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# How Policy Affects Workplace Health: A Comparison Of Workplace Health Policies Between Kentucky & Colorado

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HOW POLICY AFFECTS WORKPLACE HEALTH:  
A COMPARISON OF WORKPLACE HEALTH POLICIES BETWEEN KENTUCKY  
& COLORADO

A Capstone Project Presented in Partial Fulfillment  
of the Requirements for the Degree Bachelor of Science  
with Honors College Graduate Distinction at  
Western Kentucky University

By

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2018

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## ABSTRACT

With people spending a significant portion of their lives in the workforce, workplace health promotion programs are a growing asset in workplaces across the United States. Due to rising health care costs and an increased prevalence of chronic illnesses and diseases, workplace health promotion programs have been suggested to both reduce health care costs for employers and employees as well as curb risky behaviors that lead to chronic illnesses and diseases. In the U.S., policies have long been used to encourage behavioral change. While a significant amount of workplace health research has addressed the fact that written policies are beneficial to a workplace (when implemented and followed), there is little extensive research that has been conducted on written policies at the state level.

Using the results of the Kentucky Worksite Assessment as a basis, with components such as tobacco usage, nutrition, physical activity, and lactation support, state legislation was analyzed within respective topics between Kentucky and Colorado. With the inference that health policies could be indicative of overall state health, other indirect factors such as the quality/quantity of health and wellness organizations were also taken into consideration, as they could also be a reflection of the health status of each state.

Through policy analysis of an exceptionally healthy state, Colorado, to a state that has been consistently unhealthy, Kentucky, suggestions were made on how to improve workplaces in Kentucky.

Keywords: workplace, public health, Kentucky, Colorado, policy analysis

I would like to dedicate this thesis to my parents. I would not be where I am today without their constant love, encouragement, and unwavering support in everything I do.

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## CHAPTER 1

### INTRODUCTION

With people spending a significant portion of their lives in the workforce, workplace health promotion is a growing asset in workplaces across the United States. According to the CDC (2016), workplace health programs are defined as a coordinated and comprehensive set of health promotion and protection strategies that include programs, policies, benefits, environmental supports, and links to the surrounding community that are intended to encourage the health and safety of all employees. With rising health care costs and an increased prevalence of chronic illnesses and diseases, workplace health promotion programs have been suggested through numerous studies to both reduce health care costs for employers and employees as well as curb the risky behaviors that lead to chronic illnesses and diseases (Goetzel & Ozminkowski, 2008). As the life expectancy of the American population continues to rise and with people working longer than they ever have before, it can be inferred that the number of cases of chronic illnesses and diseases will continue to rise.

According to the U.S. Bureau of Labor Statistics (2017), there are more workers aged 55 years and older in the workplace than ever before. In addition, the U.S. Bureau of Labor Statistics (2008) projects that between 2006 and 2016, the number of workers aged 55 to 64 years will increase by 36.5%, the number of workers aged 65 and 74 years will

increase by 83.4%, and the number of workers older than 75 years will increase by 84.3%. As projected by these statistics, the American workforce is not getting any younger. While age plays a significant role in workplace health promotion programming, the overall health of employees impacts not only the employee, but a variety of aspects within an organization including healthcare costs, absenteeism, presenteeism, accident and injury rates, productivity, and employee turnover.

Recent results of the “Kentucky Worksite Assessment: Utilization of the CDC’s Health ScoreCard”, an assessment based on survey data from 365 workplaces through The Center for Disease Control and Prevention’s Worksite Health ScoreCard, indicate that few workplaces in Kentucky have health promotion programs. This survey also determined that in a majority of these workplaces, poor lifestyle habits that contribute to chronic diseases are not being addressed (Watkins, Macy, Lartey, & Golla, 2014). The Center for Disease Control and Prevention designed the Worksite Health ScoreCard to assess whether “evidence-based health promotion interventions or strategies” have been implemented in workplaces to prevent heart disease, stroke, and related conditions such as hypertension, diabetes, and obesity; (Watkins, Macy, Lartey, & Golla, 2014) therefore, it comes as no surprise that Kentucky stands 42<sup>nd</sup> among 50 states in terms of overall health (United Health Foundation, 2017).

When examining written policies on various topics such as tobacco cessation, nutrition, physical activity, diabetes, and breastfeeding, the Kentucky Worksite Assessment had relatively poor results. While 68% of workplaces had written policies for illness and injury prevention and 51% had an emergency response plan, only 21% of

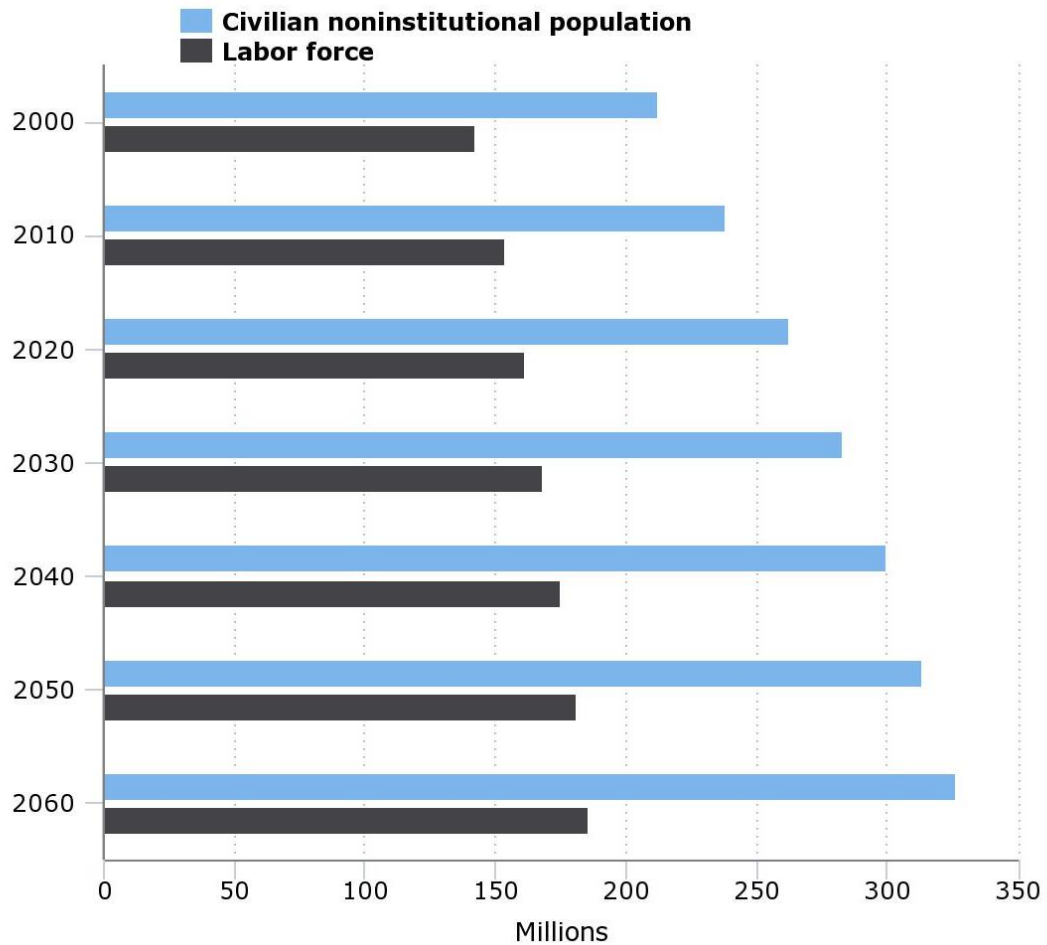
workplaces had written policies for healthier offerings in vending machines and 11% had written policies on breastfeeding (Watkins, Macy, Larney, & Golla, 2014). As indicated by the results, it is clear that many policies are established in regard to safety -- which is typically mandated through the Occupational Safety and Health Administration-- while many policies are lacking in regard to workplace health and efforts to reduce risk factors for diseases among employees.

In a 2017 study of “State Policies Supporting Worksite Health Promotion Programs,” it was found that while many states had laws encouraging the adoption of Worksite Health Promotion programs, only twenty-four states authorized them (VanderVeur, Gilchrist, & Matson-Koffman, 2017). When thinking about the long-term impact that Worksite Health Promotion programs can have for employers and employees, it comes by surprise that only 24 states have authorized adoption of these programs.

Labor force is defined as the number of people in a country who are employed plus the unemployed (Amadeo, 2017). As indicated by Figure 1, in 2010, approximately 153.9 million people were in the labor force. Fasting forward to 2060, the labor force is estimated to reach 185.8 million, an increase of nearly 32 million people.



Figure 1. Civilian noninstitutional population and labor force is growing.

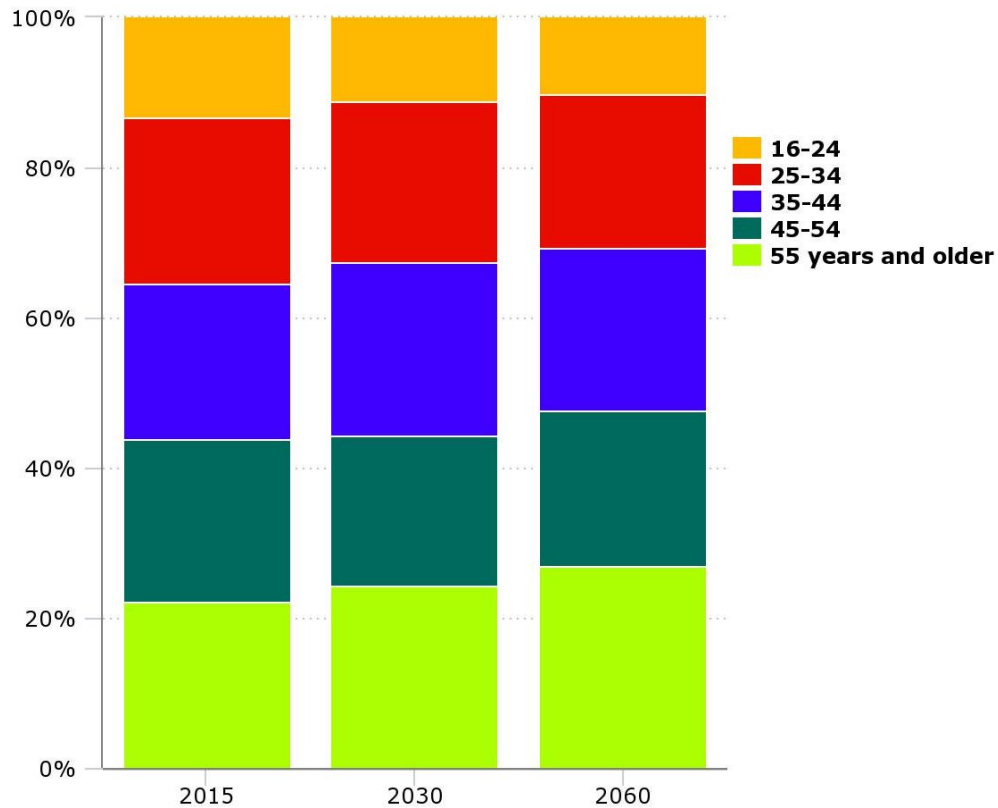


*Note:* Retrieved from <https://www.bls.gov/spotlight/2016/a-look-at-the-future-of-the-us-labor-force-to-2060/home.htm>. Copyright 2018 by the U.S. Bureau of Labor Statistics.

As the size of the labor force is projected to grow, the distribution of age within the labor force is expected to change. As indicated by Figure 2, the amount of 16-24, 25-34, and 45-54 year olds in the labor force is expected to slightly decline from 2015 to

2060, while every other age group, 35-44 and 55 years and older, are expected to increase.

Figure 2. Labor force is getting older.



*Note:* Retrieved from <https://www.bls.gov/spotlight/2016/a-look-at-the-future-of-the-us-labor-force-to-2060/home.htm>. Copyright 2018 by the U.S. Bureau of Labor Statistics.

With heightened age comes increased risk for health complications – another justification for why health promotion programs should be in the workplace. In 2020, the U.S. Bureau of Labor Statistics predicts that one in four American workers will be over the age of 55 (CDC, 2017). Aging is inevitable in the workplace; if workplaces are able to focus on productive aging and encourage wellness throughout the lifespan, they can

effectively decrease the risk of chronic illnesses and diseases for their employees later in life.

Effective programs should target behavior change and maintenance, provide benefits such as health insurance coverage, and have environmental supports in place that support employee health. Of these strategies, the most affective in behavior-change remains the development of health-related policies, defined as “formal or informal written statements that are designed to protect or promote employee health” (CDC, 2015). In contrast to other behavior changing strategies, policies are mandatory and can result in the most change for a greater number of people. Common workplace health policies may focus on smoke-free policies, having policies on only serving healthy foods at company meetings or in vending machines, or policies based on flexible scheduling and paid/unpaid leave.

