# THE MINIMUM WAGE AND HEALTH

## A Bay Area Analysis

BARHII
Bay Area Regional Health Inequities Initiative

**A Bay Area Health Inequities Initiative Report**

**Data analysis prepared by UC Berkeley Center for Labor Research and Education**

# CONTRIBUTIONS

**About the Bay Area Health Inequities Initiative (BARHII)**
BARHII is a regional collaboration made up of public health directors, health officers, senior managers and staff from eleven local health departments in the San Francisco Bay Area. Since 2002 it has collectively addressed the underlying social, economic, and environmental factors that contribute to differences in life expectancy and health outcomes between different socio-economic groups. The mission of BARHII is to transform public health practice for the purpose of eliminating health inequities using a broad spectrum of approaches that create healthy communities.

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Matt Beyers, MSCRP, MA, Alameda County Public Health Department
Janet Brown, MSc , Alameda County Public Health Department
Sandi Galvez, MSW, Bay Area Regional Health Inequities Initiative
Brad Jacobson, MPH, San Mateo County Public Health Department
Abigail Kroch, PhD MPH, Contra Costa Health Services
Jennifer Lifshay, MBA MPH, Contra Costa Health Services
Marlisa Pillsbury, PhD, Contra Costa Health Services
R. David Rebanal, DrPH(c) MPH, Bay Area Regional Health Inequities Initiative
Randy Reiter PhD MPH, San Francisco Public Health Department
Amy Smith, MPH, Bay Area Regional Health Inequities Initiative

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Bay Area Regional Health Inequities Initiative | info@barhii.org | 510.302.3367
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# EXECUTIVE SUMMARY

*The Minimum Wage and Health: A Bay Area Analysis* demonstrates that a Bay Area-wide minimum wage increase would benefit the health and well-being of nearly 1 million low-wage earners. A large body of research literature on wage, income, and health demonstrates that public policy interventions that aim to increase the incomes of low-income populations will increase income equality and economic security as well as lower mortality rates, improve overall health status in the population, decrease health inequity, and lower overall healthcare costs.

More than a decade of wage stagnation and erosion for the great majority of American workers has prompted a public health need to address economic policy. Virtually all low- and mid-wage workers in California earn less today than they did three decades ago, with the bottom 20 percent of the wage distribution experiencing a 12.2 percent loss in inflation-adjusted wages between 1979 and 2013. Meanwhile income among the top wage earners has increased, thus increasing income inequality. Studies of populations with high and rising income inequality are associated with lower life expectancy, higher rates of infant mortality, obesity, mental illness, homicide, and other measures compared to populations with a more equitable income distribution.

There are significant health consequences of low wages and poverty. Analysis of California Health Interview Survey data shows that minimum wage workers are more likely to report "fair" or "poor" health, depression and a condition that limits physical activity. They are also more likely to report being unable to afford balanced meals and less likely to receive a flu shot. Bay Area adults living under 200 percent of the federal poverty level (FPL) have a higher percentage of diagnosed diabetes, high blood pressure, and psychological distress compared to those living over 200 percent FPL. Bay Area children living below 300 percent FPL were more likely to have abnormal child development and Bay Area teens living below 300 percent FPL were more likely to have poor dental health. The impact of a higher disease burden in low-wage populations contributes to a shortened life expectancy. On average, a child who is born and lives in a census tract with more than 30 percent of individuals living in poverty can expect to live seven years less than a child born in a census tract with fewer than 10 percent of people living in poverty.

In conclusion, this analysis demonstrates that policies that reduce poverty and raise the wages of low-income people can be expected to significantly improve overall health and reduce health inequities.

# INTRODUCTION

A Bay Area-wide minimum wage increase would benefit the health and well-being of nearly one million low-wage earners, or more than 28 percent of the workforce. The distribution of economic benefits would increase economic security for families in the lowest income quartile, a population with poorer health status and higher rates of premature death than higher wage earners. An increase in the Bay Area minimum wage would help decrease inequities in health outcomes and would have an overall positive impact on the regional rate of premature mortality. A large majority of workers affected by a minimum wage increase would be in their prime child-bearing/rearing years, and more than 1 in 3 affected workers would be already married and/or have children. Therefore, a minimum wage increase will have a particular benefit for families with children, improving both the health and economic outlook for many children.

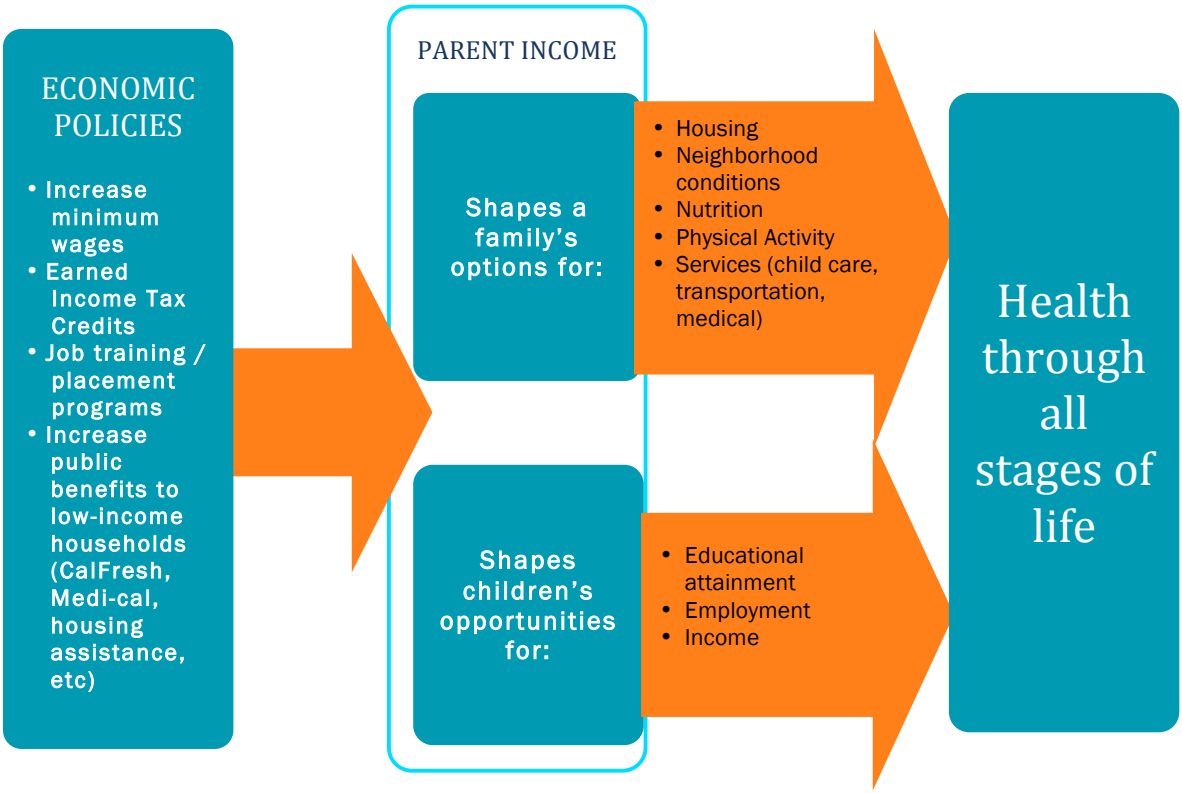
An informed process to change and implement new public policies should consider the potential health impacts of such policies on the population. This report examines the relationship between health and wage in the Bay Area and the health impacts of a Bay Area-wide minimum wage increase, including: 1) a review of well-established associations in the public health literature linking population-level health outcomes to wages, income, and poverty including evidence for California and the Bay Area, 2) estimates of the number and demographic characteristics of workers most likely to see a raise from a hypothetical Bay Area-wide minimum wage increase, 3) and the distribution and purchasing power of wages and income over time. Our findings on the relationship between health and wage in the Bay Area are consistent with a state-level study of the health impacts of a proposed $13 an hour statewide minimum wage, which found that it would "significantly benefit the health and well-being" of millions of Californians (Bhatia, 2013).

