

Executive Summary: Health Impact Review of Sections 7 and 8 of SB 6029 Provisions Addressing Establishing a Living Wage

Evidence indicates that the provisions of SB 6029 that increase minimum wage (sections 7 and 8) would likely increase incomes and improve health outcomes for low-wage workers, thereby decreasing health disparities by income and race/ethnicity as well as health disparities faced by rural Washingtonians.

BILL INFORMATION

Sponsor: Senator Miloscia

Summary of Sections 7 and 8 of SB 6029:

- Describes the intent of these sections to establish a minimum wage that “allow[s] employees to support themselves and their families with dignity and...enables employees to provide for the basic needs of their families and, therefore, not rely on social services provided by the state and paid for by state taxpayers” (section 7).
- Provides that Washington will continue to increase the state minimum wage annually with the rate of inflation, but that in any year that 1) the previous calendar year per capita personal income increased over the year before and 2) was higher than the per capita personal income for the United States, the state minimum wage will increase by the rate of inflation plus three percent (section 8).
- Currently the Washington state minimum wage is increased annually by the rate of inflation.

HEALTH IMPACT REVIEW

Summary of Findings:

This health impact review found the following evidence regarding sections 7 and 8 of SB 6029:

- Strong evidence that increasing minimum wage by the rate of inflation plus 3% in any year when specific criteria are met will increase income for low-wage workers.
- Very strong evidence that increasing wages for low-wage workers will improve health outcomes for these employees and their families.
- Very strong evidence that improving health outcomes for low-wage workers and their families will decrease health disparities by income and race/ethnicity as well as health disparities faced by rural Washingtonians.

For more information contact:
(360)-236-4106 | hir@sboh.wa.gov
or go to sboh.wa.gov

Health Impact Review of Sections 7 and 8 of SB 6029

Provisions Addressing Establishing a Living Wage

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Author: Sierra Rotakhina

Author: Kelly Gilmore

Contributor/Reviewer: Christy Hoff

Reviewer: Michelle Davis

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Introduction and Methods

A health impact review is an analysis of how a proposed legislative or budgetary change will likely impact health and health disparities in Washington state ([RCW 43.20.285](#)). For the purpose of this review ‘health disparities’ have been defined as the differences in disease, death, and other adverse health conditions that exist between populations ([RCW 43.20.270](#)). This document provides summaries of the evidence analyzed by State Board of Health staff during the health impact review of sections 7 and 8 of Senate Bill 6029 ([SB 6029](#)).

Staff analyzed the content of sections 7 and 8 of SB 6029 and created a logic model depicting possible pathways leading from the provisions of the bill to health outcomes. We consulted with experts and conducted objective reviews of the literature for each pathway using databases including PubMed and Google Scholar.

The following pages provide a detailed analysis of the bill including the logic model, summaries of evidence, and annotated references. The logic model is presented both in text and through a flowchart (Figure 1). The logic model includes information on the strength of the evidence for each relationship. The strength-of-evidence has been defined using the following criteria:

- **Not well researched:** the literature review yielded few if any studies or only yielded studies that were poorly designed or executed or had high risk of bias.
- **A fair amount of evidence:** the literature review yielded several studies supporting the association, but a large body of evidence was not established; or the review yielded a large body of evidence but findings were inconsistent with only a slightly larger percent of the studies supporting the association; or the research did not incorporate the most robust study designs or execution or had a higher than average risk of bias.
- **Strong evidence:** the literature review yielded a large body of evidence on the relationship (a vast majority of which supported the association) but the body of evidence did contain some contradictory findings or studies that did not incorporate the most robust study designs or execution or had a higher than average risk of bias; or there were too few studies to reach the rigor of ‘very strong evidence’; or some combination of these.
- **Very strong evidence:** the literature review yielded a very large body of robust evidence supporting the association with few if any contradictory findings. The evidence indicates that the scientific community largely accepts the existence of the association.

Staff made modifications to these criteria at the start of the 2015 legislative session beginning January 12, 2015. Therefore strength-of-evidence rankings may not be comparable between reviews completed before and those completed after this date.

This review was subject to time constraints, which influenced the scope of work for this review. The annotated references are only a representation of the evidence and provide examples of current research. In some cases only a few review articles or meta-analyses are referenced. One article may cite or provide analysis of dozens of other articles. Therefore the number of references included in the bibliography does not necessarily reflect the strength-of-evidence. In addition, some articles provide evidence for more than one research question so they are referenced multiple times.

Analysis of Sections 7 and 8 of SB 6029 and the Scientific Evidence

Summary of sections 7 and 8 of SB 6029

- Describes the intent of these sections to establish a minimum wage that “allow[s] employees to support themselves and their families with dignity and...enables employees to provide for the basic needs of their families and, therefore, not rely on social services provided by the state and paid for by state taxpayers” (section 7).
- Provides that Washington will continue to increase the state minimum wage annually with the rate of inflation, but that in any year that 1) the previous calendar year per capita personal income increased over the year before and 2) was higher than the per capita personal income for the United States, the state minimum wage will increase by the rate of inflation plus three percent (section 8).
- Currently the Washington state minimum wage is increased annually by the rate of inflation.

Health impact of sections 7 and 8 SB 6029

Evidence indicates that the provisions of SB 6029 that increase minimum wage (sections 7 and 8) would likely increase incomes and improve health outcomes for low-wage workers, thereby decreasing health disparities by income and race/ethnicity as well as health disparities faced by rural Washingtonians.

Pathways to health impacts

The potential pathways leading from the provisions of sections 7 and 8 of SB 6029 to decreased health disparities are depicted in Figure 1. There is strong evidence that minimum wage laws increase income for low-wage workers.¹⁻⁴ There is very strong evidence that increased incomes for these workers will likely improve health outcomes for these employees and their families.⁵⁻¹¹ There is very strong evidence that improving health outcomes for low-wage workers will likely decrease health disparities by income,⁵⁻¹¹ and race/ethnicity,^{6,12-16} as well as rural-urban health disparities.¹⁶⁻¹⁸

Magnitude of impact

We were unable to find current data on the number of people in Washington earning less than or equal to the state minimum wage (currently \$9.47). We extrapolated a very rough estimate of how many people are likely to be directly impacted by an increase in minimum wage and found that hundreds of thousands of Washingtonians and their families could benefit from the wage increases outlined in this bill (further information is provided in Appendix A).

Sections 7 and 8 of SB 6029 will only have an impact on wages when both of the following criteria are met:

1. The previous calendar year per capita personal income increased over the year before and,
2. The previous calendar year per capita personal income was higher than the per capita personal income for the United States.

