. *Journal of the American Medical Association*. 2011, 305(11): 1106-1112.
- <sup>3</sup> Pierce, J., Messer, K., White, M., Kealey, S., & Cowling, D. Forty Years of Faster Decline in Cigarette Smoking in California Explains Current Lower Lung Cancer Rates. *Cancer Epidemiology, Biomarkers and Prevention*. 2010 Sept 10; 19(11): 2801-2810.
- <sup>4</sup> Center for Disease Control and Prevention. Smoking and Tobacco Use. 2011. Available at: <http://www.cdc.gov/tobacco/index.htm>.
- <sup>5</sup> U.S. Surgeon General. Health Effects of Cigarette Smoking Factsheet. 2011. Available at: [http://www.cdc.gov/tobacco/data\\_statistics/fact\\_sheets/health\\_effects/effects\\_cig\\_smoking/](http://www.cdc.gov/tobacco/data_statistics/fact_sheets/health_effects/effects_cig_smoking/)
- <sup>6</sup> U.S. Department of Health and Human Services. *How Tobacco Smoke Causes Disease: The Biology and Behavioral Basis for Smoking-Attributable Disease: A Report of the Surgeon General*. 2010.
- <sup>7</sup> American Lung Association in California, The Center for Tobacco Policy & Organizing. *Tobacco Use Among California's Diverse Populations*. 2010.
- <sup>8</sup> Franks, P., Jerant, A., Leigh, P., Lee, D., Chiem, A., Lewis, I., & Lee, S. Cigarette Prices, Smoking, and the Poor: Implications of Recent Trends. *American Journal of Public Health*. 2010 Oct; 97(10): 1873 – 1877. DOI: 10.2105/AJPH.2006.090134.
- <sup>9</sup> American Legacy. *Tobacco Control in Low SES Populations*. Sept. 2010.
- <sup>10</sup> Laino, C. *Female Smokers More Susceptible to Tobacco Carcinogens than Men*. 2003 Aug. 20. Available at: DocGuide.com
- <sup>11</sup> World Health Organization. *Tobacco and Poverty: A Vicious Cycle*. 2004: A WHO Publication.
- <sup>12</sup> Cutler-Triggs, C., Fryer, G., Miyoshi, T., Weitzman, M. Increased Rates and Severity of Child and Adult Food Insecurity in Households with Adult Smokers. *Pediatric and Adolescent Medicine*. 2008; 162(11): 1056-1062.
- <sup>13</sup> Apollonio, D. & Malone, R. Marketing to the marginalized: Tobacco industry targeting of the homeless and the mentally ill. *Tobacco Control*. 2005; 14(6): 409 – 415.
- <sup>14</sup> Seidenberg, A., Caughey, R., Rees, V., & Connolly, G. Storefront Cigarette Advertising Differs by Community Demographic Profile. *American Journal of Health Promotion*. 2010 Jul-Aug; 24(6): e26 – e31.
- <sup>15</sup> Luke, D., Esmundo, E., & Bloom, Y. Smoke signs: patterns of tobacco billboard advertising in a metropolitan region. *Tobacco Control*. 2000; 9: 16 – 23.
- <sup>16</sup> U.S. Department of Health and Human Services, National Institute of Health, National Cancer Institute. Monograph 19: The Role of the Media in Promoting and Reducing Tobacco Use. *Tobacco Control Monographs*. 2008. Available at: <http://www.cancercontrol.cancer.gov/tcrb/monographs/19/index.html>
- <sup>17</sup> Anderson, SJ, Glantz, SA, & Ling PM. Emotions for sale: cigarette advertising and women's psychological needs. *Tobacco Control*. 2005; 14: 127-135. DOI: 10.1136/tc.2004.009076.
- <sup>18</sup> Center for Disease Control and Prevention. Smoking and Tobacco Use Highlights: Marketing Cigarettes to Women. *U.S. Surgeon General's Report*. 2001. Available at: [http://www.cdc.gov/tobacco/data\\_statistics/sgr/2001/highlights/marketing/index.htm](http://www.cdc.gov/tobacco/data_statistics/sgr/2001/highlights/marketing/index.htm)
- <sup>19</sup> Aarts, M., van der Aa, M., Coebergh, J.W.W., & Louwman, W.J. Reduction of socioeconomic inequality in cancer incidence in the South of the Netherlands during 1996-2008. *European Journal of Cancer*. 2010; 46: 2633 – 2646. DOI: 10.1016/j.ejca.2010.07.039.
- <sup>20</sup> Louwman, W.J., van Lenthe, F.J., Coebergh, J.W., & Mackenbach, J.P. Behaviour partly explains educational differences in cancer incidence in the south-eastern Netherlands: the longitudinal GLOBE study. *European Journal of Cancer*. 2004 Apr; 13(2): 119 – 125.
- <sup>21</sup> Ekberg-Aronsson, M., Nilsson, P., Nilsson, J., Pehrsson, K., & Lofdahl, C. Socio-economic status and lung cancer risk including histologic subtyping: A longitudinal study. *Lung Cancer*. 2006; 51: 21 – 29. DOI: 10.1016/j.lungcan.2005.08.014.
- <sup>22</sup> Tseng, T.S., Lin, H.Y., Martin, M.Y., Chen, T., & Partidge, E.E. Disparities in smoking and cessation status among cancer survivors and non-cancer individuals: a population – based study from National Health and Nutrition Examination Survey. *Journal of Cancer Survival*. 2010; 4(4): 313 – 321.
- <sup>23</sup> Louwman, W.J., Aarts, M.J., Houterman, S., van Lenthe, F.J., Coebergh, J.W.W., & Janssen – Heijnen, M.L.G. A 50% higher prevalence of life-shortening chronic conditions among cancer patients with low socioeconomic status. *British Journal of Cancer*. 2010; 103: 1742 – 1748. DOI: 10.1038/sj.bjc.6605949.
- <sup>24</sup> Berglund, A., Homberg, L., Tishelman, C., Wagenius, G., Eaker, S., & Lambe, M. Social inequalities in non-small cell lung cancer management and survival: a population-based study in Central Sweden. *Thorax*. 2010; 65(4): 327 – 333.