Decades of research literature on the relationship between income and health has identified a social gradient, in which higher income and greater wealth contribute to a longer and healthier life (Hofrichter, 2003), but with the largest impacts on health in the lower end of the income

scale (e.g., Rehkopf, et. al,, 2008). Public health researchers define the systematic poorer health outcomes of disadvantaged social groups (poor, ethnic minorities, or other groups who have experienced social discrimination) as health inequities (Braveman, 2006). Low-income status and income inequality are demonstrated drivers of health inequity in the United States (Supplemental MMWR, 2011). Although income is not determined by wage alone, minimum wage workers are more likely to live in poverty than higher-wage workers and are more likely to be economically insecure. A central goal of public health is to reduce health inequities in the population, which can be achieved by focusing on the social drivers of health inequity while promoting the health of disadvantaged populations. Therefore, public policy interventions that aim to increase the wages of low-income populations will increase economic security, and will have the added benefits of lower mortality rates, improved overall health status in the population, decreased health inequity, and lower overall health costs.

## How Wage, Income, And Poverty Shape Health

In recent decades, a large body of evidence has documented the powerful relationships between income, social status, and health. The evidence is persuasive that the economic resources available to an individual or a specific population affect access to basic needs that promote health, prevent illness, and relieve the stress associated with economic insecurity. This association of income and health operates through multiple mechanisms that include a converging set of increased risks to lower income people through both physical and psychosocial (e.g., chronic stress) exposures (Braveman & Egerter, 2013). These include access to healthy food and shelter, health insurance and medical care, quality education, and a healthy living and working environment, among others (see Figure 1). Furthermore, the stresses associated with these factors and with economic insecurity itself have a negative impact on health (Evans & Kim, 2010; Seeman et.al., 2010; MacArthur Network 2003 ; Braveman, et al, 2011). Increased incomes could ameliorate some of these risks in low-income populations.




(Adapted from Braveman & Egerter, 2013)

The strong links between income and these various economic, environmental, and social factors help to explain why income is such a powerful driver of health, at both the individual and community levels. Nationally, it has been demonstrated that income and education correlate strongly with life expectancy (i.e., the number of years one is expected to live), infant mortality, diabetes, overall children's health, overweight and obesity, and overall adult health, including emotional and mental health. Children in poor families (those living under 100 percent of the federal poverty level (FPL)) are twice as likely to be overweight or obese as children in families earning more than 400 percent of the FPL and are more than four times as likely to be in less than "very good" health (Braveman & Egerter, 2013).

Children are especially vulnerable to these effects as they are subject to health risks associated with parents' low incomes and low educational attainment. Children of low-income mothers are more likely to be born prematurely, have a low birth weight, suffer subsequent developmental delays and more frequent chronic and acute health conditions, such as, asthma, heart conditions,

hearing problems, digestive disorders, and elevated blood lead levels, all resulting in more frequent hospitalizations. Chronic and acute stresses during pregnancy and early childhood, which are more prevalent in lower income households, can impact brain, cognitive, and socio-emotional development. These early childhood health impacts often translate into lower school readiness, lower educational achievement and, consequently, lower income as adults (Bhatia, 2014).