We used past trends in per capita personal income to project the potential state minimum wage under this bill every year for the next 20 years under three different scenarios:

- Scenario 1: The criteria are met 100% of the time
- Scenario 2: The criteria are met 80% of the time
- Scenario 3: The criteria are met 50% of the time

Under these three scenarios the minimum wage could reach somewhere between \$14.07 and \$16.25 in 2025 and between \$21.52 and \$27.90 in 2035. We used these projections to determine the potential decreases in adverse health outcomes for full-time workers earning minimum wage. Because the most recent Behavioral Risk Factor Surveillance System data that we have readily available is from 2011, we adjusted all of the projected future minimum wages to 2011 dollars in order to account for the differences in spending power that would result from these minimum wage increases. These data indicate that as incomes increase from the current income associated with earning minimum wage to the incomes associated with earning minimum wage if Section 8 of SB 6029 were implemented, we would expect to see significant decreases in rates of asthma, activity limitation due to health problems, lack of ability to see a doctor due to cost, fair or poor general health, and frequent poor health which prevents usual activities. In these projections we also observe decreases in stroke, heart attack, obesity, and diabetes; however these differences are not significant. We only used one year of BRFSS data, so the number of respondents experiencing these specific adverse health outcomes are small, which may account for the lack of statistical significance. For example, in all three of the scenarios, projected rates of asthma fall by 1.4%, rates of activity limitations from health problems fall by 17.2%, and the rates of fair or poor health fall by 14.6% by 2025 for populations earning minimum wage. More information on data sources and methodology for these projections can be found in Appendices A and B. In addition a 2011 meta-analysis found that nationally, in 2000 there were 291,000 deaths related to poverty and income inequality.¹⁹ These state and national data indicate that Sections 7 and 8 of SB 6029 will likely impact a large number of Washingtonians and prevent severe adverse health outcomes.

Logic Model

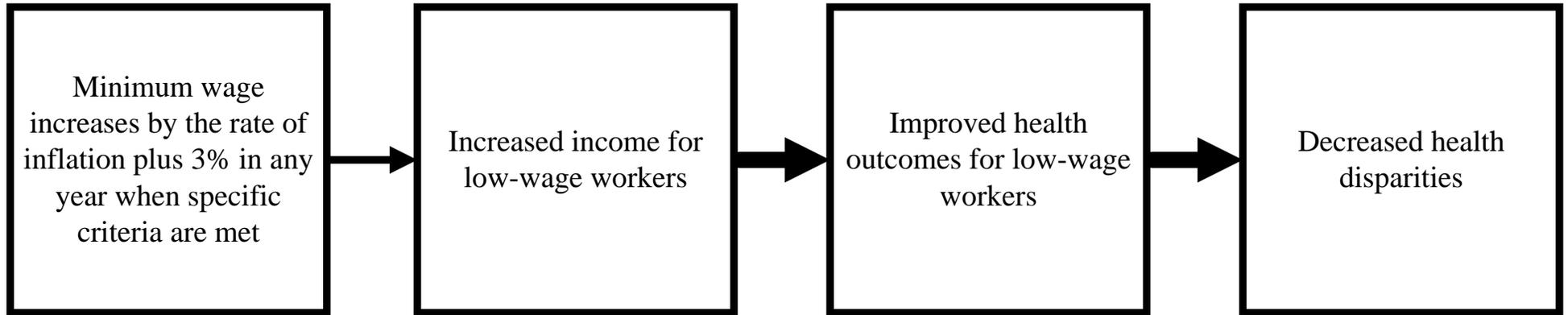
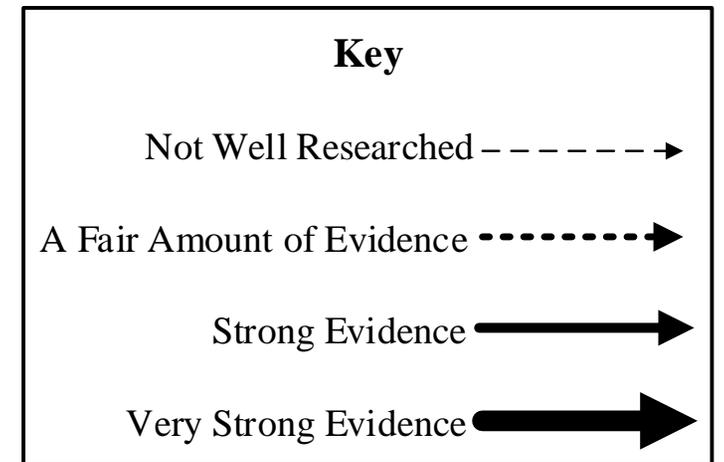


Figure 1
Provisions Addressing Establishing a Living Wage
Sections 7 and 8 of SB 6029



Summaries of Findings

Will increasing minimum wage by the rate of inflation plus 3% in any year when specific criteria are met increase income for low-wage workers?

There is strong evidence that increasing minimum wage increases income for low-wage workers.¹⁻⁴ Studies have tracked incomes of minimum-wage employees following minimum and living wage policy implementation and found income increases for these workers.^{1,3,4} A second subset of literature has explored the impacts of minimum wage laws on poverty and found reductions in the proportion of the population living below the poverty line following increases in minimum wage.²

Will increasing wages for low-wage workers improve health outcomes for these workers?

There is very strong evidence that increased income is associated with improved health outcomes for employees and their families. There is very large body of robust evidence supporting the association between income and health. The research shows a relationship between low income and, for example, depression, acute and recurring infections, poor overall health-status, higher body mass index (BMI), and poor oral health.⁵⁻¹¹ Low socioeconomic status in the first five years of life also has negative health outcomes in later childhood and adolescence.⁹ Data indicate that this correlation between low income and poor health does exist in Washington state.^{5,6,8,11}

Will improving health outcomes for low-wage workers decrease health disparities?

There is very strong evidence that improving health outcomes for low-wage workers would decrease health disparities by income. Because income has such a large impact on health, as discussed above, low income populations face disparities in many health measures.⁵⁻¹¹

In Washington state people of color and American Indian/Alaska Natives are more likely than their white counterparts to both have lower incomes,^{12,13,15,16} and have worse health outcomes.^{5,6,14} Individuals living in rural areas of the state are also more likely to have lower incomes,¹⁶ and worse health outcomes than their counterparts living in urban areas.^{17,18}

Therefore, improving health outcomes for low-wage workers has potential to also decrease health disparities by race/ethnicity and geography.

Other considerations

We pursued a number of other research questions in order to determine if there are alternate pathways leading from the provisions in the bill to positive or negative health impacts. We ultimately did not include these pathways in the logic model on page three of this review either because the evidence is conflicting or because the evidence indicates that the connection likely does not exist. We evaluated the evidence concerning the impact of increases in minimum wage on 1) employment and 2) small businesses.

Impacts on employment

We explored the evidence on the impacts of minimum wage increases on employment and found conflicting results.^{1,3,4,20-22} A 2006 narrative review of the evidence identified 102 national and international studies addressing this connection and the authors concluded that the majority of the evidence indicated that increasing minimum wage was associated with decreases in employment.²² In contrast, a 2009 peer-reviewed meta-analysis which reviewed a similar body of evidence, but only included studies from the United States (sixty-four studies which combined offer 1,474 estimates of employment elasticity studies) found strong evidence that there is publication bias in this body of literature, with a strong bias toward publishing studies indicating negative employment impacts. After controlling for this bias, the authors found that this large body of evidence supports that minimum wage increases are not associated with adverse employment effects.²⁰ A 2014 meta-analysis of the minimum wage studies in the United Kingdom (16 studies which included 236 estimated minimum wage elasticities and 710 partial correlation coefficients) also found no overall significant adverse employment effects resulting from minimum wage laws—although the authors indicated that the data suggest that some industries (the residential home care industry and potentially the retail food industry) may be more adversely affected by minimum wage increases than other industries.²¹

Impacts on small business

We also reviewed the literature to determine if there are potentially adverse impacts on small businesses as a result of minimum wage increases. We were not able to identify evidence indicating that minimum wage increases are associated with measurable negative impacts on small businesses. In contrast, at least some literature on this topic has found that minimum wage policies are not associated with significant increases in business closures.³

Annotated References

1. Brenner MD. The economic impact of the Boston Living Wage Ordinance. *Industrial Relations*. 2005;44(1):59-83.

In this mixed-methods study of Boston's living wage ordinance, Brenner conducted a quantitative review of employment records among city contract workers affected by the law, as well as interviews with city contractors to understand ways in which they adjusted to the policy three years after implementation of the ordinance. In 1999 Boston adopted an ordinance that required all city contractors holding a contract of at least \$100,000 (or a subcontract of at least \$25,000) and employing more than 25 full time employees for private firms or 100 full time employees for non-profits pay their employees \$8.23 per hour. The author attempted to survey 140 firms holding 200 contracts that would be affected by the law. Seventy-two firms responded (51% response rate). There were no significant differences between the firms that responded and the overall population of firms affected by the law who hold city contracts, however, the overall population of firms is heavy with human services organizations, which have more low-wage workers, and may absorb costs differently due to their business model and organizational mission/values than other private enterprises. Brenner compared outcomes for firms that did and those that did not increase their wages in response to the ordinance. Twenty-three percent of all firms in the sample had to raise wages to comply with the ordinance. Over 88% of the firms immediately complied with the minimum wage law when their contracts became subject to the ordinance. Firms directly affected by the ordinance saw the proportion of workers earning less than \$9.25 fall from nearly 25% to less than 5%. The author found no significant evidence of reduced employment or number of hours worked among employees at the firms that increased their wages as a result of the ordinance. Brenner found that there was a shift from part-time to full-time employment for many firms, and a lowering of profits to adjust to the new law. The author also indicates that increasing wages were not associated with decreased turnover or absenteeism, increased prices to the city or other customers (only 15% of firms reported raising prices), or the substitution of higher-skilled workers, machinery, or equipment for their existing low-wage workforce.

2. Dube A. Minimum wages and the distribution of family incomes. 2013.

In this working paper Dube concludes that there is "robust evidence that minimum wage increases lead to moderate increases in income at the lower tail of the family income distribution." The author analyzed 23 years (1990-2012) of data from the March Current Population Survey, controlling for division-specific time effects, state linear trends, and state-specific business cycle effects to determine the impacts of increases in minimum wages on poverty. The findings indicate that minimum wage increases lead to sizable reductions in the percent of the affected population living at less than 50% of the poverty line. In addition, Dube reviewed the current U.S. papers on minimum wages and family income distribution. Twelve studies (which included 54 reported elasticities of the poverty rate with respect to minimum wage) met the author's inclusion criteria for the review. Forty-eight of the 54 estimates of poverty rate elasticity in these studies indicate a decrease in poverty in response to minimum wage increases. One study found an increase in poverty, but this publication used unconventional methods. The author points out the limitations of the 12 studies included in this review such as limited sample length, exclusion of more recent years, omission of demographic and other covariates, and the use of questionable estimators.

3. Dube A, Naidu S, Reich M. Can a citywide minimum wage be an effective policy tool? Evidence from San Francisco. *Institute of Industrial Relations Working Paper Series: University of California, Berkely*. 2005.

Dube et al. analyzed the economic impacts of San Francisco's 2003 citywide minimum wage policy which increased the minimum wage from \$6.75 to \$8.50 per hour (an increase of 26%) and adjusted annually for the cost of living. The authors surveyed restaurants (the industry with the greatest proportion and absolute number of minimum wage workers in the city) immediately prior to implementation of the policy (response rate 38%; n=354) and interviewed the same restaurants again nine months later (n=301). The authors highlight that the surveys were done by telephone but do not indicate who answered the survey questions (e.g. business owner, manager, or other employee). They also interviewed restaurants that were not impacted by the policy change either because their small size exempted them from coverage during the first year of the policy or because they already paid above the new minimum wage to serve as a control group. They authors also interviewed restaurants in other nearby cities (i.e. Oakland and Berkeley) that also served as controls. These control cities were similar to San Francisco in restaurant establishment and employment prior to implementation of San Francisco's minimum wage policy. The authors found that there was a substantial increase in pay for the treatment group between the pre- and post-survey and relatively stable wage distribution for the control group. Prior to the policy implementation 52% of the surveyed restaurant employees in San Francisco made less than \$8.50 per hour; this declined to 4% at the follow-up interviews. In the control group this percent remained relatively stable, going from 46% to 42%. The authors did not find any significant increase in the rate of business closure, employment loss, or loss of health insurance benefits among restaurants impacted by the minimum wage increase compared to those not impacted by the minimum wage policy. Limited-service restaurants in San Francisco increased their prices significantly more than did restaurants in the control cities, but this was dependent on the geographic location of the restaurant not on whether or not the business had to increase its minimum wage. At limited-service restaurants, employee job tenure also increased. These trends were not observed among full-service restaurants. Dube et al. found no significant difference in the changes to service charges between the intervention and control groups.

4. Fairris D. The impact of living wages on employers: A control group analysis of the Los Angeles ordinance. *Industrial Relations*. 2005;44(1):84-105.

Fairris evaluated the impact of the 1997 Los Angeles Living Wage Ordinance on employers. An estimated 6,500 workers and 375 firms were directly affected by the living wage component of the ordinance. The ordinance required companies to pay their employees either \$8.50 per hour or \$7.25 per hour plus a \$1.25 hourly contribution to the employee's health benefits and to provide 12 paid days off and 10 unpaid days off each year. Companies required to provide these wages and benefits included 1) those with city contracts of \$25,000 or more and their subcontractors, 2) those that receive economic development subsidies of one million dollars in one year or \$100,000 or more annually and their subcontractors, and 3) companies that have a lease with the city or are granted a license or permit and their subcontractors. The author analyzed interview data from 48 structured, in-person interviews with employers collected by the Survey of Los Angeles Living Wage Employers (response rate 68%). Fairris also analyzed data from the Survey of Diversity in Human Resource Practices, which were surveys of employers that were not subject to the living wage ordinance and therefore served as a control group (response rate 23%; n=184). Both survey groups were asked about conditions when the surveys were conducted (2001-2002) and those prior to the living wage ordinance. The author found that before and after implementation of the ordinance, the changes in the use of part-time workers, the extent of

supervision, and the percentage of positions filled from within were not significantly different between the living wage and control samples. The author found that living wage establishments had a significantly higher increase in starting wages for low-wage occupations than nonliving wage businesses with a difference of \$1.66 per hour. When living wage employers were asked what starting wages they would offer in the absence of the living wage ordinance their mean answers were not significantly different than the mean starting wages actually observed in the control group. The author also analyzed the impacts of the ordinance on staffing changes, although these were not compared to the control group as the nonliving wage sample was not asked questions concerning staffing changes. Eighteen percent of the living wage businesses interviewed reported a decrease in staffing and none of the living wage businesses reported an increase in staffing as a result of the ordinance. The loss in employment represented 1.6% of the labor force of all living wage firms in the sample and 2.6% of employees who received wage increases as a result of the ordinance. Without a control group it is not possible to determine if this change was associated with the living wage. Fairris also found that living wage businesses had significantly lower rates of employee turnover than nonliving wage businesses with a reduction in turnover of about 35% among workers in the largest low-wage occupations. The author controlled for the starting wages and found that the differences in turnover were no longer significantly different, indicating that the decreased turnover in living wage businesses was almost entirely a result of the higher wages paid by those businesses. Fairris estimates that the cost-savings from reduced turnover would cover about 4% of the increased wages per worker, per year resulting from the living wage ordinance. The author indicates that these data also provide suggestive evidence that job training in living wage firms has not increased at the same rates as trainings offered in the nonliving wage firms, indicating that the living wage may lower job training for workers. Fairris indicates that this could be a result of living wage businesses hiring higher-skilled workers in response to the minimum wage increase thereby decreasing the need for job training. The data also indicate that living wage businesses have reduced the use of overtime at a faster rate than have nonliving wage businesses.

5. Boysun M, Wasserman C. *Health of Washington State Report: Tobacco*. Washington State Department of Health;2012.

Washington state Behavioral Risk Factor Surveillance System (BRFSS) data from 2008-2010 indicate that adults with lower incomes are significantly more likely to report smoking cigarettes than their counterparts. AI/AN and black populations also have significantly higher smoking rates than white, Hispanic, and Asian populations.

6. Centers for Disease Control and Prevention. Behavioral risk factor surveillance system prevalence and trends data: Washington-2012. 2012; <http://apps.nccd.cdc.gov/brfss/page.asp?cat=XX&yr=2012&state=WA#XX>. Accessed February 11, 2015.

BRFSS 2013 data from Washington state show a significant correlation between lower income and a number of health indicators including: worse overall self-reported health, depression, asthma, oral health, tobacco use, women's health indicators, health screening rates, physical activity, and limited activity as a result of a disability. BRFSS data from 2011 show that black, AI/AN, and Hispanic respondents are significantly more likely to report fair or poor general health than white or Asian respondents. Participants who identified as multiracial also reported significantly higher rates of asthma than white and Hispanic respondents.

7. Prause J, Dooley D, Huh J. Income volatility and psychological depression. *American Journal of Community Psychology*. 2009;43(1-2):1-2.

Prause et al. analyzed a sample (n = 4,493) from the National Longitudinal Survey of Youth. Researchers found that income volatility was significantly associated with depression; and downward volatility (frequent losses in income) was significantly associated with depression even after controlling for baseline depression. High income appeared to act as a buffer, so those with lower incomes were more vulnerable to the adverse effects of downward volatility.

8. Reed P KD, Cheng E, Kinne S. Washington State Department of Health. *Health of Washington State Report: Mortality and Life Expectancy*. 2013.

The authors present Washington state data on mortality and life expectancy. The data show that age-adjusted death rates were higher in Washington census tracts with higher poverty rates. The state data also show that self-reported health status decreases as income decreases.

9. Spencer N, Thanh TM, Louise S. Low income/socio-economic status in early childhood and physical health in later childhood/adolescence: A systematic review. *Maternal and child health journal*. 2013;17(3):424-431.

Spencer et al. conducted a meta-analysis of studies examining the relationship between low socioeconomic status in the first five years of life and physical health outcomes in later childhood and adolescence. Nine studies met the researchers' strict inclusion criteria. The studies indicated significant associations between early childhood low-income status and a number of adverse health outcomes including: activity-limiting illness, parent-reported poor health status, acute and recurrent infections, increasing body mass index (BMI), dental caries, and higher rates of hospitalization.

10. Subramanyam M, Kawachi I, Berkman L, Subramanian SV. Relative deprivation in income and self-rated health in the United States. *Social Science & Medicine*. 2009;69(3):327-334.

Subramanyam et al. analyzed data from the Current Population Surveys conducted by the United States Census Bureau. Researchers found that individuals from the lowest income category were over five times more likely to report being in poor health than participants from the highest income category. In addition, they found that relative deprivation (the differences in incomes between an individual and others who have higher incomes than that individual [one measure of income inequality]) appeared to explain a large part of this association.

11. VanEenwyk J BG, Bezruchka S, Pobutky, A. Washington State Department of Health. 2013. *Health of Washington State Report: Social and Economic Determinants of Health*. 2013.

VanEenwyk et al. conducted a review of the literature on the complex relationships between the social factors that impact health. The authors found that the literature provides extensive evidence of the association between lower income and poor health outcomes.

12. Bureau of Labor Statistics. 2014 Characteristics of Minimum Wage Workers; Report 1048. Washington DC. 2013; <http://www.bls.gov/cps/minwage2013.pdf>.

The Bureau of Labor Statistics compiles yearly reports from the Current Population Survey. Data from 2013 indicate that nationally a little over half of America's workforce were hourly employees. Of these hourly employees, 75,948 were age 16 or older and paid at or below the Federal minimum wage (\$7.25/hour). About 5% of Black workers, 4% of White and Hispanic workers, and 3% of Asian workers

who were paid hourly earned at or below the federal minimum wage. Five percent of women had wages at or below the federal minimum wage, as compared to 3% of men.

13. US Census Bureau. 2012 Statistical Abstract. (131st ed) Washington DC. 2011; <http://www.census.gov/compendia/statab/>.

A compilation of national data from government and private sources from 2009 shows that nationally, Black, Asian and Hispanic Americans make up higher percentages of persons whose household incomes are below \$30,000 per year. Black and Hispanic Americans in particular, are underrepresented in households whose incomes are above \$60,000 per year.

14. Healthy Youth Survey. QxQ Analysis. 2012; <http://www.askhys.net/Analyzer>. Accessed March 2, 2015.

Washington Healthy Youth Survey data from 2012 indicate that Native American youth and youth of color are more likely than their white peers to report several negative health outcomes. For example these data show that 8th, 10th, and 12th grade respondents who identified as American Indian/Alaska Native, Hispanic, or "other" or who reported multiple racial/ethnic categories were significantly more likely than their white peers to report symptoms of depression. Over forty-three percent of AI/AN 10th graders (43.3% [95% CI 37.1- 49.5%]) reported feeling depressed compared to about 29% of white 10th graders (28.5% [95% CI 27.2%-29.8%]). Among 6th graders all other racial/ethnic groups were more likely than white students to report that they had contemplated suicide; however these rates were only significant for students who identified as AI/AN, Hispanic, or "other," or identified with multiple racial/ethnic groups.

15. Washington State Department of Health. Washington State Behavioral Risk Factor Surveillance System Data; Washington Community Health Assessment Tool (CHAT). 2007

The Behavioral Risk Factor Surveillance System is a randomized telephone survey conducted yearly in English and Spanish with adults over 18 years old. Data from 2007 indicate that Black, Hispanic, and American Indian/Alaska Native Washington residents are significantly overrepresented in the lowest income brackets, with over half of these populations making less than \$50,000 per year. Asian Americans and White Americans are overrepresented in the higher income brackets, with over half of these populations making over \$50,000 per year. This survey estimates that about 212,600 people in Washington State make less than \$15,000 per year, the equivalent of \$7.80 per hour for one full time worker (just under the 2007 minimum wage)—although we can not tell from this data set how many of these individuals are employed. 598,926 Washingtonians make between \$15,000 and \$25,000 per year, a range of about \$7.80- \$13.02 per hour for one full time worker.

Percent BRFSS survey respondents reporting annual income by self reported race category, 2007; WA state.

