Wayne County Department of Public Health
Wayne, Michigan
www.waynecounty.com

In collaboration with:
Human Impact Partners
Oakland, California
www.humanimpact.org

Health Impact Assessment (HIA) of Gender Pay Inequity

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Authors:

Wayne County Department of Public Health

Angela Stevenson, RN BSN, Public Health General Manager; Honor Potvin, MPH, HIA Consultant; Loretta V. Davis, MSA, Director/Health Officer; Talat Danish, MD MPH, Medical Director

Human Impact Partners

Kim Gilhuly, MPH, Project Director; Rachana Kumar, BS, Intern

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Contacts:
Angela Stevenson (astevens@co.wayne.mi.us) and Kim Gilhuly (kim@humanimpact.org).

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Section I: Key Findings/Executive Summary

This report examines the potential impact on health outcomes of gender pay equity policies. Specifically, this analysis looks at how gender pay equity impacts general income, stress, and health care access. The findings of this preliminary Health Impact Assessment are that gender pay equity policies would have a significant positive impact on health for women and their families. Key findings include:

Even when you factor in time off for children and other differences between men and women, women's pay is still inexplicably lower.

- Looking at 10 occupations and using Bureau of Labor Statistics data on average earnings for men and for women, we predict salary increases for full time women workers in Michigan if pay equity were in place. Our predictions take into account experience lost due to time women are away from the workforce and women's tendency to prefer more flexible schedules.
- For example, if there were pay equity between male and female nursing and home health aides, women in those professions in Michigan would have an annual increase of over $2,200 – a 10% salary increase. Retail salespersons would see a 49% increase, teachers a 6% increase, and supervisors of retail workers a 30% increase.

If pay equity policies were implemented, and thus women's incomes increased, women's & family health would improve. Related findings from the literature include:

- Workers who make under $15,000 a year have almost 4 times the risk of dying prematurely (i.e., before the average life expectancy) than those who make $70,000 a year.
- Increasing incomes for those in the bottom income bracket up to a living wage predicted decreases in the risk of premature mortality, of early childbirth, and of depression.
- For people in low-status/low-paying jobs, there is almost double the prevalence of many diseases and poor health behaviors as those in high-status/high-paying jobs: angina, diabetes, obesity, risk of not exercising enough, and not eating enough fruits and vegetables.
- An increase in annual income from the lowest income bracket (< $20K annually) to the second lowest income bracket (between $20K and $34K) reduces the probability of developing an affective disorder or anxiety disorder by 60% and 56%, respectively.
- The decrease in stress due to an increase in income has the potential to positively impact many illnesses, such as cardiovascular disease, gastrointestinal disorders, stroke, susceptibility to infection, musculoskeletal disorders, and maternal and child health outcomes.
- Decreasing income-related stress can decrease prevalence of preterm birth and low birth weight.

If pay equity were implemented, more people will be better able to purchase health insurance. **The number of uninsured women and families will decrease and health outcomes will improve. Being insured leads to the following positive outcomes:**

- Higher immunization rates among children;
- A 70% increase in the likelihood of a child receiving preventive or emergency care;
- A lower risk of dying if hospitalized;
- A lower risk of death following auto accidents;
- Lower rates of stroke among at-risk adults;
- Higher likelihood that children will receive care for diabetes and asthma.

Section II: Introduction

The Wayne County Department of Public Health (WCDPH) is a local public health entity located in Wayne County, Michigan, whose mission is to serve the public health interests of County residents by continual evaluation of community-wide health needs and environmental conditions, by development of comprehensive personal and environmental health policies to prevent disease and prolong life, and by the continual improvement of services to assure a better quality of life. Wayne County, Michigan has a population of approximately 2.1 million, making it the most populous county in the State of Michigan and the thirteenth most populous county in the Nation. WCDPH services a disparate population that includes a diversity of races and cultures with many distinct health issues.

One such health issue is the high incidence of infants that die before reaching their first birthday. A high number of infant deaths reflect the health of women and children, and the overall health status of the population. Michigan's infant mortality rate is consistently above the national average. The Michigan Department of Community Health reports that in 2008, Michigan's infant mortality rate of 7.4 per 1,000 was higher than the U.S. rate of 6.5 per 1,000 live births. In Wayne County (excluding Detroit), the infant mortality rate increased from 6.5 in 2007 to 7.1 in 2008. To address this growing problem, WCDPH implemented the Wayne County Infant Mortality Reduction Project. This project's goal is to utilize focused, upstream strategies that have a positive impact on the reduction of infant mortality in Wayne County.

A major component of the project is working with the Joint Center for Political and Economic Studies' Health Policy Institute to eliminate health disparities. Wayne County is a part of the national learning community organized by the Joint Center that consists of 16 PLACE MATTERS teams. PLACE MATTERS works with its teams to identify the complex root causes of health disparities (e.g., employment, education, poverty, and housing; also known as social determinants of health) and define strategies to address them.

Wayne County is currently examining ways to reduce infant mortality and disparity in infant mortality by addressing social determinants of health such as social isolation, social perception of women, and social equity. Wayne County has determined that valuing womanhood in the pre-conception and inter-conception period would impact social determinants of health that affect pregnancy outcomes. In communities that value womanhood, institutional policies and practices exist that support women mentally, physically, socially, financially, and academically before, during, and after pregnancy and help them in achieving economic stability. These policies acknowledge the importance of context, place, diversity, economic stability, and education of women.

Background: Pay Equity

Pay equity is commonly referred to as "equal pay for equal work." Pay equity establishes that, regardless of sex or race, people doing the same jobs will receive the same pay. Under federal law, the Equal Pay Act of 1963 also defines pay equity as the right to equal pay. Michigan's Elliott-Larsen Civil Rights Act covers this right as well. These definitions of pay equity, however, have not successfully accomplished the goal of making women's pay equal to men's pay.

Statistics show that despite women's advancement in the types of jobs pursued and the level of education attained, they are still earning less than their male counterparts. The most recent data from the 2009 census shows that women's median incomes in the U.S. are just 78.2% of men's median incomes.

Women in Michigan fare even worse, earning only 71.9% of what men earn. Michigan has the 43rd worst earnings ratio between men and women in the United States (AAUW, 2010). The Equal Pay Act of 1963 has had a limited effect on the movement toward equal pay. In 2010, the Paycheck Fairness Act made substantial progress nationally, making it through the House but not the Senate; it is expected that the bill will be reintroduced in 2011. In Michigan, legislators introduced bills to address the lack of pay equity in the state in 2010. These bills would amend the Elliott-Larsen Civil Rights Act in order to prohibit employers from failing to provide equal pay for equal work, or work that is of "comparable value." An additional bill would establish a Commission on Pay Equity in the Michigan Department of Civil Rights. This package of legislation was introduced by Representative Joan Bauer, and did not move in the 2010 legislative session. Similar legislation is expected to be reintroduced in 2011.

Health Impact Assessment

Health Impact Assessment (HIA) is a research and engagement methodology used to predict the future health impacts of policies and projects in order to inform the decision-making process. Because policies are often decided on the basis of economic impacts and do not include a discussion of health impacts, externalities of these decisions often include negative health outcomes that disproportionately impact already vulnerable communities such as women, children, people of color, and those with lower incomes.

The use of HIA to inform policy decisions has grown in the last ten years in the United States. In 2010, Human Impact Partners (HIP) was awarded a grant from the W.K. Kellogg Foundation to work with several PLACE MATTERS sites including Wayne County. Human Impact Partners focuses on capacity building for Health Impact Assessments (HIA) – offering policymakers, project leaders, public agencies, community groups and advocacy organizations the support they need to conduct HIAs and use the results to make informed choices.

