

Economic Impact of the MI Choice Medicaid Waiver Program

Prepared for

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EXECUTIVE SUMMARY

The purpose of this study is to quantify the economic impact of the MI Choice program on employment and earnings of state residents and on state tax revenues. The MI Choice is a Medicaid waiver program designed to provide older adults and people with disabilities certain home and community-based alternatives in receiving long-term care support. The program not only affords the state the flexibility to provide needed services to this vulnerable population but also accrues economic benefits to the state by generating new jobs, personal earnings, and tax revenues at the federal, state and local level. Cutting/expanding the MI Choice program, therefore, is expected to impact the state economy by decreasing/increasing economic activities along these three dimensions. These effects are further magnified by the injection of federal matching funds. Key findings of this study are summarized below.

- **Based on FY2008 data, general fund spending of \$55.4 million on the MI Choice program generated:**
 - \$71.5 million in federal match
 - 3,730 jobs
 - \$89.7 million in personal earnings to state residents
 - \$6.3 million in state tax revenues
- **Future increase (decrease) in general fund spending on the MI Choice program by \$10 million would result in:**
 - \$ 12.7 million - \$27.4 million federal match gained (lost)
 - 668 – 1,099 jobs gained (lost)
 - \$16 million - \$26.4 million in personal earnings gained (lost)
 - \$1.1 million - \$1.9 million in state tax revenues gained (lost)
- **State investment of \$10 million in MI Choice instead of another program with similar economic impact but no federal match would generate:**
 - 374 – 806 more jobs
 - \$8.9 million - \$19.3 million more in personal earnings
 - \$0.6 million - \$1.4 million more in state tax revenues

Introduction

The Medicaid waiver for the elderly and disabled in Michigan, known as the MI Choice program, provides older adults and people with disabilities certain home and community-based alternatives in receiving long-term care services. These services include personal care, adult day care, transportation, medical equipment and supplies, home modification, and a variety of others that allow participants to stay in their own home/community. Spending on the MI Choice program has increased steadily over the years, reaching \$176 million in 2010. During economic downturns, however, funding for this optional Medicaid program has been frequently scrutinized.

Besides providing the much needed services to the aged and disabled, the MI Choice program, as a \$176 million government enterprise, also exerts macroeconomic impacts on the state. Spending on the MI Choice program generates business activities, adding jobs and employee earnings to the personal and home care sectors, as well as to other related sectors throughout the state. As a result, the MI Choice program also has fiscal impact on the state, by way of individual and corporate tax collections.

While similar arguments can be made for any type of government expenditure, another aspect of the MI Choice program makes it rather unusual among state programs. Because the MI Choice program, as part of the state Medicaid program, is a combined federal-state effort, each general fund dollar spent on the program brings with it more than a dollar of federal matching funds. With a Federal Medical Assistance Percentage (FMAP) at 73.27 in FY2010, each additional general fund dollar is matched by \$2.74 in federal funds, leading to a total of \$3.74 injected into the state economy. Therefore, the economic impact of the MI Choice program is expected to be larger than that of other state programs with less or no federal assistance.

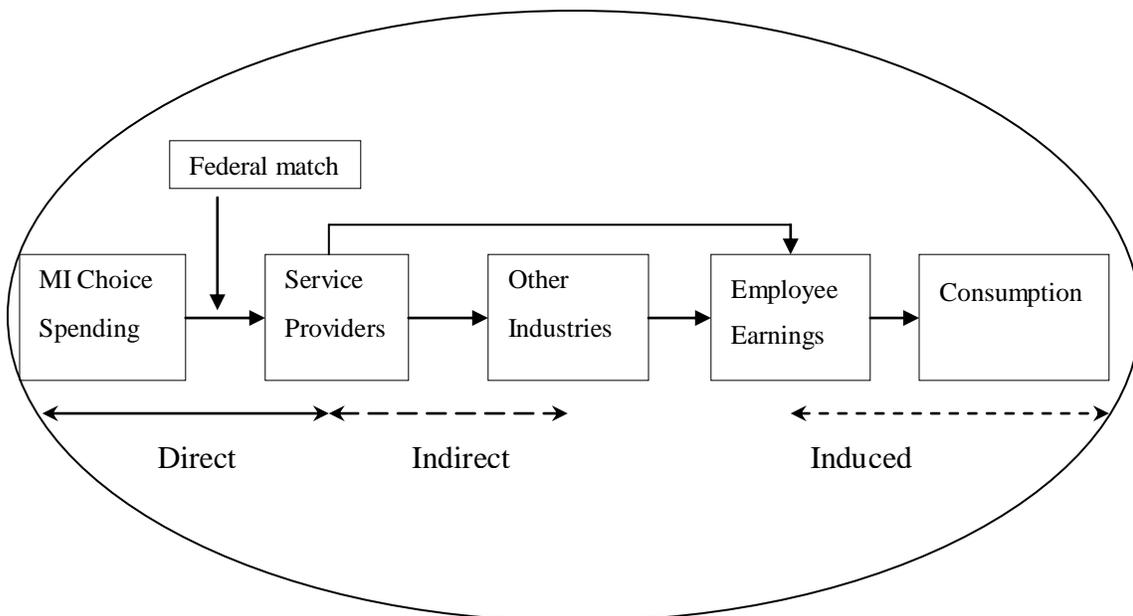
The purpose of this study is to quantify the economic impact of the MI Choice program in terms of employment and earnings of state residents and state tax revenues. We provide economic impact estimates of hypothetical changes to MI Choice funding and discuss the

net economic impact of additional state investment in MI Choice instead of some other program that does not generate federal match.

Estimating the economic impact of the MI Choice program

Estimating the economic impact of the MI Choice program requires taking into account the “economic multipliers”. Spending on the MI Choice program directly creates jobs and employee earnings in industries that provide home and community-based services, but it does not just stop there. New business activities in these industries can lead to new purchases, e.g., office supplies, utilities and building maintenance, from many other industries through the “multiplier” effects. As the MI Choice dollars “ripple through” the state economy, these additional jobs and employee earnings created are called indirect effects. Finally, employee earnings resulting from these new business activities enable employees to consume more, inducing additional impacts on the state economy. These three types of effects, namely, direct, indirect, and induced effects, are illustrated in Figure 1.

Figure 1: The Direct, Indirect and Induced effects of MI Choice Spending on the State Economy



We obtained the employment and earnings multipliers for the state of Michigan using the Regional Input-Output Modeling System (RIMS II), developed by the U.S. Bureau of Economic Analysis. Based on the national input-output table and regional economic accounts, the RIMS II provides region-specific inter-industry multipliers, widely used to estimate the economic impact of both publicly and privately funded programs and projects. The RIMS II model for Michigan, built on the inter-relationships among over 400 industries in the state, tracks the flow of sales and purchases throughout the state economy, captures the indirect and induced effects of a final demand change in any industry, and generates a variety of economic multipliers, including the employment and earnings multipliers. A more technical description of the input-output model, which is the economic theory underlying the RIMS II system, is provided in Appendix 1.

We first examined the actual spending data from FY2008 to determine what industries are directly affected by MI Choice spending, based on an analysis of providers directly receiving MI Choice payments. When estimating the impact of a hypothetical change in the future, we assumed that the change would apply to a “typical” mix of MI Choice services and that the distribution of the direct impact among all industries would be identical to FY2008. The effects on jobs and earnings were then calculated by applying the RIMS II multipliers and using two alternative federal matching rates: the historically “typical” rate at 56% and the enhanced rate at 73.27%. The effect on state tax revenues was calculated based on personal earnings by applying an estimated effective tax-to-earnings ratio. Data on tax collections and total earnings for Michigan were obtained from the U.S. Census and the U.S. Bureau of Economic Analysis, respectively. We used five years of data (2005-2009) to account for the effect of economic fluctuations. Income tax, sales tax, property tax and licensing fees were included in the analysis. For every dollar of personal earnings, about 7.06 cents go to the state general fund in the form of tax revenue.

Results and Discussion

Table 1 shows a breakdown of MI Choice spending by RIMS II industries, based on FY2008 claims data from the Michigan Department of Community Health. The vast majority (89%) of MI Choice payments went to providers of personal care and home health

care services. Most other supporting services fell into the “Social Assistance” category of RIMS II, consisting of individual & family services (3%) as well as community food, housing and other relief services (5%). Expenditures on most home/personal supply items went to the retail trade sector, with the exception of medical equipment, which was classified as wholesale trade in RIMS II. Payments for home and vehicle modification services went to the construction and the auto services industries, respectively. Total MI Choice spending in FY2008 was \$127 million, including \$99 million on services and an estimated \$28 million administrative cost.

Table 1. MI Choice Expenditure by RIMS II Industry, Fiscal Year 2008*

RIMS II Industry	MI Choice amount	%
Personal care services	\$63,520,209	64.04%
Home health care services	\$24,609,834	24.81%
Individual & family services	\$3,240,661	3.27%
Community food, housing and other relief services	\$5,276,346	5.32%
Wholesale trade	\$173,628	0.18%
Retail trade	\$1,025,793	1.03%
Construction	\$722,805	0.73%
Automotive repair & maintenance	\$7,477	0.01%
Transit & ground passenger transportation	\$610,150	0.62%
Total	\$99,186,904	100.00%

* MI Choice expenditures data provided by the Michigan Department of Community Health. Administrative expenses for FY2008 were estimated to be \$28 million.

As shown in Table 2, general fund spending of \$55.4 million on the MI Choice program, combined with an additional \$71.5 million in federal match drawn into the state economy, supported 3,730 jobs, and generated \$89.7 million in personal earnings and \$6.3 million in state tax revenues. Viewed another way, every \$1 million spent on the MI Choice program (state and federal funds combined) supported 29 jobs, resulting in over \$700,000 in earnings and about \$50,000 in tax. These per million impacts, or “effective multipliers”, were applied to subsequent calculation of the economic impact of hypothetical changes to the MI Choice program. They may also be used to analyze other funding scenarios not covered in this report.

We next considered the economic consequences of future funding changes to the MI Choice program, i.e., MI Choice spending were to increase by \$10 million, as shown in Table 3. In this analysis we assumed that, with the increase in funding, all services would be expanded in proportion to their current shares in MI Choice spending. Because of the federal matching mechanism, a \$10 million increase in general fund spending on MI Choice would amount to a total increase of \$22.7 million - \$37.4 million, depending on the effective FMAP assumed. In this scenario, the state would gain up to 1,099 jobs, \$26.4 million in personal earnings, and 1.9 million in tax revenues. Conversely, if the state were to cut the MI Choice program by \$10 million, the effects on jobs, earnings and tax would be the same in magnitude, but in the opposite direction, representing loss to the state.

If instead of MI Choice the state were to spend the \$10 million on some other program/agency, e.g., corrections or transportation, then new jobs, earnings and taxes would still be generated. Different industries would be affected, but the associated economic impact would likely be similar. If the alternative were a program with no or less federal assistance, however, investing in MI Choice should be expected to generate much larger economic benefits than the alternative program. Table 4 provides such a comparison. Spending \$10 million in a program with similar multiplier effects but no federal match would lead to an increase of 294 jobs, \$7.1 million in personal earnings, and \$0.5 million tax revenues to the state. The net impact of investing \$10 million in MI Choice

instead of the alternative program would thus be a gain of 374 - 806 jobs, \$8.9 million – \$19.3 million in earnings, and \$0.6 million - \$1.4 million in taxes.

Conclusions

The MI Choice program not only provides home and community-based services to the elderly and disabled but also has significant effects on employment and earnings of state residents and on state tax revenues. The sizes of these effects are relatively large due to the program’s federal matching mechanism. These economic and fiscal implications should be carefully assessed when considering changes to MI Choice funding.

The analyses presented in this report are based solely on the regional economic impact model using measurable macroeconomic indicators. The MI Choice program will likely have additional economic consequences not directly measurable in such a model. Many providers of MI Choice services are small “mom and pop” businesses and not-for-profits. MI Choice funding is crucial in preserving these businesses. Any loss of funding can be detrimental to them both economically and emotionally. The MI Choice program, by providing home and community-based services, also helps avoid unnecessary and more expensive nursing home use. Recent research has shown that Medicaid waiver programs, if property targeted, can be cost-effective to the state. In addition, loss of MI Choice funding may increase the care-giving burden on informal care-givers, e.g., spouse and children, carrying a significant economic toll and causing disruptions to the labor market. State investment in the MI Choice program may look more attractive when these indirect effects are also considered.

Table 2. Economic Impact of the MI Choice Program, Fiscal Year 2008

	Total impact	Per \$1 million impact
Federal funds drawn (FMAP=58.1%)	\$71,488,961	\$1.39
Jobs created	3,730	29.39
Personal earnings accrued	\$89,658,521	\$706,475
State tax revenues generated	\$6,326,582	\$49,851

Table 3. Economic Impact of a \$10 Million Increase (Decrease) in General Fund MI Choice Spending

	Typical FMAP 56.00%	Enhanced FMAP 73.27%
Federal funds gained (lost) (\$ millions)	12.7	27.4
Jobs gained (lost)	668	1,099
Personal earnings gained (lost) (\$ millions)	16.0	26.4
State tax revenues gained (lost) (\$ millions)	1.1	1.9

Table 4. Economic Impact of Investing in MI Choice vs. an Alternative Program

	Typical FMAP 56.00%	Enhanced FMAP 73.27%
(A) Investing \$10 million in general fund MI Choice spending		
Jobs created	668	1,099
Personal earnings accrued (\$ millions)	16.0	26.4
State tax revenues generated (\$ millions)	1.1	1.9
(B) Investing \$10 million in an alternative program without federal match		
Jobs created	294	294
Personal earnings accrued (\$ millions)	7.1	7.1
State tax revenues generated (\$ millions)	0.5	0.5
<i>Net Effect (A-B)</i>		
<i>Jobs created</i>	<i>374</i>	<i>806</i>
<i>Personal earnings accrued (\$ millions)</i>	<i>8.9</i>	<i>19.3</i>
<i>State tax revenues generated (\$ millions)</i>	<i>0.6</i>	<i>1.4</i>

Appendix 1: Theoretical Framework

There are extensive discussions in the literature regarding the macroeconomic “multiplier” effects of government spending. The Input-Output Model (I/O thereafter), originally developed by the Russian economist Wassily Leontief, has been widely accepted and adopted as the theoretical basis for economic impact analyses.

A Review of the I/O Model

The I/O model was designed to capture elements of structural interdependence and to measure overall changes in an economy. To illustrate the mechanism behind this model, let us start with a simple general equilibrium equation in macroeconomics:

Total Output = Total Expenditure

Let Y_i be industry-specific output for industry i , Y_{ij} be the total amount of product of industry i used by industry j (in other words, intermediate demand), and D_i be final demand for the product of industry i (what is left after intermediate use), a version of the above equation is then:

$$Y_i = D_i + \sum_j Y_{ij} \quad (1)$$

Let $a_{ij} = