



## **Impact of the Medicaid Work Incentive (MWI) program on earnings, health care expenditures, and utilization of public assistance for individuals with disabilities**

### **Report**

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# **Impact of the Medicaid Work Incentive (MWI) program on earnings, health care expenditures, and utilization of public assistance for individuals with disabilities**

## **Executive Summary**

The Utah Medicaid Work Incentive (MWI) Program began in 2001 as a way to encourage low income people with disabilities to work without fear of losing needed health care services. The program allows people with disabilities to earn above the poverty level to have access to Medicaid as long as their income remains low. Individuals are charged a premium based on a sliding scale for incomes between 100% and 250% of federal poverty level. Over that 250% limit, individuals are not eligible for MWI. By paying a premium, MWI participants share the responsibility for the cost of their medical care.

The purpose of this study was to assess the impact of MWI policy on recipients' earnings, Medicaid expenditures, and use of other public benefits. Individuals were selected to form the treatment group if they were eligible for MWI in any quarter from July 2006 through December 2009. This group consisted of 3,232 individuals. A comparison group was selected of similar individuals with disabilities who received Medicaid but were never on MWI. Administrative data were obtained from two sources: the Utah Medicaid Agency and the Utah Department of Workforce Services (DWS). The analysis used two different types of regression models.

The analysis showed that those receiving MWI were slightly younger than those who did not and a slightly higher percentage of those receiving MWI were male compared to those who did not. The 2,620 individuals who received MWI at any point had a mean of 3.4 quarters of being on MWI and a mean of 8.3 quarters when they were not on MWI.

In regard to labor market participation, the analysis showed that for MWI recipients approximately 75% of all person-quarters showed earnings while for the comparison group only about 15% of all person-quarters showed earnings. Among recipients with earnings, the MWI group showed significantly higher earnings than for other Medicaid recipients with disabilities – 62% more using employer reported earnings, and 34% more using self-reported wages.

In regard to health care expenditures, the odds of having any health care expenditure was 19.7% lower for the MWI group. Among those who did have health expenditures, MWI recipients had 57% lower Medicaid expenditures compared to people with disabilities who did not use MWI. Recipients of MWI were less likely to be receiving SSI, GF, and Food Stamps, while they were more likely to be receiving SSDI than other Medicaid recipients with disabilities.

In summary, the MWI program appears to provide an effective incentive for individuals with disabilities to increase their earned income without fear of losing Medicaid benefits. The per-person expenditures of health care benefits are lower for MWI recipients than a comparison group, and their use of certain public assistance programs is lower.

# Impact of the Medicaid Work Incentive (MWI) program on earnings, health care expenditures, and utilization of public assistance for individuals with disabilities

## Background

The Utah Medicaid Work Incentive (MWI) Program began in 2001 as a way to encourage low income people with disabilities to work without fear of losing needed health care services. The program allows people with disabilities earning above the poverty level to have access to Medicaid as long as their income remains below 250% of poverty.<sup>1</sup>

Prior to the implementation of MWI, individuals with disabilities could qualify for Medicaid benefits only if they had income below 100% of the federal poverty level, or through the “spenddown” mechanism. Having a spenddown meant the wage earner would have to pay the Medicaid agency 100% of their earnings above the federal poverty level to receive Medicaid. This obviously was a strong disincentive for people with disabilities to earn above the poverty level. Before MWI, some individuals with disabilities found it expedient to intentionally limit their earnings in order to have access to needed medical services. Others believed they should avoid work that did not offer employer-provided health benefits because they required health services in order to work.

The Utah MWI began July 1, 2001. The program is authorized by the federal Balanced Budget Act of 1997.<sup>2</sup> During the first five years of Utah’s program, participants could have earnings as low as \$1 per month and still qualify for the program. On July 1, 2006, Utah’s policy was changed to tighten up the definition of work and to increase premiums. A minimum level of work was established at that time and participants were required to have earnings greater than 100% of the poverty level to qualify for MWI.

Individuals are charged a premium based on a sliding scale for incomes between 100% and 250% of federal poverty level. Over that 250% limit, individuals are not eligible for MWI. By paying a premium, MWI participants share the responsibility for the cost of their medical care.

One unusual feature of MWI is that recipients frequently go on and off MWI and either continue to receive Medicaid under another category, or go off the program all together. There are a variety of reasons for this intermittent pattern of use. For example, MWI recipients may lose a job and move to a different Medicaid category, then return to MWI when they obtain a new job. Recipients may choose not to pay their premium for a month and are removed from the Medicaid rolls entirely. If recipients do not report their earnings to DWS during a case review, their case will be closed. Recipients may be re-instated to the Medicaid rolls if they re-apply. Thus it is not uncommon for MWI recipients to have gaps in their MWI benefits because of

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<sup>1</sup> 250% of the 2010 Federal Poverty Level for a one-person household is \$27,075 per year; for a family of four it is \$55,125.

<sup>2</sup> Authority for the national Medicaid Buy-In program for people with disabilities was authorized by the Balanced Budget Act of 1997 (BBA) and the Ticket to Work and Work Incentives Improvement Act of 1999. Utah’s MWI program is based on the BBA requirements.

moving to a different eligibility category, or going off the Medicaid program entirely at different intervals. This pattern of intermittent program use will be reflected in the findings.

## **Purpose**

The purpose of this study was to assess the impact of MWI policy on recipients' earnings, Medicaid expenditures, and use of public benefits. The research questions were:

1. What is the relationship between enrollment in MWI and earnings for Medicaid recipients with disabilities?
2. What is the relationship between enrollment in MWI and Medicaid expenditures for recipients with disabilities?
3. What is the relationship between enrollment in MWI and utilization of other public assistance programs, including Supplemental Security Income (SSI), Social Security Disability Insurance (SSDI), Temporary Assistance for Needy Families (TANF), General Financial (GF), Child Care Subsidies, and Food Stamps by Medicaid recipients with disabilities?
4. What is the relationship between MWI enrollment and use of work incentives unique to the MWI policy (increased asset limits, allowance for retirement savings accounts, and second car allowance)?

## **Study Population**

Individuals were selected to form the treatment group if they were eligible for MWI in any quarter from July 2006 through December 2009. This group consisted of 3,232 individuals.

In order to analyze the effect of MWI on employment, medical expenditures, and public assistance usage, a comparison group was selected of similar individuals with disabilities who were receiving Medicaid but were never on MWI. The comparison group was comprised of adults with disabilities on Medicaid in the following categories: 1) individuals receiving Supplemental Security Income (SSI) who did not work, 2) those receiving SSI who did work (i.e., 1619a); 3) individuals who previously received SSI but whose earnings were high enough so they did not receive a check (i.e., 1619b); 4) people with disabilities whose earnings were less than the federal poverty threshold; and 5) individuals using the spenddown mechanism described earlier. The comparison group consisted of 44,026 individuals. A random sample of 10% of the comparison group was used for the analyses.

## **Data**

Administrative data were obtained from two sources: the Division of Medicaid and Health Financing, Utah's Medicaid Agency and the Utah Department of Workforce Services (DWS). The Medicaid Agency data contained MWI indicators and Medicaid expenditures while the DWS data contained quarterly wages from the Unemployment Insurance (UI) system and indicators of public assistance utilization. Our study cohort was selected from the Medicaid Agency database and then merged with DWS data to provide the final analysis dataset.

## **Analysis**

A description of the study population was prepared by calculating descriptive statistics for the independent variables used in the models. These included the mean and standard deviation of

the continuous age variable as well as frequency counts and percentages for the dichotomous gender variable and categorical county of residence variable.

The empirical strategy for research questions 1-3 involved estimating the following general regression equation:

$$g(E[y_{it}]) = \alpha + \beta_1 MWI_{it} + \beta_2 Age_{it} + \beta_3 Male_{it} + \sum_{j=1}^J \delta_j County_{ijt} + \sum_{k=1}^K \gamma_k Quarter_{kt}$$

In the above equation  $i$  indexes individuals and  $t$  indexes time, which was broken into quarters. The key independent variable in this equation is  $MWI_{it}$ , which is an indicator equal to 1 if individual  $i$  was on MWI in quarter  $t$ . Additional independent variables included a continuous variable capturing age,  $Age_{it}$ , a dichotomous indicator for gender,  $Male_{it}$ , and a dummy variable for each county,  $County_{ijt}$ , and each quarter,  $Quarter_{kt}$ . The dependent variable of this regression,  $y_{it}$ , was specific to the question being investigated and  $g()$  is the link function, which took a different form depending on the assumed distribution of the dependent variable.

Two different types of regression models were used to examine the effect of MWI on earnings for question 1. First, a generalized linear model (GLM) was applied with the assumption that the earnings data had a gamma distribution with a logit link function. Earnings data are generally thought of as being skewed to the right, which is characteristic of the gamma distribution rather than the normal distribution. Second, we ran a two part model to separately examine labor market participation and earnings. Part one of this two-part model estimated the association between MWI and the odds of an individual having any earnings in a specific quarter. This was done using a logistic regression, using a log link function for the above equation. The second part estimated the relationship between MWI and the amount of earnings for those participants who had earnings. We estimated this relationship in two different ways: (a) using ordinary least squares (OLS) regression with a log transformed dependent variable and an identity link function and (b) using a GLM regression with a gamma distribution and a log link function. Similar techniques were also used for the medical expenditures dependent variable in question 2.

For question 3, each of the dependent variables is dichotomous. A logistic regression using a logit link function was used to estimate the relationship between MWI and Social Security Disability Insurance and Food Stamps. However, the logistic regression did not converge for the models using the Supplemental Security Income (SSI), Temporary Assistance for Needy Families (TANF), General Financial (GF), and Child Care dependent variables. For these variables, therefore, a probit regression was used. In each case, the key result was the coefficient on the variable  $MWI_{it}$ , which captured the effect of receiving MWI on the outcome of interest.

The unit of analysis chosen for the MWI independent variable was person-quarter because of the pattern of recipients going on and off MWI. Because of the time-varying nature of recipients' utilization, panel data analysis techniques were used that take advantage of repeated measures of the same individuals over time. Individuals whose data were included in these regressions could potentially contribute multiple observations to the analysis (one for each quarter that they were in the data). Because observations from the same individuals are likely to be correlated with each other, we estimated each of the regressions described above using generalized estimating equations (GEE) techniques.

## Descriptive Statistics

Table 1 provides descriptive statistics on the demographic characteristics for individuals who received MWI at any point during the analysis period and those who never received MWI during the analysis period. As can be seen, those receiving MWI are slightly younger than those who do not and a slightly higher percentage of those receiving MWI are male compared to those who do not. In both groups, by far the county representing the largest proportion of individuals is Salt Lake County. This is followed by Utah, Weber, and Davis Counties.

**Table 1: Demographic Characteristics**

	MWI Ever		Never MWI	
	N/mean	%/std dev	N/mean	%/std dev
<b>N</b>	2620	100.0%	3898	100.0%
<b>Age</b>	40.9	12.2	42.3	13.1
<b>Male</b>	1329	50.7%	1829	46.9%
<b>County</b>				
<b>Beaver</b>	5	0.2%	12	0.3%
<b>Box Elder</b>	47	1.8%	82	2.1%
<b>Cache</b>	135	5.2%	126	3.2%
<b>Carbon</b>	45	1.7%	85	2.2%
<b>Daggett</b>	1	0.0%	1	0.0%
<b>Davis</b>	206	7.9%	264	6.8%
<b>Duchesne</b>	22	0.8%	43	1.1%
<b>Emery</b>	18	0.7%	29	0.7%
<b>Garfield</b>	9	0.3%	5	0.1%
<b>Grand</b>	24	0.9%	26	0.7%
<b>Iron</b>	46	1.8%	82	2.1%
<b>Juab</b>	5	0.2%	10	0.3%
<b>Kane</b>	7	0.3%	9	0.2%
<b>Millard</b>	19	0.7%	27	0.7%
<b>Morgan</b>	5	0.2%	8	0.2%
<b>Out of State</b>	0	0.0%	3	0.1%
<b>Piute</b>	3	0.1%	5	0.1%
<b>Rich</b>	2	0.1%	2	0.1%
<b>Salt Lake</b>	1094	41.8%	1648	42.3%

<b>San Juan</b>	18	0.7%		54	1.4%
<b>Sanpete</b>	26	1.0%		53	1.4%
<b>Sevier</b>	34	1.3%		44	1.1%
<b>Summit</b>	16	0.6%		11	0.3%
<b>Tooele</b>	51	1.9%		95	2.4%
<b>Uintah</b>	37	1.4%		42	1.1%
<b>Utah</b>	393	15.0%		479	12.3%
<b>Wasatch</b>	13	0.5%		14	0.4%
<b>Washington</b>	114	4.4%		159	4.1%
<b>Wayne</b>	3	0.1%		5	0.1%
<b>Weber</b>	215	8.2%		465	11.9%
<b>Missing</b>	7	0.3%		10	0.3%

Descriptive statistics for total person-quarters and person-quarters on MWI for individuals who received MWI at any point during the analysis period are shown in Table 2. Total Person-Quarters represent the number of quarters MWI recipients were on the rolls in any Medicaid eligibility category during the study period. The Person-Quarters on MWI are the number of quarters this same group was on the specific program in question. The 2,620 individuals who received MWI at any point had a mean of 3.4 (SD=3.34) quarters of being on MWI and a mean of about 8.3 (SD=4.63) quarters when they were not on MWI. This suggests MWI recipients were on the program an average of slightly over 3 quarters out of a total of 14 quarters in the study. Due to the limits of using person-quarters as the unit of analysis, recipients were included as receiving MWI in a quarter if they appeared on the list at least one month during the quarter. Therefore, the mean of 3.4 represents a minimum of 3 months and a maximum of 10.2 months of being on MWI.

**Table 2: Person-Quarters for MWI recipients**

	<b>N</b>	<b>Mean</b>	<b>Std Dev</b>	<b>Min</b>	<b>Max</b>	<b>Median</b>
Total Person-Quarters	2620	8.3	4.63	1	14	8
Person-Quarters on MWI	2620	3.4	3.34	1	14	2

## Regression analyses

Key results from estimation of the regressions described earlier for questions 1 and 2 are shown in Tables 3 and 4. The results presented are the coefficients and/or effects for the MWI indicator variable in the above regression equation. As stated before, this variable equals 1 in

quarters where an individual was on MWI and recipients' MWI status can vary depending on the quarter. The regression models used here compare quarters where MWI is received with quarters where MWI is not received. Therefore, the coefficients reported capture the effect of being on MWI during a quarter on the dependent variable relative to not being on MWI during a quarter.

The first row in Table 3 depicts the GLM results using self-reported earned income as the dependent variable. Table 3 shows the coefficient on MWI for the GLM regression is 1.427(p<0.0001) which suggests that being on MWI is associated with 147% higher earned income than not being on MWI. For question 2, using the GLM regression, we found that MWI receipt was associated with a 22.8% (p<0.0001) decrease in Medical expenditures through Medicaid.

**Table 3: Regression Results – GLM (Questions 1 and 2)**

<b>Dependent Variable</b>	<b>Coefficient</b>	<b>P-Value</b>
<b><i>Question 1</i></b>		
Earned Income	1.427	<0.0001
Unearned Income	0.126	<0.0001
Wage Match Earnings	1.103	<0.0001
<b><i>Question 2</i></b>		
Medical Expenses	-0.228	<0.0001

Table 4 contains results of the two-part regression model. In part 1 of the two-part model, MWI was significantly associated with any earned income with an odds ratio of 59.86 (p<0.0001). Both versions of part 2 of the two-part model show higher earned incomes in quarters where MWI is received, conditional on earning any income. The log OLS regression and GLM regression estimated that these earnings were 34.1% (p<0.0001) and 26.6% (p<0.0001) higher, respectively. Similarly, significant results were found both for unearned income and for earnings reported by employers through the Unemployment Insurance system.

For question 2, Table 4 shows that in part 1 of the two-part model, the odds of having any Medicaid expenses were 19.7% (p<0.0001) lower during quarters where MWI was received compared to those where it was not received. For those who had any medical expenses, being on MWI was associated with a decrease in medical expenses estimated to be 56.7% (p<0.0001) using the log OLS regression and 20.0% (p<0.0001) using the GLM regression in part 2.

**Table 4: Regression Results – Two-Part Model (Questions 1 and 2)**

Dependent Variable	Part 1 - Logistic			Part 2 - Log OLS		Part 2 - GLM	
	Coefficient	Odds Ratio	P-Value	Coefficient	P-Value	Coefficient	P-Value
<b>Question 1</b>							
Earned Income	4.092	59.86	<0.0001	0.341	<0.0001	0.266	<0.0001
Unearned Income	0.427	1.532	<0.0001	0.085	<0.0001	0.062	<0.0001
Wage Match Earnings	0.971	2.642	<0.0001	0.616	<0.0001	0.367	<0.0001
<b>Question 2</b>							
Medical Expenses	-0.219	0.803	<0.0001	-0.567	<0.0001	-0.200	<0.0001

Key results for question 3 are shown in Table 5. Odds ratios from the logistic regressions used here indicate that MWI increased the odds of receiving SSDI by 35.1% ( $p < 0.0001$ ) and decreased the odds of receiving food stamps by 60.4% ( $p < 0.0001$ ). Finally, using probit regressions, MWI was associated with a 33.3% ( $p < 0.0001$ ) decrease in the probability of receiving SSI and an 80.9% ( $p < 0.0001$ ) decrease in the probability of receiving GF. MWI did not have a significant impact on the probability of receiving TANF or Child Care assistance.

**Table 5: Regression Results - Probit and Logistic (Question 3)**

Dependent Variable	Model	Coefficient	Odds Ratio	% Change in Probability	P-Value
Supplemental Security Income (SSI)	Probit	-0.300	-	-33.3%	<0.0001
Social Security Disability Insurance (SSDI)	Logistic	0.301	1.351	-	<0.0001
Temporary Assistance for Needy Families (TANF)	Probit	-0.010	-	-2.6%	0.179
General Financial (GF)	Probit	-0.698	-	-80.9%	<0.0001
Food Stamps	Logistic	-0.925	0.396	-	<0.0001
Child Care	Probit	0.353	-	12.3%	0.885

## Findings

### **1. Relationship between MWI enrollment and earnings**

The analysis showed that among recipients with earnings, the MWI group showed significantly higher earnings than for other Medicaid recipients with disabilities. The study looked at two sources of data on earnings. First, it looked at earnings reported by employers through the Unemployment Insurance system (UI) for all Medicaid recipients with disabilities. The UI data showed that MWI recipients who had earned income earned 62% more compared with other Medicaid recipients with disabilities. Second, the study looked at income reported by recipients to the Medicaid agency. The self-reported data showed for those reporting earnings, MWI recipients had 34% higher earned income than individuals with earnings in the comparison group. As an independent source of data, UI wages may be more reliable than self-reported earnings data.<sup>3</sup>

In regard to labor market participation, the analysis of the Unemployment Insurance wage data showed that for MWI recipients approximately 75% of all person-quarters showed earnings while for the comparison group only about 15% of all person-quarters showed earnings.

### **2. Relationship between MWI enrollment and health care expenditures**

The odds of having any health care expenditures was 19.7% lower for the MWI group. Among those who did have health expenditures, MWI recipients had 57% lower Medicaid expenditures compared to people with disabilities who did not use MWI.

### **3. Relationship between MWI enrollment and utilization of other public assistance programs, including Supplemental Security Income (SSI), Social Security Disability Insurance (SSDI), Temporary Assistance for Needy Families (TANF), Child Care Subsidies, General Financial (GF) and Food Stamps by Medicaid recipients with disabilities**

Recipients of MWI are less likely to be receiving SSI, GF, and Food Stamps, while they are more likely to be receiving SSDI than other Medicaid recipients with disabilities. Table 5 displays the percent of MWI person-quarters during which participants received SSI, SSDI, both, or neither at any time during the project period. Note that individuals may receive both SSI and SSDI simultaneously so the first two columns do not sum to the third column. In less than 10% of the person-quarters were MWI eligible individuals on SSI while almost 80% of the person-quarters reflected individuals receiving SSDI. In 16.8% of the person-quarters were MWI recipients not receiving either SSI or SSDI.