- <sup>25</sup> Paskett, E., McLaughlin, J., Reiter, P., Lehman, A., Rhoda, D., Katz, M., Hade, E., Post, D., & Ruffin, M. Psychosocial Predictors of Adherence to Risk-appropriate Cervical Cancer Screening Guidelines: a cross sectional study of women in Ohio Appalachia participating in the Community Awareness Resources and Education (CARE) project. *Preventative Medicine*. 2010; 50(1-2): 74. DOI: 10.1016/j.ypmed.2009.09.001.
- <sup>26</sup> Gornick, M., Eggers, P. & Gerald, R. Associations of Race, Education, and Patterns of Preventive Service Use with Stage of Cancer at Time of Diagnosis. *Health Services Research*. 2004 Oct; 39(5): 1403 – 1427.
- <sup>27</sup> Center for Disease Control and Prevention. Chronic Obstructive Pulmonary Disease (COPD). 2011. Available at: <http://www.cdc.gov/copd/>.
- <sup>28</sup> Rahmanian, S., Diaz, P., & Wewers, M.E. Tobacco Use and Cessation Among Women: Research and Treatment-Related Issues. *Journal of Women's Health*. 2011; 20(3): 349 – 357. DOI: 10.1089/jwh.2010.2173.
- <sup>29</sup> American Lung Association. *Key Facts About Smoking Among Women*. Available at: <http://www.lungusa.org/stop-smoking/about-smoking/facts-figures/women-and-tobacco-use.html>
- <sup>30</sup> Ren, J. & Huang, Y. Socioeconomic Status and Women's Smoking Behavior: A Literature Review. *HealthMED*. 2011; 5(2): 343 – 349.
- <sup>31</sup> Kharrazi, M., DeLorenze, G., Kaufman, F., Eskenazi, B., Bernert, J., Graham, S., Pearl, M., & Pirkle. Environmental Tobacco Smoke and Pregnancy Outcomes. *Epidemiology*. 2004 Nov; 15(6): 660 – 670.
- <sup>32</sup> Zdravkovic, T., Genbacev, O., McMaster, M.T., & Fisher, S.J. The adverse effects of maternal smoking on the human placenta: A review. *Placenta*. 2005 Apr; 26: S81 – S86.
- <sup>33</sup> Drake, P., Gunn, M., Charo, I., Tsou, C.L., Zhou, Y., Huang, L., & Fisher, S.J. Human Placental Cytotrophoblasts Attract Monocytes and CD56bright Natural Killer Cells via the Actions of Monocyte Inflammatory Protein 1 $\alpha$ . *Journal of Experimental Medicine*. 2001 May; 193(1): 1199 – 1212.
- <sup>34</sup> Genbacev, O., McMaster, M.T., Zdravkovic, T., & Fisher, S.J. Disruption of oxygen-regulated responses underlies pathological changes in the placentas of women who smoke or who are passively exposed to smoke during pregnancy. *Reproductive Toxicology*. 2003; 17: 509 – 518. DOI: 10.1016/S0890-6238(03)00094-7.
- <sup>35</sup> U.S. Census Bureau. *State and County QuickFacts: California*. 2011. Available at: <http://quickfacts.census.gov/qfd/states/06000.html>
- <sup>36</sup> Behavioral Risk Factor Surveillance System. *Prevalence and Trends Data: California*. 2010. Available at: <http://apps.nccd.cdc.gov/brfss/>
- <sup>37</sup> California Department of Public Health, Tobacco Control Program. *Smoking During Pregnancy Factsheet*. 2006. Available at: <http://www.cdph.ca.gov/programs/tobacco/Documents/CTCPPregnancy06.pdf>
- <sup>38</sup> California Department of Health Services, Tobacco Control Section. *Smoking During Pregnancy Factsheet*. 2004. Available: [www.dhs.ca.gov/tobacco](http://www.dhs.ca.gov/tobacco).
- <sup>39</sup> Moore, R., Annechino, R., & Lee, J. Unintended Consequences of Smoke-Free Bar Policies for Low SES Women in Three California Counties. *American Journal of Preventative Medicine*. 2009; 37(2): S138 – S143.
- <sup>40</sup> USDA. *Nutrition and Health Characteristics of Low-Income Populations: Volume I, Food Stamp Program Participants and Nonparticipants*. 2004.
- <sup>41</sup> Levy, D., Rigotti, N., & Winickoff, J. Medicaid expenditures for children living with smokers. *BMC Health Services Research*. 2010; 125(11): pp. 1 – 7.
- <sup>42</sup> Bombard, JM, Dietz, PM, Galavotti, C, England, LJ, Tong, VT, Hayes, DK, & Morrow, B. Chronic Diseases and Related Risk Factors among Low-Income Mothers. *Maternal Child Health*. 2010 Dec; 14: E-pub.
- <sup>43</sup> Jessup, M. Organizational Change in a Perinatal Treatment Setting: Integration of Clinical Practice and Policies on Tobacco and Smoking Cessation. *Journal of Psychoactive Drugs*. 2007 Dec; 39(4): 461 – 472.
- <sup>44</sup> Gilman, S., Breslau, J., Subramanian, S., Hitsman, B., & Koenen, K. Social Factors, Psychopathology, and Maternal Smoking During Pregnancy. *American Journal of Public Health*. 2008 Mar; 98(3): 448 – 453.
- <sup>45</sup> Zhu, S., Hebert, K., Wong, S., Cummins, S., & Gamst, A. Disparity in smoking prevalence by education: can we reduce it? *Global Health Promotion*. 2010; 17: 29 – 39.
- <sup>46</sup> Campaign for Tobacco Free Kids. *Tobacco and Socioeconomic Status*. Washington (DC); 2011 Factsheet.
- <sup>47</sup> Levy, D., Mumford, E., & Compton, C. Tobacco control policies and smoking in a population of low education women, 1992-2002. *Journal of Epidemiol Community Health*. 2006; 60(Suppl II): ii20-ii26.