	Less than \$15,000 (\$7.80/hr or less)** [95% CI]	\$15,000 to less than \$25,000 (\$7.80-\$13.02/hr)** [95% CI]	\$25,000 to less than \$35,000 (\$13.02-\$18.22/hr)** [95% CI]	\$35,000 to less than \$50,000 (\$18.22-\$26.04/hr)** [95% CI]	\$50,000 or more [95% CI]
White only, non-Hispanic	3.9% [3.5,4.3]	11.5% [10.8,12.1]	10.7% [10.1,11.3]	16.7% [16.0,17.4]	57.1% [56.2,58.1]

Black only, Non-Hispanic	*	21.6% [15.5,27.7]	17.0% [11.3,22.8]	22.2% [15.8,28.6]	30.5% [23.9,37.2]
Asian only, non-Hispanic	*	7.3% [4.8,9.8]	12.3% [7.9,16.8]	15.4% [10.8,19.9]	60.4% [54.0,66.8]
Native Hawaiian or other Pacific Islander only, Non-Hispanic	*	*	*	*	43.6% [27.1,60.1]
American Indian or Alaskan Native only, Non-Hispanic	11.7% [5.8,17.6]	23.8% [17.4,30.2]	16.1% [8.3,23.9]	17.4% [11.3,23.4]	31.0% [23.5,38.6]
Other race only, non-Hispanic	*	*	*	*	*
Multiracial & non-Hispanic	7.9% [4.5,11.4]	17.7% [13.5,21.9]	12.6% [8.9,16.3]	17.5% [12.6,22.3]	44.3% [38.4,50.2]
Hispanic	12.7% [9.8,15.7]	38.6% [34.1,43.2]	14.4% [11.4,17.5]	14.7% [11.3,18.1]	19.5% [16.4,22.6]
TOTAL N (number of people in each income category)	212,600	598,926	486,921	728,420	2,315,679

*Sample size less than 30, not enough data to report.

** Per hour income calculated based on 4 week month in a 12 month period for full time (40 hour/week) work.

16. Washington State Department of Health. *The Health of Washington State: Socioeconomic Position in Washington 2014*. 2014.

This report analyzed data from the 2012 American Community Survey (ACS). They found that 14% of Washingtonians live in poverty as compared to 16% of Americans nationwide. Rural Washingtonians, women, Alaska Natives and Native Americans, Hispanic and Black Washingtonians are more likely to live in poverty. Twelve out of 17 Washington counties with high percentages of persons living in poverty are east of the Cascades, pointing to disparities in urban and rural incomes in the state. Fifteen percent of women as compared to 12% of men live in poverty in Washington. Twenty nine percent of American Indian/Alaska Natives, 28% of Hispanics, and 26% of Black Washington residents live in poverty as compared with 10% of White Washingtonians, 12% of Asians, and 17% of Native Hawaiian and Pacific Islanders.

17. Washington State Department of Health. OCRH series on rural-urban disparities, WA: Rural Disparities in Mortality Fact Sheet. 2010;

<http://www.doh.wa.gov/Portals/1/Documents/Pubs/346022.pdf>

Data from a Washington State Department of Health study of death certificate data from 2007-2008 found that Washingtonians living in rural areas of the state had statistically significantly higher death rates from cancer, heart disease, unintentional injuries, suicide, influenza, and liver disease than urban Washingtonians.

18. Washington State Department of Health. Rural Washington: Closing Health Disparities (2010 update) 2010; <http://www.doh.wa.gov/Portals/1/Documents/Pubs/346030.pdf>

This document provides a summary of the 2010 update of the Washington State Department of Health state-wide rural health assessment data. The authors found 14 health indicators for which rural areas of

Washington were doing statistically significantly worse than the state average. For example, rural Washingtonians were found to have higher percentages of adults who were overweight, smoke, delay seeing a doctor due to cost; lower than average number of women who received prenatal care in the first trimester; lower than average number of adults who receive yearly dental care; and higher rates of children who were hospitalized due to unintentional injuries.

19. Galea S, Tracy M, Hoggatt KJ, Dimaggio C, Karpati A. Estimated deaths attributable to social factors in the United States. *American journal of public health*. 2011;101(8):1456-1465.

Galea et al. conducted a MEDLINE search for English language publications between 1980-2007 that estimated the relationship between adult all-cause mortality and social factors in the United States. They extracted unadjusted, or calculated, relative risk estimates from 47 studies and applied them to a meta-analysis for each social factor. They used the Comprehensive Meta-Analysis version 2 guide for their approach. From the relative risk estimates they were able to calculate the population attributable fraction for each social factor. They found that in the year 2000 there were 133,000 deaths in the United States related to individual level poverty, 39,000 related to area level poverty, and 119,000 related to income inequality.

20. Doucouliagos H, Stanley TD. Publication selection bias in minimum-wage research? A meta-regression analysis. *British Journal of Industrial Relations*. 2009;47(2):406-428.

Doucouliagos and Stanley conducted a meta-analysis of the minimum wage literature to determine if this body of literature contains publication bias and what the literature shows concerning the employment effects of minimum wage laws. Sixty-four United States studies fit their inclusion criteria, which combined offer 1,474 estimates of employment elasticity. The authors conclude that there is strong evidence that the body of literature on the effects of minimum wage laws on employment contains a high level of selection bias, with a tendency to select for negative employment effects of minimum wage. Doucouliagos and Stanley indicate that once the effects of publication selection are filtered out, the large body of evidence does not support that minimum wage laws are associated with an adverse employment effect. The authors ran this analysis using specific subsets of studies that may be considered the “best practice studies” using different schools of thoughts and found the same results.

21. Linde Leonard M, Stanley TD, Doucouliagos H. Does the UK minimum wage reduce employment? A meta-regression analysis. *British Journal of Industrial Relations*. 2014;52(3):499-520.

Leonard et al. conducted a meta-analysis of the United Kingdom (UK) literature on the effect of minimum wage on employment. The authors analyzed 16 UK studies which included 236 estimated minimum wage elasticities and 710 partial correlation coefficients. Leonard et al. outlined several potential factors that can result in publication bias. These include reviewers/editors being predisposed to accept articles consistent with conventional views, those that show statistically significant results, or using conventionally expected results to test new studies for selection. They found that there was little overall reporting bias in the UK publications. The authors conclude that the studies found no overall practically significant adverse employment effects. The authors did find, though, that some industries (the residential home care industry and potentially the retail food industry) may be more adversely affected by minimum wage increases than other industries. The authors cite other studies indicating that the lack of a negative employment effect observed in their meta-analysis may be a result of movements in productivity, efficiency, price, profits, and hours worked resulting from minimum wage increases. They

cite several studies which have found that efficiency increases with higher wages; a trend that remains even in meta-analyses that have controlled for publication bias.

22. Neumark D, Wascher W. Minimum wages and employment: A review of evidence from the new minimum wage research. *NBER Working Paper Series*. 2006.

Neumark and Wascher reviewed the national and international literature on the effects of minimum wage on employment and included 102 publications in their review. The authors indicate that there is a wide range of estimates and a lack of consensus on the impacts of minimum wage policies. They conclude that a “sizable majority of the studies surveyed in this monograph give a relatively consistent (although not always statistically significant) indication of negative employment effects [i.e. reduced employment] of minimum wages.” This seems to indicate that the authors have interpreted studies which found no statistically significant effect to provide evidence of a negative effect rather than evidence of no effect. The authors also note that the evidence indicates that the least-skilled groups were the most likely to be adversely affected by minimum wage. Neumark and Wascher express that among the 33 studies that, in their view, provide the most credible evidence, 85% indicate negative employment effects. The authors do not indicate what guidelines or criteria they used to select the 33 studies.

