

# Valuing Quality Care

---

## Potential Cost/Benefit of Increasing Direct Care Workers' Wage Rates

Prepared by Great Lakes Economic Consulting  
for the Michigan Direct Care Worker Wage Coalition

September 15, 2021





Steffan Ley and his Direct Care Worker, Seyni



# Introduction

---

The Michigan Direct Care Worker Wage Coalition retained Great Lakes Economic Consulting (GLEC) to prepare an analysis of the potential economic cost/benefit of a permanent increase in wages for Direct Care Workers (DCWs) in Michigan. This study includes the estimated direct cost of a DCW wage increase, and compares current wage rates to what a living wage would be.

The study also estimates savings associated with reduced spending on government safety-net and income-support programs for low-wage workers, as well as the potential impact of reduced employee turnover. In addition, higher wages for DCWs will stimulate the economy and increase state and local government tax collections.

# Direct Care Costs

The average hourly wage for all occupations in Michigan is \$25.67.<sup>1</sup> The hourly average wage for DCWs in the behavioral health system is \$12.73.<sup>2</sup>

The living wage, which is the hourly rate a full-time worker must earn to support a family, for two adults (one working) with two children is \$29.66. The living wage for two adults (both working) with two children is \$22.71. The wage for DCWs even falls short of the living wage for one adult with no children, which is \$13.63. (See Exhibit 1).

**The need for a pay increase for these workers is obvious.**

Exhibit 1

## Michigan Living Wage, 2020-21

	1 Adult			2 Adults, one working			2 Adults, both working		
Children:	0	1	2	0	1	2	0	1	2
Hourly Wage	\$13.63	\$31.15	\$41.65	\$22.20	\$26.03	\$29.66	\$11.10	\$16.96	\$22.21

Source: Department of Urban Studies, Massachusetts Institute of Technology

There are an estimated 50,000 DCWs in Michigan’s behavioral health system, with 74% working full time and 26% working part-time (1,250 hours annually).

The cost of a \$1 an hour pay increase would be \$93 million. A \$5 wage increase would cost \$465 million. As discussed below, increased wages generate increased economic activity and other benefits such as reduced turnover and public assistance, that reduce the overall cost.

# Economic Impact of Raising DCW Wages

---



The potential positive economic impact of raising wages for Direct Care Workers (DCWs) is essentially the same as the positive economic impact of increasing the minimum wage.

The Economic Policy Institute (EPI) examined the use of public assistance among low-wage workers and their families. It concluded that higher hourly wages for low- and middle-wage workers, which are achievable through a variety of labor-market policies, would unambiguously generate savings in government safety-net and income-support programs.

---

**Such savings could be used to strengthen and expand anti-poverty programs or make critical public investments to boost productivity and grow the economy.**

---

Key EPI findings included:

- Among families or individuals receiving public assistance, the majority (66.6%) work or are in working families (families in which at least one adult in the household works).
- The number of families or individuals receiving public assistance increases to 71.6% when focusing on non-elderly recipient families and individuals (those under age 65).
- About 69.2% of all public assistance benefits received by non-elderly families or individuals go to those who work.

# Higher Wages to Low-Wage-Workers' Wallets Will Stimulate the Economy

---

Various studies have shown that phasing in a minimum wage increase between 2021 and 2025 would boost consumer spending and economic growth as the country recovers from the public health and economic crises.

Different methodological approaches predict varying aggregate effects of minimum wage increases – however, calculations uniformly point toward wage increases begetting stimulus, especially wage increases for low-wage workers:

- Research by the Federal Reserve of Chicago<sup>3</sup> that low-wage worker households spent an additional \$2,800 in the year after a \$1-per-hour increase to the minimum wage.
- The Economic Policy Institute<sup>4</sup> found that increasing the minimum wage to \$15 by 2025 would generate \$107 billion in higher wages. An earlier analysis found an increase from \$7.25 to \$9.80 per hour

---

**A \$1 wage increase would generate an estimated \$4.8 million in additional state income tax revenue, a \$5 increase, \$24 million.**

---

between 2012 and 2014 would have generated “approximately 100,000 new jobs.”<sup>5</sup>

- Analysis by The Institute for Policy Studies estimated that for every extra dollar going into the wallet of a low-wage worker, about \$1.21 is added to the overall economy.<sup>6</sup>

The population of DCWs in Michigan is smaller so the state impact would be smaller, but we can expect similar types of affects from increased wages for DCWs.

The Economic and Tax Impact of Wage Increase

Based on the estimates for the number of DCWs cited above, the total number of hours worked is an estimated 93 million. A \$1 wage increase would increase

personal income by \$93 million and a \$5 wage increase would increase personal income by \$465 million. Almost all this increase would be spent by low-wage workers. This spending would create additional economic activity—the multiplier effect. The Economic Policy Institute estimates a multiplier of 1.2. This would produce an increase in personal income of about \$112 million for a \$1 wage increase., and \$560 million for a \$5 wage increase.

Increased personal income would result in increased tax collections. The most direct impact would be on FICA taxes (Social Security and Medicare). The tax rate is 15.3%. A \$1 wage increase would increase tax collections by \$17 million, a \$5 increase



Mary Wheeler relies on the support of Direct Care Workers every day

by \$85 million. The impact on Federal income taxes would likely be very small, even assuming a \$5 an hour increase. The standard deduction for a married couple is \$25,100, which would shield most income earned by these workers from taxation. Any taxable income generated would be taxed at a rate of 10%.

There would also be an increase in state taxes, principally income and sales taxes. The state income tax rate is 4.25%. The personal

exemption is \$4,900, and therefore most of the wage increase would be taxable. A \$1 wage increase would generate an estimated \$4.8 million in additional revenue, a \$5 increase, \$24 million.

There would also be an increase in sales tax revenue. The Michigan sales tax rate is 6%. However, many items such as food and services are not taxed.

Total sales tax collections are 2% of personal income. Assuming that all the wage

increase is spent, a rough estimate is that sales tax collections would increase \$2.2 million for each \$1 an hour wage increase. Increases in other taxes such as gasoline and tobacco would be minor.

There are 24 Michigan cities that levy an income tax, generally at rate of 1%. A wage increase would generate a small amount of additional income, principally in Detroit, where the tax rate is 2.4% for residents.



# Reducing High Turnover Costs

The high rate of turnover among frontline workers in behavioral health and long-term care is a serious workforce problem.

Concern about high turnover rates has led to numerous initiatives to improve recruitment and retention of this critical workforce.

Turnover among frontline workers is a critical cost driver for the behavioral health and long-term care systems, affecting the fiscal health of providers, the quality of care that individuals receive, and the efficiency of resource allocation within the public payer system.<sup>7</sup>

- According to data from the U.S. Bureau of Labor Statistics, the quit rate (the annual quit rate is the number of quits during the entire year as a % of annual average employment) for all business sectors was 25.5% in 2020. Rates ranged from 51.9% for Accommodations and Food Service and 37.8% for Retail Trade to 11.1% for Government and 15% for Financial Services. The average



Mid-Michigan DCWs come together to celebrate one of the people they support

hourly salary was \$15.80 for Accommodations and Food Services, \$21.01 for Retail Trade, and \$37.49 for Financial Activities. Data was not available for Government. There are a number of factors that influence turnover, but clearly low wage levels are a major factor.

- DCWs largely fall into the category of Residential Mental Health Facilities and a sub-category of Residential Intellectual and Developmental Disability Facilities, which are low wage sectors. The BLS does not have quit rates for these sectors. However, a 2021 survey of member organizations conducted by the Michigan Assisted Living Association and

Incompass Michigan found an estimated turnover rate of 40.1%

- The Center for American Progress examined 30 case studies taken from the 11 most-relevant research papers on the costs of employee turnover and concluded that it costs businesses about one-fifth of a worker's salary to replace that worker.
- It is costly to replace workers because of the productivity losses when someone leaves a job, the costs of hiring and training a new employee, and the slower productivity until the new employee gets up to speed in their



new job. The analysis reviewed case studies and research papers published between 1992 and 2007 that provide estimates of the cost of turnover, finding that businesses spend about one-fifth of an employee's annual salary to replace that worker. The study estimates that the cost of replacing workers earning \$30,000 or less is 16.1% of payroll.<sup>8</sup> (See Appendix A for a detailed list of turnover costs).

- If we assume the turnover rate for direct care workers is 40%, the cost of replacing DCWs is 16.1% of payroll, and that the average hourly wage is \$12.50, the annual cost of replacing a worker would be \$3,750. The total cost of turnover based upon an estimated 50,000 workers, if full time workers (74%) work 2080 hours a year and part time workers (24%) work 1,250 hours, would be \$75 million a year.
- A search of the literature found no studies that estimated the change in the turnover rate as wages increase. We ran a simple regression

---

## **Turnover among frontline workers is a critical cost driver for the behavioral health and long-term care systems, affecting the fiscal health of providers, the quality of care that individuals receive, and the efficiency of resource allocation within the public payer system.**

---

analysis with the turnover rate (2020 data) as the dependent variable and the hourly wage rate (2020 data) as the independent variable.

The results were statistically significant, but the standard error was relatively large as data for only 14 observations was available. The analysis estimated that a \$1 dollar increase in the wage rate would reduce the turnover rate by 1%. However, as explained in Appendix B, the relationship between wages and the turnover rate appears to be nonlinear. This

was verified by running separate regressions for low-wage-sectors, and for higher wage sectors. The results were statistically significant for the low-wage sectors but not for the higher wage sectors. The low-wage sector equation estimated that a \$1 increase in the hourly wage rate would reduce the turnover rate by 2.87 percentage points (See Appendix B for more detail). This reduction would save an estimated \$5 million annually for each \$1 increase in the wage rate.

# Public Assistance Cost Savings

Recent work by the Economic Policy Institute (EPI) examined the utilization of public assistance among low-wage workers and their families. It concluded that higher hourly wages for low- and middle-wage workers, which are achievable through a variety of labor-market policies, would unambiguously generate savings in government safety-net and income-support programs.<sup>9</sup>

Key EPI findings included:

- Among families or individuals receiving public assistance, the majority (66.6%) work or are in working families (families in which at least one adult in the household works).
  - The number of families or individuals receiving public assistance increases to 71.6% when focusing on non-elderly recipient families and individuals (those under age 65).
  - About 69.2% of all public assistance benefits received by non-elderly families or individuals go to those who work.
- Nearly half (46.9%) of all working recipients of public assistance work full time (at least 1,990 hours per year).
  - Working recipients of public assistance are concentrated at the bottom of the wage scale and in low-paying industries.
  - Roughly 60% of all workers in the bottom decile of wage earners (those paid less than \$7.42 per hour) receive some form of government-provided assistance, either directly or through a family member.
- Similarly, over half (52.6%) of workers in the second decile of wage earners (those paid between \$7.42 and \$9.91 per hour) receive public assistance.
  - Raising wages for low-wage workers (defined as those in the bottom three wage deciles, who earn up to \$12.16 per hour) would unambiguously reduce net spending on public assistance, particularly among workers likely to be affected by a federal minimum-wage increase.
  - Among workers in the bottom three wage deciles, every \$1



Michael Hitchcock and his Direct Care Worker, Erin



Michael White and his Direct Care Worker, Rico

increase in hourly wages reduces the likelihood of receiving means-tested public assistance by 3.1% points. This means that the number of workers receiving public assistance could be reduced by 1 million people with a wage increase of just \$1.17 an hour, on average, among the lowest-paid 30% of workers.

- The EPI study found that 36.5% of workers earning

from \$12.16 an hour to \$14.72 an hour received public assistance, averaging \$3,500 a year. The data by wage rate is not available for Michigan but should not be significantly different as 28.1% of Michigan workers receive public assistance compared with 29.3% of all U.S. workers. A detailed statistical analysis by EPI estimated that in the above wage category a \$1 dollar wage increase

reduced participation by 1.78% and total benefits by \$175 a year. Based on the estimate of 50,000 DCWs in Michigan, 18,250 of Michigan DCWs receive public assistance. A \$1 an hour wage increase would reduce public assistance by \$3.2 million (18,250x\$175), and a \$5 increase would save \$16 million.



# Summary of Benefits and Costs

## Measurable Costs and Benefits

Measurable costs and benefits of a wage increase are summarized in Exhibit 2. The total measurable benefits are \$52.6 million for a \$1 an hour wage increase and are \$261 million for a \$5 wage increase.

These benefits amount to 56% of the cost of the wage increase. Benefits include additional tax collections, lower public assistance costs and reduced turnover costs, as well as the multiplier effect on

economic growth generated by increased spending. Costs of a \$1 increase in wages are estimated to be \$93 million. Costs of a \$5 increase are estimated to be \$465 million.

## Other Benefits

In addition, there will be benefits from increased productivity and better care for those receiving care. There will also be the societal benefits of improving the living standards of these workers, many of whom are minorities and women, and will contribute, in a

small way, to reducing income inequality. It is not possible to place a dollar value on these benefits, but they are significant and important. Low wages also lead to a shortage of DCWs which has other economic consequences.

There are numerous accounts of parents of children with severe developmental disabilities who cannot find or lose caregivers when an agency who provided Direct Care Workers to support them, informs them they are no longer able to do so due to a shortage of qualified staff.

Exhibit 2

### Costs and Benefits of Wage Increase for DCWs

	\$1 an Hour Wage Increase	\$5 an Hour Wage Increase
<b>Costs</b>		
Wage Increase	\$93 million	\$465 Million
<b>Benefits</b>		
Reduced Turnover	\$5.4 million	\$27 million
Reduced Public Assistance	\$3.2 million	\$16 million
Increased Tax Revenue		
Federal	\$17 million	\$85 million
State	\$7 million	\$35 Million
Increased Economic Activity	\$20 million	\$98 million
<b>Total Benefits</b>	<b>\$52.6 million</b>	<b>\$261 million</b>



Jennifer and her Direct Care Workers, Sarah and Aliasha

Often, one parent must leave a job to stay home and provide full-time care to the child.

Recent survey data from The Center for American Progress (CAP) demonstrate that child care struggles can affect the careers of parents with children with disabilities. They note that many parents of young

children report leaving their job, not taking a job, or making significant changes to their job due to problems with child care. CAP estimates that more than 2 million parents of young children—nearly 1 in 10—make at least one of these career-sacrifices each year. This number rises to nearly 1 in 5, or 18 percent, for parents of children with

disabilities – a population served by, and dependent upon DCWs. In addition to one parent leaving the workforce, approximately one-third of interviewees noted that their partners scaled back or changed their work hours.<sup>10</sup>

Data needed to estimate the economic consequences of this issue are not easily available – but all indications are the problem is significant.

# Appendix A: Turnover Cost Detail

## Frontline Turnover Cost Accounting

### Provider Enterprise Costs<sup>11</sup>

#### Direct Costs:

- Separation (exit interviews and administrative processing, experience-rate increases in unemployment insurance, legal fees)
- Vacancy (additional overtime, use of temporary hires)
- Replacement (advertising, screening applicants, interviewing, selecting candidates, physical exams, TB tests, Hepatitis B vaccinations, background verification, employment testing and certification, hiring bonuses)
- Training & orientation (formal classroom training and on-the-job training)
- Increased worker injuries (lost days, experience-rate increases in Workers' Compensation)

#### Indirect Costs:

- Lost productivity until replacement trained (inefficiencies attributable to departing employee, temporary staff (or vacancy), and new employee)
- Reduced service quality (penalties, fines, and lower quality measure ratings from regulatory & monitoring agencies, malpractice claims)
- Lost service revenues and/or reimbursement
- Lost ability to serve persons in need (existing & potential) to other agencies due to deterioration in agency image, etc.
- Deterioration in organizational culture and employee morale adversely impacting reputation, service quality, and further increasing turnover

#### Costs at Service Delivery Level

- Persons served

- Reduction in quality of care and quality of life
- Care hours not provided
- Increased worker injuries
- Increased physical and emotional stress
- Deterioration in working conditions leading to increased likelihood to quit

#### Third-Party Payer Costs

- Underfunding of care services due to financial drain of turnover
- Increased downstream medical costs for Medicaid and Medicare due to illnesses and injuries attributable to reduced service quality
- Higher levels of institutionalization of individuals who receive supports due to insufficient community-based staffing & quality of care



# Appendix B: Regression Analysis Detail

---

Regression analysis is a statistical process for estimating a variable, known as the dependent variable, using other variables known as independent variables. In this case, we are using average hourly earnings to estimate the turnover rate.

As shown in Exhibit 3, the key variables are  $r$  squared, the  $t$ -value and the regression coefficients. The  $r$  squared measures the variance in the dependent variable explained by the independent variables. In this case the  $r$  squared for the regression using all business sectors is .610, which indicates a moderate predictive value for the independent variable.

The  $t$ -value measures whether the independent variable is statistically significant. Generally, any

$t$ -value greater than 2 indicates the variable is statistically significant. In this case the  $t$ -value is -4.3. The negative value indicates that the hourly wage and turnover rate are negatively correlated. A coefficient describes the relationship between the dependent variable and each independent variable. In this case, the coefficient for the dependent variable, hours worked is -.969. This means that for each \$1 increase in the hourly wage the turnover rate declines by about 1%.

However, it appears that the relationship between hourly earnings and the turnover rate is nonlinear. That is, the turnover rate declines faster due to a wage increase for low-wage workers than an increase for higher wage workers.

We ran separate regressions for low-wage sector and high wage sectors. The results for the high wage sectors, wage above \$26 an hour, was not statistically significant. The results for low-wage sectors, \$16-\$26, were statistically significant.

The  $R$  square was .939, indicating a high predictive value. The  $t$ -statistic for the independent variable (hourly wage) was -8.83, indicating the variable is statistically significant to a high degree. The coefficient for the independent variable is -2.87. This means that for each \$1 increase in the hourly wage the turnover rate declines by 2.87 percentage points. See Exhibit 3 for the statistics for the three regressions.

## Valuing Quality Care

### Regression 1- All Business Sectors

---

#### Regression Statistics

Multiple R	0.781664
R Square	0.610998
Adjusted R Square	0.578581
Standard Error	6.569695
Observations	14

#### ANOVA

---

	<i>Df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	813.5042	813.5042	18.84818	0.000959
Residual	12	517.9308	43.1609		
Total	13	1331.435			

---

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>
Intercept	53.19046	6.893445	7.716092
	-0.96958	0.22333	-4.34145

### Regression 2- Low Wage Business Sectors

---

#### Regression Statistics

Multiple R	0.969409067
R Square	0.939753939
Adjusted R Square	0.927704727
Standard Error	2.972801082
Observations	7

#### ANOVA

---

	<i>Df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	689.2665543	689.2666	77.99298	0.00030923
Residual	5	44.18773137	8.837546		
Total	6	733.4542857			

---

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>
Intercept	97.51703195	7.656859225	12.73591
	-2.871101445	0.325102856	-8.83136

**Regression 3- High Wage Business Sectors***Regression Statistics*

Multiple R	0.356554385
R Square	0.12713103
Adjusted R Square	-0.091086213
Standard Error	2.428889284
Observations	6

## ANOVA

	<i>Df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	3.436987383	3.436987	0.582589	0.487832985
Residual	4	23.59801262	5.899503		
Total	5	27.035			

  

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>
Intercept	23.99402059	7.850393931	3.05641
30.22	-0.158803649	0.208055513	-0.76328

## Endnotes

- 1 2020 BLS Data
- 2 (Michigan Assisted Living Association and Incompass Michigan survey, August 2021)
- 3 The Spending and Debt Response to Minimum Wage Hikes; Daniel Aaronson, Sumit Agarwal, and Eric French, February 8, 2011
- 4 Why the U.S needs. a \$15 minimum wage. How the Raise the Wage Act would benefit U.S. workers and their families. January 26, 2021
- 5 How raising the federal minimum wage would help working families and give the economy a boost. David Cooper and Doug Hall. August 14, 2012
- 6 Wall Street Bonuses and the Minimum Wage: The New York financial industry's bonus pool exceeded the annual earnings of the more than 1 million Americans who work full-time at the federal minimum wage. Sarah Anderson, March 12, 2014
- 7 The Cost of Frontline Turnover in Long-Term Care, Better Jobs Better care, October 2004
- 8 There Are Significant Business costs to Replacing Employees, Heather Boushey and Sarah Jane Glynn, November 16 ,2012.
- 9 Balancing paychecks and public assistance; How higher wages would strengthen what government can do. David Cooper, February 3, 2016
- 10 The Child Care Crisis Disproportionately Affects Children With Disabilities  
By Cristina Novoa January 29, 2020,
- 11 The Cost of Frontline Turnover in Long-Term Care, Dorie Seavey, October 2004





This study was authored by Great Lakes Economic Consulting, which consists of Mitch Bean, former Director of Michigan House Fiscal Agency, and Robert Kleine, former State Treasurer of the state of Michigan.

It was commissioned by the members of Michigan's Direct Care Worker Wage Coalition. These members include:

