WY SAC ISSUE BRIEF

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# Health and Economic Costs of Smoking

## Summary

The health and economic costs of smoking in Wyoming are substantial. The Wyoming Tobacco Prevention and Control Program (TPCP) shares four goals with the federal tobacco prevention and control program that would reduce these costs: (a) increase tobacco cessation attempts and successes (Centers for Disease Control and Prevention [CDC], 2015b), (b) reduce youth initiation of tobacco use (CDC, 2014c), (c) eliminate exposure to secondhand smoke, and (d) eliminate tobacco-related disparities (Starr et al., 2005).

The U.S. Surgeon General has concluded that smoking is harmful to nearly every organ in the body, causes disease, and worsens existing illnesses. The U.S. Surgeon General estimates that 19 disease categories are causally associated with smoking (U.S. Department of Health and Human Services [USDHHS], 2014).

Approximately 800 Wyoming adults die every year from smoking-attributable causes, not including deaths attributable to exposure to secondhand smoke. Additionally, more than 12,000 Wyoming youth currently under the age of 18 will die prematurely from cigarette smoking (CDC, 2014).

Exposure to secondhand smoke, property losses from smoking-related fires (Hall, 2013), lower productivity of smokers (WYSAC, 2012), and additional cleaning and maintenance expenditures impose considerable costs (Javitz, Zbikowski, Swan, & Jack, 2006).

## Smoking-Attributable Loss of Life

Each year, 480,000 U.S. citizens die prematurely from smoking or from exposure to secondhand smoke (USDHHS, 2015). Annually in the United States, tobacco use causes one in five deaths; higher than the number of deaths attributable to alcohol, car crashes, suicides, AIDS, homicides, and illegal drugs combined (CDC, 2015a; USDHHS, 2010).

The following estimates of smoking's impact on health in Wyoming do not include the effects of secondhand smoke or burns, so they underestimate the true costs of smoking. Still, they provide useful estimates for smoking-related morbidity and mortality.

- Each year, an estimated 800 Wyoming adults die prematurely from smoking-attributable illnesses such as cardiovascular disease, respiratory diseases, and cancers (primarily of the respiratory system; CDC, 2014).
- Each year in Wyoming, an estimated 9,392 years of potential life are lost from smoking-attributable deaths (Smoking-Attributable Mortality, Morbidity, and Economic Costs [SAMMEC], 2007).
- If recent smoking trends continue, more than 12,000 Wyoming youth currently under the age of 18 are projected to die prematurely from cigarette smoking (CDC, 2014).

Smoking also imposes substantial human costs in the United States:

- Data collected between 1997 and 2006 suggests that, on average, adult smokers die more than 10 years earlier than nonsmokers (Jha, et al., 2013).
- Between 1965 and 2014, more than 20 million people died premature deaths caused by smoking and exposure to secondhand smoke (USDHHS, 2014).
- Between 2000 and 2004, the collective annual years of potential life lost for smokers was more than 5 million years (SAMMEC, 2007).

### Table 1: Wyoming has Second Highest Smoking-Attributable Mortality Rate and Average Annual Rate of Years of Potential Life Lost from Smoking

*Rates of average annual smoking-attributable mortality and years of potential life lost per 100,000 people, 2000–2004*

| Area | Mortality Rate | Years of Potential Life |
|---|---|---|
| Wyoming | 283 | 3,631 |
| Rocky Mountain Region | 250 | 3,243 |
| United States | 249 | 3,471 |

Note: The Rocky Mountain region includes Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming.

Source: *SAMMEC, 2007.*

Wyoming's smoking-attributable mortality rate and years of potential life lost are both greater than the national rates. Wyoming has the second highest (to Nevada) rates in the Rocky Mountain Region (Table 1; SAMMEC, 2007).

## Wyoming Healthcare Costs of Tobacco

WYSAC (2012) estimated total direct economic costs incurred for specialty treatment and medical care of conditions that are attributable to the use or abuse of alcohol, tobacco, and other drugs. The largest total medical care cost came from tobacco use (and most of this cost came from cigarette smoking).

### Table 2: Tobacco has Largest Total Direct Economic Costs for Healthcare

*Substance abuse related total health care costs in Wyoming, 2010*

| Category | Specialty Treatment | Medical Care | Total |
|---|---|---|---|
| Tobacco | $1,218,500 | $238,412,663 | $239,631,163 |
| Alcohol | $17,977,522 | $188,320,109 | $206,297,631 |
| Other Drugs | $10,734,367 | $135,421,347 | $146,155,714 |

Source: *WYSAC, 2012.*

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Table 2 presents the 2010 total health care costs for Wyoming by cost category for alcohol, tobacco, and other drugs (illicit, prescription, and unspecified). These costs include private and public costs. For tobacco, specialty treatment costs were limited to funding for the Wyoming Quit Tobacco Program (WQTP). As with the healthcare costs for the other drug types, state-level data for some healthcare costs were unavailable. Therefore, the estimates in Table 2 are underestimates (WYSAC, 2012).