- <sup>48</sup> Vallone, D., Niederdeppe, J., Richardson, A., Patwardhan, P., Niaura, R., & Cullen, J. A National Mass Media Smoking Cessation Campaign: Effects by Race/Ethnicity and Education. *American Journal of Health Promotion*. 2011; 25(5): S38 – S50.
- <sup>49</sup> Burns, E., Deaton, E., & Levinson, A. Rates and Reasons: Disparities in Low Intentions to Use a State Smoking Cessation Quitline. *American Journal of Health Promotion*. 2011; 25(5): pp. S59-S65.
- <sup>50</sup> Dani, J. & Harris, R. Nicotine addiction and comorbidity with alcohol abuse and mental illness. *Nature Neuroscience*. 2005 Nov; 8(11): 1465 – 1470.
- <sup>51</sup> Solway, E. The Lived Experiences of Tobacco Use, Dependence, and Cessation: Insights and Perspectives of People With Mental Illness. *National Association of Social Workers*. 2011 ; 36(1): 19 – 32.
- <sup>52</sup> Armour, B., Campbell, V., Crews, J., Malarcher, A., Maurice, E., & Richard, R. State-Level Prevalence of Cigarette Smoking and Treatment Advice, by Disability Status, United States, 2004. *Prevention of Chronic Diseases*. 2007 Oct; 4(4): 1 – 11.
- <sup>53</sup> Lifson, A., Nuehaus, J., Arribas, J., van den Berg-Wolf, M., Labriola, A., & Read, T. Smoking-Related Health Risks Among Persons with HIV in the Strategies for Management of Antiretroviral Therapy Clinical Trial. *American Journal of Public Health*. 2010 Oct; 100(10): 1896 – 1903.
- <sup>54</sup> Kurita, K. & Guydish, J. Substance Abuse Counselor Certification in California: How is Nicotine Addiction Addressed? *Journal of Psychoactive Drugs*. 2007; 39(4): 473 – 477.
- <sup>55</sup> Hurt, R. *Substance Abuse and Mental Health Co-Morbidity: The Role of Nicotine Addiction in Tobacco Use*. Interagency Committee on Smoking and Health. 2008 Dec 8. Available at: [http://www.cdc.gov/tobacco/icsh/meetings/summary120808/substance\\_abuse/](http://www.cdc.gov/tobacco/icsh/meetings/summary120808/substance_abuse/).
- <sup>56</sup> Prochaska, J., Delucchi, K., & Hall, S. A Meta-Analysis of Smoking Cessation Interventions With Individuals in Substance Abuse Treatment or Recovery. *Journal of Consulting and Clinical Psychology*. 2004; 72(6): 1144 – 1156.
- <sup>57</sup> McClave, A., McKnight-Eily, L., Davis, S., & Dube, S. Smoking characteristics of adults with selected lifetime mental illnesses: results from the 2007 National Health Interview Survey. *American Journal of Public Health*. 2010; 100(12): 2464 – 2472.
- <sup>58</sup> Prochaska, J. Smoking and Mental Illness – Breaking the Link. *New England Journal of Medicine*. 2011 Jul; 365(3): 196 – 198.