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<sup>3</sup> It is important to note that UI wage data do not capture self-employment earnings, nor those for several other categories of employment, including for some religious organizations and some agricultural enterprises.

**Table 6: Percent of Person-Quarters with MWI Participation Receiving SSI, SSDI, Both or Neither.**

	% of Person Quarters with SSI	% of Person Quarters with SSDI	% of Person Quarters with SSI or SSDI	% of Person Quarters with Neither SSI nor SSDI
Ever on MWI	9.9%	79.5%	83.2%	16.8%

**4. Relationship between MWI enrollment and use of work incentives unique to the MWI policy (increased asset limits, allowance for retirement savings accounts, and second car allowance).**

The MWI policy allows MWI recipients to have up to \$15,000 in higher savings and other assets, compared with \$2,000 (\$3,000 for a couple) for those on the regular Medicaid program. The MWI rules also allow for exemption of a retirement account, and allow for a second car if needed for work. Unfortunately, data were not available at the time of this analysis from either DWS or DOH in regard to use of the special MWI asset limits; therefore we were not able to answer this research question.

**Discussion**

This analysis shows that MWI participants had substantially greater earnings than a comparable group of people with disabilities on Medicaid. This is not a “random assignment” study therefore it is not possible to claim that recipients worked more as a result of the MWI program. However, one can state that MWI participation is strongly associated with greater work effort and higher earnings on the part of people with significant disabilities.

The data show how much more likely MWI recipients were to participate in the workforce than other people with disabilities on Medicaid. It is not surprising that MWI recipients have a high rate of employment because working is a qualifier to get on the MWI program. What is surprising is the huge difference between MWI (75%) and all other people with disabilities on Medicaid (15%) on the number of quarters in which recipients had any earnings. The earnings of MWI recipients reported by employers through the UI wage system were 62% higher than non-MWI recipients’ earnings.

The MWI program has a high percentage of people that receive SSDI benefits. Individuals must have a work history to qualify for SSDI. In contrast, SSI recipients have not worked enough to qualify for SSDI. This means that SSDI beneficiaries tend to have greater work experience, job skills, and a potential to earn more on average than recipients on SSI. However, despite having backgrounds which would better qualify them for employment, SSDI recipients’ incomes are still low enough to put them near the Medicaid income threshold. Programs such as MWI are powerful tools to incentivize people who receive SSDI to work.

The analysis shows that among those who used any health care services at all, MWI recipients had significantly lower health care expenditures (57% lower) than other Medicaid recipients

with disabilities. Health care is widely thought of as a 'normal' good, which is a good whose demand has a positive association with income. With higher earned income from participation in MWI, individuals could be expected to increase their demand for health care services. However, these data show the opposite. An explanation for this may be that working recipients are "healthier" than non-working people with disabilities.

Recipients of MWI are less likely to be receiving SSI, GF, and Food Stamps, while they are more likely to be receiving SSDI than other Medicaid recipients with disabilities. These results are consistent with expectations. SSI recipients are less likely to be enrolled in MWI because SSI recipients who work qualify for Medicaid through the 1619 a or b categories. Individuals in these categories were included in the comparison group. MWI was created as an option for low income individuals who are disabled according to Social Security rules, thus the results obtained appear to be intuitive.

The study was unable to answer the fourth research question due to unavailability of data. MWI policy permits recipients to have a larger amount of resources to incentivize independence and accumulation of assets among people with disabilities. In order to ascertain the use and effectiveness of this policy the Medicaid eligibility data system should be programmed to track MWI recipients' assets that exceed the typical Medicaid limits. These data would be important to judge the efficacy of the policy, thus we recommend collecting data concerning assets of MWI recipients.

In summary, the MWI program provides an incentive for individuals with disabilities to increase their earned income without fear of losing Medicaid benefits. The evidence shows the earnings of MWI recipients are significantly higher than for other individuals with disabilities on Medicaid. MWI recipients use fewer health care services than other individuals with disabilities on Medicaid, and in addition they pay a premium that partially offsets the cost of their medical care. This group is also less likely to use public assistance including SSI, General Financial, and Food Stamps.