## THE ECONOMIC CONTEXT: STAGNATION AND INEQUALITY IN WAGES AND INCOME

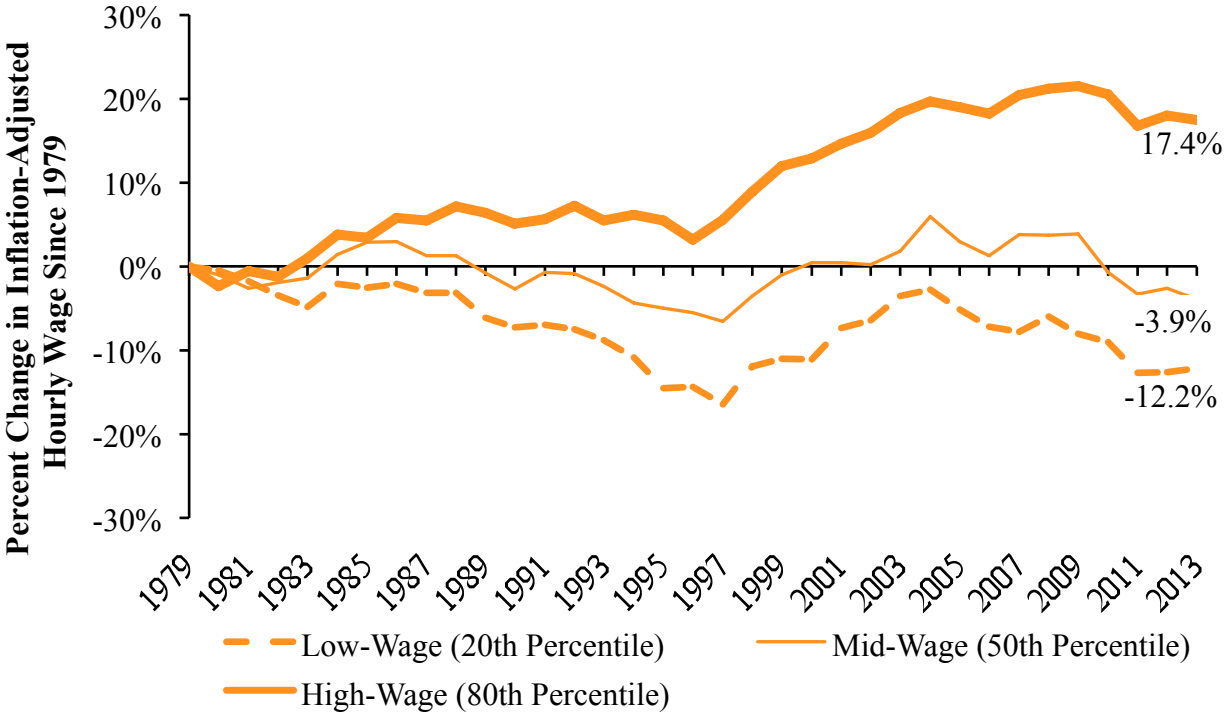
Demonstrated health inequities by income status mean that policies impacting low-end income distribution are a public health concern. There has been more than a decade of wage stagnation and erosion for the great majority of American workers (CBO, 2014). The current federal minimum wage ($7.25 an hour) has not been raised since 2009. Efforts to raise the minimum wage have recently focused at the state and local levels. As of September, 15, 2014, 34 states have considered minimum wage increases and 10 states and the District of Columbia have enacted minimum wage increases, raising the number of states with minimum wages above the federal level to 23 (National Conference of State Legislatures, 2014).

Despite much concern over potential local job loss and other negative economic consequences of a minimum wage increase, existing research has demonstrated that local minimum wage increases have had little or no impact on business and job growth. Research on existing local minimum wage increases throughout the United States, including in San Jose and San Francisco, has found little or no measureable impact on employment or hours worked in the most affected industries – food service, retail, and other low-wage industries (Reich, Jacobs, et al, 2014). This research also found only modest impacts on consumer prices, such as restaurant meals, which are predicted to rise by about 2.5 percent. Moreover, research has shown that higher wages sharply reduce employee turnover, which can reduce employment and training costs (US Department of Labor, www.dol.gov).

## Growing Income Gap Driving Declining Population Health

After adjusting for inflation, virtually all low- and mid-wage workers in California earn less today than they did three decades ago. As shown in Figure 2, those at the bottom 20 percent of the wage distribution experienced a 12.2 percent loss in inflation-adjusted wages between 1979 and 2013, and even mid-wage workers (workers in the 50th percentile) experienced an inflation-adjusted wage loss of 3.9 percent since 1979. Meanwhile, the top 20 percent of wage earners saw a healthy 17.4 percent increase during the same period, resulting in a widening wage gap between high- and low-wage workers. In fact this wage gap was near the highest level ever recorded (California Budget Project, May 2014).

Fig.2 - Inflation-Adjusted Wages for California's Workers 1979 – 2013

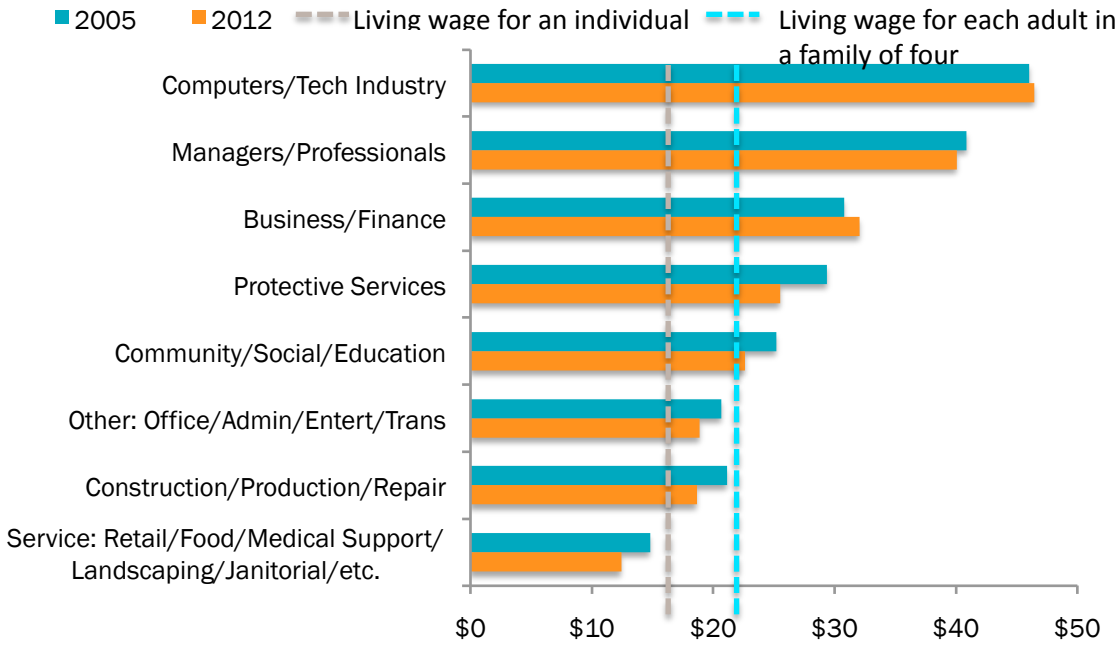



Source: California Budget Project, 2014

Real wages (i.e. wages adjusted for inflation) in the lowest-paying job classes have declined compared to higher-paying job classes in the Bay Area since 2005 (See Figure 3). Notably, the

service industry, which pays the lowest in the Bay Area, saw a 16 percent decline in real wages since 2005. This is in contrast to the highest-paying occupations that saw slight decreases or a modest increase (e.g. 4.2 percent for business/finance occupations) through the same period.