Section III: HIA Screening

Human Impact Partners (HIP) provided training to the Wayne County team on how to conduct HIAs. During the training, the topic of "pay equity for women" was selected for use as a case study. Participants conducted initial screening activities, reviewed existing legislation and participated in scoping activities. Further deliberations about how pay equity for women could hypothetically impact maternal and child health outcomes, including infant mortality, resulted in outlines used to create pathway diagrams. Pathway diagrams were created to examine how pay equity may impact several determinants of health including stress, health care access, social and self perception, housing, nutrition, transportation and education. The trainees became excited about this upstream, innovative method for examining policy and the momentum gained during training.

Given 1) the interest of the diverse participants in the HIA training; 2) the potential of the policy to reduce negative health impacts for a large population; 3) the lack of discussion of these health impacts in the current policy debate; and the availability of resources, it was decided that the Infant Mortality Reduction Team would continue working beyond the training and conduct a full Health Impact Assessment.

The team assigned HIA committees to carry out the project tasks with HIP staff providing continuing technical assistance. Committees include HIA Steering Committee, Scoping Committee, Outreach Committee, Literature Review Committee and the Data Committee.

Section IV: HIA Scope

The Scoping Committee determined which health impacts to evaluate, and completed the pathway diagrams. These diagrams were used to create scoping worksheets to examine existing conditions related

to pay equity and develop impact hypotheses for further research. These hypotheses were prioritized to create a more streamlined focus for the assessment, given the limitations of resources and time.

The initial pathways that were explored included: stress, change in work hours, nutrition, health care access, social and self-perception, housing, transportation, and education.

Below is a table showing the research questions that emerged as a result of early meetings and discussions:

High Priority Research Questions from Scoping Committee	
General	1.What are income levels in different jobs for women? How would Pay Equity impact income levels for women? For women of color? Mothers? Single mothers? Women caring for other dependents? 2.Would Pay Equity impact job benefits, and if so, how? 3.How does income impact health? How does income impact premature mortality and longevity? 4.What would the cost of Pay Equity to businesses be (including potential increased pay and potential increased health insurance coverage)? Would this impact the # of women employed?
Stress and Work Hours	1.What is the relationship between income and stress? How will Pay Equity impact stress levels in working women? Among different ethnic groups and single mothers? 2.How will Pay Equity impact number of hours worked and thus income levels and stress? 3.How will a change in number of hours worked impact access to health insurance? 4.How does stress impact cortisol levels? 5.How does stress/high cortisol levels impact: cardiovascular disease, high blood pressure, maternal health, birth outcomes, substance abuse, and other health outcomes? How will Pay Equity impact these?
Nutrition	1.Would an increase in income impact the nutritional level of the food women purchase? 2.How would that impact health outcomes, specifically for chronic diseases and pregnancy-related outcomes? 3.Would an increase in income impact eligibility for WIC and food stamps? If so, what are the health outcomes related to a change in access to these food programs (*including ability to access nutritious food as well as nutrition education offered*)? 4.Would a change in income levels impact breastfeeding? How would that impact health?
Health Care Access	1.What percentage of women/working women have health insurance in MI? 2.How does this vary by type of job, by ethnicity, and by income level? 3.Will Pay Equity change the number of women with health insurance? 4.How will this impact maternal and child health and adult health outcomes?

	5.What is the rate of use of preventative care and/or emergency department use in MI if women have health insurance? Would that change with Pay Equity? 6.What are rates of unplanned pregnancy and contraceptive use of working women in MI? Will that change with change in access to health insurance due to Pay Equity?
Social Perceptions	1.Will Pay Equity impact social perception of working women? 2.Will Pay Equity impact how much power women have in the workplace? 3.What impact does social perception of women (valuation and power) have on competition in the workplace? 4.What is the impact of power, valuation, and competition on stress levels? How might that change with Pay Equity? What is the impact of that type of stress on health outcomes? 5.Do decision-making power, valuation, or competition impact job opportunities? How might that change with Pay Equity? 6.How would social perception, valuation, power, competition, job opportunities, and stress change in the workplace for women of color, mothers (single and otherwise), and different income levels?
Self-Perceptions	1.What is the impact of Pay Equity on self-esteem for women? 2.Does higher self-esteem impact decision-making? Reproductive decisions? Life partner decisions? Social networks? Lifestyle choices? What impacts do these have on health? 3.If women are paid equally, will they be more satisfied on the job? More productive? More motivated? 4.What is the impact of satisfaction, motivation, productivity, and job mobility on stress? And what are the impacts of stress on health? 5.How do self-perceptions (all questions above) play out for different income levels, ethnicities, and parenthoods?
Housing	1.What percentage of their income are working women paying for housing? How would Pay Equity impact this percentage? How would having more non-housing income impact health? For mothers? Single mothers? For different ethnicities and income levels? 2.How does level of income relate to housing location? With Pay Equity, would women and families move? What would the community and health impacts of this be? 3.How might Pay Equity impact ability to pay for heating/ cooling? What are related health impacts? 4.Would Pay Equity impact the number of people who receive public housing assistance? What would the health impacts of a change in number of people in public housing be?

From this extensive list of research questions, a brief review of literature was conducted and three priority areas emerged. Answering the general questions related to women's income appeared to be a necessary first step in order to adequately address other areas of focus. Additionally, stress and health care access were selected as first priorities.

The Outreach Committee works to identify key stakeholders to promote awareness of the relationship between pay equity and health and to advocate for the education of the community and policy makers.

The Literature Review Committee is responsible for examining existing conditions and searching for literature related to the questions identified by the Scoping Committee.

The Data Committee is responsible for identifying data sources and analyzing results and findings.

Section V: Assessment Methodology and Findings

Literature review was conducted using peer-reviewed journal findings linking income, stress, and health outcomes, as well as grey literature based on findings compiled by groups such as the American Association of University Women, the Institute for Women's Policy Research, and the National Women's Law Center. Secondary data was gathered from the Michigan Department of Community Health, the Wayne County Department of Public Health, the U.S. Census, and the Bureau of Labor Statistics, among other sources. Analysis consisted of some quantitative predictions and some logical conclusions drawn from multiple studies and applied to a Michigan population.

Reporting

The Wayne County team continues in its efforts to plan for the dissemination of findings through fact sheets and reports. The team has secured several advocacy partners who are engaged in issues affecting infant mortality, women's health, and policies that impact low-income people of color in Michigan. Two of these groups are MOSES and Mothering Justice, who are assisting with dissemination and outreach. Current plans include participation in the Equal Pay Day 2011 events in Washington, DC, and Lansing, MI, and outreach to other advocacy groups as well as legislators to inform the decision-making process with health findings.

Monitoring

Monitoring and evaluation are key components of the HIA process. As the Wayne County team continues to move through this process, monitoring plans for goals, objectives, and indicators will be determined and implemented.

Findings

The following information provides several initial key findings related to women's income, stress, and health care access. It is important to note that these findings are preliminary. Further research continues and additional documentation to support or disprove the hypotheses will be presented in the future. Research efforts are ongoing to explore all of the pathways identified during the HIA scoping, including the impact of income increases on nutrition, housing, and the expansion of the health care access section to include an analysis of retirement benefits.