## Lost Productivity

WYSAC (2012) completed a cost of illness study to compare the lost productivity costs of alcohol, tobacco, and other drug abuse in Wyoming. Table 3 presents a summary of the

### Table 3: Tobacco Leads to Productivity Loss

*Productivity losses in Wyoming, 2010*

| Category | Hospitalization | Mortality | Impaired Productivity | Specialty Treatment, Crime Victim, and Incarceration Costs | Total |
|---|---|---|---|---|---|
| Alcohol | $765,037 | $188,691,055 | $358,004,140 | $41,734,512 | $589,194,744 |
| Tobacco | $913,090 | $214,443,448 | $234,572,938 | Unavailable | $449,929,476 |
| Other Drugs | $383,048 | $78,809,066 | $68,813,575 | $41,098,902 | $189,104,591 |

Source: *WYSAC, 2012.*

estimated productivity losses by substance. However, some data were not available at the state-level, and WYSAC did not include intangible costs (e.g., pain and suffering or the value of leisure or volunteer time). Therefore, as with medical care costs, all costs listed in Table 3 are underestimates of the true costs. Total productivity value included cash wage/salary earnings, employer provided fringe benefits (i.e., insurance, retirement), legally required employer costs, and household productivity. Tobacco was the most costly of the drugs with regards to productivity lost due to hospitalization and due to mortality. For impaired productivity (including lowered performance while at work and absenteeism), tobacco use was the second-most costly of these three classes of substance.

## Smoking-Attributable Fires

Nationally, most fires caused by smoking materials (such as cigarettes, cigars, and pipes) occur in homes, and nearly all (96%) of them are unintentional. In 2011, smoking materials started an estimated 90,000 fires in the United States (Hall, 2013). These fires caused:

- 540 civilian[1] deaths
- 1,640 civilian injuries, and
- $621 million in direct property damage.

Fires caused by smoking materials kill people around smokers. People who were not smoking, or who were not involved with the smoking materials that started the fire, comprise a fourth of the deaths from smoking-caused fires. Of these (Hall, 2013),

- 34% were children of the smokers,
- 25% were neighbors or friends of the smokers,
- 14% were spouses or partners of the smokers,
- 13% were parents of the smokers, and
- 14% had other relationships (e.g., sibling, other relative, roommate, passerby).

To help reduce these losses, all 50 states have passed legislation requiring cigarette manufacturers to produce only cigarettes that are less likely to continue burning if left unattended (Hall, 2013).

## Cleaning and Maintenance Costs

In 2006, Javitz et al. estimated that, relative to a smokefree workplace, cigarette smoke added $728 per 1,000 square feet to the cleaning and maintenance costs of office space and $305 per

[1] The survey used to collect this data asked about on-duty firefighter injuries, but Hall did not report that data.

1,000 square feet to the cleaning and maintenance costs of industrial space. Each smoker increased the cost of building ventilation by $84.

When considering aggregate cost and productivity impacts, Berman et al. (2014) estimated that, on average, a U.S. smoker costs $5,816 more annually than a nonsmoker to employ. Of this cost, Berman et al. estimated that $3,077 is for smoking breaks, $2,056 is for excess healthcare costs, $517 is for excess absenteeism, $462 is for presenteeism (working while sick), and $296 for pension benefits.

## Health Consequences of Exposure to Tobacco Smoke

The harmful health impacts of smoking are not limited to smokers: The U.S. Surgeon General has stated, "Exposure of adults to secondhand smoke has immediate adverse effects on the cardiovascular system and causes coronary heart disease and lung cancer" (USDHHS, 2006; p. 9), the effects of which have been estimated to cost the United States upwards of $13 billion annually (USDHHS, 2006, 2010). According to the Surgeon General, there is no risk-free level of exposure to tobacco smoke (USDHHS, 2010). Including deaths attributable to smoking and secondhand smoke, smoking led to an estimated minimum of 480,000 premature deaths among adults in the United States each year between 2005 and 2009 (USDHHS, 2014) from causes including these key diseases:

- Cancer, including lung, kidney, stomach, cervix, and pancreas;
- Cardiovascular and metabolic coronary heart disease;
- Cerebrovascular disease;
- Diabetes mellitus;
- Influenza;
- Pneumonia;
- Pulmonary diseases; and
- Tuberculosis.

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