Fig. 3: Inflation-Adjusted Bay Area Median Wage by Occupation vs. Bay Area Living Wages




Source: US Census Bureau 2005 and 2012 Public Use Microdata Sample and the Living Wage Calculator.

Income inequality has been rising in the Bay Area at a higher rate than California overall. Within the Bay Area, the highest income inequity persists in San Francisco County (see appendix). The current trend means that basic necessities in the Bay Area will become more and more unaffordable for low-income people. While a minimum wage increase will not completely alleviate income inequality in the Bay Area, it will get struggling families closer to earning a "living wage", the amount an individual needs to earn working fulltime to pay for basic necessities, such as adequate housing, food, energy, health care, child care, transportation, and taxes, and is dependent on local cost of living and family size. The average living wage for Bay Area counties is approximately $18.00 for an individual living alone and $23.40 for both

individuals in a couple with 2 children (California Budget Project, 2013). The mean wage of $12.44 per hour for those working in service jobs in 2012 is only 70 percent of what an individual living alone needs and 50 percent of what an individual in a family of four needs to earn to pay for basic necessities (see Figure 3).

The increase in wage inequality is meaningful for many reasons, but especially because studies of populations with high and rising income inequality are associated with lower life expectancy, higher rates of infant mortality, obesity, mental illness, homicide, and other measures compared to populations with a more equitable income distribution. (Calif. Office of Health Equity, 2014; Barr, 2014; Wilkinson & Pickett, 2009).

# ESTIMATING THE IMPACTS OF A BAY AREA-WIDE MINIMUM WAGE INCREASE

The U.C.-Berkeley Center for Labor Research and Employment (CLRE) carried out an analysis for this report to estimate the demographic impacts of a hypothetical minimum wage of $12.50 an hour by 2015 for the entire Bay Area, an amount similar to the Oakland ballot measure[1] (Bernhardt, Jacobs, Perry, 2014). This analysis demonstrates how a minimum wage increase could impact the health of Bay Area residents by showing the demographic groups that would be most affected, including those most subject to current health inequities.

Their findings, summarized in Appendix 2 of this report, indicate that an increase to $12.50 an hour in the Bay Area minimum wage would directly and indirectly benefit Bay Area workers across a wide range of ages and educational attainment levels while still targeting the lowest income workers, immigrant workers, and people of color – populations that experience the greatest health inequities.

In summary, the following economic impacts are of particular importance.

- An estimated 988,000 Bay Area workers, or more than 28 percent of the Bay Area workforce, would realize an increase in earnings, directly or indirectly, from a $12.50 minimum wage in 2015.The total number of affected workers includes those earning the current minimum wage, those earning between the current and new minimum wage, and some of those earning above the minimum wage who would also receive a raise as a ripple effect of a minimum wage raise. For the average affected worker, that impact would translate to a 20 percent earnings increase, totaling $2,800 (in 2014 dollars) a year.

[1] For details on estimation methods see:
http://irle.berkeley.edu/cwed/briefs/2014-01-data-and-methods.pdf

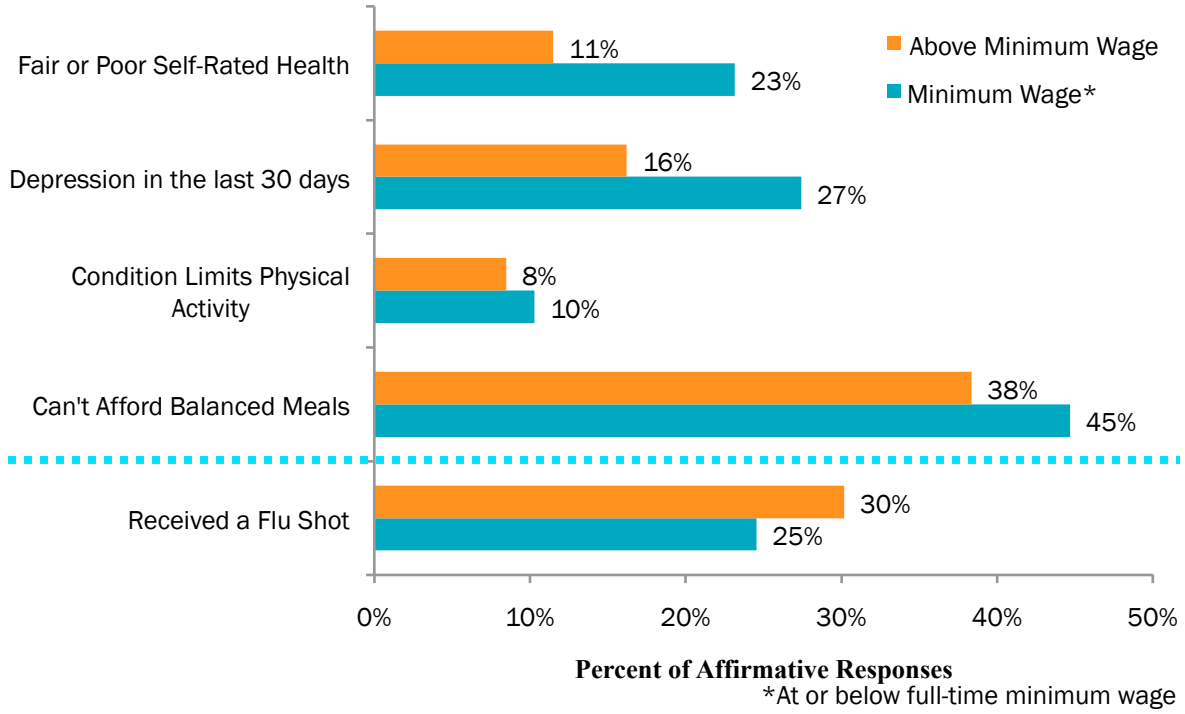
- Workers at the lowest income levels – those below 200 percent of the federal poverty level – would experience the greatest benefit. More than 80 percent of workers in households earning below 150 percent of the FPL would receive raises, as well as almost 70 percent of those earning 150-200 percent FPL.
- More than 60 percent of workers without job-based health insurance would see a raise.
- The majority of workers in many of the lowest-paid occupation classes in the Bay Area would receive a raise. This include, for example: low-income workers in retail trades (45.1 percent); agriculture, mining, fishing, hunting, and mining (64.9 percent); and food service (74.1 percent).
- More than 95 percent of affected workers would be in their 20s or older, and more than a third would be parents.
- While almost 83 percent of teenage workers would get a raise, they constitute only 4.5 percent of all workers getting a raise.
- More than 6 in 10 workers with less than a high school diploma would get a wage boost, but so would nearly 4 in 10 (37.9 percent) with some college and even 1 in 10 with a bachelor's degree.
- Virtually half of all Latino workers would get a wage increase, as well as roughly 30 percent of all African-American workers. Nearly 24 percent of Asians would get raises and 19 percent of white workers. Almost 35 percent of foreign-born workers would get raises, compared to just under 25 percent of U.S.-born workers.