General Income

WOMEN'S INCOME IN COMPARISON TO MEN'S

Existing Conditions

The most recent data from the 2009 census shows that women's median incomes in the U.S. are 78.2% of what men's median incomes are. In Michigan, specifically, the men's average income of 2009 was $48,066 and the women's average income was $34,542. Based on this information, in Michigan, women's earnings are 71.9% of men's earnings (Getz, 2010). Table 1, which uses the 2009 American Community Survey from the U.S. Census Bureau, shows that there is a gap of $13,524, on average, between what men and women in Michigan earn and nationally the gap is $9,936. This ranks Michigan in the bottom ten states nationally and indicates that *women in Michigan have lower incomes compared to the women in most states and there is a significantly higher wage gap between the women's and men's earnings.*

Table 1: ***Earnings Comparisons and Poverty Rates by Race, Gender, and Geographic Area***

	Michigan		United States	
Median Annual Earnings Full-Time, Year-Round for Employed Women, 2009	All Women	$34,542	All Women	$35,549
	White	$35,246	White	$36,812
	Black	$31,611	Black	$31,639
	Hispanic/Latino	$28,862	Hispanic/Latino	$26,347
Median Annual Earnings for Full-Time, Year-Round Employed Men, 2009	All Men	$48,066	All Men	$45,485
	White	$48,906	White	$48,211
	Black	$35,517	Black	$36,171
	Hispanic/Latino	$32,577	Hispanic/Latino	$29,856
Women's Earnings as Percentage of White Men's Earnings	All Women	70.6%	All Women	73.7%
	White	72.1%	White	76.4%
	Black	64.6%	Black	65.6%
	Hispanic/Latino	59.0%	Hispanic/Latino	54.6%
Percent Living Below 100% Federal Poverty Level (FPL) 2009	Women	15.7%	Women	13.9%
	Black Women	31.2%	Black Women	24.6%
	Hispanic Women	28.2%	Hispanic Women	23.8%
	Single Mother Families	42.7%	Single Mother Families	38.5%

The pay inequity is even starker with regard to women of color, mothers, single mothers, and women living in poverty. According to the 2010 Census data, the median incomes for women of color are lower than the median incomes of all women and of men. Nationally in 2009, African American women made an average of $31,824 and Latina women made $27,181. These earnings are 67.5% and 57.7% of all

men's earnings. A recent study by Marcelli (2009) found that Latina women earn the lowest hourly wages compared to any other demographic group. Lack of education, work experience and ability to speak English are factors in why Latina women work in lower skilled jobs with lower wages. However, these factors do not explain why Latinas make less money compared to other men and women with the same job (Marcelli, 2009).

Table 1 shows women's earnings and women's earnings by race as a percentage of White men's earnings in 2009 in Michigan and the United States. White Non-Hispanic women's median income is 72.1% of White men's; African American women's median income is 64.6% of White men's; and Hispanic women's median income is 59% of White men's. These percentages are very similar to the national earnings data for the women as a percentage of what White men earn. However, women of all races in Michigan earn 70.6% of White men's earnings and women of all races in the U.S. earn 73.7% of White men's earnings. The income of women in Michigan is even further behind men than those of women in the U.S.

In the U.S., in 2009, the poverty rate for men was 10.5% and the poverty rate for men in Michigan was 12.7% (U.S. Census Bureau, 2009). The poverty rates for women in both Michigan and the nation, on average, are higher than the poverty rates for men. Table 1 shows the higher proportion of women of color who live below the poverty level; in Michigan about 15.7% of White women live in poverty vs. 31.2% of African American women, 28.2% of Hispanic women, and 42.7% of single mothers (U.S. Census Bureau, 2009). These poverty rates in Michigan are higher than the national averages for each category listed. Evidence of the low income levels and high poverty rates of women - especially women of color and single mothers - indicates that pay inequity is a larger problem for some populations.

Motherhood can have an impact on women's wages as well. In 2003, the U.S. General Accounting Office determined that industry, occupation, race, marital status, and job tenure are some of the main factors that account for the difference in income for men and women. GAO research also explains that women earn less than men because women tend to have fewer years of experience than men, work fewer hours per year, are less likely to work a full time schedule, and leave the labor force for longer periods of time than men due to family responsibilities (US GAO.gov, 2003). A 2001 study examined the wage penalty for motherhood and found that having children is associated with a 7.3% reduction in the wages of mothers. After taking into account mother's diminished experience because of their absence from the workforce and the probability that these women choose the types of jobs that offer flexibility, women still experienced an unexplained 3.7% wage reduction (Budig & England, 2001).

For low-income women and single mothers, raising women's income would also decrease poverty and increase family income. A 1999 report on equal pay for working families examined the incomes of single mothers, single women, and married women. The study found that if these women were paid the same as men that worked the same number of hours, had the same educational background, and lived in the same region, the working woman's family would benefit from pay equity with a gain of more than $4,000 per year (Hartmann, Allen, & Owens, 1999).

WOMEN'S PAY IN THE SAME OR SIMILAR JOBS AS MEN

Existing Conditions

More than 40 years ago, women used to earn 59% of what men earned (Rose & Hartmann, 2004). Although the wage gap has narrowed to women now earning 78.2% of men's earnings, women continue to get paid less than men - even for the same job. Table 2, below, provides a sample of different jobs and average weekly earnings for men and women in the United States.

Table 2: U.S. Median Weekly Earnings for Men and Women from 10 Selected Occupations
(Numbers in thousands)

Occupation	Number of Male Workers	Median Weekly Earnings (men)	Number of Female Workers	Median Weekly Earnings (women)	Women's Earnings as a percentage of Men's
Nursing, psychiatric, and home health aides	173	$488	1,156	$427	87.5%
Lawyers	435	$1,895	234	$1,461	77%
Elementary & Middle School Teachers	461	$1,024	1,947	$931	90.9%
Secondary School Teachers	504	$1,035	612	$962	92.9%
Special Education Teachers	54	$993	274	$960	96.7%
Retail Salespersons	1,011	$651	734	$421	64.7%
Supervisors/Managers of Retail Sales Workers	1,168	$782	975	$578	73.9%
Waiters and Waitresses	287	$450	538	$381	84.7%
Janitors & Building Cleaners	1,099	$494	437	$400	80.9%
Receptionists & Information Clerks	66	$547	815	$529	96.7%
Total, 16 years and over	55,059	$824	44,472	$669	81.1%

Note: Adapted from Household data annual averages, 2010. Available at http://www.bls.gov/cps/cpsaat39.pdf

Studies of income of lawyers and academics by gender have been conducted. In the legal profession, women's incomes are 60-70% of men's income according to a University of Michigan study. In 1999, the median income of women lawyers was 73% of male lawyers (Schmidt, Galanter, Mukhopadhaya, & Hull, 2008). Currently, according to 2010 data from the U.S. Bureau of Labor Statistics, the median weekly earnings of male lawyers is $1,895 and the median weekly earnings of women lawyers is $1,461. These significant differences in the income of men and women lawyers exists because men tend to work more hours, do less childcare, and choose to practice law in fields that yield more income (Schmidt, et al., 2008), but even when controlling for these factors, women with the same amount of experience and wok hours get paid less. Even though men and women may start out their careers in law with a small

difference in their average income, by fifteen years post-graduate, women earn approximately $132,170 and men earn $229,529 a year (Rose & Hartmann, 2004).

Female academics also earn significantly less than male academics. Another University of Michigan study analyzed the average salaries of 1705 faculty members and found that the women's average salary was lower than the average men's salary. Women earned an average salary of $72,392 and men earned an average salary of $88,155. Study authors attributed difference in the gender salaries to rank and time since degree. The average woman faculty member received her degree fourteen years prior to the survey and the male faculty member received his degree twenty years prior. However, among the men and women that had the same rank, women still had lower salaries compared to men (Corcoran, Courant, & Raymond, 2001).

Regardless of the type of job (elite job, good job, or less skilled job), women consistently earn less than men (Rose & Hartmann, 2004). Even if jobs are in female dominated occupations, for example nurse or teachers, women earn less than men who work in that profession. Existing conditions data demonstrate that the wage gap continues to exist today.

Potential impacts of Pay Equity legislation on job-specific pay equity

To predict the increase in income for women if there were gender pay equity, we used the Bureau of Labor Statistics data from Table 2, and the Budig & England research that showed women continued to receive 3.6% less than men after controlling for absence from the workforce due to childbearing and tendency to choose jobs that offer more flexibility.

The 3.6% was subtracted from the men's weekly earnings to determine the women's weekly earnings if the jobs accounted for absence from the workforce and choice of flexible jobs. From the amount that women would make more per week, we calculated the annual increase and the percentage of salary increase from their current salary (Table 3).

