

2018

Social, Health, and Economic Effects of Smokefree Laws

Summary

One of the four key goals the Wyoming Tobacco Prevention and Control Program (TPCP) shares with the federal tobacco prevention and control program is to decrease exposure to secondhand smoke (Centers for Disease Control and Prevention [CDC] 2017). According to the Surgeon General (U.S. Department of Health and Human Services [USDHHS], 2014) and the Centers for Disease Control and Prevention (CDC, 2014), smokefree policies improve public health by reducing exposure to secondhand smoke. By enacting and implementing smokefree indoor air policies and laws, Wyoming communities reduce exposure to secondhand smoke and, ultimately, can reduce tobacco-related economic costs, disease, and death (CDC, 2017).

Smokefree indoor air laws also contribute to social norms against smoking and reduce cigarette consumption and related health problems (CDC, 2014; USDHHS, 2014). Independent, high-quality research uniformly shows that smokefree laws do not result in net negative economic impacts (Loomis, Shafer, & van Hasselt, 2013; Scollo, Lal, Hyland, & Glantz, 2003; USDHHS, 2006).

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This publication was supported by Tobacco Settlement Funds. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the Wyoming Department of Health.

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Effects of Smokefree Indoor Air Laws in Wyoming

In 2009, WYSAC compared towns in Wyoming with comprehensive smokefree indoor air laws to similar towns in Wyoming without comprehensive smokefree indoor air laws. The analyses examined the effect of these laws on attitudes toward tobacco use and smoking behaviors among youth and adults. The full report, including a description of the comparison towns, is available at <https://wysac.uwyo.edu/wyomingtobacco/>.

The 2009 smokefree indoor air laws were associated with greater shifts toward anti-smoking attitudes among youth and greater reductions in youth smoking prevalence when compared to towns without smokefree indoor air laws (Figure 1).

Figure 1: Smokefree Indoor Air Laws Increase Youths' Anti-Cigarette Attitudes

Percentage change in youth attitudes in towns without versus with smokefree indoor air laws

It is a little bit wrong or not wrong at all for someone their age to use cigarettes



Adults in the neighborhood would think it is a little bit wrong or not wrong at all for kids to smoke cigarettes



Have one or more friends who have used cigarettes in the past year



Reported it is sort of easy or very easy to get cigarettes



Note: A positive percentage change shows that youth attitudes became less favorable regarding smoking. A negative percentage change shows that youth attitudes became more favorable regarding smoking.

Source: WYSAC, 2009.

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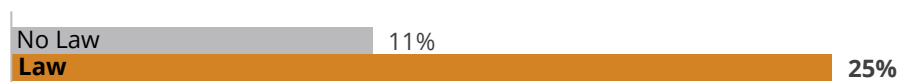
There were also greater reductions in smoking prevalence for youth in towns with comprehensive smokefree indoor air laws compared to youth in towns without such laws (Figure 2).

WYSAC's analysis did not show any statistically significant differences for measured adult attitudes regarding smoking or the percentage of adults who smoked, how much those adults smoked, or those adults' attempts to quit smoking between Wyoming towns with comprehensive smokefree indoor air laws and comparison towns.

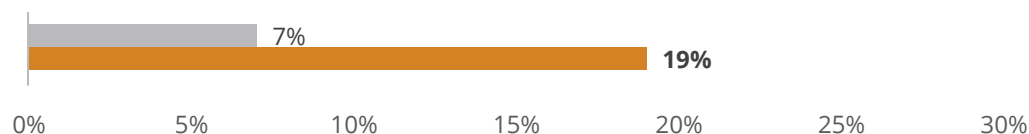
Figure 2: Smokefree Indoor Air Laws Discourage Teen Smoking

Percentage change in lifetime and current cigarette use in towns without versus with smokefree indoor air laws

In their lifetime



During the 30 days prior to being surveyed



Note: A positive change reflects a decrease in the percentage of youth reporting smoking.

Source: WYSAC, 2009.

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Health Effects

Indicating compliance with smokefree air laws, studies show that youth and adults who live in towns with smokefree indoor air laws are less likely to report exposure to secondhand smoke in restaurants than youth and adults who live in towns without smokefree indoor air laws. They are also less likely to report respiratory health problems associated with tobacco smoke (Callinan et al., 2016; Cance, Talley, & Fromme, 2015; Guide to Community Preventive Services, 2015; Lin, Park, & Seo, 2015).

Overall, exposure to secondhand smoke increases the risk of heart attacks (medically described as acute myocardial infarction). Diseases of the heart, such as heart attacks, are the leading cause of death in Wyoming (CDC, National Center for Health Statistics, 2017). Meyers, Neuberger, & He (2009) conducted a literature review and meta-analysis of studies published between 2004 and 2009 and found that smokefree indoor air policies protect the public from

heart attacks. Data from towns (including Helena, Montana, and Pueblo, Colorado) also show that smokefree indoor air laws decrease this risk. Young people and nonsmokers benefit the most from this effect. Myers and colleagues noted that the laws have short-term effects, but it may take years to show their full effects. Vander Weg, Rosenthal, and Vaughn Sarrazin (2012) examined the effects of local and state-level smokefree indoor air laws covering restaurants, bars, and workplaces passed in the United States between 1991 and 2008. They focused on the hospitalizations of Medicare beneficiaries aged 65 and older. In the three years after the laws went into effect, hospital admission rates for heart attacks fell.

Hahn (2010) conducted a literature review covering work published in the first decade of the 21st century. She found that comprehensive smokefree air laws “improve the health of hospitality workers and the general population by improving indoor air quality, reducing [heart attacks and asthma problems,] and improving infant and birth outcomes” (p. S66); additional outcomes included smaller percentages of people who smoked, smokers smoking less, and smokers having more success quitting smoking.

Mackay, Irfan, Haw, and Pell (2010) pooled data from 17 studies and found strong evidence that smokefree air laws reduce the risk of heart attack in those communities, and that this protection increases over time. In a prestigious Cochrane Review, Callinan, Clarke, Doherty, and Kelleher (2010) found that smokefree air laws reduced exposure to secondhand smoke in public places, especially for people working in restaurants, bars, and other hospitality workplaces. These findings are consistent with CDC’s logic models.

One potential unintended consequence of smokefree air policies covering public places is moving that smoking to homes, potentially around children. Callinan et al. (2010) found no evidence for such a shift in their review of published studies. This finding was replicated in a study conducted by McGeary, Dave, Lipton, and Roeper (2017). On the contrary, McGeary et al., like some of the studies reviewed by Callinan et al., found reductions in exposure to secondhand smoke at home after laws covering public places were enacted.

Collectively, chronic obstructive pulmonary disorder (COPD) and other lower respiratory diseases are the fourth leading cause of death in Wyoming (CDC, National Center for Health Statistics, 2017). Hahn, Rayens, Adkins, Simpson, and Frazier (2014) compared data from regions in Kentucky that had municipal smokefree indoor air laws to regions that did not have such laws. They found that people living in towns with comprehensive laws had a 22% reduced risk of hospitalization for COPD compared to people living in towns with non-comprehensive laws or no laws at all. Vander Weg and colleagues (2012) found that Medicare-billed hospital admission rates for COPD fell by 15% in the first three years after implementing comprehensive smokefree indoor air laws.

Economic Effects of Smokefree Indoor Air Laws

Loomis, Shafer, and van Hasselt (2013) examined the economic impact of smokefree laws in the United States and found that smokefree laws have little or no effect on economic outcomes in restaurants and bars. Furthermore, they found that smokefree laws improve employment and health. After implementation of smokefree laws in West Virginia, restaurant employment increased by a statistically significant 1%. In 2010, Boles, Dilley, Maher, Boysun, and Reid found that a statewide smokefree air law in Washington State was connected with a greater-than-expected revenue increase for bars and taverns.

Scollo and colleagues conducted three literature reviews (Scollo & Lal, 2005, 2008; Scollo et al., 2003) on the economic effect of smokefree indoor air laws. To assess the quality of this research, they used Siegel's (1992) four criteria for identifying high-quality studies of economic impacts of smokefree indoor air laws:

1. Using objective data (e.g., tax receipts or employment statistics),
2. Including all data points after the law was implemented and data for several years before,
3. Using statistical methods that control for trends and random fluctuation in the data, and
4. Accounting for overall economic trends.

Scollo and colleagues (Scollo & Lal, 2005, 2008; Scollo et al., 2003) found no peer-reviewed, published, independent study that showed a negative economic impact from the implementation of smokefree indoor air laws. Studies asserting a negative economic impact often had the following characteristics (Scollo & Lal, 2005):

- Data were based on subjective impressions or estimates of anticipated change rather than on objective, verified, or audited data.
- Data did not account for an adequate period before and after the law went into effect to establish underlying trends.
- Funding came from the tobacco industry or organizations allied with the tobacco industry.
- The studies were not published in scientific journals.

The 2006 Surgeon General's report (USDHHS, 2006) also examined numerous studies of state and local smokefree laws: "Evidence from peer-reviewed studies shows that smokefree policies and regulations do not have an adverse economic impact on the hospitality industry" (p. 16).

Most recently, Hopkins, Leeks, Kaira, Chattopadhyay, and Soler (2010) also reviewed the published literature and found that smokefree air laws reduce tobacco use and identified four studies that showed economic benefits from smokefree policies in the workplace.

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