## Demonstrating The Relationship Between Health, Low Wages, And Poverty

To examine the relationship between wage, income, and health outcomes in the Bay Area, an analysis was completed of state survey data that includes questions regarding both health outcomes and income. One of the most widely used research measures of a population's health is self-rated health, in which respondents to large-scale surveys rate their own health from "poor" to "excellent." Self-rated health measures are considered reliable, valid, and predictive of future health (Cossley & Kennedy, 2002; Patrick & Erickson, 1993; Mossey, 1982; Jylhä, 2009; Ferraro et al, 1997; Mutchler & Burr, 1991). In addition, survey respondents are asked to self-report on their disease status and health behaviors. Self-reported health surveys are the standard for analyzing the health of populations. These survey results allowed for examination of the relationship of self-rated health and other health indicators to both poverty and wage.

Analyzing data from the California Health Interview Survey (CHIS) at the state level established a relationship between minimum wage and specific health outcomes. To gain greater statistical power, data from 2007, 2009, and 2011-12 surveys were combined using the responses of individuals earning at or below the equivalent of a full-time minimum wage job (determined by the then-prevailing state minimum wage of $8 an hour) and above that wage. The results demonstrate that wages have an association with specific health measures, health determinants, and self-rated health. Figure 4 shows that a wide range of indicators demonstrate worse outcomes for minimum wage workers. Minimum wage workers were more likely to report depression and a condition that limits physical activity. Additionally, minimum wage workers were more likely to report that they are unable to afford balanced meals and less likely to receive a flu shot.

Fig. 4: Self-Rated Health and Health Outcomes by Wages, California

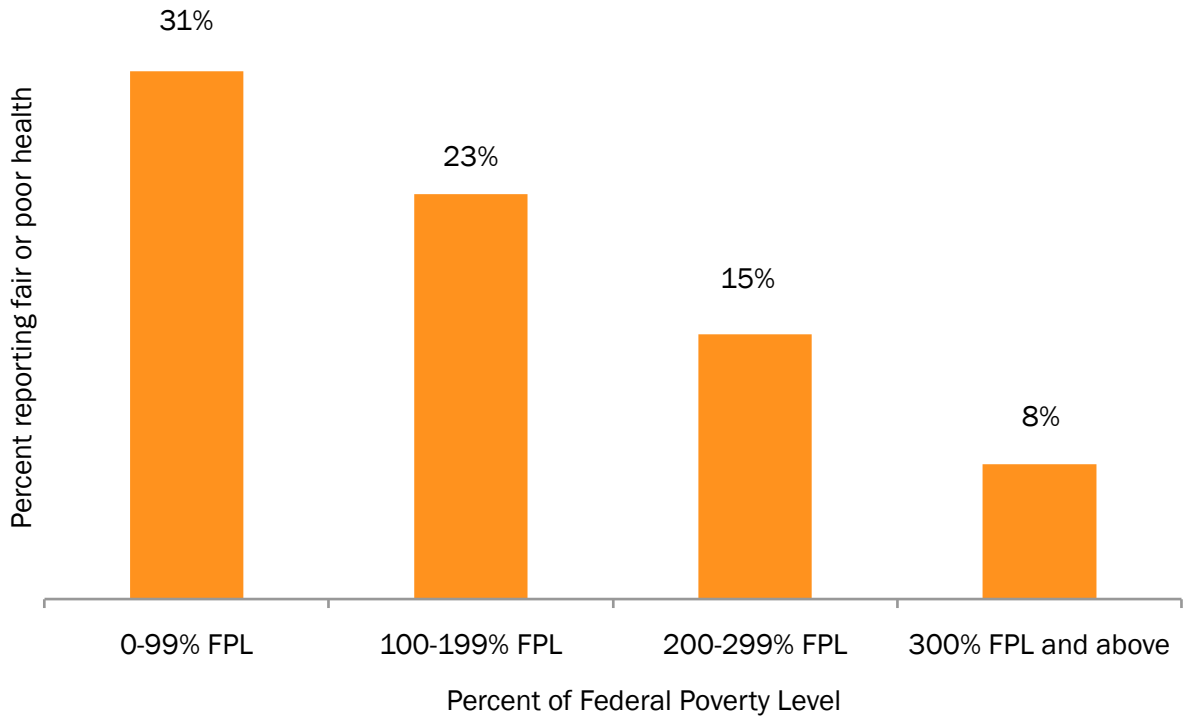



Source: CHIS, 2007, 2009, 2011-12

At the Bay Area level, it was only possible to analyze CHIS results by poverty level, as opposed to wages. Although poverty and wages are distinct measures, they are closely related for minimum wage workers, as demonstrated by the analysis in this report demonstrating the impact of minimum wage increases on people in poverty, which shows that 45 percent of low-wage workers in the Bay Area likely to get a raise from a Bay Area minimum wage increase live at or below 200 percent FPL (See Appendix 2). Therefore, an analysis of health outcomes by poverty status has implications for minimum wage workers.

Analysis of CHIS survey responses from Bay Area residents shows that poorer residents reported worse health outcomes. As shown in Figure 5, respondents living the poorest households were almost four times as likely to report 'fair or poor' self-rated health as those living in the least poor households.