Assumptions (based on Budig & England, 2001):
7.3% = how much women's earnings fell due to having a child
3.6% = how much of this decrease was related to having less experience due to time lost in the workforce and women's choice to have more flexible jobs
3.7% = the difference in women's earnings that remained after adjusting for the above factors
Our calculation:
Men's weekly earnings - 3.6% = what women's weekly earnings should be if the jobs accounted for absence from the workforce and choice of flexible job.

Example: Nurses' aides, psychiatric aides, and home health aides (Health Aides)
- Male health aids' weekly earnings = $488 (Bureau of Labor Statistics, 2010)
- 3.6% of $488 = $17.57 (~ $18)
- $488 - $18 = $470

Thus, if you accounted for less experience due to absence from the workforce for childbearing and women's tendency to choose more flexible jobs, female nurses' aides should still be making $470/week.
- Female Health Aides, however, make $428/week on average.
- $470 (what female Health Aides "should" make weekly) - $428 (what female Health Aides do make weekly) = $42

Female nurses, with pay equity, would make $42/week more.
- $428 X 52 weeks = $22,256 annual salary
- $42 X 52 weeks = $2,184 more per year = 9.8% more than the current salary

Table 3: ***Predicted Average Weekly and Annual Salary Increase for <u>Women</u> if Gender Pay Equity was Implemented***

Occupation	Weekly increase	Annual increase	Salary Increase (%)
Nursing, psychiatric, and home health aides	$43	$2,236	10.1%
Lawyers	$366	$19,032	25%
Elementary & Middle School Teachers	$56	$2,912	6%
Secondary School Teachers	$36	$1,872	3.7%
Special Education Teachers	-$3	-$156	-.03%
Retail Salespersons	$207	$10,764	49.2%
Supervisors/Managers of Retail Sales Workers	$176	$9,152	30.4%
Waiters and Waitresses	$53	$2,756	13.9%
Janitors & Building Cleaners	$76	$3952	19%
Receptionists & Information Clerks	-$2	-$104	-0.4%

Based on our predictions in Table 3, after accounting for factors that explain why women make less than men, *it is evident that women in most occupations will have a significant increase in their earnings from pay equity*.

According to our calculations, pay equity for women would most often result in pay increases. Because of this, women would be able to increase family income and better support their families. In Michigan, for example, 41.9% of women are the main income earner in their families, and 21% are co-earners, meaning they bring home at least one quarter but less than half of the income in the family (Boushey, Arons, & Smith, 2010). In addition, if pay equity was adopted, many women who earn less than the poverty threshold currently might earn enough to be above the federal poverty level. Equal pay would increase family income and fewer of families would be living in poverty.

<u>Income impacts health, especially premature mortality and longevity.</u>

Existing Conditions

It has been well documented that people with low socioeconomic status (i.e., low income, low wealth, low education and low social status) live shorter lives than those who have higher incomes and are better educated (Cutler, Deaton, & Lleras-Muney, 2006). In the U.S., the prevalence of adverse health conditions is higher among the individuals with lower income and education. Those individuals with higher income have the economic resources to be able to make health promoting choices in regards to the

food they eat, participating in physical activities, and living in safe homes and neighborhoods (Braveman, Egerter, & Barclay, 2011). This does not mean that there is a causal relationship between higher income and better health but it does indicate a positive relationship between income and health.

The U.S. Panel Study of Income Dynamics found that the group of people with annual incomes below $15,000 annually had a premature mortality rate 3.9 times higher than the group in the high-income level, who earned more than $70,000 (Marmot, 2002). Further analyzing mortality and longevity affects from income levels, it was concluded that populations with a more equal distribution of income will have better health than another population with a greater income inequality (Marmot, 2002).

Several other studies have shown that income is related to morbidity and mortality. Lynch et al. (1998) examined the association of income inequality and premature mortality in metropolitan areas of the U.S. This study showed that metropolitan areas with high income inequality and lower incomes had excess premature mortality compared to areas with low income inequality and higher incomes. If the areas with high income inequality/lower income had the same mortality as the areas with higher income/low income inequality, premature mortality would be reduced by 139.8 deaths per 100,000, i.e., income inequality accounted for almost 140 people per 100,000 dying earlier than average life expectancy. This difference in premature mortality due to income inequality is greater than the combined loss of life from lung cancer, diabetes, motor vehicle crashes, HIV infection, suicide, and homicide in 1995 (Lynch et al., 1998).

In one of the first health impact assessments (HIA) in the United States, the San Francisco Department of Public Health modeled health outcomes resulting from implementation of a policy to increase wages for city and county employees to a "living wage" of $11.00 per hour in 1999. Based on their analysis of applying a living wage to families with incomes under $20,000, women working full time would lower their risk of premature mortality by 4%. Increasing income through a living wage would decrease the risk of people self-reporting only fair or poor health by 6%, of having work limitations by 6%, of depression by almost 2%, of taking recent sick days by almost 6%, and reduced risk of early childbirth by 22%. Results for part-time workers for all categories were slightly lower (Bhatia & Katz, 2001). Increasing incomes, particularly for lower-income workers, can provide powerful gains in health status.

The Whitehall II study conducted in London examined men and women ages 35-55 years in twenty civil service departments to determine the degree and causes of the social gradient in morbidity and to study the cardiovascular risk factors related to the gradient in mortality (Marmot et al., 1991). There were 6 grades of employment studied, in which grade 1 represented the high-status/ high-paying jobs and grade 6 represented the low status/low-paying jobs. The researchers found not only that high-status workers had lower health risks than low-status workers, but that there was a gradient all along each status/pay grade level, signifying that even advancing a small portion up the pay grade would have a positive impact on health outcomes. Focusing on the effects of women's income on health, Table 4 shows a summary of the findings from this study. In each health condition listed, the low status job had a significantly higher prevalence of the poor health condition compared to the high status jobs. For example, nearly twice as many women in the low status jobs rate their health as average or worse compared to women in high status jobs (Marmot et al., 1991).

Table 4: ***Morbidity Prevalence of Women by Employment Grade Category***

For Women	Grade 1 (High status jobs)	Grade 6 (Low status jobs)
Possible ischemia (ECG) or angina	**4.5%**	**11.1%**
Diabetes	**0.9%**	**1.4%**
Self-rated health average or worse	**26.2%**	**42.1%**
Any health problems	**69.8%**	**75.6%**
Drug therapy for hypertension	**3.7%**	**4.3%**
Obese	**7.4%**	**13.2%**
Smokers	**18.3%**	**27.5%**
No moderate or vigorous exercise	**12%**	**31.1%**
Eat fresh fruit or vegetables less than daily	**17.7%**	**43.6%**

Note: Adapted from "Health inequalities among British civil servants: the Whitehall II study," by Marmot et al., 1991, *The Lancet 337,* 1387-93.

A study by Bartley, Martikainen, Shipley, & Marmot (2004) also used the participants of the Whitehall II study to analyze the associations between men and women's socioeconomic position and the risk factors such as smoking, diet, exercise, alcohol consumption and measures of social support for prevalent chronic diseases. In this study, the employment grades were classified as low (grade 3- clerical and support staff) which earned 3,000-6,000 British pounds; middle (grade 2- professional and executive) which earned 6,001- 17,999 British pounds, and high (grade 1-administrative) which earned 18,000- 62,000 British pounds in 1987. Among all the employment grades and risk factors analyzed, the health problems were higher among the lower employment grade compared to the men and women in the higher employment grades. For example, after adjusted for age, women of grade 3 (low) were 2.7 times more likely to smoke than those of Grade 1; 2.6 times more likely to have a poor diet than those of Grade 1; and 2.5 times more likely to have no or low exercise than those of Grade 1 (Bartley et al., 2004).

Another study by Martikainen, Stansfield, Hemingway, & Marmot (1999) used the participants of the Whitehall II study to analyze how physical and mental functioning were impacted by socioeconomic difference. The three employment grades described above were used to compare the men and women's physical and mental functioning. When considering all study participants, over a three year period there was a small decline in the mean functioning levels. Men in the lowest grade were 1.79 times more likely to experience rapid decline of mental functioning and 1.56 times more likely to experience rapid decline of physical functioning than men in the highest employment grade. Women in the lowest employment grade were 1.34 times more likely to experience a rapid decline in physical function and 1.75 times more likely to report just average physical functioning versus above average physical functioning than women in the highest employment grade (Martikainen et al., 1999). The overall decline in physical and mental functioning among the men and women in this study could reflect early stages of morbidity (Martikainen et al., 1999).

At phase 5 of the Whitehall II study, Ferrie et al. (2003) examined the job security and financial insecurity contributions to socioeconomic inequalities in morbidity and cardiovascular risk factors. Weight, blood pressure, and serum cholesterol were factors that were examined in men and women to determine the morbidity at lower and higher employment grades. Employed women in the lowest employment grade

had 4.1 times the risk of having poor or fair self-rated health; 1.9 times the risk of having high diastolic blood pressure; and 2.1 times the risk of having a high BMI than those in the highest employment grade. Employed men in the lowest employment grade have 2.4 times the risk of having poor or fair self-rated health; 1.2 times the risk of having high diastolic blood pressure; and 0.4 times the risk of having a high BMI than the men in the highest employment grade. In addition to these findings, financial insecurity, which is determined by lack of income and wealth, was associated with poorer mental health outcomes (Ferrie et al., 2003).

Potential impacts of income equity on health

To roughly quantify the impact of income equity on women's health, we used the average annual salary increase for women from Table 3 for each of the 10 occupations listed in Table 2, and calculated the annual salary if pay equity was implemented (Table 6). Then, using Table 5, we determined which of the ten occupations listed for women would change income brackets (using brackets defined by the Michigan Department of Community Health) and how this change would affect the health conditions in Michigan.

Table 5: ***Michigan Data on Prevalence of Health Conditions by Household Income, 2009***

	Household Income					Men	Women
Health Conditions	**<$20,000**	**$20,000 - $34,999**	**$35,000 - $49,999**	**$50,000 - $74,999**	**>$75,000**		
General Health Fair or Poor	**32.5%**	**19.8%**	**15.1%**	**10.4%**	**4.8%**	**14.3%**	**15.7%**
Dissatisfied with Life	**17.1%**	**8.2%**	**5.9%**	**4.5%**	**2.9%**	**6.8%**	**6.9%**
Obese (BMI≥30)	**34.5%**	**34.7%**	**32.8%**	**34.5%**	**25.7%**	**30.8%**	**31.0%**
Inadequate Physical Activity	**56.5%**	**53.3%**	**48.5%**	**47.3%**	**41.4%**	**46.3%**	**50.9%**
Inadequate Fruit & Vegetable Consumption	**80.8%**	**79.3%**	**77.6%**	**78.8%**	**73.0%**	**81.9%**	**74.1%**
Currently Smoking	**35.2%**	**25.5%**	**19.9%**	**16.5%**	**11.6%**	**21.5%**	**18.2%**
High Blood Pressure	**38.0%**	**38.6%**	**33.7%**	**25.3%**	**22.1%**	**32.6%**	**28.4%**
High Cholesterol	**42.1%**	**45.3%**	**40.5%**	**36.5%**	**33.6%**	**41.2%**	**36.8%**
Current Asthma Prevalence	**15.5%**	**10.7%**	**7.8%**	**9.2%**	**7.0%**	**7.3%**	**12.3%**
Cardiovascular disease-Stroke	**6.3%**	**3.4%**	**1.8%**	**1.2%**	**0.8%**	**2.4%**	**2.9%**
Diabetes	**14.0%**	**14.2%**	**7.9%**	**8.7%**	**4.2%**	**9.7%**	**9.2%**
Cancer	**11.7%**	**10.45**	**10.7%**	**8.7%**	**8.6%**	**8.7%**	**11.0%**

Note: Adapted from "Estimates for Risk Factors and Health Indicators" by C. Fussman, 2010, *State of Michigan. Michigan Department of Community Health*. Available at http://www.michigan.gov/documents/mdch/2009_MiBRFS_Standard_Tables_FINAL_318700_7.pdf

Table 6: ***Increases in Women's Income in 10 Occupations After Pay Equity is Implemented***

Occupations	Annual income	Annual income if pay equity were implemented
Nursing, psychiatric, and home health aides	**$22,204**	**$24,440**
Lawyers	**$75,972**	**$95,004**
Elementary & Middle School Teachers	**$48,412**	**$51,324**
Secondary School Teachers	**$50,024**	**$51,896**
Special Education Teachers	**$49,920**	**$49,764**
Retail Salespersons	**$21,892**	**$32,656**
Supervisors/Managers of Retail Sales Workers	**$30,056**	**$39,208**
Waiters and Waitresses	**$19,812**	**$22,568**
Janitors & Building Cleaners	**$20,800**	**$24,752**
Receptionists & Information Clerks	**$27,508**	**$27,404**

Elementary and middle school teachers, supervisors or managers of retail sales workers, and waitresses are the three occupations (from the ten occupations we examined) that would move up an income bracket. For example, retails sales supervisors currently earn $30,056, on average. With pay equity the estimated salary would be $39,208, which puts them one level up in the income brackets. In their current income bracket ($20,000 - $34,999) almost 39% of people have high blood pressure. In the $35,000 - $49,999 income bracket, only about 34% do. While this is a rough quantification, and making approximately $9,000 more a year may not automatically decrease risk, the literature cited above and the raw data stratifying income levels and prevalence of disease and health risk behaviors is strong evidence that increasing incomes would decrease risk of a vast array of poor health outcomes. *Since the prevalence of almost all health conditions decreases as income increases, moving up income brackets (and increasing income generally) means that, on average, people's health will improve.*

A final note concerns the magnitude of impact of pay equity legislation, in Michigan alone. Table 7 details approximate numbers of women in these professions in Michigan, using occupation categories from the US Census and relating them to the Bureau of Labor Statistics categories (except for Supervisors of Retail Workers, for which there was no identified category in the US Census). Clearly, pay equity legislation would impact a large number of workers in the state.

Table 7: ***Approximate Number of Women in Michigan in Selected Occupations***

Occupations	Approximate # of women in Michigan
Nursing, psychiatric, and home health aides	56,946
Lawyers	14,058
Elementary & Middle School Teachers	83,151
Secondary School Teachers	
Special Education Teachers	
Retail Salespersons	121,283
Supervisors/Managers of Retail Sales Workers	
Waiters and Waitresses	45,044
Janitors & Building Cleaners	24,969
Receptionists & Information Clerks	289,726
Total (minus Supervisors of Retail Workers)	**635,177**

Note: Adapted from U.S. Census data table "Occupation by Sex and Median Earnings in Past 12 Months in Michigan," American Community Survey 2009, 1-year estimates.

It is important to note that as women's wages increase and household income increases, as shown in Table 5 there would be a reduction in the prevalence of health conditions for all members of the household - men, women, and children.

The findings reported in this Pay Equity Health Impact Assessment white paper are preliminary, and the Wayne County Department of Public Health Infant Mortality Working Group is continuing to examine the relationship between income inequity and health outcomes. However, even this preliminary analysis shows extremely strong evidence that increasing incomes for women will impact health outcomes.