- <sup>59</sup> Prochaska, J., Hall, S., Tsoh, J., Eisendrath, S., Rossi, J., Redding, C., Rosen, A., Meisner, M., Humfleet, G., & Gorecki, J. Treating Tobacco Dependence in Clinically Depressed Smokers: Effect of Smoking Cessation on Mental Health Functioning. *American Journal of Public Health*. 2008 Mar; 98(3): 446 – 448.
- <sup>60</sup> National LGBT Tobacco Control Network. Positively Smokefree: Helping HIV+ Smokers to Quit; Achievements of a Cessation Program. *Sharing Our Lessons*. 2010; Issue 3.
- <sup>61</sup> National Coalition for LGBT Health. *Tobacco Smoke & HIV/AIDS*. No date. Available at: [www.lgbthealth.net](http://www.lgbthealth.net).
- <sup>62</sup> Becker, H. & Brown, A. Disparities in Smoking Behaviors Among Those With and Without Disabilities From 2001 – 2005. *Public Health Nursing*. 2008; 25(6): 526 – 535.
- <sup>63</sup> Baggett, T. & Rigotti, N. Cigarette Smoking and Advice to Quit in a National Sample of Homeless Adults. *American Journal of Preventative Medicine*. 2010; 39(2): 164 – 172.
- <sup>64</sup> Okuyemi, K., Caldwell, A., Thomas, J., Born, W., Richter, K., Nollen, N., Braunstein, K. & Ahluwalia, J. Homeless and smoking cessation: Insights from focus groups. *Nicotine and Tobacco Research*. 2005; 8(2): pp. 287 – 296.
- <sup>65</sup> Maring, E. & Braun, B. Drug, alcohol, and tobacco use in rural, low-income families: An ecological risk and resilience perspective. College Park (MD): Maryland Family Policy Impact Seminar; 2005 Sept.
- <sup>66</sup> Berg, C., Cox, L., Mahnken, J., Greiner, K., & Ellerbeck, E. Autonomous Motivation as a Critical Factor in Self-Efficacy among Rural Smokers. *Journal of Health Psychology*. 2010 Feb 17; 13(3): 416 – 429.
- <sup>67</sup> Bailey, B. & Wright, H. Breastfeeding initiation in a rural sample: predictive factors and the role of smoking. *Journal of Human Lactation*. 2011 Feb; 27(1): 33 – 40.
- <sup>68</sup> Moore, R., Lee, J., Martin, S., Todd, M., & Chu, B. Correlates of Persistent Smoking in Bars Subject to Smokefree Workplace Policy. *International Journal of Environmental Research and Public Health*. 2009; 6: 1341 – 1357.
- <sup>69</sup> Moore, R., Lee, J., Antin, T., & Martin, S. Tobacco free workplace policies and low socioeconomic status female bartenders in San Francisco. *Journal of Epidemiol Community Health*. 2006 Aug; 60(Suppl II): ii51 – 1156.
- <sup>70</sup> Sorensen, G., Barbeau, E., Hunt, M., & Emmons, K. Reducing Social Disparities in Tobacco Use: A Social-Contextual Model for Reducing Tobacco Use Among Blue-Collar Workers. *American Journal of Public Health*. 2004 Feb; 94(2): pp. 230 – 239.
- <sup>71</sup> Break Free Alliance. *Recommendations for Addressing Tobacco Use in Correctional Facilities through Policy and Cessation Programming*. Health Education Council Briefing Paper. No date.