With a lack of workplace health programs, especially written health policies, made evident through the Kentucky Worksite Assessment, this study compares health policies at a state level between Kentucky, a state of relatively poor health, to Colorado, a state with nationally ranked low obesity rates and low risk for chronic diseases. When corporations look to establish their company in a state, there are a variety of factors that influence where they choose, including the quality of health within the population of the state. With this in mind, companies are continually choosing to choose states with better overall health such as Colorado over states with poor overall health status such as Kentucky. In fact, Colorado’s obesity rate being ranked the lowest in the nation and having low rates of other common chronic diseases -- such as diabetes, heart disease, and cancer -- is extremely attractive to companies as they are typically costly in health

insurance claims. Having an overall healthy population is enticing for businesses and a state such as Colorado stands a greater chance of a business start-up over a state such as Kentucky.

To compare the health policies in place in Kentucky and Colorado, this study will focus on components that were evaluated in the Kentucky Worksite Assessment – such as lactation support, tobacco usage, obesity, physical activity, and nutrition– through state policies that represent each component within Kentucky and Colorado legislation.

Since a significant number of the population is in the workforce, a significant number of the population is directly impacted by workplace health policies. In addition to seeking out specific legislation relating to workplace health, other factors such as the quantity and quality of health organizations and the unemployment rate in each state will be analyzed. Healthier employees are proven to be more productive, which generates more revenue for a workplace, which results in less turnover, and higher employment. Knowing the unemployment status in each state could indirectly be a reflection of the health policies in place. The quantity and quality of health organizations that are in place could also be indicative of the health status of each state.

Since Colorado has significantly better health status than Kentucky, the hypothesis for this study predicts that health policies directly reflect the health status of each state. The health organizations and unemployment rates could also indirectly affect the health status of the state. With people spending a significant portion of their lives in the workforce, workplace health promotion programs are a growing asset in workplaces across America. When properly implemented, workplace health promotion programs can help to reduce health care costs and curb risky behaviors that lead to chronic illnesses and

diseases. With a vast majority of the population in the workforce, many people underestimate the level of impact that workplace health policies can have on a person's health. Through policy analysis of an exceptionally healthy state – Colorado – to a state that has been consistently deemed unhealthy – Kentucky – recommendations will be posed for the state of Kentucky to not only ensure a healthier workforce, but a healthier commonwealth.

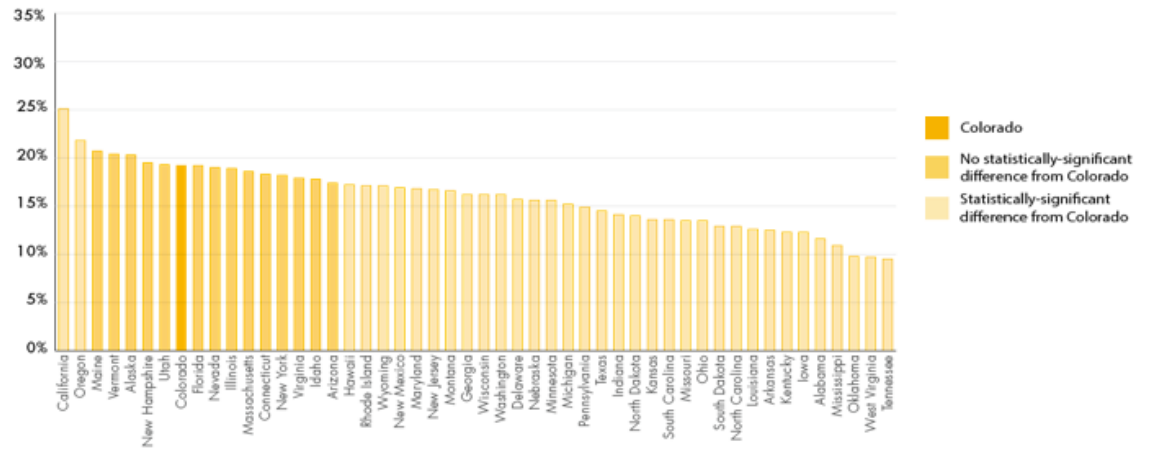
## CHAPTER 2

### COLORADO

The Colorado Health Foundation publishes the Colorado Health Report Card each year to measure how healthy Coloradans are compared to residents of other states. With the overall conclusion that Coloradans are typically healthier than residents of other states, the Colorado Health Foundation assesses 10 health indicators each year to look for areas of improvement: nutrition, physical activity, binge drinking, smoking, poor mental health, medical home, obesity, diabetes, hypertension, and the number of residents that are uninsured.

In 2016, the Colorado Health Report Card indicated that 19.2% of Colorado adults ate 5 or more fruits or vegetables per day in the last month, placing them 8<sup>th</sup> out of 50 states. In contrast, only 12.3% of Kentucky adults ate 5 or more fruits or vegetables per day, placing them 44<sup>th</sup> out of 50 states. Figure 3 shows the difference between fruit and vegetable intake across all 50 states.

Figure 3. Difference between fruit and vegetable intake across all 50 states.

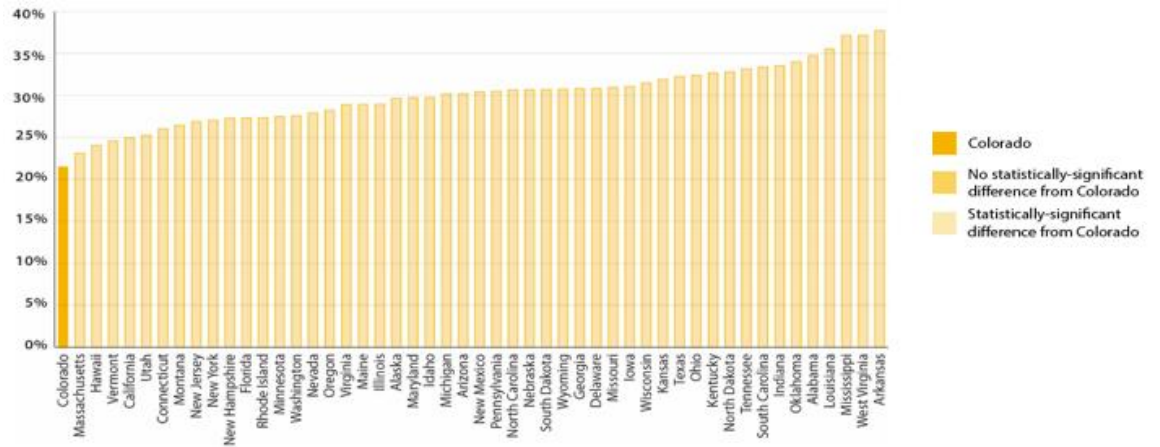


*Note:* Retrieved from <https://www.coloradohealthinstitute.org/research/colorado-health-report-card>. Copyright 2016 by The Colorado Health Foundation.

In regard to obesity, the Colorado Health Report Card indicated that 21.5% of Colorado adults had at BMI greater than or equal to 30, earning them the lowest obesity ranking out of all the United States. In contrast to Colorado, Kentucky averaged 32.7% of adults who had a BMI greater than or equal to 30, placing them 40<sup>th</sup> out of 50 states.

Figure 4 shows the difference between obesity rates across all 50 states

Figure 4. Difference between obesity rates across all 50 states.

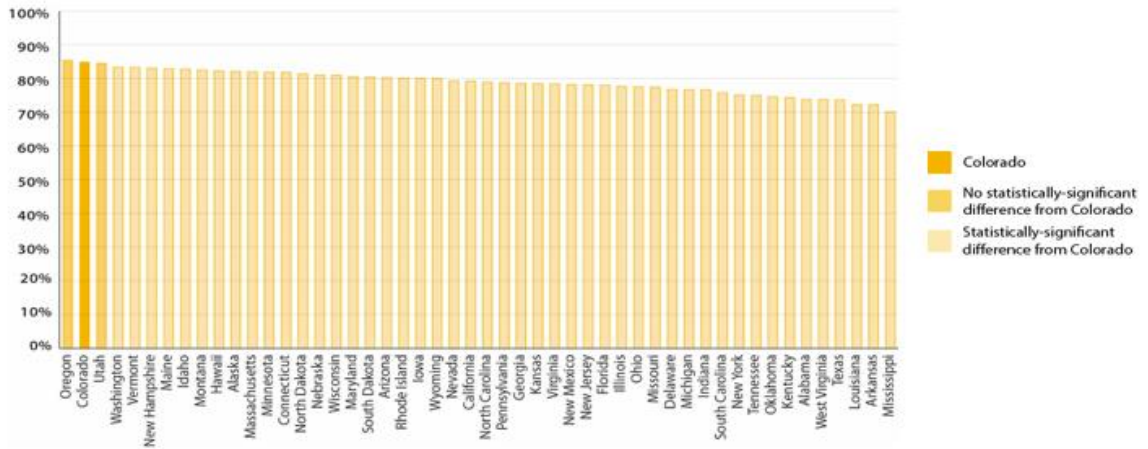


Note: Retrieved from <https://www.coloradohealthinstitute.org/research/colorado-health-report-card>. Copyright 2016 by The Colorado Health Foundation.

In regard to physical activity, the Colorado Health Report Card indicated that 84.8% of Colorado adults participated in any leisure-time physical activity within the past month, ranking them 2<sup>nd</sup> out of 50 states. In contrast, Kentucky ranked 44<sup>th</sup> out of 50 states with 74.4% of adults participating in leisure-time physical activity within the past month. Figure 5 shows the difference between physical activity rates across all 50 states.



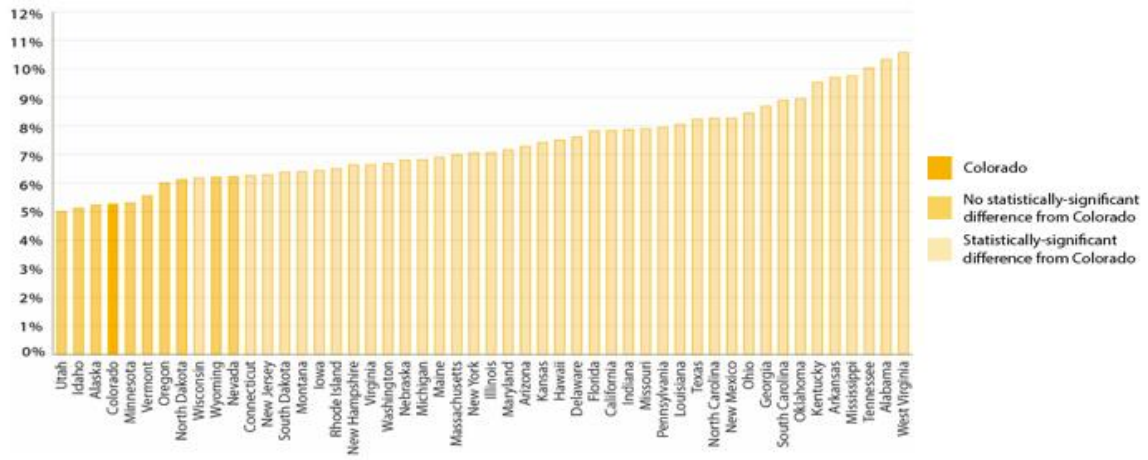
Figure 5. Difference between physical activity rates across all 50 states.



Note: Retrieved from <https://www.coloradohealthinstitute.org/research/colorado-health-report-card>. Copyright 2016 by The Colorado Health Foundation.

In regard to diabetes, the Colorado Health Report Card indicated that 5.3% of Colorado adults had been told by a doctor that they were diabetic, placing them 4<sup>th</sup> out of 50 states. Kentucky, on the other hand, had 9.5% of adults who have been told by a doctor that they were diabetic, placing them 45<sup>th</sup> out of 50 states. Figure 6 shows the difference between diabetes rates across all 50 states

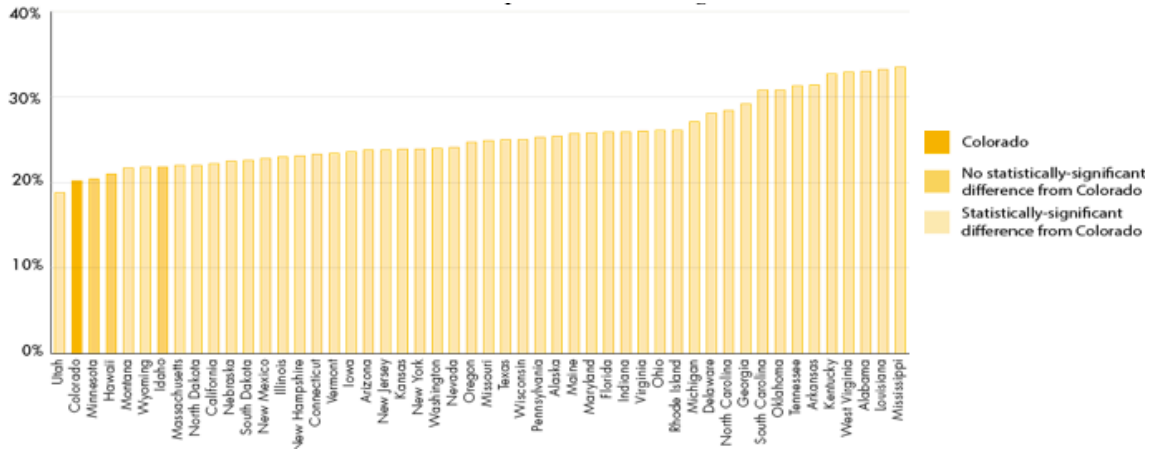
Figure 6. Difference between diabetes rates across all 50 states.



Note: Retrieved from <https://www.coloradohealthinstitute.org/research/colorado-health-report-card>. Copyright 2016 by The Colorado Health Foundation.

In regard to hypertension, the Colorado Health Report Card indicated that 20.2% of Colorado adults had been diagnosed with high blood pressure, placing them 2<sup>nd</sup> out of 50 states. In contrast, 32.7% of Kentucky adults had been diagnosed with high blood pressure, placing them 46<sup>th</sup> out of 50 states. Figure 7 shows the difference between hypertension rates across all 50 states.

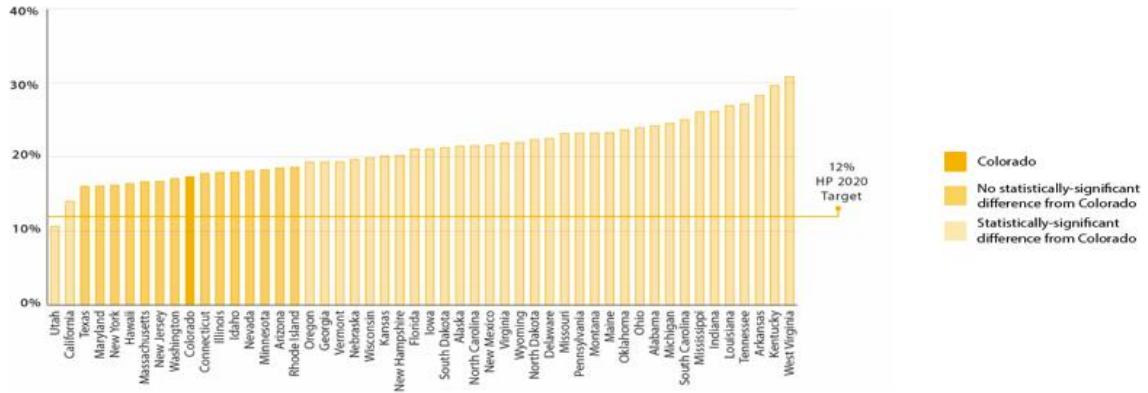
Figure 7. Difference between hypertension rates across all 50 states.



Note: Retrieved from <https://www.coloradohealthinstitute.org/research/colorado-health-report-card>. Copyright 2016 by The Colorado Health Foundation.

In regard to smoking rates in each state, the Colorado Health Report Card indicated that 17.3% of Colorado adults were current smokers, placing them 10<sup>th</sup> out of 50 states. Kentucky, on the other hand, placed 49<sup>th</sup> out of 50 states with 29.7% of adults being current smokers. Figure 8 shows the difference between adult smoking rates across all 50 states.

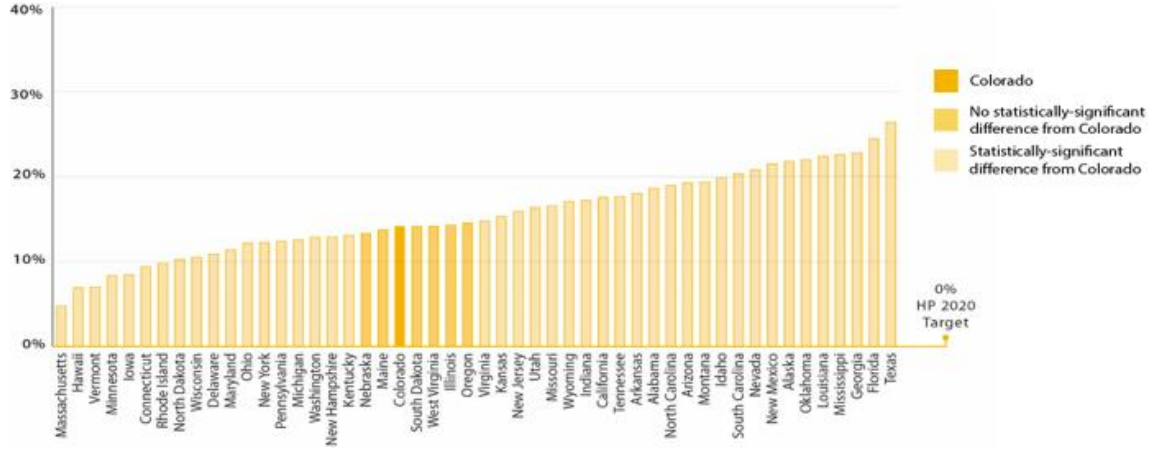
Figure 8. Difference between adult smoking rates across all 50 states.



Note: Retrieved from <https://www.coloradohealthinstitute.org/research/colorado-health-report-card>. Copyright 2016 by The Colorado Health Foundation.

Interestingly, Kentucky had a higher percentage of adults who were covered by private or public health insurance, with only 13.1% of the population uninsured, placing them 18<sup>th</sup> out of 50 states. In contrast, Colorado had 14.1% of its adults uninsured, placing them 21<sup>st</sup> out of 50 states. Figure 9 shows the difference of uninsured rates across all 50 states.

Figure 9. Difference of uninsured rates across all 50 states.



Note: Retrieved from <https://www.coloradohealthinstitute.org/research/colorado-health-report-card>. Copyright 2016 by The Colorado Health Foundation.

Knowing the vast differences in the health indicators of each state raises questions as to why these differences exist. Through policy analysis specifically related to workplace policies in Colorado and Kentucky, insight will be given as to why these large gaps in health exist.

### Lactation Policies in Colorado

According to the Centers for Disease Control and Prevention (2013), mothers are the fastest-growing segment of the U.S. labor force and approximately 70% of full-time employed mothers have children younger than three years old. Research has consistently indicated that breastfeeding is beneficial to both the mother and the newborn, with the mother benefiting by reducing her risk for cancers, heart disease, and other chronic diseases while also recovering from pregnancy faster. If a mother recovers from

pregnancy faster, she may be able to return to work as a more productive employee. Allowing mothers to breastfeed can benefit the workplace by increasing employee morale, which can result in a more productive employee, which ultimately generates more revenue for the company.

In the United States, the average maternity leave is approximately 10 weeks, but a newer study suggests that 16% of new moms took only one to four weeks away from work after the birth of a child and that 33% took no formal time off at all (Aleccia, 2016). Not only does this pose health risks for the infant, it poses problems for the mother, as babies are healthier when they are breastfed. If the baby is healthier, the mother will be less likely to miss work for having to care for her sick child.

According to the Office on Women's Health within the U.S. Department of Health and Human Services (2017), the most important benefits of lactation policies in the workplace include monetary savings, lower absenteeism rates, and higher retention rates. At Mutual of Omaha, a mutual insurance and financial service based in Omaha, Nebraska, an annual savings of \$115,881 was acquired for mothers who participated in the company's lactation program. Likewise, at Cigna Insurance Company in Hartford, Connecticut, \$60,000 was saved per year in lower absenteeism rates among women whose babies were breastfed (Office on Women's Health, 2017). In a study conducted on working mothers who were enrolled in a company lactation program, it was found that 94.2% of mothers stayed with the company after maternity leave, compared with the national average of 59% (OWH, 2017). If a mother feels supported by the company she works for, she is more likely to feel appreciated, and more likely to stay with the company as her children grow. With workplace demographic shifts and many women

choosing to forgo being a stay-at-home mom, it is crucial that workplaces support families if they want to retain their employees.

Colorado has both workplace and public breastfeeding policies in place to support working mothers. The Workplace Accommodation for Nursing Mothers Act (Colorado Revised Statute 8-13.4-104) establishes the standard for all employers in Colorado to express breast milk in the workplace. Guidelines of this policy include that employers must: provide reasonable unpaid break time or allow an employee to use a paid break to express breast milk; make efforts to provide a nursing mother with a private space near her work area other than a toilet stall; and to not discriminate against women expressing breastmilk in the workplace for up to two years after the child is born (Colorado Department of Labor and Employment, 2018). This law applies to all public and private employers in Colorado with one or more employees.

In addition to the Workplace Accommodation for Nursing Mothers Act, House Bill 16-1438 in Colorado specifies workplace conditions for pregnant employees (Colorado Department of Labor and Employment, 2018). This act considers it unethical for an employer to not provide an employee with a private space to breastfeed or to discriminate against a woman who is pregnant, has just given birth, or is recovering from childbirth.

The Colorado Breastfeeding Coalition (2017), an organization comprised of physicians, nurses, public health officials, dietitians, lactation consultants, counselors, and members of the business community, suggest that employers in Colorado who invest in lactation policies have proven to produce a 3 to 1 return-on-investment through less sick days, greater employee retention, and lower healthcare costs. Investing in lactation

policies may be expensive initially, but the return on these policies can benefit the company greatly, both financially and culturally.

As of 2017, only 28 states had laws mentioning breastfeeding in the workplace. Of these 28 states, Colorado was one of the states that supported breastfeeding in the workplace, while Kentucky was not. This information could be indicative of the breastfeeding rates in each state, as the CDC's 2014 Breastfeeding Report Card indicated that 88.6% of Colorado infants had ever been breastfed, while only 66.9% of Kentucky infants had ever been breastfed, ranking them 48<sup>th</sup> out of 50 states (CDC, 2014). Healthy People 2020 include objectives MICH-21.1 to increase the proportion of infants who are ever breastfed from 74.0% to 81.9% and MICH-22 to increase the proportion of employers that have worksite lactation support programs from 25.0% in 2009 to 38% in 2020 (CDC, 2014). Breastfeeding policies not only impact the workplace but the personal health of mothers and infants, which indicates why workplace breastfeeding laws in Colorado make a difference in the number of newborns that are ever breastfed.

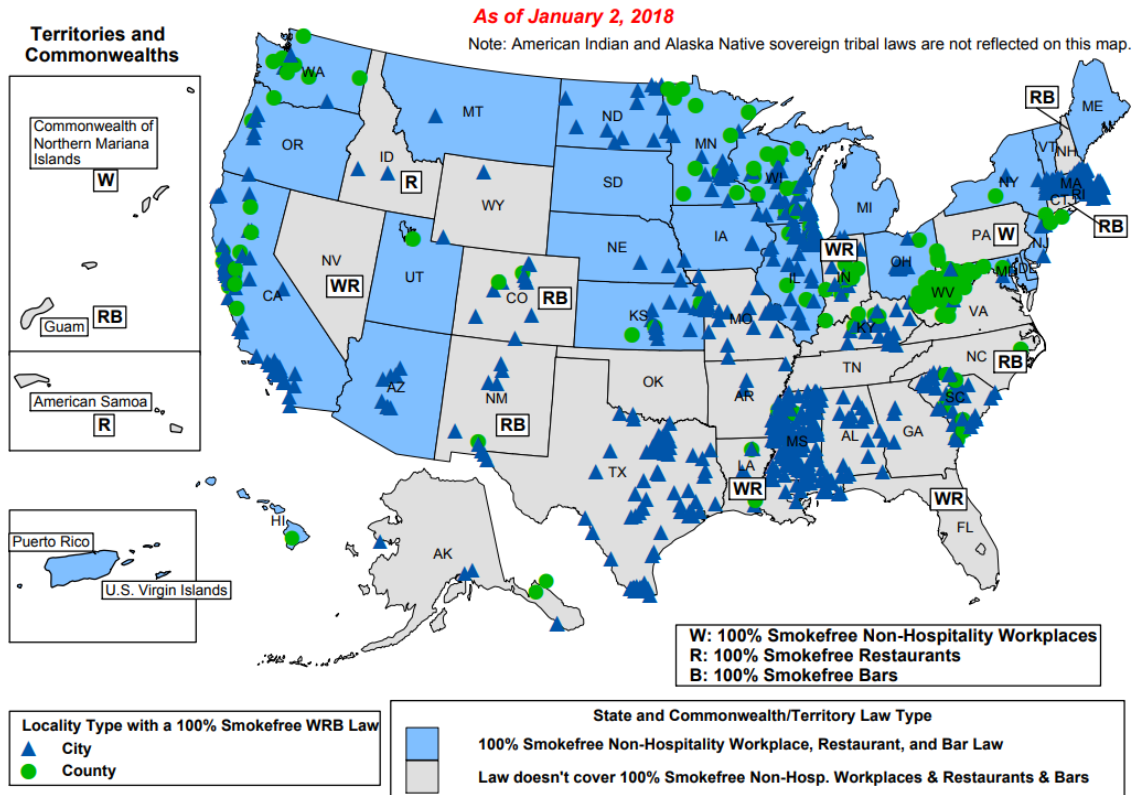
#### Tobacco Policies in Colorado

As more than 16 million Americans suffer from a disease caused by smoking each year, smoking remains the single largest cause of preventable disease and death in the United States (CDC, 2018). Not only does first-hand smoking have serious health consequences, second-hand and third-hand smoke can lead to health issues such as heart disease, stroke, and lung cancer. As a matter of fact, nearly 41,000 nonsmoking adults die from second hand smoke exposure each year (CDC, 2018).



While smoking rates vary by industry and occupation, any percentage of smoke is still harmful to the wellbeing of workers. According to the CDC (2016), the highest percentage of smokers are in mining (30%), accommodation and food services (30%), and construction (29.7%) industries. Twenty-seven states have adopted smoke-free legislation that requires non-hospitality workplaces, restaurants, and bars to be completely smoke free, neither of which include Colorado or Kentucky. Figure 10 shows the states which enact the 100% Smoke-Free Non-Hospitality Workplace, Restaurant, and Bar Law.

Figure 10. U.S. 100% Smokefree Laws in Non-Hospitality Workplaces and Restaurants and Bars.



Note: Retrieved from <http://no-smoke.org/wp-content/uploads/pdf/WRBLawsMap.pdf>.

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As indicated by Figure 10, Kentucky has more cities and counties under smokefree legislation than Colorado. However, according to America's Health Rankings 2016 Annual Report, Colorado ranks 15<sup>th</sup> overall out of 50 states in percentage of adults who are smokers, compared with Kentucky, who ranks 49<sup>th</sup> out of 50 states (United Health Foundation, 2017). As Healthy People 2020 targets reducing cigarette smoking as

one of their leading health indicators, it is important in reaching this goal to have smoking policies present in the workplace, where people spend a significant portion of their day.

Establishing smokefree workplaces has been concluded as the simplest and most cost-effective way to improve worker and business health (American Nonsmokers' Rights Foundation, 2006). In fact, so effective that if all workplaces were to implement 100% smoke-free environment policies, the reduction in heart attack rates due to exposure to secondhand smoke would save the United States \$49 million in medical savings within the first year alone (American Nonsmokers' Rights Foundation, 2006). In addition to financial savings, businesses save a significant portion of productivity when smokefree policies are implemented. According to the American Nonsmokers' Rights Foundation, smokers miss an average of 6.16 days of work per year due to sickness, compared to nonsmokers, who miss 3.86 days of work per year. While nonsmokers have fewer missed work days due to sickness per year, they are still affected by exposure to secondhand smoke; the CDC estimates that \$3,391 is spent on each individual employee who smokes each year, while secondhand smoke is estimated to cost nonsmoking employees at a cost of \$490 per year (American Nonsmokers' Rights Foundation, 2006).

Colorado has made significant efforts over the past 15 years to reduce the number of smokers and unclean air in the state. On January 1, 2005, the Colorado Tobacco Tax Act was enacted and tobacco taxes were increased across the state. The purpose of this law was to increase the tobacco tax and in return fund both medical care to treat tobacco-related diseases and public health programs to prevent tobacco-related diseases. This law distributes the tax monies as 65% of tobacco taxes supporting increased access to health

care for low-income families; 16% supporting efforts to reduce tobacco use in Colorado; 16% being used for prevention, early detection, and treatment of smoking-related diseases; and 3% being used for miscellaneous reasons (Colorado Department of Public Health & Environment, 2016).

Following the Colorado Tobacco Tax Act in 2005, the Colorado Clean Indoor Air Act was enacted in 2006. This act prohibits smoking in a multitude of indoor public places, as cited under the 25-14-204 General Smoking Restrictions, including retail and commercial establishments, restaurants and bars, grocery stores, any workplace not exempted, indoor sports arenas, healthcare facilities, public transportation, and educational institutions (SmokeFree Colorado, n.d.). This act defines an indoor area as any enclosed area, excluding the opening of a window or door to make an area open to the outdoors. Figure 11 lists all of the prohibited smoking areas as defined by the Colorado Clean Indoor Air Act C.R.S. 25-14.

Figure 11. Prohibited smoking areas as defined by the Colorado Clean Indoor Air Act C.R.S. 25-14.

STATE OF COLORADO CLEAN INDOOR AIR ACT	C.R.S. 25-14
<b>25-14-204</b>	<b>General Smoking Restrictions</b>
	<b>Smoking is prohibited in any indoor area, including but not limited to:</b>
	<ul style="list-style-type: none"><li>• Public places and buildings such as retail and commercial establishments, libraries, theaters, museums, schools, public and private educational institutions, meeting rooms, and any public meetings</li><li>• Restaurants, bars, limited gaming facilities (including bingo), billiard or pool halls, and bowling alleys</li><li>• Grocery stores and any food service establishments</li><li>• Any workplace not exempted. (See exemptions)</li><li>• Indoor sports arenas, gymnasiums and auditoriums</li><li>• Lobbies, reception areas, hallways, elevators, restrooms, common use areas - public and private</li><li>• Common areas of multiple unit residential, retirement facilities and nursing homes</li><li>• Health care facilities, hospitals, clinics, doctor's offices, child day care facilities</li><li>• No less than 75% of hotel or motel sleeping quarters rented to guests</li><li>• Jury waiting and deliberation rooms, and courtrooms</li><li>• Public transportation of any kind, including buses, trains, taxi cabs, etc.</li><li>• Entryways- 15-foot radius outside the main or front doorway unless defined differently by local law.</li><li>• Casinos, as of January 1, 2008</li></ul>
	<i>Please see the definition of "Indoor Area" for more information</i>

*Note:* Retrieved from

[https://www.colorado.gov/pacific/sites/default/files/Indoor%20air%20LE%20Key%20Points\\_0.pdf](https://www.colorado.gov/pacific/sites/default/files/Indoor%20air%20LE%20Key%20Points_0.pdf). Copyright SmokeFree Colorado.

While the Colorado Clean Indoor Air Act covers a significant number of public places, it still allows for smoking in private homes and automobiles, cigar-tobacco bars, retail tobacco businesses, up to 25% of hotel/motel rooms, certain workplaces, limousines under private hire, and certain designated smoking areas. Since certain workplaces allow smoking, this law also includes that a smoke-free work area for any employee who

requests a smoke free environment should be made available, as every employee has a right to work in a smoke free environment (US Legal, Inc, n.d.). Figure 12 lists all of the 25-14-205 Exemptions to the Colorado Clean Indoor Air Act in detail.

Figure 12. Exemptions to the Colorado Clean Indoor Air Act.

**25-14-205 Exemptions (if not specifically listed as an exemption below, smoking is not permitted in any indoor area)**

- Private homes and automobiles (unless being used for child care or day care)
- Cigar-Tobacco Bar (see definition below)
- Retail tobacco businesses, where the sale of other products is incidental
- Up to 25% of hotel/motel rooms
- Workplaces that are not open to the public with three (3) or fewer employees, including volunteers
- Limousines under private hire
- DIA (Denver International Airport) smoking area
- Areas of assisted living facilities that are designated for residents, that are fully enclosed and ventilated and for which access is restricted to residents and their guests.

*Note:* Retrieved from

[https://www.colorado.gov/pacific/sites/default/files/Indoor%20air%20LE%20Key%20Points\\_0.pdf](https://www.colorado.gov/pacific/sites/default/files/Indoor%20air%20LE%20Key%20Points_0.pdf). Copyright SmokeFree Colorado.

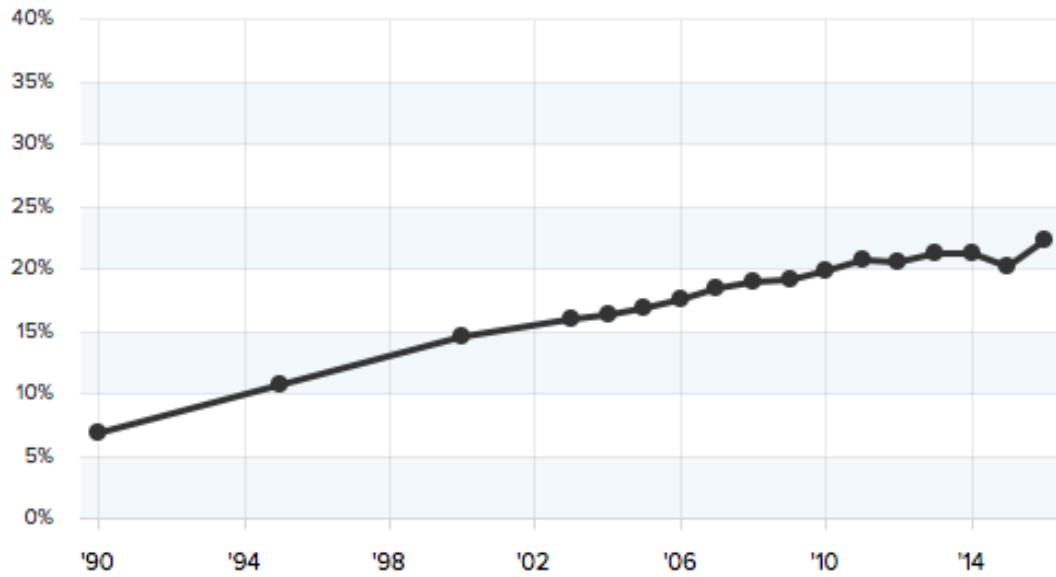
Colorado does not require employers to designate smoking areas for smokers in the workplace and employers are allowed to adopt policies on smoking in the workplace as they choose (NOLO, n.d.). While there is some control over the rate of tobacco usage through these laws, the tax rate also makes a significant impact on the smoking rate, at 84

cents per pack, ranking Colorado 37<sup>th</sup> out of 50 states in cost of taxes per pack of 20 cigarettes.

#### Physical Activity, Obesity, & Nutrition Related Policies in Colorado

According to *The State of Obesity: Policies for a Healthier America*, Colorado has the lowest obesity rate in the nation, with 22.3% of adults classifying as obese (Trust for America's Health and Robert Wood Johnson Foundation, 2018). Also ranking as the lowest in the nation is the diabetes rate, at 6.6%, and second lowest nation is hypertension, at 25.7%. Figure 13 shows the change in adult obesity rates in Colorado over the years 1990-2016.

Figure 13. Change in adult obesity rates in Colorado over the years 1990-2016.

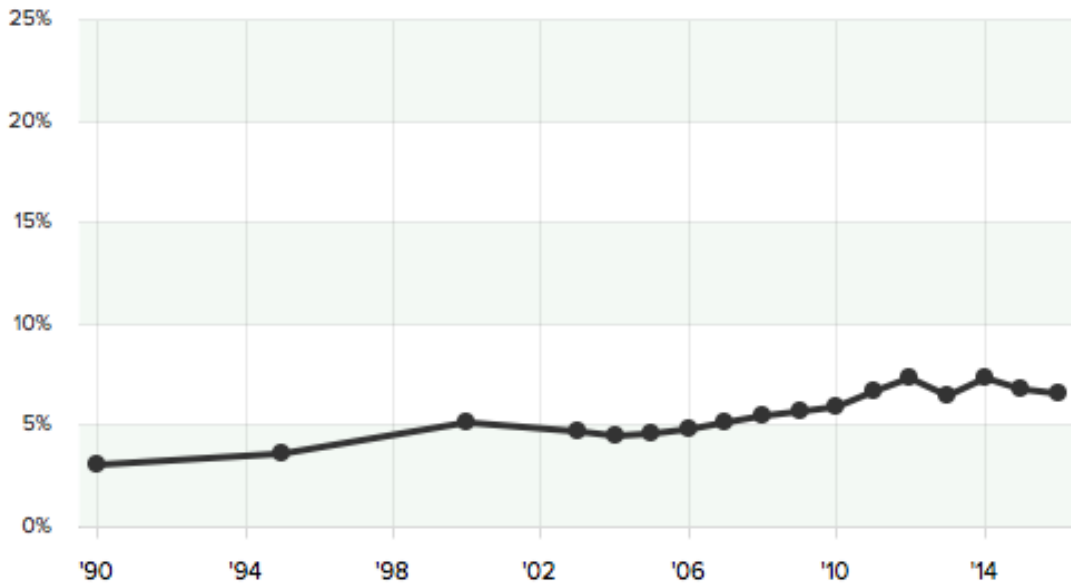


*Note:* Retrieved from <https://stateofobesity.org/states/co/>. Copyright 2004-2018 Trust for America's Health and Robert Wood Johnson Foundation.



Figure 14 shows the change in adult diabetes rates in Colorado over the years 1990-2016.

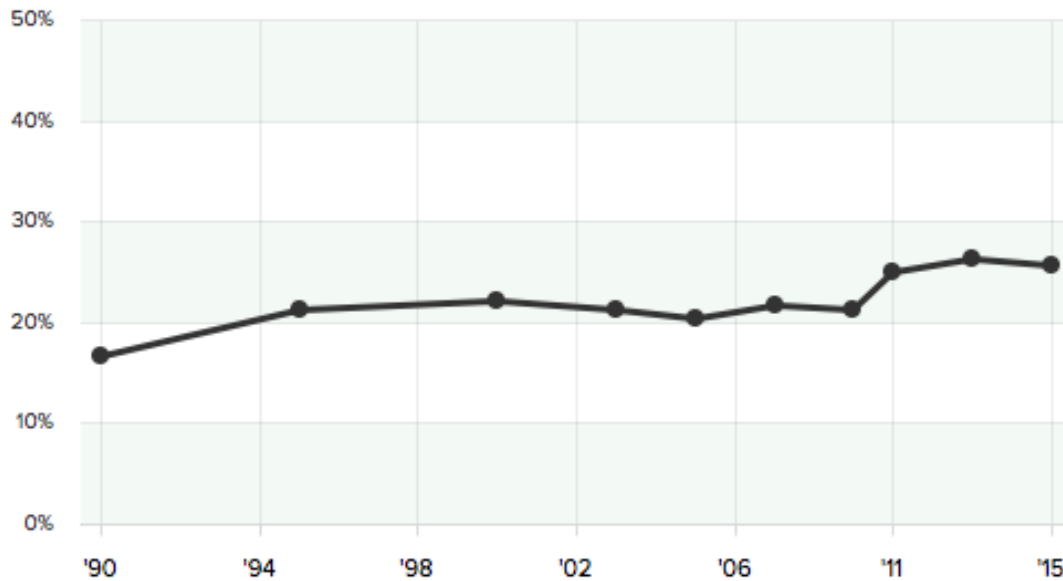
Figure 14. Change in adult diabetes rates in Colorado over the years 1990-2016.



*Note:* Retrieved from <https://stateofobesity.org/states/co/>. Copyright 2004-2018 Trust for America's Health and Robert Wood Johnson Foundation.

Figure 15 shows the change in adult hypertension rates in Colorado over the years 1990-2016.

Figure 15. Change in adult hypertension rates in Colorado over the years 1990-2016.



*Note:* Retrieved from <https://stateofobesity.org/states/co/>. Copyright 2004-2018 Trust for America’s Health and Robert Wood Johnson Foundation.

While Colorado is significant in that it has the lowest obesity rate in the nation, obesity still cost the state nearly \$1.637 billion in 2009 (LiveWell Colorado, n.d.). While there are no specific workplace policies addressing physical activity, obesity, or nutrition at the statewide level, there are many great initiatives in Colorado that encourage policymaking among employers.

LiveWell Colorado, a non-profit established in 2008, functions on the core mission of reducing obesity and promoting healthy nutrition in Colorado. For employers in Colorado, they suggest developing policies that focus on increasing employee wellness, including increasing access to physical activity by developing policies that promote active work breaks, encourage healthy food choices by regulating what is offered in vending machines or at other employee functions, and support workplace breastfeeding programs by allowing new mothers to breastfeed.

A great example of a policy change by LiveWell Colorado in relation to obesity and nutrition is the city of Golden, Colorado, a city of 200 full-time and 300 part-time and seasonal staff that began a wellness program in 2011 and successfully banned soda, instead offering healthier alternatives like tea or water. According to HR representatives, Golden saw changes in employee attitudes about health and employees mentioned that it was easier for them to make healthier choices because of the soda-ban (LiveWell Colorado, 2016).

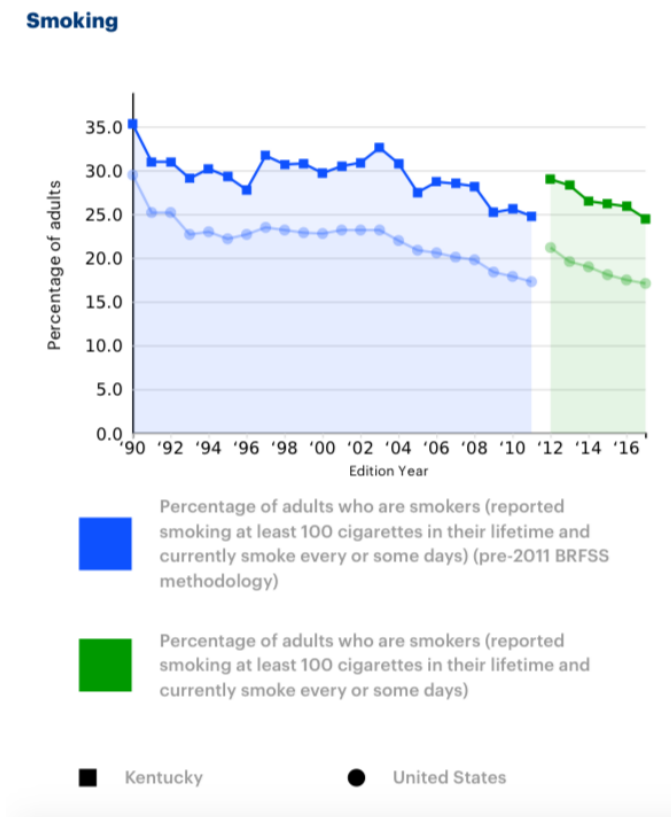
The implementation of policies such as the soda-ban policy in Golden, Colorado could help in encouraging other workplaces to make policy changes as it demonstrates a success story. Currently, there is insufficient policy evidence to suggest that certain workplace policies could be indicative of the obesity, diabetes, or hypertension rates in Colorado. While certain health organizations have played a pivotal role in diminishing the prevalence of these diseases in the population, it is unknown whether these workplaces make a statewide impact.

## CHAPTER 3

### KENTUCKY

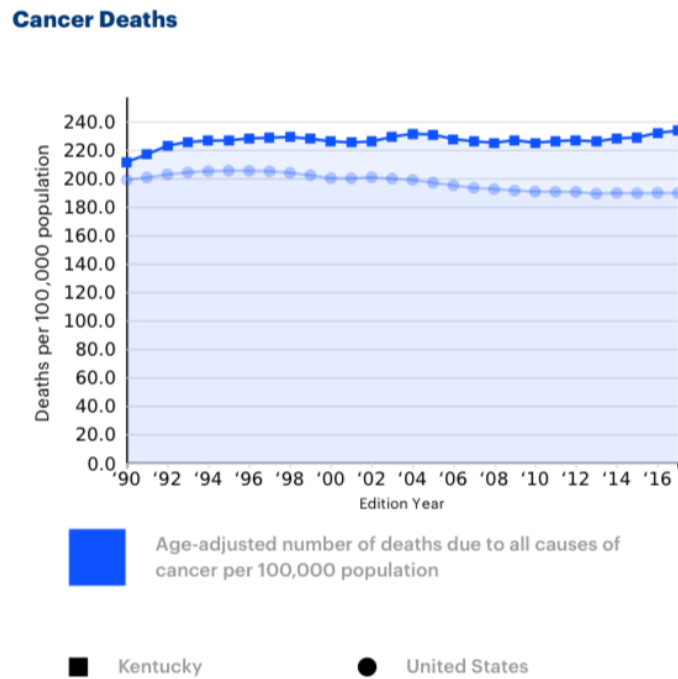
According to the 2017 America's Health Rankings Annual Report, Kentucky ranks 42<sup>nd</sup> out of 50 states in terms of overall health (United Health Foundation, 2017). In fact, Kentucky leads the nation ranking 50<sup>th</sup> out of 50 states in amount of cancer deaths, 49<sup>th</sup> out of 50 states in smoking, 46<sup>th</sup> out of 50 states in amount of physical activity and diabetes, and 44<sup>th</sup> out of 50 states in obesity and amount of cardiovascular deaths (United Health Foundation, 2017). Kentucky's health status is significantly behind the rest of the nation in all aspects of health, as indicated by figure 16, the percentage of adults who are smokers; figure 17, the number of cancer deaths per 100,000 population, figure 18, the number of deaths due to cardiovascular diseases; and figure 19, the percentage of adults who were told by a professional that they had diabetes.

Figure 16. Percentage of adults who are smokers in Kentucky versus the United States.



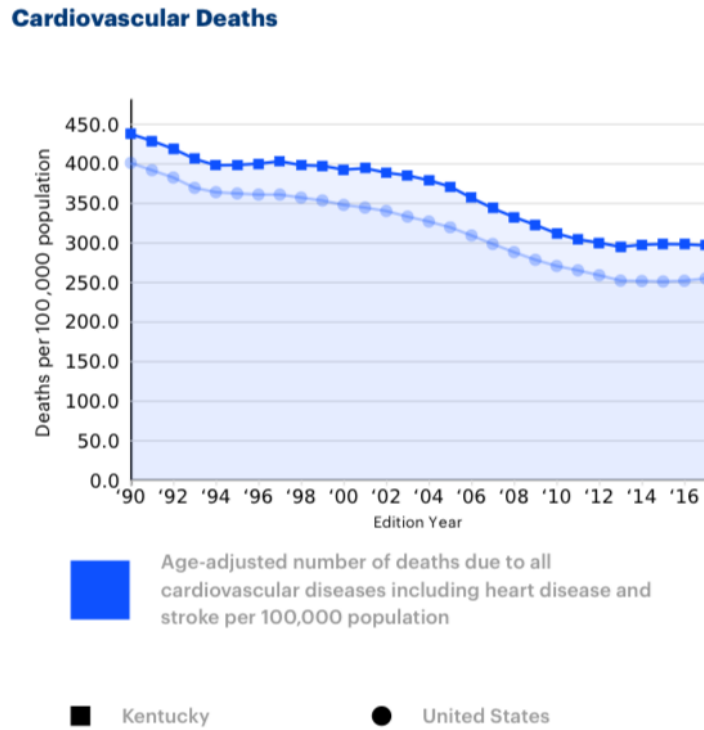
Note: Retrieved from <https://www.americashealthrankings.org/explore/2017-annual-report/measure/Smoking/state/KY>. Copyright 2018 by the United Health Foundation.

Figure 17. Number of cancer deaths per 100,000 population in Kentucky versus the United States.



*Note:* Retrieved from <https://www.americashealthrankings.org/explore/2017-annual-report/measure/CancerDeaths/state/KY>. Copyright 2018 by the United Health Foundation.

Figure 18. Number of deaths due to cardiovascular diseases in Kentucky versus the United States.



Note: Retrieved from <https://www.americashealthrankings.org/explore/2017-annual-report/measure/CVDDeaths/state/KY>. Copyright 2018 by the United Health Foundation.

Figure 19. Percentage of adults who were told by a professional that they had diabetes in Kentucky versus the United States.

**Trend: Diabetes, Kentucky, United States**



Percentage of adults who reported being told by a health professional that they have diabetes (excludes prediabetes and gestational diabetes) (pre-2011 BRFSS methodology)

Percentage of adults who reported being told by a health professional that they have diabetes (excludes prediabetes and gestational diabetes)

■ Kentucky ● United States

Note: Retrieved from <https://www.americashealthrankings.org/explore/2017-annual-report/measure/Diabetes/state/KY>. Copyright 2018 by the United Health Foundation.



These figures not only depict the poor health status of Kentucky overall, but indicate the room for improvement. While there are barriers such as amount of uninsured, poverty level, and built environment that can affect the health status of Kentuckians, the workplace continues to prove to be the best place to make a behavioral change. While Colorado had significant policies that could reflect the overall superb health status of the state, Kentucky policies could be a reflection of the poor health status of the state.

### Lactation Policies in Kentucky

With intentions to improve the breastfeeding rates in Kentucky, Governor Matt Bevin declared August as Kentucky Breastfeeding Month in August of 2016. Ranking 42<sup>nd</sup> out of 50 states, The Kentucky Chamber of Commerce (2009) outlined in their May 2009 *A Guide for Worksite Wellness* that breastfeeding promotes good health for employees and reduces an infant's risk of being overweight or obese later in life. The Kentucky Chamber of Commerce also encourage that workplaces implement policies and programs to promote and support breastfeeding and to provide a place for breastfeeding or pumping. However, though breastfeeding policies are encouraged, the Kentucky Worksite Health Assessment indicated that only 11% of Kentucky workplaces that participated in the assessment (37% response rate) had written lactation policies in 2014 (Watkins, Macy, Lartey, & Golla, 2014).

While Kentucky has specific legislature that allows women to breastfeed in any public or private location, Kentucky does not have specific laws related to breastfeeding in the workplace. Kentucky Revised Statute 211-755, passed in 2006, allows a mother to breastfeed her baby or express milk in any public or private location. This law includes

that breastfeeding cannot be considered an act of public indecency, indecent exposure, sexual conduct, lewd touching, or obscenity and additionally prohibits individuals from restricting breastfeeding in any location (Lactation Improvement Network of Kentucky, n.d.). The only thing missing from this law is its tie to breastfeeding in the workplace.

In addition to Kentucky Revised Statute 211-745, Kentucky Revised Statute 29A.100, passed in 2007, instructs judges at all levels of the court system to excuse women who are either breastfeeding or expressing milk until their child is no longer nursing (Lactation Improvement Network of Kentucky, n.d.). While Kentucky breastfeeding policies don't specifically address breastfeeding in the workplace, SCR 9, a concurrent resolution of the Senate and the House, was passed on March 14, 2016 to recognize the importance of removing barriers to breastfeeding in the state of Kentucky by providing better breastfeeding laws, specifically for the workplace.

Improvements have been made since SCR 9 was passed as Kentucky's Senate Judiciary Committee has approved a bill, SB 38, that would prohibit discrimination against pregnant workers, requiring that workplaces make "reasonable accommodations" for women. Currently, this bill would apply to workplaces with 8 workers or more. However, before the final vote in the Senate, this bill is suggested to increase to workplaces with 15 employees or more (Kentucky Legislature, 2016). Supporters of SB 38 insist that more women might not be afraid to start families if the bill was approved and that no woman should have to choose between pregnancy and her career. While this bill has not been approved by the Senate in Kentucky yet, it still indicates that Kentucky is moving in the right direction to accommodate breastfeeding mothers in the workplace.

## Tobacco Policies in Kentucky

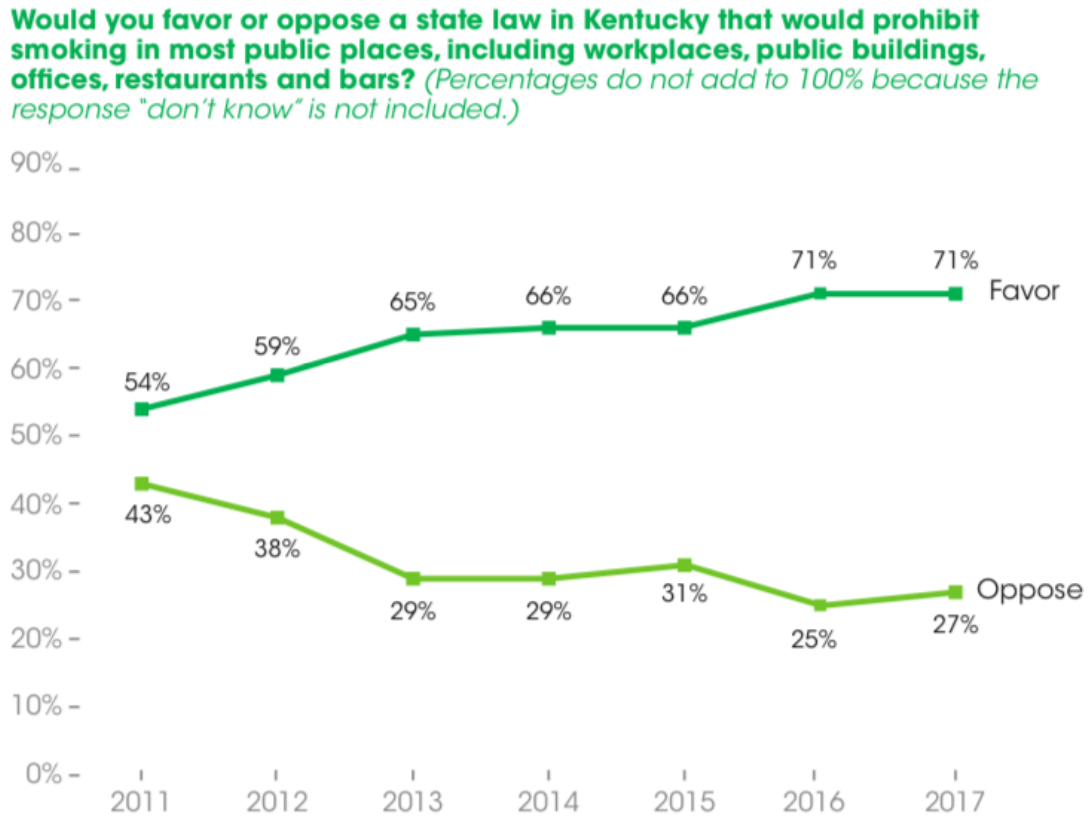
If any health topic were to be controversial in Kentucky, tobacco would be the one. Tobacco is one of Kentucky's top five agricultural exports and ranks 1<sup>st</sup> in burley tobacco production, 1<sup>st</sup> in fire-cured tobacco production, 1<sup>st</sup> in dark air-cured tobacco production, and 2<sup>nd</sup> in total tobacco production annually (Kentucky Farm Bureau, 2018). Tobacco is deep-rooted in the cultural history of Kentucky as generation after generation has inherited the responsibility of farming tobacco. With these deep-ties to tobacco – and the financial stability it brings to many families – there are strong voices on how it should be grown, used, and taxed.

Based on the deep-roots that tobacco has in the state of Kentucky, it comes by no surprise that Kentucky accounts for the highest smoking rates in the nation, with an average of 25.9% of adults who are smokers (United Health Foundation, 2017). In January 2018, it was estimated that 17% of Kentucky high school students currently smoke – and that 2,900 Kentucky youths will become new smokers each year (Kentucky Youth Advocates, 2018). Kentucky's Coalition For A Smoke-Free Tomorrow insists that Kentuckians die of cancer at rates higher than any other state, with 34% of cancer deaths related to smoking; nearly 9,000 Kentuckians dying of smoking-related diseases annually; and smoking-related health costing the state of Kentucky nearly \$1.92 billion each year (Foundation for a Health Kentucky, 2017). The 2014 Surgeon General's Report indicates that “policies and laws making indoor workplaces and public places smokefree (i.e., eliminating smoking in all indoor areas with no exceptions) have been found to be highly effective in reducing exposure to secondhand smoke” with intentions to “extend

comprehensive smokefree indoor protections to 100% of the U.S. population” (Campaign for Tobacco-Free Kids, 2017).

Currently, Kentucky statutes do not specifically address smoking in workplaces. While local smoking laws may apply to a particular workplace, smoking is not prohibited at a statewide level in workplaces. In fact, Kentucky doesn’t even require employers to create a designated smoking area for their employees who use tobacco. Results from a poll conducted by the Foundation For A Healthy Kentucky when asking Kentuckians if they would be in favor or oppose a state law prohibiting smoking in most public places, including workplaces, public buildings, offices, restaurants, and bars, indicate that 71% were in favor of a state law prohibiting smoking and that 27% opposed the law. As this poll was initially asked in 2010, nearly 48% of respondents favored and 48% of respondents opposed a statewide smoking prohibition law at the time (Foundation For A Healthy Kentucky, 2018). Figure 20 shows the progression from 2011 to 2017 when Kentuckians were asked if they would favor or oppose a state law prohibiting smoking in most public places.

Figure 20. Difference from 2011 to 2017 of Kentuckians favoring and opposing a smoke-free law in Kentucky.

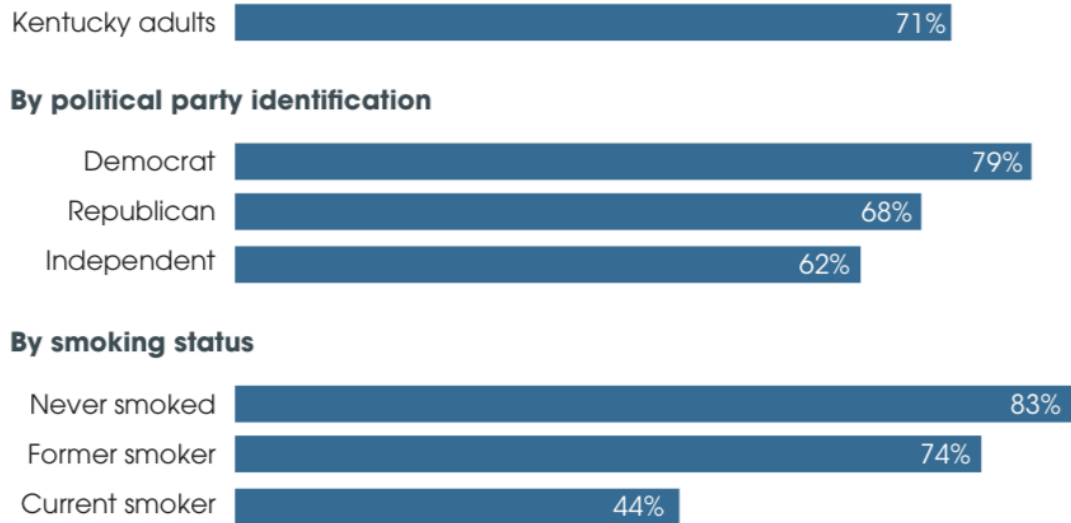


Note: Retrieved from [https://www.healthy-ky.org/res/images/resources/KHIP-smoke-free-FINAL\\_1.pdf](https://www.healthy-ky.org/res/images/resources/KHIP-smoke-free-FINAL_1.pdf). Copyright 2018 by the Foundation For A Healthy Kentucky.

As indicated by Figure 21, many of the respondents that were in favor of a statewide public place smoking prohibition, including workplaces, public buildings, offices, restaurants and bars, had never smoked or were a former smoker and had good to excellent health.

Figure 21. Demographics of Kentuckians favoring a smoke-free law.

**Percentage of adults who favor a comprehensive smoke-free law**



*Note:* Retrieved from [https://www.healthy-ky.org/res/images/resources/KHIP-smoke-free-FINAL\\_1.pdf](https://www.healthy-ky.org/res/images/resources/KHIP-smoke-free-FINAL_1.pdf). Copyright 2018 by the Foundation For A Healthy Kentucky.

The results of this poll indicate that a majority of people in favor of prohibiting smoking in public places are generally healthy, have never used tobacco, and don't want to be exposed to the harm of secondhand smoke. While policies regulating the areas in which smoking is allowed are beneficial, policies regulating the tax rate of tobacco products have also been proven to be effective.

Currently, under Kentucky Revised Statute 138.140, effective April 1, 2009, the cigarette tax rate was declared to be 60 cents, ranking it the 8<sup>th</sup> lowest tobacco tax in the nation. Nine years later, this cigarette tax rate still remains unchanged. However,

significant ground has been made in recent months in an attempt to increase the cigarette tax to \$1 per pack.

Included in Kentucky Revised Statute 138.140, effective August 1, 2016, The Kentucky General Assembly is said to have recognized that increasing taxes on tobacco products should contribute to reduced consumption and to healthier lifestyles for Kentuckians, while reducing smoking-related mortality and morbidity rates and lowering health care costs associated with tobacco-related diseases (Kentucky Legislature, 2018). In the year and half since the General Assembly concluded this information, Senate Bill 29, which proposes creation of a new section of KRS 205.510 to 205.560 has been prefiled and introduced to the Senate. This bill affects workplace health in that it proposes a new section of KRS Chapter 212 ordering that each county health department located in a county to prohibit the smoking of tobacco or use of e-cigarettes in all workplaces, all buildings open to the public, and within 15 feet of entrances to all workplaces and buildings open to the public (General Assembly of the Commonwealth of Kentucky, 2018). This bill also includes that the county health departments will receive funds from the county tobacco cessation funds for the sole purpose of creating and administrating tobacco cessation programs. Not only could these programs be effective in the community, these programs could be taken into consideration by local workplaces to implement tobacco cessation programs for their employees. Implementing a statewide prohibition of smoking in public places could be extremely beneficial to the health status of Kentuckians.

According to the Foundation for a Healthy Kentucky (2017), more than 70% of Kentucky adults and 90% of Kentucky businesses support smoke-free laws. With the

progress being made on Senate Bill 29, the proposed \$1 increase to tobacco tax through Kentucky Revised Statute 138.140, and the overwhelming support of Kentuckians for smokefree laws, it can be inferred that change is coming in regard to tobacco usage laws in Kentucky.

### Physical Activity, Obesity, & Nutrition Related Policies in Kentucky

The obesity epidemic continues to escalate as a public health crisis in the United States, with nearly 39.8% of adults being obese and 18.5% of youths being obese (CDC, 2017). Kentucky contributes greatly to this national statistic with 34.2% of adults being obese, ranking 44<sup>th</sup> nationally. Kentucky also ranks 46<sup>th</sup> among 50 states in terms of physical inactivity, with 29.8% of Kentucky adults reporting exercise within the last 30 days. Additionally, only 24.4% of adults reported having consumed fruits 2 or more times per day and only 29.4% of adults reporting having consumed vegetables 3 or more times per day (United Health Foundation, 2017).

While obesity is an issue in itself, the number of overweight population is also statistically significant. According to the National Health and Nutrition Examination Survey Data from 2013-2014, approximately 32.5% of the population was considered overweight. At this time, obesity (BMI of 30+) accounted for 30.0% of the United States population while extreme obesity (BMI of 40+) accounted for 7.7% of the population. Conclusively, it was found that 70.2% (over two-thirds) of the United States population was overweight or obese (National Institute of Diabetes and Digestive and Kidney Diseases, 2017). Table 1 shows the demographics of U.S. adults who are overweight or obese differentiated by sex.



Table 1. Demographics of U.S. who are overweight or obese differentiated by sex.

**Estimated (Age-Adjusted) Percentage of US Adults with Overweight and Obesity by Sex, 2013–2014, NHANES Data**

	<b>All (Men and Women)</b>	<b>Men</b>	<b>Women</b>
Overweight or Obesity	70.2	73.7	66.9
Overweight	32.5	38.7	26.5
Obesity (including extreme obesity)	37.7	35	40.4
Extreme obesity	7.7	5.5	9.9

*Note:* Retrieved from <https://www.niddk.nih.gov/health-information/health-statistics/overweight-obesity>. Copyright 2017 by the National Institute of Diabetes and Digestive and Kidney Diseases.

Overweight men are estimated to cost employers an additional \$322 and obese men are estimated to cost an additional \$6,087, while overweight women are estimated to cost employers an additional \$797 and obese women are estimated to cost an additional \$6,694 (Finkelstein, DiBonaventura, Burgess, & Hale, 2010). In total, United States' employers spend an additional \$73.1 billion in costs for employees who are obese as a result of lost productivity, absenteeism and presenteeism, and more expensive health expenditures (Finkelstein, DiBonaventura, Burgess, & Hale, 2010).

The Harvard T.H. Chan School of Public Health suggests that policy changes can be helpful in obesity prevention in the workplace. Policies regarding healthy food or beverage options, physical activity such as exercise breaks, or even break time can be beneficial in controlling obesity in the workplace.

In 2014, the KyHealthNow Initiative was established by former governor Steve Beshear to motivate the Kentucky Department of Education and the Kentucky Department for Public Health to revise their worksite wellness and physical activity policies. Within this initiative, KyHealthNow laid out two goals for workplace wellness: reducing the rate of obesity among Kentuckians by 10% and reducing the cardiovascular deaths by 10% (National Network of Public Health Institutes, n.d.). While the Kentucky Department of Education and Kentucky Department of Public Health represent only a tiny fraction of the population of Kentucky, it is still significant in that this program was established by the former governor to initiate change. On May 1, 2015, Kentucky's Commissioner of Education enacted a policy that allowed all Kentucky Department of Education employees to request permission from their supervisors to take 30 minutes of work time per day to engage in physical activity. This policy emphasizes the importance of daily physical activity while also serving as a great example to other employers across the state of a potential physical activity policy.

While there are no specific statewide workplace policies in Kentucky regarding physical activity, obesity, or nutrition, there are great examples and initiatives in the state to encourage healthier behaviors regarding these topics in the workplace. In the Healthy Kentucky 2010 Mid-Decade Review, compiled by the Kentucky Cabinet for Health and Family Services (2010), one of their goals included increasing the proportion of Kentucky worksites with 50 or more employees who offered employer-sponsored physical activity and fitness programs. The Healthy Kentucky 2010 reported that in 2001, 45% of workplaces met this goal, with the objective to increase them to 50% by 2010 (Kentucky Cabinet for Health and Family Services, 2010). However, it was undetermined

at the time of this report whether or not progress had been made in increasing employee-sponsored physical activity and fitness programs. Regardless of outcome, the effort was made in encouraging employers to offer health programs, which accounts for a small percentage of change in itself.

In the publication *A Guide to Worksite Wellness*, developed by The Kentucky Cabinet for Health and Family Services and The Kentucky Chamber of Commerce, policy action is suggested to target workplaces at a much greater impact than other changes. To combat physical inactivity in the workplace, this guide suggests policies against sitting for prolonged periods of time, providing bicycle racks in convenient locations, and allowing for paid time off to attend health programs or classes during work hours. For nutrition, this guide suggests policy action to provide appropriate portion sizes and nutritional information on all food made available, only having healthy food available at company functions, and to establish policies that promote breastfeeding (The Kentucky Chamber of Commerce, 2009).

Overall, the legislation related to physical inactivity, obesity, and nutrition in Kentucky is limited in the workplace. In the Kentucky Worksite Health Assessment, a staggering only 21% of workplaces had written policies for healthier offerings in vending machines (Watkins, Macy, Lartey, & Golla, 2014). As Kentucky ranks 46<sup>th</sup> out of 50 states in terms of physical activity, it is not surprising that there is limited data available to combat these statistics (United Health Foundation, 2017). With only a fraction of Kentucky workplaces having workplace health promotion programs, it is difficult to combat obesity, physical activity, and nutrition-related issues if there are not policies in place.

## CHAPTER 4

### COLORADO VS. KENTUCKY

Colorado and Kentucky were chosen as comparative states based on their stark differences between one another, most significantly the fact that Colorado has the lowest adult obesity rates in the nation (1<sup>st</sup>) and Kentucky ranks 46<sup>th</sup>. Also interesting comparatively is that Kentucky smoking rates are one of the highest in the nation (49<sup>th</sup> / 50 states), whereas Colorado ranks 10<sup>th</sup> lowest out of 50 states (United Health Foundation, 2017). The large differences between the health indicators of Colorado and Kentucky could be a reflection of the policies that are in place.

#### Comparing Lactation Policies

Colorado has demonstrated proficient breastfeeding laws as they encompass both the public and the workplace. Colorado Revised Statute 25-6-301 and 25-6-302 encourage mothers to breastfeed as it allows women to breastfeed in any place she chooses; Colorado Revised Statute 8-13.5-101 requires Colorado employers to provide reasonable break time for employees to express breast milk for up to two years after the child is born and requires that a room other than a toilet stall should be available for

mothers to express milk. Contrastingly, Kentucky has public breastfeeding laws but fail to include laws for the workplace. Kentucky Revised Statute 29A.100 excuses women who are breastfeeding from jury service until their child is no longer nursing and Kentucky Revised Statute 211-755 permits a mother to breastfeed her child in any public or private location.

The lactation policies that are in place in Colorado and Kentucky could serve as a reflection of the breastfeeding rates in each state. In Colorado, 88.6% of infants were ever breastfed, while in Kentucky, only 66.9% of infants were ever breastfed (CDC, 2014). With the fact that the United States could save billions of dollars if infants were breastfed up to six months, it comes by no surprise that in Colorado, 26.4% of infants were exclusively breastfed at six months and that in Kentucky, only 19.0% of infants were exclusively breastfed (CDC, 2014).

Based on the fact that there are more places in Colorado to express milk than in Kentucky, it can be inferred that not having breastfeeding available in the workplace in Kentucky hinders the state's breastfeeding rates. As Healthy People 2020 includes increasing the proportion of employers that have worksite lactation support programs (MICH-22) as one of their objectives, it is suggested that Kentucky:

- Continue to work on SCR 9 to remove barriers to breastfeeding in the state of Kentucky through better breastfeeding laws, workplace laws, etc.
- Continue to work on SB 38 to prohibit discrimination against pregnant workers and require that workplaces make reasonable accommodations for women.

By taking these suggestions and improving the policies regarding breastfeeding in the workplace in Kentucky, it is hypothesized that the rates of infants ever being breastfed will increase in Kentucky. If more mothers are supported to breastfeed in the workplace, more mothers will breastfeed, which will result in more infants ever being breastfed.

### Comparing Tobacco Policies

The U.S. Surgeon General concluded in a report that smokefree workplace policies lead to less smoking and the elimination of secondhand smoke exposure, therefore creating a healthier workforce (CDC, 2016). Colorado has done an exceptional job at eliminating secondhand exposure through the Colorado Indoor Air Act of 2006, which covers an array of indoor areas and requires them all to be smoke-free. In contrast, Kentucky laws don't address specific areas of a workplace where smoking may be prohibited or permitted, don't require employers to designate smoking areas for smokers in the workplace, and don't require employers to provide accommodations for nonsmokers in the workplace. When taking the tax rate of tobacco products into consideration, Colorado currently imposes an 84-cent tax on a 20 pack of cigarettes, while Kentucky only imposes an 80 cent tax on a 20 pack of cigarettes – one of the lowest tax rates on cigarettes in the nation.

The policies in place regarding tobacco usage in the workplace certainly play a large role in the adult smoking rates in Colorado and Kentucky. Colorado, who prohibit smoking in any indoor facility, has an adult smoking rate of 17.3%, while Kentucky, who don't have any specific workplace policies regarding tobacco usage, has an adult smoking rate of 25.9% (United Health Foundation, 2017). Having workplace specific

tobacco usage policies is clearly beneficial in reducing the number of smokers in the population. Having tobacco usage policies in the workplace makes it inconvenient for employees to smoke and when implemented, typically results in a number of employees who quit smoking due to it being an inconvenience.

Colorado has set a great example of how to control smoking rates with the Colorado Indoor Air Act that was passed in 2006. For Kentucky to improve their percentage of adults who smoke, an act prohibiting smoking in any indoor facility or workplace must be implemented. The Foundation for a Healthy Kentucky notes that a significant number of Kentuckians are in favor of stricter tobacco laws that would pass over into workplaces across the state. To improve smoking rates, it is suggested that Kentucky:

- Continue to work on the Kentucky Revised Statute 138.140 to recognize that an increase in taxes on tobacco products should reduce consumption and contribute to healthier lifestyles for Kentuckians, reduce smoking-related mortality and morbidity rates, and lower health care costs associated with tobacco-related diseases (Kentucky Legislature, 2018).
- Continue to work on Senate Bill 29 to propose that each county health department prohibit the smoking of tobacco in all workplaces, all buildings open to the public, and within 15 feet of entrances to all workplaces and buildings open to the public (General Assembly of the Commonwealth of Kentucky, 2018).

By improving the policies regarding tobacco usage in the workplace in Kentucky and diminishing the amount of unclean air, it is hypothesized that the rate of adult smokers will improve. If more people are inconvenienced to smoke in the workplace due to smoke-free policies, more people will cessate from smoking, making for a healthier population.

#### Comparing Physical Activity, Obesity, & Nutrition-Related Policies

The obesity and physical inactivity epidemics are constantly increasing in the United States, with well over two-thirds of the population classifying as overweight or obese. Colorado represents a unique population with having the lowest obesity rate and the second lowest physical inactivity rate in the nation. Colorado also ranked 8<sup>th</sup> out of 50 states in adults who consumed 5 or more fruits or vegetables per day (The Colorado Heath Foundation, 2016). In contrast, Kentucky ranks 44<sup>th</sup> out of 50 states in obesity, ranks 46<sup>th</sup> out of 50 states in physical activity, and ranks 44<sup>th</sup> out of 50 states in consuming 5 or more fruits or vegetables per day (United Health Foundation, 2017). While there aren't specific statewide policies targeting physical activity, obesity, or nutrition, there are significant efforts made in each state that can serve as a reflection to the health rankings of each state. At this time, there is insufficient policy evidence to support a claim that policies help in lowering health risks in physical activity, obesity, or nutrition. However, the quantity and quality of health organizations represented in each state could be indicative of the physical activity, obesity, and nutrition-related behaviors.



## Comparing Health Organizations

In Colorado and Kentucky, there are many organizations devoted to reducing risky behaviors and increasing health among residents. As these organizations have specific goals and target a specific population, the difference that they can make in the health of a population is substantial. While the quantity of health organizations present in each state makes a difference in the health of residents, the quality of these health organizations and the effectiveness of their mission also play a difference.

Organizations that solely target increasing breastfeeding rates in Colorado include:

- Colorado Breastfeeding Coalition - A volunteer organization comprised of physicians, nurses, public health officials, dietitians, lactation consultants, counselors, and members of business community who educate, advocate, and collaborate to reduce barriers and support families to achieve their breastfeeding goals.

Organizations that solely target increasing breastfeeding rates in Kentucky include:

- LINK (Lactation Improvement Network of Kentucky) – Kentucky’s state breastfeeding coalition; mission is to make breastfeeding easier for all Kentuckians.

- La Leche League of KY-TN – A non-profit organization that is dedicated to providing education, information, support, and encouragement to families who want to breastfeed.
- KLIC (Kentucky Lactation Improvement Coalition) – A chapter of the United States Lactation Consultant Association (USLCA); a non-profit intended to promote knowledge about breastfeeding and to promote, protect, and support breastfeeding in private and public sectors.

Organizations that solely target reducing tobacco consumption in Colorado include:

- Coalition for a Tobacco-Free Colorado – Project created by the Colorado Department of Public Health and Environment. Intended to educate Coloradans on tobacco cessation and prevention.
- GASP (Group to Alleviate Smoking Pollution) of Colorado – A nonprofit organization working to eliminate secondhand smoke by advocating for smoke-free policies at work, in public places, and in multiunit housing. Also educates the public about benefits of smoke-free policies and provides assistance in creating smoke-free policies.

Organizations that solely target reducing tobacco consumption in Kentucky include:

- Coalition for a Smoke-Free Tomorrow – A group of stakeholders in Kentucky who are dedicated to increase the state cigarette tax rate to \$1 or

more per pack, help counties enact smoke-free policies in workplaces, and educate the public about tobacco cessation resources.

- Kentucky Smoke Free Association – An organization that focuses on educating the risks of tobacco and other sources of nicotine.
- Smoke-Free Kentucky – A branch off of the Campaign for Tobacco-Free Kids. Encourages Kentuckians to go smoke-free and to pass a comprehensive smoke-free workplace law in Kentucky.
- Quit Now Kentucky – Kentucky’s Tobacco Quitline. Offers one-on-one counseling for tobacco users who are ready to quit tobacco products.

Miscellaneous health organizations in Colorado:

- Colorado Healthy Hospital Compact – An agreement by hospitals to protect and promote the health of hospital patients and their families, visitors, and staff. Compact partner hospitals agree to promote breastfeeding and offer healthy food/beverage choices.
- Colorado Governor’s Council for Active & Healthy Lifestyles – Created by the Colorado Foundation for Physical Fitness to promote and support events and programs that encourage physical activity, educate citizens on the lifelong benefits of an active lifestyle, and collaborate with government entities, schools, nonprofit associations, businesses, and healthcare and fitness organizations to advance their vision.
- For Colorado – A statewide initiative focused on integrating health and wellness into places Coloradans work, live, and play developed by the

Office of Economic and International Trade (OEDIT). Initiates a culture of health and well-being in small businesses and communities statewide.

- HealthLinks Certified – A program offered by the Center for Health, Work & Environment at the Colorado School of Public Health. HealthLinks collaborates with employers to create healthier businesses by assessing organizations' health and safety policies and programs.
- Colorado Department of Public Health & Environment – The state department of public health and environment committed to protecting and improving the health of Colorado's people and the quality of its environment.
- LiveWell Colorado – A nonprofit organization committed to reducing obesity in Colorado by promoting healthy eating and active living.
- Healthier Colorado – A nonprofit organization that encourages policy to improve the health of the state, with the belief that every Coloradan should have a fair chance at living a healthy life.
- The Colorado Health Foundation – Encourage health in Colorado through investing, policy advocacy, learning, and capacity building.
- Colorado Business Group on Health – A nonprofit organization that focuses on reducing the cost for health and improving employee health.
- Colorado Healthy Schools Collective Impact – An organization devoted to helping Colorado youth reach their full potential, with the goal of having all Colorado K-12 public schools providing a culture that integrates health and wellness for all students and staff by 2025.

Miscellaneous health organizations in Kentucky:

- Partnership for a Fit KY – A team of leaders, administrators, advocates, health professionals, and community members who promote healthy eating and active lifestyles through policy, environmental, and system changes.
- Foundation for a Healthy Kentucky – An organization created to address unmet health needs of Kentuckians through health policy, improving access to care, reducing health risks and disparities, and promoting health equity.
- Worksite Wellness Council of Louisville – An organization that fosters healthy work environments in Louisville and facilitates cultures of health among employers; goal is to become one of the healthiest cities in the country by facilitating a culture of health through sustainable worksite wellness programs, promotion of healthy lifestyles, and providing access to essential resources.
- Kentucky Department for Public Health – The state department of public health with the mission to improve the health and safety of Kentuckians through prevention, promotion, and protection.
- Kentucky Voices For Health – A nonprofit organization that addresses causes of poor health in Kentucky and intends to make change through policy advocacy.

The health organizations in Colorado and Kentucky have a lot of influence on the policies that are enacted in each state. When a group of like-minded people come together with similar goals, significant change can happen. For reference, The Colorado Health Foundation (2018) notes their 2018 Policy Priorities as continuing to progress in making physical and behavioral health care services accessible and affordable for Coloradans and to continue to advance policies in K-12 schools supporting physical education and physical activity. By focusing on these policies and encouraging change, health indicators such as prevalence of obesity or physical activity of Colorado residents can be influenced to change.

Likewise, Healthier Colorado focuses on reducing obesity and other related chronic diseases, improving mental and behavioral health, and addressing other health disparities through campaigns and policy action. In 2018, bills had been posed and supported by Healthier Colorado (2018) such as SB 13, Expand Child Nutrition School Lunch Protection Act; HB 1020 Expanding the Scope of Psychology Practice; and SB 24 Expand Access to Behavioral Health Care Providers, among many other bills. Having an organization that motivates through policy change and encourages Coloradans to take action is important in changing health behaviors.

In Kentucky, similar organizations also exist to encourage health behavior change. The Foundation for a Healthy Kentucky aims to promote health policies on increasing access to care, strengthening local public health, improving children's health, and increasing the smoke-free ordinances in the state. The most prominent issue that the Foundation for a Healthy Kentucky is advocating for right now is the proposed increase in tobacco tax and encouraging smoke-free prohibition laws. Having a group of

stakeholders to advocate for issues such as tobacco usage can help in getting Kentucky to implement a statewide smoke-free law in public places.

The quantity and quality of health organizations in Colorado and Kentucky were both analyzed. Overall, the Colorado health organizations seemed to be more comprehensive and strategic in their missions to combat certain health disparities. While Kentucky has great health organizations that initiate a lot of change, relatively speaking, the quantity and quality of health organizations in Kentucky weren't as good as Colorado. Colorado is a much healthier state overall and the quantity and quality of organizations in place could be indicative of the superb health status as more people in Colorado are invested in the health of the residents.

## CHAPTER 5

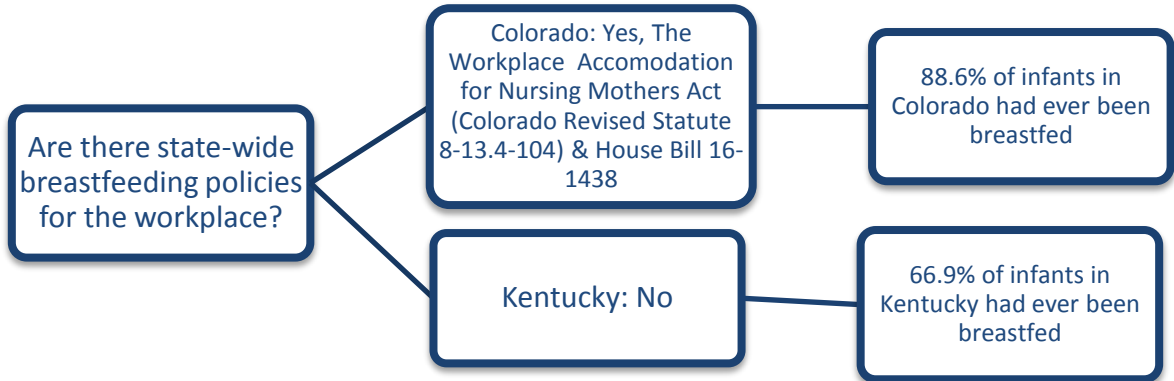
### CONCLUSION

Since a significant number of the United States population is in the workforce, a significant number of the population is directly impacted by workplace health policies. Policies have been proven to be the most effective way to instill behavior change. When looking at components measured in the Kentucky Worksite Assessment - lactation support, tobacco usage, obesity, physical activity, and nutrition – between Colorado and Kentucky, it was found that policies made a significant impact on the health indicators of each state.

As indicated by Figure 22, Colorado has specific breastfeeding policies - the Workplace Accommodation for Nursing Mothers Act and House Bill 16-1438 - for the workplace, while Kentucky does not. The impact that these policies have on the rate of infants that have ever been breastfed is substantial as Colorado has nearly 20.0% more infants ever being breastfed with 88.6% over 66.9% Kentucky (CDC, 2014).



Figure 22. Impact of state-wide breastfeeding policies for the workplace in Colorado and Kentucky.



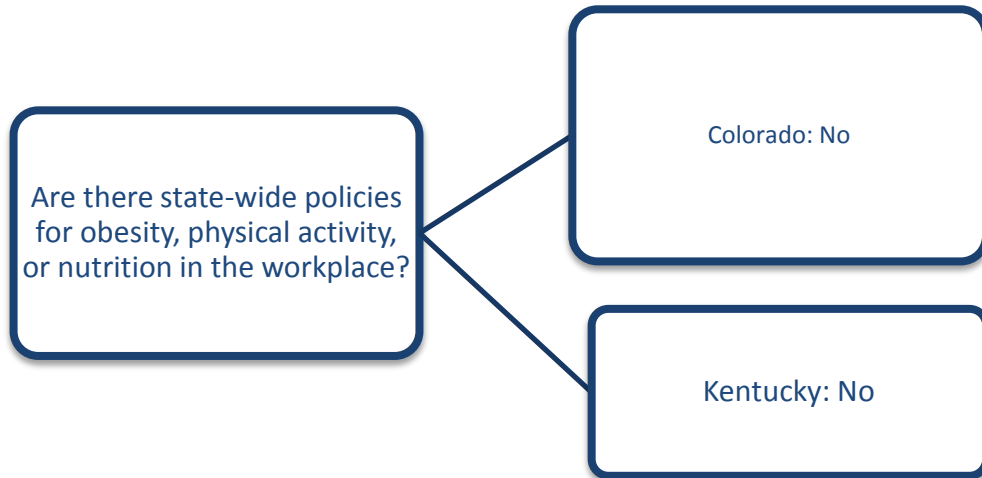
As indicated by Figure 23, Colorado has specific tobacco-free policies related to the workplace – the Colorado Clean Indoor Air Act – and Kentucky does not. The Colorado Clean Indoor Air Act makes a significant impact on the rate of smokers in the state as only 17.3% of the adults in Colorado are current smokers while Kentucky rates are over 10% higher with 25.9% of adults smoking (United Health Foundation, 2017). Having policies related to smoking in the workplace has substantial impact on the rates of smokers as this prohibits many people from smoking.

Figure 23. Impact of state-wide tobacco-free policies for the workplace in Colorado and Kentucky.



As indicated by Figure 24, neither Colorado nor Kentucky have state-wide specific policies related to obesity, physical activity, or nutrition in the workplace. Many businesses initiate their own policies related to these health indicators but there are no state-wide initiatives that would be indicative of the health rankings in each state.

Figure 24. Impact of state-wide obesity, nutrition, or physical activity related policies for the workplace in Colorado and Kentucky.



In conclusion, it is likely that having policies in the workplace is influential in the overall health status of a state. Colorado had both breastfeeding and tobacco-free policies in the workplace and had a significantly higher rate of infants that had ever been breastfed and a significantly lower rate of adult smokers. While other factors could make a difference in the health status of the state, such as environmental support, number of people insured, number of people who have access to health care, etc., policies in the workplace make a substantial impact in the overall health status of both Colorado and Kentucky.

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## APPENDIX

### UNEMPLOYMENT RATE & HEALTH

As of February 2018, the U.S. Bureau of Labor Statistics (2018) indicated that the United States unemployment rate was 4.1%. In April 2018, the Colorado unemployment rate was 3.0%, significantly below the national rate, and Kentucky was 4.1%, uniform with the national unemployment rate (U.S. Bureau of Labor Statistics, 2018).

Employment is usually associated with income and benefits, with some workplaces even offering health coverage for their employees. Being unemployed and not having access to these resources could be harmful to a person's health. While there are many other factors to be considered, the difference between the unemployment rate in Colorado and the unemployment rate in Kentucky could be another indirect reflection of the health status in each state, in addition to health policies.