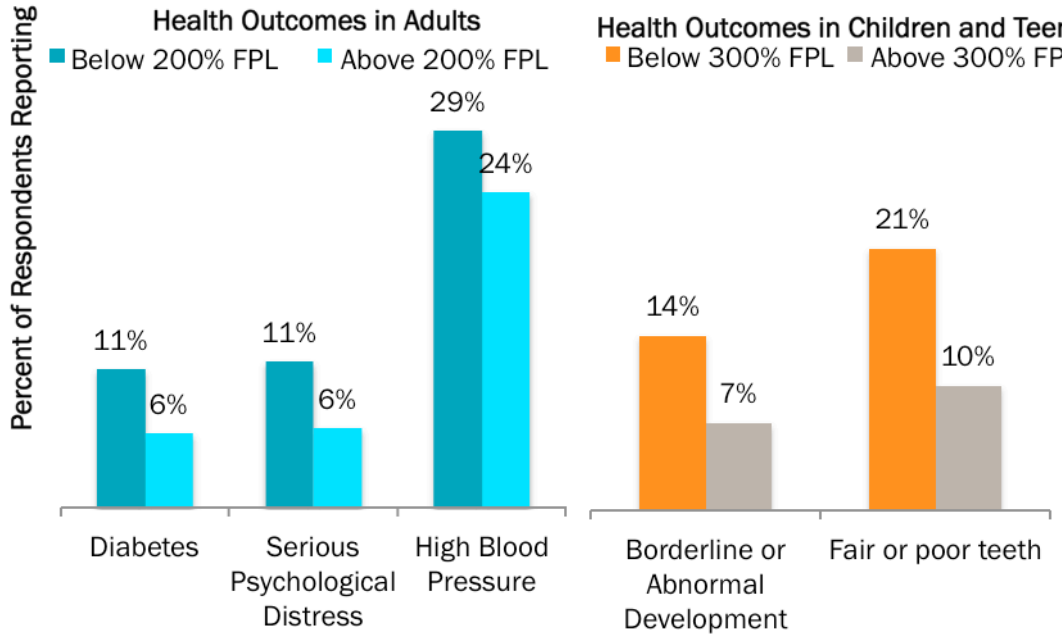
Figure 5: Fair or Poor Self-Rated Health by Poverty Level SF Bay Area, 2012




Source: CHIS, 2011-12

Analysis of other health outcomes demonstrates a similar relationship with poverty level among Bay Area respondents (See Figure 6), with a higher percentage of diagnosed diabetes, high blood pressure, and psychological distress among poorer respondents (i.e., under 200 percent FPL) compared to those over 200 percent FPL. There were also find higher levels of abnormal child development and poor teenage dental health among children and teens who live in households earning less than 300 percent FPL.

Figure 6: Health Outcomes by Poverty Level in Bay Area Adults, Children and Teens



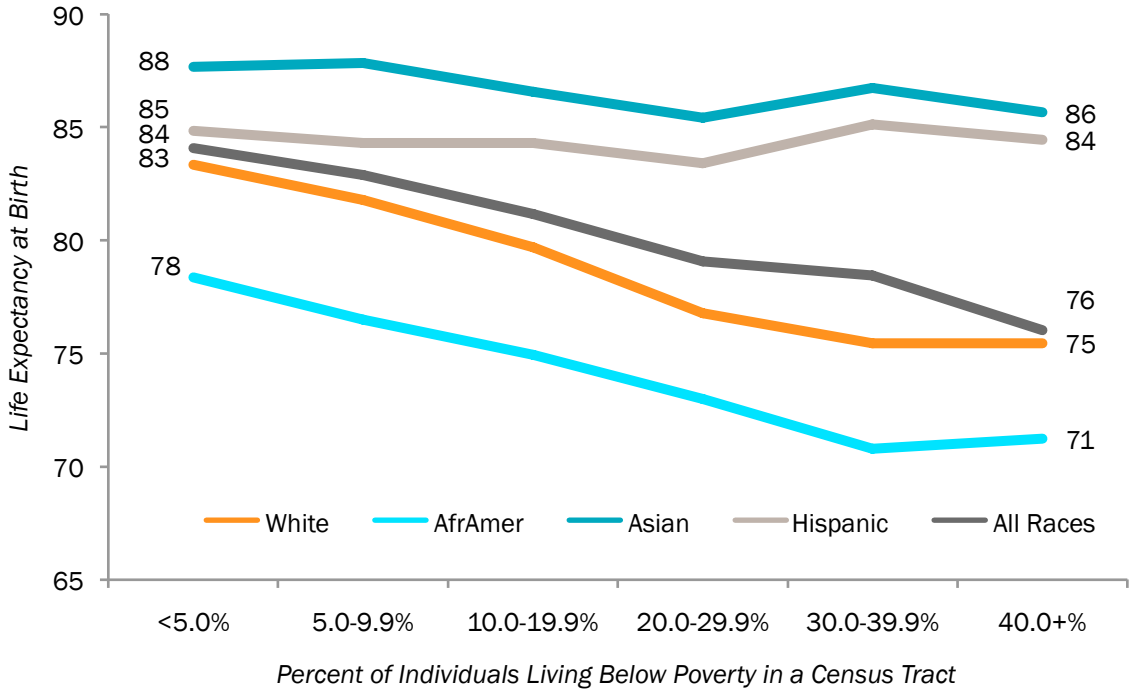

Source: CHIS, 2011-12

## Inequality Widens The Gap In Life Expectancy

Ultimately, a higher disease burden in low-wage populations contributes to a shortened life expectancy. To examine the impact of poverty on mortality, an analysis was conducted on the relationship between census tract poverty and life expectancy at birth. For the purposes of analysis, census tracts were grouped according to the percentage of people living in poverty and the life expectancies in those groups of census tracts was calculated. On average, children who are born and live in the highest-poverty group census tracts in the Bay Area (i.e., all census tracts with more than 30 percent of individuals living in poverty) can expect to live seven years less than children born in the lowest-poverty group census tracts (i.e., with fewer than 5 percent of people living in poverty). Figure 7 shows the average life expectancy by poverty across all Bay Area census tracts for different race/ethnic groups. The relationship of poverty and life

expectancy is strongest among African Americans and Whites living in the Bay Area. Asian and Hispanic populations, who have higher proportions of foreign born, do not demonstrate a strong effect. A possible factor here is that these groups include large numbers of immigrants, and immigrants tend to have a higher life expectancy than native-born populations, due to a phenomenon known as the "healthy immigrant effect" (McDonald & Kennedy, 2004).