- <sup>72</sup> Cropsey, K., Eldridge, G., Weaver, M., Villalobos, G., Stitzer, M. & Best, A. Smoking Cessation Intervention for Female Prisoners: Addressing an Urgent Public Health Need. *American Journal of Public Health*. 2008; 98(10): 1894 – 1901.
- <sup>73</sup> Cropsey, K., Eldridge, G., & Ladner, T. Smoking among female prisoners: An ignored public health epidemic. *Addictive Behaviors*. 2004; 29: 425 – 431.
- <sup>74</sup> Kauffman, R., Ferketich, A., & Wewers, M.E. Tobacco Policy in American Prisons, 2007. *Tobacco Control*. 2008 Jul 4.
- <sup>75</sup> Kauffman, R., Ferketich, A., Murray, D., Ellair, P., & Wewers, M.E. Tobacco Use by Male Prisoners Under an Indoor Smoking Ban. *Nicotine and Tobacco Research*. 2011 Mar 29.
- <sup>76</sup> Crawford, R., Olsen, C., Thompson, B., & Barbour, G. California Active Duty Tobacco Use Survey 2004. A Report of the California Department of Health Services, Chronic Disease and Injury Control, Tobacco Control Section. 2005. Available at: <http://www.cdph.ca.gov/programs/Tobacco/Documents/CTCPActiveDutyTobaccoStudy.pdf>
- <sup>77</sup> Vander Weg, M. & Cunningham, C. *Tobacco Use Among Rural Veterans*. Department of Veterans Affairs, Veterans Rural Health Resource Center. 2011.
- <sup>78</sup> Legacy For Health. *Factsheet: Tobacco Use in the Military*. 2010.
- <sup>79</sup> Institute of Medicine, Committee on Smoking Cessation in Military and Veteran Populations. *Combating Tobacco in Military and Veteran Populations*. 2009.
- <sup>80</sup> Campaign for Tobacco-Free Kids. *New Revenues, Public Health Benefits & Cost Savings From a \$1.00 Cigarette Tax Increase in California*. 2011. Available at: [http://www.californiansforacure.org/fs/global:file/blog/ykrsj1u9s4lww4\\_files/file/id/ziwh5vhr469vfu?\\_c=zzncyfwi859sju](http://www.californiansforacure.org/fs/global:file/blog/ykrsj1u9s4lww4_files/file/id/ziwh5vhr469vfu?_c=zzncyfwi859sju)
- <sup>81</sup> Roeseler, A., Anderson, C.M., Hansen, K., Arnold, M., Zhu, S. Creating Positive Turbulence: A Tobacco Quit Plan for California. A Report of the California Department of Public Health, Chronic Disease and Injury Control, Tobacco Control Program. 2009.
- <sup>82</sup> Cal/OSHA. AB-13 Factsheet – California Workplace Smoking Restrictions. 1997. Available at: [http://www.dir.ca.gov/dosh/dosh\\_publications/smoking.html](http://www.dir.ca.gov/dosh/dosh_publications/smoking.html)