Stress

CORRELATIONS BETWEEN INCOME AND STRESS

Existing Conditions – Work, income level, and stress

The link between higher levels of stress and lower income has been consistently found in various studies (Adler et al., 1994; Cohen, Doyle, & Baum, 2006; McEwen, 2000). In a study of low-income African American women, "inadequate financial resources" was the most commonly referred to source of stress (McCallum, et al., 2002). People who cannot fulfill their basic needs, or live in poor social and economic conditions, may experience feelings of stress as they struggle to improve the livability of their environment (Ng, Diener, Aurora, & Harter, 2008). These findings are especially worrisome for single parents who often rely on a single income to support their family. According to a review of public polling conducted by Greenberg Research (2010), 63% of single parents are concerned about the effects of stress on their lives, compared to 50% of married parents, and just 44% of people without children. Almost twice as many single parents (59%) responded that they worry "a lot" about paying bills and making ends meet, compared to just 34% of married parents.

Existing Conditions – Physical health

The chronic stress associated with lower socioeconomic status (SES) has been identified as a major pathway linking SES and health (Baum, Garofalo, & Yali, 1999). Stress, lack of social recognition, and

low job control are associated with many varied health effects, especially among people with lower socio-economic status. One outcome of stress and lack of social recognition is an increase in cortisol levels and insufficient recovery of cortisol, which lead to a range of negative health effects and higher risk of illness and disease (Wust et al., 2000; Kristenson et al., 2004). Additionally, stress, especially as experienced by those with low SES, alters neuroendocrine and immune responses creating increased vulnerability to a range of illnesses including gastrointestinal disorders, amenorrhea, heart attacks, heart disease, stroke, and susceptibility to infectious agents (Adler et al., 1994). Women, and people of low socio-economic status in general, have a higher cortisol awakening response, signifying higher stress levels (Kunz-Ebrecht et al., 2004). Stress also affects musculoskeletal disorders; those who perceived their work as stressful most of the time were almost twice as likely to report back pain or shoulder pain than those who consider their work as seldom stressful (Nahit et al., 2001). In the First Annual Health Survey: Women Talk, conducted by the National Women's Health Resource Center (2005), "reducing stress" and "having more time to take care of self" were the two top responses (both 38%) to the question of which steps would most help improve personal health; having more money followed closely behind (28%).

Existing Conditions – Maternal child health

Preterm birth is one of the most significant threats to maternal-child health in the United States, and stress has been consistently shown to increase the risk for preterm birth, especially among minorities (Wadhwa et al., 2001). Similarly, anxiety has also been linked to spontaneous preterm birth, even after adjusting for other traditional risk factors (Dole et al., 2003; Orr, Reiter, Blazer, & James, 2007). A report issued by the Joint Center for Political and Economic Studies (2007) describes a model constructed by Wadhwa et al. (2001) demonstrating how maternal stress and anxiety compromises immune, endocrine, and vascular functioning during pregnancy, resulting in preterm delivery. *Orr et al. (2007) found that women with the highest levels of anxiety during pregnancy faced almost three times the risk of preterm birth, compared to women with the lowest levels of anxiety.*

Studies have shown that the lifelong chronic stresses caused by racism and poverty accumulate and contribute to poor pregnancy outcomes. Holland, Kitman, & Veazie (2009) have shown that a variety of psychological stresses increase risk for decreased birth weight, including neighborhood safety (Jaffee & Perloff, 2003), stressful life events and living in a neighborhood rated ''unfavorable'' (Collins et al., 1998), living in a neighborhood with high crime and deprivation (Messer, Kaufman, Dole, Savitz, & Laraia, 2006), and general or pregnancy-related anxiety (Rini et al., 1999). Food insecurity, household crowding, unemployment, and poor coping skills have also been shown to increase the risk for low birth weight among low-income women (Borders, Grobman, Amsden, & Holl, 2007). In a study of low-income Black women, life event stress and pregnancy anxiety predicted infant birth weight and gestational age (Wesley, 2006). *Each unit of stress during the third trimester was related to a 55g decrease in birth weight, and each unit of anxiety was associated with a 3- day decrease in gestation.*

Existing Conditions – Mental health

Poverty, mediated through stress and social support, is one of the most consistent predictors of depression in women, especially mothers with young children (Belle & Doucet, 2003). Stress also directly impacts the likelihood of prenatal and postpartum depression. A greater number of stressful life events pre-pregnancy leads to increased rates of postpartum depression (Ritter, Hobfoll, Cameron, Lavin, & Hulsizer, 2000). One study of recent and current recipients of welfare found that more than one quarter of the mothers met diagnostic criteria for major depression (Siefert, Bowman, Heflin, Danziger, & Williams, 2000). Financial hardship almost doubles the risk for onset of depression among single mothers (Brown

& Moran, 1997). Depression is connected to poor health outcomes, especially coronary heart disease (Adler et al., 1994).

Income inequality measured at the state level is also strongly associated with women's risk of depression, especially among mothers (Kahn, Wise, Kennedy, & Kawachi 2000). *Women in states with the highest inequality in income experienced a 60% greater risk of depressive symptoms and an 80% greater risk of fair to poor health.*

Furthermore, people with wealth have lower rates of anxiety disorders than those without wealth (McEwen, 2000). Table 8, below, shows the relative risk, or probability, that a person will develop an affective disorder (e.g., depression; bipolar disorder) or an anxiety disorder (e.g., panic disorder; post-traumatic stress disorder) at different levels of income, compared to those making over $70,000 annually. Individuals in the lowest income group, ($19,000 annually or less), are 1.73 times more likely than individuals in the highest income group ($70,000 annually or more) to develop an affective disorder, and 2.12 times more likely to develop an anxiety disorder (McEwen, 2000).

Table 8: ***Relative Risk for Two Nervous System Disorders at Different Income Levels***

Annual Income	Affective Disorders	Anxiety Disorders
$0-19K	1.73	2.12
$20-34K	1.13	1.56
$35-69K	1.01	1.50
$70K>	1.00	1.00

Note: Adapted from "Allostasis and Allostatic Load: Implications for Neuropsychopharmacology," by B. McEwen, 2000, *Neuropsychopharmacology 22*, 108-24.

Existing Conditions – Parenting behaviors

An abundance of evidence supports links between poverty-related stress, parent psychological well-being and the provision of competent, nurturing parenting (Klebanov, Brooks-Gunn, & Duncan, 1994; Middlemiss, 2003; Watson, Kirby, Kelleher, & Bradley, 1996). Models of poverty risk suggest that economic hardship takes a toll on children via its impact on parent mood (Brown & Lynn, 2010). Studies reveal that on days with higher levels of poverty-related stress, parents reported a more negative mood. A report on the Women's Employment Study conducted at the University of Michigan (2004) revealed that moving from welfare-reliance to combining welfare and work is associated with a decrease in harsh parenting and an increase in positive parenting. In public polling of parents in the US, a significant portion of parents feel that it is difficult to spend time with family because of the time they spend on their job. Seventy-four percent of mothers feel that finding a work/family balance is difficult (Greenberg Research, 2010).

Potential health impacts of Pay Equity legislation on stress, and on health related stress outcomes

As evidenced in the General Income discussion, equality in pay would result in significantly higher wages for women. Earning higher wages would begin to move women up the SES scale, thereby reducing the inherent effects of chronic stress, the higher likelihood for depression, and increased rates of affective and/or anxiety disorders. Since these conditions are clearly linked to preterm birth/low birth weight, coronary heart disease, and a range of other illnesses discussed above, this reduction would result in improved maternal and child health outcomes. Research by McEwen (2000) shown in Table 8, above,

indicates that an increase in annual earnings from the lowest income bracket (< $20K annually) to the second lowest income bracket (between $20K and $34K) reduces the probability of developing an affective disorder or anxiety disorder by 60% and 56%, respectively.

Health Care

THE UNINSURED

In the following sections we look at the existing conditions for all people, and specifically the poor and working poor, regarding lack of insurance, the cost of health insurance, and the impacts of not having insurance on Emergency Department use and on health outcomes. Then we specifically look at women, and older women, and lack of insurance. Finally we make a prediction about how gender pay equity would impact women's access to health insurance, and resulting health outcomes.

According to the Kaiser Family Foundation (2007), the Institute of Medicine reports that about 18,000 people die unnecessarily each year because they are uninsured. Other estimates of unnecessary deaths due to lack of insurance are as high as 44,500 (Bernstein, Chollet, & Peterson, 2010).

Existing Conditions-Uninsured status in the general population and among ethnic minorities

The same populations that we have shown, in the General Income chapter of this HIA, to be disproportionately burdened by pay inequity are also those who more commonly do not have health insurance. While women are insured at higher rates than men, this is due to the large number of public programs that provide insurance or assistance with insurance to pregnant women and women with children who are living in poverty. An increasing number of persons in the United States, including those at middle-income levels, have had periods with no health insurance coverage in recent years, which is associated with increased levels of forgone preventive health care (Morbidity and Mortality Weekly Report, 2010). Since preventive health care is less costly than emergency care, people who wait until they have more serious health conditions before seeking care drive up health care costs for themselves and the health system and experience more detrimental health outcomes. People who become burdened by large medical bills are often forced into other difficult financial situations. According to a 2008 report by The Commonwealth Fund, 40% of uninsured adults with large medical bills said they weren't able to pay for food, heat, or rent because of these bills, and nearly 50% had used their entire savings towards paying the bills (Collins, Kriss, Doty, & Rustgi, 2008).

We have seen from Table 1 in the General Income chapter that almost 16% of Michigan women live in poverty, and the rates of living in poverty are worse for African American and Hispanic women, and particularly for single mothers, of whom almost 43% live in poverty. The poor and working poor are disproportionately uninsured. Additionally, people at or near the poverty level have the most adverse health outcomes, and limited access to health insurance and other resources only worsens the situation (Braveman, Cubbin, Egerter, Williams, Pamuk, 2010). The majority of the uninsured are in working households, and thus a policy of gender pay equity that increases household income would positively impact them. Michigan's poor and working poor (below 200% of the poverty level) make up 25 percent of the non-elderly adult population but 53% of the uninsured population. Of the uninsured population, over half (52.6%) are families headed by full-time/full-year workers or part-time workers that work the entire year (Michigan Department of Community Health (MDCH), 2010). Low-income workers in the United States frequently encounter employment-related barriers to accessing primary health care services. Lack of health insurance coverage is the most frequently cited of these barriers (Weinich, Zuvekas, & Drilea, 1997).

Non-White minorities are also more likely to be uninsured. Compared to White residents, Michigan's Hispanic residents are more than twice as likely, and Black residents are nearly one and a half times more likely, to lack health insurance. The racial breakdown shows persons of Hispanic origin to be the most at risk of being uninsured (35.6%). Black non-Hispanics closely follow with a rate of 23.1% uninsured. These two race and ethnic groups are twice as likely to be enrolled in a public health insurance program as Whites (MDCH, 2010). To aid in understanding the income levels that correspond to the Federal Poverty Level (FPL, we have provided that information in Figure 1, below.

Table 9: ***Uninsured by Race, Gender, and Federal Poverty Level***

	Michigan		**United States**	
Percent of Uninsured Age 18-64 **(From 2009 ACS)**	Women	15.0%	Women	18.1%
	Men	20.2%	Men	23.1%
	White	16.2%	White	18.1%
	Black	23.1%	Black	25.2%
	Hispanic/Latino	35.6%	Hispanic/Latino	42.5%
	Above 200% FPL	10.7%	Above 200% FPL	12.9%
	Below 200% FPL	32.7%	Below 200% FPL	39.6%
	Between 100-200 % FPL	32.2%	Between 100-200 % FPL	38.5%
	Below 100% FPL	33.2%	Below 100% FPL	40.9%

Additionally, Table 10, below, shows the percent of people living below 100% federal poverty level who are on Medicaid, as well as the gender difference for receiving Medicaid assistance. There are a variety of qualifying factors used in determining Medicaid eligibility. In Michigan, the income eligibility for most groups is an annual income of less than 185% FPL, but income is not the only eligibility criteria. A higher percentage of women receive Medicaid because they are more likely to live in poverty, and they also have increased eligibility when they become pregnant or have children.

Table 10: ***Percent of People Below 100% FPL Receiving Medicaid, with Gender Breakdown***

	Michigan		**United States**	
Percent on Medicaid Age 18-64 (From 2009 ACS)	All Women	15.0%	All Women	11.7%
	All Men	10.4%	All Men	7.8%
	Below 100% FPL	42.1%	Below 100% FPL	32.6%

Figure 1: ***2011 Federal Poverty Guidelines for the 48 Contiguous States and the District of Columbia***

	% Gross Yearly Income									
Family Size	25%	50%	75%	81%	100%	133%	175%	200%	250%	300%
1	$2,723	$5,445	$8,168	$8,821	$10,890	$14,484	$19,058	$21,780	$27,225	$32,670
2	$3,678	$7,355	$11,033	$11,915	$14,710	$19,564	$25,743	$29,420	$36,775	$44,130
3	$4,633	$9,265	$13,898	$15,009	$18,530	$24,645	$32,428	$37,060	$46,325	$55,590
4	$5,588	$11,175	$16,763	$18,104	$22,350	$29,726	$39,113	$44,700	$55,875	$67,050
5	$6,543	$13,085	$19,628	$21,198	$26,170	$34,806	$45,798	$52,340	$65,425	$78,510
6	$7,498	$14,995	$22,493	$24,292	$29,990	$39,887	$52,483	$59,980	$74,975	$89,970
7	$8,453	$16,905	$25,358	$27,386	$33,810	$44,967	$59,168	$67,620	$84,525	$101,430
8	$9,408	$18,815	$28,223	$30,480	$37,630	$50,048	$65,853	$75,260	$94,075	$112,890

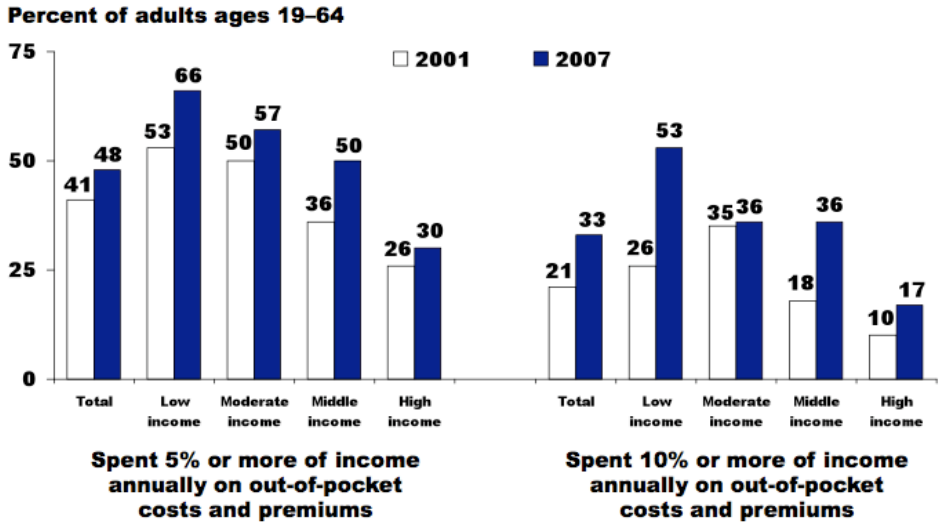
Figure 1: Adapted from "2011 Federal Poverty Level Guidelines," by the Foundation for Health Coverage Education, 2011.

Emergency Departments (EDs) have assumed many of the responsibilities of primary care facilities as entry points into the US healthcare system for people with low income and the uninsured. This creates an undue financial burden on the healthcare system, since the costs associated with ED use are often much higher than regular doctor visits. In a study of low income uninsured patients' use of EDs, not being able to afford an office visit, unpaid bills from previous visits, and access issues were the main reasons for delaying doctor visits until symptoms were more severe (Hall, 2005). The uninsured and publicly insured make up 60% of all ED use nationwide (Agency for Healthcare Research and Quality, 2008). Women are also more likely than men to use the ED. Nationwide, women made up 55% of all ED visits (AHRQ, 2008).

For the uninsured to purchase health insurance individually (rather than receiving health insurance from an employer), the cost is often prohibitive. The cost for a middle-income family to purchase individual coverage is 22%-50% of their net annual household income, on average. In 2009, the U.S. average annual premium price for individually purchased insurance was $2,985 for single coverage (or about $249/month) and $6,328 for family coverage (about $527/month) (America's Health Insurance Plans, 2009).

According to the Employer Health Benefits Survey, in 2008, workers who did receive coverage through an employer spent, on average, $721 annually for directly-purchased single coverage and $3,354 for family coverage. This is double the amount that it cost in 1999 (Claxton et al., 2008). Even when insurance is provided through an employer, low-income earners are disproportionately burdened by out-of-pocket costs for premiums and co-pays. The figure below, from a report by The Commonwealth Fund (2008), shows this disproportionate burden of out-of-pocket insurance costs for low-income earners. Over three times as many low-income earners spend 10% or more of their income on out-of-pocket insurance costs, compared to high income earners. This disparity provides additional insight into the reasons why low-income earners may find it difficult to retain health insurance coverage.

Figure 2: ***Out-of-Pocket Expenses Higher Among Low-Income Earners***



Note: Income refers to annual income. In 2001 low income is <$20,000, moderate income is $20,000–$34,999, middle income is $35,000–$59,999, and high income is $60,000 or more. In 2007, low income is <$20,000, moderate income is $20,000–$39,999, middle income is $40,000–$59,999, and high income is $60,000 or more.
Source: The Commonwealth Fund Biennial Health Insurance Surveys (2001 and 2007).

Figure 2: Adapted from "Losing Ground: How the Loss of Adequate Health Insurance is Burdening Working Families," by Collins et al, 2008, *The Commonwealth Fund*. Available at www.commonwealthfund.org

Existing Conditions - Women

Table 9, above, shows that over 18% of women in the US, and 15% of women in Michigan, are uninsured. Single mothers make up nearly 43 percent of all families in poverty in the U.S. (ACS, 2009), and from Table 9 it is clear that people living in poverty are uninsured at more than three times the rate of people living above poverty. In Michigan, single mothers are uninsured at nearly twice the rate as mothers who are married (MDCH, 2010).

According to a report by the UCLA Center for Health Policy Research, race and income levels are key factors in determining whether women are healthy and whether they have health insurance (Wyn, Hastert, & Peckham, 2008). Wyn et al. (2008) found that women living below the poverty line and women of color were four times more likely to be uninsured and three times more likely to report fair or poor health than women with higher incomes and White women. Hispanic women were the most likely of all racial groups to be uninsured.

Women are especially hard hit by problems related to being uninsured. Data from the 2007 California Health Interview Survey revealed that women in California were the least likely to have employer-provided coverage (24%), compared to other forms of insurance such as public coverage, directly purchased, or lack health coverage for several reasons, and point-in-time coverage estimates do not adequately represent the problems faced by low-income working women (Anderson & Eamon, 2005). Since women make up 58.8% of low-wage workers, they are disproportionately affected (Dale, 2006). Low-income workers are less likely than people with higher incomes to be offered coverage by their employer (Suttner, 1999), and often experience employment instability (Anderson, Halter, Jules, & Scheldt, 2000; Eden & Lien, 1997). Just 38% of women are provided insurance by their employer, versus 50% of men (Kaiser Family Foundation, 2007). Frequent job interruptions faced by many women also affect the consistency of available coverage (Currie Yelowitz, 2000; Hale, 1997; National Center for

Health Statistics, 1997). Finally, even when employer-based coverage is available, the premiums and co-pays are often unaffordable for the low-income earner, as cited above (Hoffman & Scholbohm, 2000).

Potential Impacts of Pay Equity Legislation on Access to Health Insurance

Pay Equity legislation does not address access to benefits such as health care and retirement. However, if pay equity were enacted, a greater number of women would be able to afford health insurance for themselves and their children. **Thus, the number of uninsured women and families will decrease.**

Using the data from Table 3, of the General Income chapter, we see that in the ten random professions selected, four of the professions (lawyers, retail salespeople, retail sales supervisors, and janitors and building cleaners) would be able to afford the average annual cost for individual coverage of $2,985 if they chose to put that much of their increased earnings toward purchasing health insurance. Elementary and middle school teachers would almost be able to pay for health insurance. Only women who are lawyers, retail salespersons, and supervisors of retail salespersons would increase their income enough to be able to purchase family coverage ($6,328 on average annually) with their additional income.

If pay equity were implemented, eight of the ten of the professions examined – if they had health insurance through their work - would be able to afford the average annual cost of premiums and co-pays estimated, or $721/year for single coverage. Only four professions would be able to afford the average costs of premiums and co-pays for a family ($3,354/year): women who are lawyers, retail salespersons, supervisors of retail salespersons, and janitors/building cleaners.

Table 11: ***Prediction of Increased Health Insurance Coverage for Select Occupations***

Occupation	Annual increase	Could purchase single coverage	Could purchase family coverage	Could cover premiums & co-pay: single coverage	Could cover premiums & co-pay: family coverage
Nursing, psychiatric, and home health aides	$2,236			X	
Lawyers	$19,032	X	X	X	X
Elementary & Middle School Teachers	$2,912			X	
Secondary School Teachers	$1,872			X	
Special Education Teachers	-$156				
Retail Salespersons	$10,764	X	X	X	X
Supervisors/Managers of Retail Sales Workers	$9,152	X	X	X	X
Waiters and Waitresses	$2,756			X	
Janitors & Building Cleaners	$3952	X		X	X
Receptionists & Information Clerks	-$104				

Because families have health insurance, use of preventive services will increase, emergency department use will decrease, and health outcomes will improve.

Insurance coverage is linked to better health outcomes. According to an issue brief by Mathematica Policy Research, Inc., being uninsured leads to lower immunization rates among children, a 70% reduction in the likelihood of a child receiving preventive or emergency care, a greater risk of dying if hospitalized, a greater risk of death following auto accidents, higher rates of stroke among at-risk adults, higher unmet need for mental health services, lower likelihood that children will receive care for diabetes or asthma, a greater likelihood that adults will miss work, and more days of missed school for children (Bernstein, Chollet, & Peterson, 2010).

Additionally, increasing access to health insurance coverage can lead to reduced rates of emergency department use, which costs two to five times as much as preventive primary care (New England Healthcare Institute, 2008). In an analysis of insurance and emergency department use in Massachusetts, obtaining insurance coverage resulted in a 2% to 8% reduction in emergency department usage (Miller, 2011).

Conclusion

Our findings strongly suggest that improving women's income through legislation requiring pay equity would generally have a strong positive impact on the health of women and their families. Given the evidence of larger inequities in income and pay for women of color, lower-income women, and mothers, our predictions are that equal pay would have a disproportionately positive impact for those populations, and thus move toward reducing the disparities that exist in the health outcomes identified below, particularly in infant mortality and other maternal and child health outcomes.

Pathway	**Health Impact (+/ -)**	**Health Outcomes Impacted**	**Magnitude of Impact (* small; *** large)**	**Quality of Evidence (1 – 5; 5 being very strong)**
General Income	+	Premature mortality, cardiovascular disease, high blood pressure, premature birth	***	5
Stress	+	Depression, anxiety, affective disorders, anxiety disorders, immune response, gastrointestinal disorders, preterm birth, low birth weight,	***	4
Health Care Access	+	Hospitalization outcomes, stroke, injury-related deaths, immunization rates, diabetes, asthma	***	5
Nutrition	Still to be assessed			
Housing	Still to be assessed			
Self-perceptions	Still to be assessed			
Social perceptions	Still to be assessed			
Retirement Benefits	Still to be assessed			

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