**Fig. 7: Census Tract Group Poverty and Life Expectancy at Birth, SF Bay Area**




Source: 2009-2011, Bay Area Regional Health Inequities Initiative

# CONCLUSION: RAISING THE MINIMUM WAGE WOULD IMPROVE POPULATION HEALTH

This analysis of the relationships between wage, income, poverty, and health in the Bay Area concludes that a Bay Area-wide increase in the minimum wage would have significant co-benefits for the economic security, health, and health equity of almost a million Bay Area residents. The benefits would be strongly concentrated among the lowest 25 percent of wage earners, a subgroup that is subject to some of the highest risks for premature mortality and poor health. Infants and children in low-income households, people of color, and immigrant workers, would likely experience the greatest health benefits.

Policies aimed at increasing the economic security of low-wage workers and families living in poverty, including minimum wage policies, public benefit programs, tax credits, and job-creation policies, are also important public health policies. There is now massive and growing evidence documenting the association of income, especially very low-income, with poor health outcomes on many measures and dimensions of health, from mortality to the occurrence and management of chronic disease and mental health issues. The evidence strongly demonstrates that policies that reduce poverty and raise the incomes of low-income people can improve overall health and reduce health inequities.

# APPENDIX 01:
# BAY AREA COMMUNITIES ENACTING OR CONSIDERING MINIMUM WAGE INCREASES

At least 14 cities and counties have approved increased minimum wage standards since the beginning of the year (Reich, Jacobs, et al, 2014). More recently, the research on increasing the minimum wage has focused on November 2014 ballot measures in two cities, San Francisco and Oakland. The San Francisco measure would raise the current minimum wage of $10.74 to $15 an hour in four steps by 2018 – a 36.4 percent increase. The Oakland measure would increase that city's minimum wage to $12.25 per hour by March 1, 2015, also a 36 percent increase. Both measures would index the minimum wage to inflation going forward.

Other Bay Area measures recently enacted include San Jose, which adopted a minimum wage increase in March 2013 at $10 per hour, which increased to $10.15 per hour on Jan. 1, 2014. Berkeley adopted a measure in June 2014, which implements an hourly wage of $10 with an increase to $11.00 in 2015 and to $12.53 in 2016 (to be roughly comparable to neighboring Oakland, assuming that city's measure is approved by voters). Mountain View adopted a $10.30 minimum wage effective July 1, 2015 (with the intention of reaching $15.00 an hour by 2018). Richmond recently approved an ordinance to raise the city's $9 current minimum wage to $12.30 by 2017. As of May 2014, the Santa Clara County Board of Supervisors voted to create an unspecified "living wage" that would affect county workers and those employed by companies contracted by the county, and would include health care, job security, and other quality-of-life requirements. Mayors in at least six East Bay communities have considered a single regional proposal to implement a uniform minimum wage of $12.82 by 2017, arguing that a regional approach would minimize potential negative impacts and allow for more effective local policy. Meanwhile, the state's minimum wage of $9 an hour, implemented July 1, 2014, will rise to $10 on Jan. 1, 2016, and is indexed to inflation.

# APPENDIX 02:
# INCOME INEQUALITY, GINI COEFFICCIENT

The growing wage/income gap in California is also reflected in an increase in income inequality, by analysis of a measure known as the Gini coefficient. Although income consists of earnings other than wage earnings (e.g., public assistance, rental income, stocks and bonds, etc.), the Gini coefficient measures the distribution of known household income within a given population from 0 to 1, in which a score of 1 represents total inequality (one household has all the income) and a score of 0 represents total equality (all households have equal income). As shown in Table 1, income inequality in the Bay Area increased almost 6 percent from 2000 to 2013 (Bay Area Health Inequities Initiative).

**TABLE 1: GINI COEFFICIENT IN SELECTED BAY AREA COUNTIES 2000 AND 2013**

| | 2000 | 2013 | Percent Change |
|---|---|---|---|
| Alameda | 0.448 | 0.476 | +6.03% |
| Contra Costa | 0.441 | 0.469 | +6.35% |
| San Francisco | 0.500 | 0.528 | +5.60% |
| California | 0.472 | 0.490 | +3.81% |
| Bay Area | 0.467 | 0.494 | +5.78% |

Source: Bay Area Regional Health Inequities Initiative, 2013

| Table 2: Workers Expected to Get a Raise from a Hypothetical Bay Area Increase in the Minimum Wage to $12.50, 2015 (N = 988,000) | | |
|---|---|---|
| | Estimated % of All Workers That Would Get a Raise | Estimated % of Group That Would Get a Raise |
| **Gender** | | |
| Male | 50.5% | 26.3% |
| Female | 49.5% | 31.0% |
| **Age** | | |
| 19 and Younger | 4.5% | 82.9% |
| 20-29 | 38.0% | 50.6% |
| 30-39 | 21.6% | 23.4% |
| 40-54 | 25.2% | 19.9% |
| 55 and Older | 10.7% | 20.5% |
| Median Age | 32 | |
| **Race/Ethnicity** | | |
| White (Non-Hispanic) | 28.7% | 18.9% |
| Black (Non-Hispanic) | 5.1% | 29.5% |
| Hispanic | 41.5% | 49.9% |
| Asian (Non-Hispanic) | 21.1% | 24.1% |
| Other | 3.6% | 30.6% |
| **Education** | | |

| | | |
|---|---|---|
| Less than High School | 22.1% | 63.3% |
| High School or G.E.D. | 25.3% | 45.4% |
| Some College | 28.4% | 37.9% |
| Associate's Degree | 6.3% | 24.0% |
| Bachelor's Degree or Higher | 17.9% | 11.2% |
| **Country of Birth** | | |
| U.S. Born | 52.3% | 24.4% |
| Foreign Born | 47.7% | 34.6% |
| **Family Structure** | | |
| Married | 37.3% | 20.3% |
| Have Children | 33.8% | 22.8% |
| **Household Income Relative to Poverty Level** | | |
| Less than 100% of Poverty Level | 13.4% | 84.3% |
| 100% to 150% of Poverty Level | 16.4% | 82.0% |
| 150% to 200% of Poverty Level | 14.7% | 68.7% |
| More than 200% of Poverty Level | 54.7% | 18.7% |

Source: University of California, Center for Research on Labor and Employment, 2014

# BIBLIOGRAPHY


1. American Community Survey (2005, 2012). Public Use Micro Data Set (PUMS). Available at: http://www.census.gov/acs/www/data_documentation/public_use_microdata_sample/. Accessed on: 10/4/2014
2. Barr, D. A. (2008). *Health disparities in the United States: Social class, race, ethnicity, and health*. JHU Press: pp.72-3.
3. Bay Area Regional Health Inequities Initiative (BARHII) with Data from the California Death Statistical Master File and the 2010 Census.
4. Bay Area Regional Health Inequities Initiative (BARHII) with Data from the 2000 Census Summary File 3, and the 2005 and 2013 American Community Surveys Public Use Microdata Sample (PUMS).
5. Bhatia, R. (2014) *Health Impacts of Raising California's Minimum Wage*, Human Impact Partners, Oakland.
6. Braveman., P.A. (2006) Health Disparities and Health Equity: Concepts and Measurement. *Annual Review of Public Health.* Vol. 27: 167-194.
7. Braveman, P.A., Egerter, S., & Barclay, C. (2011) *Income, Wealth, and Health*, Issue Brief #4, The Social Determinants of Health, Robert Wood Johnson Foundation.
8. Braveman, P.A., & Egerter, S. (2013) *Overcoming Obstacles to Health* in 2013 and Beyond. Robert Wood Johnson Foundation Commission to Build a Healthier America. *Retrieved from*: http://www.rwjf.org/content/dam/farm/reports/reports/2008/rwjf22441. Accessed 10/4/14.
9. CDC Health Disparities and Inequalities Report-United States. (2011) *CDC Morbidity and Mortality Weekly Report.* Vol.60 January 14, 2011.
10. California Budget Project (2014) "Where is the Wage Growth? Wage Stagnation in California's Economy" Economy Brief. Retrieved from: http://www.cbp.org/pdfs/2014/140508_Wage_Stagnation_EB.pdf. Accessed on: 8/13/14
11. California Budget Project. (2014) *Making Ends Meet. Retrieved from:* http://www.cbp.org/MakingEndsMeet/index.php. Accessed on : 8/22/14.
12. California Health Interview Survey. CHIS 2007, 2009, and 2011-12 Adult Public Use File. Los Angeles, CA: UCLA Center for Health Policy Research.
13. California Office of Health Equity (2014) Distribution of Household Income Relative to the Number of Households, Expressed on a 0 to 1 Scale (Gini Index). Healthy Community Data and Indicators Project. Sacramento, CA: California Department of Public Health; (http://www.cdph.ca.gov/programs/Documents/Gini_Narrative_Examples5-2-14.pdf.) Accessed on: 9/12/14.
14. Congressional Budget Office (CBO). (2011) Changes in the distribution of workers hourly wages between 1979 and 2011. Retrieved at: http://www.cbo.gov/sites/default/files/02-16-wagedispersion.pdf ; Accessed on: 10/9/14.
15. Cossley, T. F., Kennedy, S. (2002). The reliability of self-assessed health status. *Journal of Health Economics*; 21(4): 643-658.

16. Ferraro, K. F., Farmer, M. M., & Wybraniec, J. A. (1997). Health trajectories: long-term dynamics among black and white adults. *Journal of Health and Social Behavior*, 38-54.
17. Hofrichter, R. (2013) Health and Social Justice: Politics, Ideology, and Inequity in the Distribution of Disease: Jossey-Bass, San Francisco.
18. Jylhä, M. (2009). What is self-rated health and why does it predict mortality? Towards a unified conceptual model. *Social science & medicine*, *69*(3) 307-316.
19. MacArthur Foundation Research Network on Socioeconomic Status and Health. Reaching for a Healthier Life (n.d.). Retrieved from: *http://www.macses.ucsf.edu/downloads/reaching_for_a_healthier_life.pdf. Accessed on 10/22/14.*
20. Mossey, J. M., & Shapiro, E. (1982). Self-rated health: a predictor of mortality among the elderly. *American Journal of Public Health*, 72(8): 800-808.
21. Mutchler, J. E., & Burr, J. A. (1991). Racial differences in health and health care service utilization in later life: the effect of socioeconomic status. *Journal of Health and Social Behavior*, 342-356.
22. McDonald, J.T. & Kennedy, S. (2004). Insights into the 'healthy immigrant effect': health status and health service use of immigrants to Canada. *Social Science & Medicine*, Vol. 59 1623-1627.
23. National Conference of State Legislatures (2014). *State Minimum Wages, 9/17/2014. Retrieved from:* http://www.ncsl.org/research/labor-and-employment/state-minimum-wage-chart.aspx. Accessed on: 10/3/14.
24. Patrick, D. L., & Erickson, P. (1993). *Health status and health policy*. New York: Oxford University Press.
25. Pickett, K., & Wilkinson, R. (2009) The Spirit Level: Why Equality is Better for Everyone. Penguin UK.
26. Rehkopf, D.H., Berkman, L.F., Coull, B., Krieger, N. (2008) The non-linear risk of mortality to income level in a healthy population: US National Health & Nutrition Examination Survey mortality follow-up cohort, 1988-2001. BMC Public Health 8; 383.
27. Reich M., Jacobs, K., Bernhardt A., & Perry, I. (2014). San Francisco's Proposed City Minimum Wage Law: A Prospective Impact Study. *Retrieved from* http://www.irle.berkeley.edu/cwed/briefs/2014-04.pdf. Accessed on: 8/15/2014.
28. Seeman, T., Epel, E., Gruenewald, T., Karlamangla, A., McEwen, B.S. (2010). Socio-economic differentials in peripheral biology: Cumulative Allostatic load. *Ann. NY Acad. Sci.* 1186; 223:239.
29. U.S. Department of Labor. *About Minimum Wage. Retrieved from:* http://www.dol.gov/minwage/# . Accessed on: 10/17/2014.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