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## **Smoking in Low Socioeconomic Status Populations: Prevalence, Health Impact, Challenges and Recommendations**

### ***Report Highlights***

Despite increased efforts in tobacco control over the last several decades, smoking continues to be the number one cause of preventable disease and death in the United States, killing more than 393,000 people every year.<sup>i</sup> While smoking rates have steadily decreased since the release of the first Surgeon General's Report in 1964, individuals of low socioeconomic status (SES) experience much higher rates of smoking and smoking-related diseases than the general population. In California, the smoking prevalence for low SES individuals is 18.6%, over three times higher than the smoking prevalence for more affluent populations.<sup>ii</sup> Recent evidence suggests that smoking rates among low SES individuals are expected to increase, thus further widening the gap.<sup>iii</sup>

*Smoking in Low Socioeconomic Status Populations* outlines the smoking behaviors and health impacts among the following low SES populations throughout California: low income, lower levels of educational attainment, substance abuse, mental illness, HIV/AIDS, individuals with disabilities, homeless, rural, blue collar, incarcerated, and military. Women of low SES are given prominence in this report as they experience more severe health consequences from smoking. Specifically, included are smoking rates among low SES women; health consequences of smoking among women, including general health, cancer, and reproductive health; and how the tobacco industry directly markets tobacco products to low SES women. Challenges and recommendations for social service providers, other people who work with individuals from low SES communities, and policymakers are also outlined in this report.

### **Highlights:**

- Low SES female smokers are at seven times greater risk for developing squamous cell or small cell lung cancer and are at 78% increased risk of dying from the disease, and low SES men are at 89% increased risk of dying from lung cancer.<sup>iv</sup>
- Low SES smokers with smoking-related cancer had a 50% increased risk of having a serious concomitant disease such as chronic obstructive pulmonary disease (COPD).<sup>v</sup>
- Nationally, 10.7% of pregnant women smoke during pregnancy.<sup>vi</sup> In California, the smoking rate among pregnant women is 13.3%.<sup>vii</sup>

- Low-income women in California who smoke are more likely to live and/or work in areas where smoking is prohibited indoors or right in front of the building, making it necessary for them to go outside and away from the building to smoke. Given that many live in unsafe neighborhoods, this also puts them at higher risk for being targets of violent crime and harassment.<sup>viii</sup>
- Individuals with mental illness live about 25 years less due to smoking-related causes, than non smokers.<sup>ix</sup> They also suffer from tobacco-related diseases at twice the rate as peers who are not mentally ill.<sup>ix</sup>
- Research indicates that women may have a harder time quitting smoking than men do.<sup>x</sup>
- The tobacco industry is also well aware of the fact that women have a harder time quitting than men and tend to put more of their efforts into marketing to women, low SES women in particular.<sup>xi</sup> R.J. Reynolds specifically outlined their marketing strategy to aim their products directly at women with no more than a high school education and from low-income households.