Appendices

Appendix A. Explanation for Minimum Wage Projections

We were unable to find current data on the number of people in Washington earning less than or equal to the state minimum wage (currently \$9.47).ⁱ Researchers from the University of Washington analyzed 2007 American Community Survey data and estimated that 127,032 working individuals over the age of 16 in King County were paid the minimum wage or less (\$9.32 in 2007).ⁱⁱ This accounted for about 12.7% of the working population in the county over 16,ⁱⁱ and about 6.8% of the entire county population.ⁱⁱⁱ In 2007 King County made up about 28.8% of Washington's population.ⁱⁱⁱ We can use these figures to calculate a rough estimate of the number of working individuals statewide that may have been earning minimum wage or less in 2007: 441,083 workers. This estimate is very rough as it assumes an equal proportion of the populations in King County and all other counties were employed and that working individuals across the state had the same likelihood of earning the minimum wage or less. These assumptions are not fully valid, but provide us with a rough estimate which indicates that increasing the minimum wage would likely impact a large number of workers and their families in Washington.

Sections 7 and 8 of SB 6029 will only have an impact on wages when both of the following criteria are met:

3. The previous calendar year per capita personal income increased over the year before and,
4. The previous calendar year per capita personal income was higher than the per capita personal income for the United States.

While in any year that both of these criteria are not met, the minimum wage would increase by the rate of inflation (calculated using the Consumer Price Index for urban wage earners and clerical workers [CPI-W]), this is not a change from the current law and therefore would not create a change from the status quo. However in any year that both of these criteria are met, the minimum wage would increase by the rate of inflation plus 3%. In every year since 1980 the second criterion has been met, we therefore assume throughout this analysis that this criterion will continue to be met. The first criterion has been met in over 81% of the years (26 out of 32 years) between 1982 and 2013. In any 10 consecutive years between 1982 and 2013 this first criterion has been met anywhere from 5 times to 10 times (average of 8.4 times).^{iv} Note that this first criteria will not be met in any year following a decline in the per capita personal income over the previous two years, a scenario that is most likely to exist during an economic and/or wage recession. We have therefore provided a range of possibilities for the minimum wage increases over the next 20 years using three scenarios:

ⁱ Washington State Department of Labor and Industries website. History of Washington Minimum Wage. <http://www.lni.wa.gov/WORKPLACERIGHTS/WAGES/MINIMUM/HISTORY/DEFAULT.ASP>. Accessed March 11, 2015

ⁱⁱ Klawitter M, Long M, Plotnick R. "Who Would be Affected by an Increase in Seattle's Minimum Wage?" Report for the City of Seattle, Income Inequality Advisory Committee. University of Washington: Evans School of Public Affairs. 2014. <https://s3.amazonaws.com/s3.documentcloud.org/documents/1096119/uw-evans-report-on-15-minimum-wage.pdf>

ⁱⁱⁱ United States Census Bureau website. <http://www.census.gov/en.html>. Accessed March 11, 2015.

^{iv} Washington Office of Financial Management website. Washington and U.S. Per Capita Personal Income data (not adjusted 1980-2013). <http://www.ofm.wa.gov/trends/economy/fig101.asp>. Accessed March 11, 2015.

- 1.) Assuming that both of these criteria will be met every year between 2016 and 2035 (to reflect the highest number of years that these criteria have been met in any 10 consecutive years since 1982).
- 2.) Assuming that these criteria will be met eight times between 2016 and 2025 and eight times between 2026 and 2035 (to reflect that fact that since 1982 the criteria have not been met in any 10 consecutive years on average 1.6 times and rounding this to the nearest whole number).
- 3.) Assuming that both of these criteria will be met five times between 2016 and 2025 and 5 times between 2026 and 2035 (to reflect the lowest number of years that these criteria have been met in any 10 consecutive years since 1982).

For each of these scenarios we have randomly distributed the years when the criteria are not met for each of the upcoming decades. In reality these years are more likely to be grouped together as recessions can span multiple years. For example these criteria would not have been met in either 2010 or 2011 as there was a decrease in per capita personal income between 2008 and 2009 as well as between 2009 and 2010, which reflects the decline in income during the recession.^{iv}

We have assumed an inflation rate of 2.56% as this is the average rate of inflation that has been used to calculate the minimum wage in Washington since 2000.ⁱ In these projections in any year that either criterion is not met, the minimum wage increase by the rate of inflation, and in any year that they are both met it increases by the rate of inflation plus three percent.

Table 1-3 outline the projected annual minimum wage between 2015 and 2035 for each of the scenarios outlined above. Table 4 shows the projected minimum wage in the absence of sections 7 and 8 of SB 6029. Tables 1-3 also show the projections for each of these scenarios with the minimum wages adjusted to 2011 dollars. This is the most recent year in which we have readily available BRFSS data. By adjusting the wages to 2011 dollars we can determine increase in spending capacity rather than the increase in actual minimum hourly wage. This allows us to determine the differences in health outcomes for different income brackets based on spending power.

Table 1. 2015-2035 Washington minimum wage projections if the criteria in section 8 of SB 6029 are met every year

Year	Minimum Wage	Rate of increase for the following year	Minimum Wage Adjusted to 2011 Dollars
2011*	\$8.67	0.042676	\$8.67
2012*	\$9.04	0.016094	\$8.86
2013*	\$9.19	0.014146	\$8.87
2014*	\$9.32	0.016593	\$8.86
2015**	\$9.47	0.055507	\$9.11
2016**	\$10.00	0.055507	\$9.38
2017**	\$10.55	0.055507	\$9.66
2018**	\$11.14	0.055507	\$9.95
2019**	\$11.75	0.055507	\$10.25
2020**	\$12.41	0.055507	\$10.56
2021**	\$13.10	0.055507	\$10.88
2022**	\$13.82	0.055507	\$11.20
2023**	\$14.59	0.055507	\$11.54
2024**	\$15.40	0.055507	\$11.89
2025**	\$16.25	0.055507	\$12.24
2026**	\$17.16	0.055507	\$12.61
2027**	\$18.11	0.055507	\$12.99
2028**	\$19.11	0.055507	\$13.38
2029**	\$20.17	0.055507	\$13.78
2030**	\$21.29	0.055507	\$14.19
2031**	\$22.48	0.055507	\$14.62
2032**	\$23.72	0.055507	\$15.06
2033**	\$25.04	0.055507	\$15.51
2034**	\$26.43	0.055507	\$15.97
2035**	\$27.90	0.055507	\$16.45
*observed **projected Note: Minimum wages adjusted for 2011 dollars for years that have not yet been observed are calculated by adding 3% (as would be required by section 8 of SB 6029) to the previous year's adjusted minimum wage without adding any additional percentages to account for inflation.			

Table 2. 2015-2035 Washington minimum wage projections if the criteria in section 8 of SB 6029 are met eight times in each of the next two decades

Year	Minimum Wage	Rate of increase for the following year	Minimum Wage Adjusted to 2011 Dollars
2011*	\$8.67	0.042676	\$8.67
2012*	\$9.04	0.016094	\$8.86
2013*	\$9.19	0.014146	\$8.87
2014*	\$9.32	0.016593	\$8.86
2015**	\$9.47	0.055507	\$9.11
2016**	\$10.00	0.055507	\$9.38
2017**	\$10.55	0.055507	\$9.66
2018**	\$11.14	0.055507	\$9.95
2019**	\$11.75	0.055507	\$10.25
2020**	\$12.41	0.055507	\$10.56
2021**	\$13.10	0.025507	\$10.88
2022**	\$13.43	0.055507	\$10.88
2023**	\$14.17	0.055507	\$11.20
2024**	\$14.96	0.055507	\$11.54
2025**	\$15.79	0.025507	\$11.89
2026**	\$16.19	0.055507	\$11.89
2027**	\$17.09	0.055507	\$12.24
2028**	\$18.04	0.055507	\$12.61
2029**	\$19.04	0.055507	\$12.99
2030**	\$20.10	0.055507	\$13.38
2031**	\$21.22	0.055507	\$13.78
2032**	\$22.39	0.055507	\$14.19
2033**	\$23.64	0.025507	\$14.62
2034**	\$24.24	0.025507	\$14.62
2035**	\$24.86	0.055507	\$14.62
*observed **projected Notes: Minimum wages adjusted for 2011 dollars for years that have not yet been observed are calculated by adding 3% (as would be required by section 8 of SB 6029) to the previous year's adjusted minimum wage without adding any additional percentages to account for inflation for any year that the criteria are met, and by adding 0% in any year that they are not. Cells shaded in blue represent years in which the criteria were not met in this scenario.			

Table 3. 2015-2035 Washington minimum wage projections if the criteria in section 8 of SB 6029 are met five times in each of the next two decades

Year	Minimum Wage	Rate of increase for the following year	Minimum Wage Adjusted to 2011 Dollars
2011*	\$8.67	0.042676	\$8.67
2012*	\$9.04	0.016094	\$8.86
2013*	\$9.19	0.014146	\$8.87
2014*	\$9.32	0.016593	\$8.86
2015**	\$9.47	0.055507	\$9.11
2016**	\$10.00	0.055507	\$9.38
2017**	\$10.55	0.025507	\$9.66
2018**	\$10.82	0.025507	\$9.66
2019**	\$11.10	0.055507	\$9.66
2020**	\$11.71	0.025507	\$9.95
2021**	\$12.01	0.055507	\$9.95
2022**	\$12.68	0.025507	\$10.25
2023**	\$13.00	0.055507	\$10.25
2024**	\$13.72	0.025507	\$10.56
2025**	\$14.07	0.055507	\$10.56
2026**	\$14.85	0.055507	\$10.88
2027**	\$15.68	0.055507	\$11.20
2028**	\$16.55	0.025507	\$11.54
2029**	\$16.97	0.055507	\$11.54
2030**	\$17.91	0.025507	\$11.89
2031**	\$18.37	0.055507	\$11.89
2032**	\$19.39	0.025507	\$12.24
2033**	\$19.88	0.055507	\$12.24
2034**	\$20.99	0.025507	\$12.61
2035**	\$21.52	0.025507	\$12.61

*observed
 **projected
 Notes: Minimum wages adjusted for 2011 dollars for years that have not yet been observed are calculated by adding 3% (as would be required by section 8 of SB 6029) to the previous year's adjusted minimum wage without adding any additional percentages to account for inflation for any year that the criteria are met, and by adding 0% in any year that they are not.
 Cells shaded in blue represent years in which the criteria were not met in this scenario.

Table 4. 2015-2035 Washington minimum wage projections in the absence of section 8 of SB 6029

Year	Minimum Wage	Rate of increase for the following year	Minimum Wage Adjusted to 2011 Dollars
2011*	\$8.67	0.042676	\$8.67
2012*	\$9.04	0.016094	\$8.86
2013*	\$9.19	0.014146	\$8.87
2014*	\$9.32	0.016593	\$8.86
2015**	\$9.47	0.025507	\$9.11
2016**	\$9.71	0.025507	\$9.11
2017**	\$9.96	0.025507	\$9.11
2018**	\$10.21	0.025507	\$9.11
2019**	\$10.47	0.025507	\$9.11
2020**	\$10.74	0.025507	\$9.11
2021**	\$11.01	0.025507	\$9.11
2022**	\$11.30	0.025507	\$9.11
2023**	\$11.58	0.025507	\$9.11
2024**	\$11.88	0.025507	\$9.11
2025**	\$12.18	0.025507	\$9.11
2026**	\$12.49	0.025507	\$9.11
2027**	\$12.81	0.025507	\$9.11
2028**	\$13.14	0.025507	\$9.11
2029**	\$13.47	0.025507	\$9.11
2030**	\$13.82	0.025507	\$9.11
2031**	\$14.17	0.025507	\$9.11
2032**	\$14.53	0.025507	\$9.11
2033**	\$14.90	0.025507	\$9.11
2034**	\$15.28	0.025507	\$9.11
2035**	\$15.67	0.025507	\$9.11

*observed
 **projected
 Note: Minimum wages adjusted for 2011 dollars for years that have not yet been observed are calculated by adding 0% to the previous year's adjusted minimum wage starting with the adjusted minimum wage for 2015 (\$9.11).

Appendix B. Explanation for Estimation of Health Impacts

We have estimated the health impacts of sections 7 and 8 of SB 6029 based on three potential scenarios that we used to project the minimum wages through 2035 as well as the 2011 spending power of each of those minimum wages (explanation in Appendix A). Using Behavioral Risk Factor Surveillance System (BRFSS) data from 2011 we have analyzed the decrease in likelihood of an individual experiencing a given negative health outcome as their spending power increases. We have used the spending power (minimum wages adjusted for 2011 dollars) because a minimum wage of, for example, \$27.90 in 2035 will *not* have the same spending power that it would have had in 2011. Therefore we adjust the projected minimum wages to 2011 dollars in order to use 2011 health data to determine the impacts of increased spending power on improved health. We calculated the estimated prevalence of a number adverse health outcome among workers earning minimum wage following an increase in minimum wage in 10 years and in 20 years using three potential scenarios. We calculated the income that an individual would bring home earning minimum wage and working 40 hours a week 52 weeks per year. There are several limitations to this approach as BRFSS data provides income information but the survey does not indicate if the respondent is employed or how many hours they work each week. However this does give us an idea of the health outcomes for individuals with incomes that would coincide with the wage-based income of a full-time employee earning minimum wage. Note that for the lower income scales BRFSS data separates income data by 15-20K, 20-25K, and 25-35K. We present the health indicator data for the income range each extrapolated annual income falls within (Tables 5-7).

Table 5. Changes in health indicators with increasing wages assuming the criteria in section 8 of SB 6029 are met every year between 2015 and 2035

	2015 Minimum wage adjusted to 2011 dollars: \$9.11/hour This would equate to a gross annual income of \$18,949 (BRFSS range 15-20K) for an individual working 40 hours per week 52 weeks per year.	2025 Minimum wage adjusted to 2011 dollars: \$12.24/hour This would equate to a gross annual income of \$25,459 (BRFSS range 25-35K) for an individual working 40 hours per week 52 weeks per year.	2035 Minimum wage adjusted to 2011 dollars: \$16.45/hour This would equate to a gross annual income of \$34,216 (BRFSS range 25-35K) for an individual working 40 hours per week 52 weeks per year.
Currently have asthma	10.2 % (95% CI 9.6 - 10.8)	8.8% (95% CI 8.2 - 9.3)	8.8% (95% CI 8.2 - 9.3)
Stroke	3.4% (95% CI 2.0 - 4.9)	2.9% (95% CI 2.0 - 3.9)	2.9% (95% CI 2.0 - 3.9)
Heart attack	6.6% (95% CI 3.7 - 9.4)	5.8% (95% CI 4.1 - 7.5)	5.8% (95% CI 4.1 - 7.5)
Obesity	33.0% (95% CI 26.2 - 39.8)	28.9% (95% CI 25.3 - 32.6)	28.9% (95% CI 25.3 - 32.6)
Diabetes	11.1% (95% CI 7.5 - 14.7)	10.9% (95% CI 8.8 - 13.0)	10.9% (95% CI 8.8 - 13.0)
Activity limitation due to health problems	41.4% (95% CI 34.6 - 48.2)	29.1% (95% CI 25.7 - 32.6)	29.1% (95% CI 25.7 - 32.6)
Could not see a doctor because of cost	40.8% (95% CI 33.9 - 47.8)	24.2% (95% CI 20.5 - 27.8)	24.2% (95% CI 20.5 - 27.8)
Fair or poor general health	32.6% (95% CI 26.2 - 39.0)	18.0% (95% CI 15.2 - 20.8)	18.0% (95% CI 15.2 - 20.8)
Frequent poor health prevented usual activities	13.9% (95% CI 9.3 - 18.4)	7.8% (95% CI 5.6 - 9.9)	7.8% (95% CI 5.6 - 9.9)

Source: Centers for Disease Control and Prevention. Behavioral Risk Factor Surveillance System Prevalence and Trends Data. 2011; <http://apps.nccd.cdc.gov/brfss/page.asp?cat=XX&yr=2012&state=WA#XX>. Accessed March 11, 2015.

Note: Cells shaded in green represent statistically significantly lower rates than those in one or both of the cells representing projections for 2015 and 2025 incomes.

Table 6. Changes in health indicators with increasing wages assuming the criteria in section 8 of SB 6029 are met eight times in each of the next two decades

	2015 Minimum wage adjusted to 2011 dollars: \$9.11/hour This would equate to a gross annual income of \$18,949 (BRFSS range 15-20K) for an individual working 40 hours per week 52 weeks per year.	2025 Minimum wage adjusted to 2011 dollars: \$11.89/hour This would equate to a gross annual income of \$24,731 (BRFSS range 20-25K) for an individual working 40 hours per week 52 weeks per year.	2035 Minimum wage adjusted to 2011 dollars: \$14.62/hour This would equate to a gross annual income of \$30,410 (BRFSS range 25-35K) for an individual working 40 hours per week 52 weeks per year.
Currently have asthma	10.2% (95% CI 9.6 - 10.8)	9.7% (95% CI 9.1 - 10.3)	8.8% (95% CI 8.2 - 9.3)
Stroke	3.4% (95% CI 2.0 - 4.9)	4.2% (95% CI 2.8 - 5.6)	2.9% (95% CI 2.0 - 3.9)
Heart attack	6.6% (95% CI 3.7 - 9.4)	5.1% (94% CI 3.6 - 6.7)	5.8% (95% CI 4.1 - 7.5)
Obesity	33.0% (95% CI 26.2 - 39.8)	26.3% (95% CI 22.3 - 30.3)	28.9% (95% CI 25.3 - 32.6)
Diabetes	11.1% (95% CI 7.5 - 14.7)	10.6% (95% CI 8.4 - 12.8)	10.9% (95% CI 8.8 - 13.0)
Activity limitation due to health problems	41.4% (95% CI 34.6 - 48.2)	35.0% (95% CI 30.7 - 39.4)	29.1% (95% CI 25.7 - 32.6)
Could not see a doctor because of cost	40.8% (95% CI 33.9 - 47.8%)	30.3% (95% CI 25.8 - 34.7)	24.2% (95% CI 20.5 - 27.8)
Fair or poor general health	32.6% (95% CI 26.2 - 39.0)	26.5% (95% CI 22.6 - 30.4)	18.0% (95% CI 15.2 - 20.8)
Frequent poor health prevented from doing usual activities	13.9% (95% CI 9.3 - 18.4)	13.1% (95% CI 10.0 - 16.2)	7.8% (95% CI 5.6 - 9.9)
Source: Centers for Disease Control and Prevention. Behavioral Risk Factor Surveillance System Prevalence and Trends Data. 2011; http://apps.nccd.cdc.gov/brfss/page.asp?cat=XX&yr=2012&state=WA#XX . Accessed March 11, 2015. Note: Cells shaded in green represent statistically significantly lower rates than those in one or both of the cells representing projections for 2015 and 2025 incomes.			

Table 7. Changes in health indicators with increasing wages assuming the criteria in section 8 of SB 6029 are met five times in each of the next two decades

	2015 Minimum wage adjusted to 2011 dollars: \$9.11/hour This would equate to a gross annual income of \$18,949 (BRFSS range 15-20K) for an individual working 40 hours per week 52 weeks per year.	2025 Minimum wage adjusted to 2011 dollars: \$10.56/hour This would equate to a gross annual income of \$21,965 (BRFSS range 20-25K) for an individual working 40 hours per week 52 weeks per year.	2035 Minimum wage adjusted to 2011 dollars: \$12.61/hour This would equate to a gross annual income of \$26,229 (BRFSS range 25-35K) for an individual working 40 hours per week 52 weeks per year.
Currently have asthma	10.2% (95% CI 9.6 - 10.8)	9.7% (95% CI 9.1 - 10.3)	8.8% (95% CI 8.2 - 9.3)
Stroke	3.4% (95% CI 2.0 - 4.9)	4.2% (95% CI 2.8 - 5.6)	2.9% (95% CI 2.0 - 3.9)
Heart attack	6.6% (95% CI 3.7 - 9.4)	5.1% (94% CI 3.6 - 6.7)	5.8% (95% CI 4.1 - 7.5)
Obesity	33.0% (95% CI 26.2 - 39.8)	26.3% (95% CI 22.3 - 30.3)	28.9% (95% CI 25.3 - 32.6)
Diabetes	11.1% (95% CI 7.5 - 14.7)	10.6% (95% CI 8.4 - 12.8)	10.9% (95% CI 8.8 - 13.0)
Activity limitation due to health problems	41.4% (95% CI 34.6 - 48.2)	35.0% (95% CI 30.7 - 39.4)	29.1% (95% CI 25.7 - 32.6)
Could not see a doctor because of cost	40.8% (95% CI 33.9 - 47.8%)	30.3% (95% CI 25.8 - 34.7)	24.2% (95% CI 20.5 - 27.8)
Fair or poor general health	32.6% (95% CI 26.2 - 39.0)	26.5% (95% CI 22.6 - 30.4)	18.0% (95% CI 15.2 - 20.8)
Frequent poor health prevented from doing usual activities	13.9% (95% CI 9.3 - 18.4)	13.1% (95% CI 10.0 - 16.2)	7.8% (95% CI 5.6 - 9.9)

Source: Centers for Disease Control and Prevention. Behavioral Risk Factor Surveillance System Prevalence and Trends Data. 2011; <http://apps.nccd.cdc.gov/brfss/page.asp?cat=XX&yr=2012&state=WA#XX>. Accessed March 11, 2015.

Note: Cells shaded in green represent statistically significantly lower rates than those in one or both of the cells representing projections for 2015 and 2025 incomes.