The immediate and long-term benefits of smoking cessation extend to men and women of all income and education levels but are more pronounced among low SES adults. The risk of lung and other cancers, cardiovascular diseases, chronic lung diseases, and acute heart attack all significantly decrease when individuals quit smoking. While cessation may seem near impossible for many low SES individuals, there are several effective tools that can help make quitting more likely. This report concludes by outlining recommendations and providing information about such tools so that organizations serving low SES smokers can assist both their clients and staff in becoming smoke free.

<sup>i</sup> Center for Disease Control and Prevention. Smoking and Tobacco Use. 2011. Available at: <http://www.cdc.gov/tobacco/index.htm>.

<sup>ii</sup> American Lung Association in California, The Center for Tobacco Policy & Organizing. *Tobacco Use Among California's Diverse Populations*. 2010.

<sup>iii</sup> Franks, P., Jerant, A., Leigh, P., Lee, D., Chiem, A., Lewis, I., & Lee, S. Cigarette Prices, Smoking, and the Poor: Implications of Recent Trends. *American Journal of Public Health*. 2010 Oct; 97(10): 1873 – 1877. DOI: 10.2105/AJPH.2006.090134.

<sup>iv</sup> Ekberg-Aronsson, M., Nilsson, P., Nilsson, J., Pehrsson, K., & Lofdahl, C. Socio-economic status and lung cancer risk including histologic subtyping: A longitudinal study. *Lung Cancer*. 2006; 51: 21 – 29. DOI: 10.1016/j.lungcan.2005.08.014.

<sup>v</sup> Louwman, W.J., Aarts, M.J., Houterman, S., van Lenthe, F.J., Coebergh, J.W.W., & Janssen – Heijnen, M.L.G. A 50% higher prevalence of life-shortening chronic conditions among cancer patients with low socioeconomic status. *British Journal of Cancer*. 2010; 103: 1742 – 1748. DOI: 10.1038/sj.bjc.6605949.

<sup>vi</sup> American Lung Association. *Key Facts About Smoking Among Women*. Available at: <http://www.lungusa.org/stop-smoking/about-smoking/facts-figures/women-and-tobacco-use.html>

<sup>vii</sup> Behavioral Risk Factor Surveillance System. *Prevalence and Trends Data: California*. 2010. Available at: <http://apps.nccd.cdc.gov/brfss/>

<sup>viii</sup> Moore, R., Annechino, R., & Lee, J. Unintended Consequences of Smoke-Free Bar Policies for Low SES Women in Three California Counties. *American Journal of Preventative Medicine*. 2009; 37(2): S138 – S143.

<sup>ix</sup> Prochaska, J. Smoking and Mental Illness – Breaking the Link. *New England Journal of Medicine*. 2011 Jul; 365(3): 196 – 198.

<sup>x</sup> Rahmanian, S., Diaz, P., & Wewers, M.E. Tobacco Use and Cessation Among Women: Research and Treatment-Related Issues. *Journal of Women's Health*. 2011; 20(3): 349 – 357. DOI: 10.1089/jwh.2010.2173.

<sup>xi</sup> Center for Disease Control and Prevention. Smoking and Tobacco Use Highlights: Marketing Cigarettes to Women. *U.S. Surgeon General's Report*. 2001. Available at: [http://www.cdc.gov/tobacco/data\\_statistics/sgr/2001/highlights/marketing/index.htm](http://www.cdc.gov/tobacco/data_statistics/sgr/2001/highlights/marketing/index.htm)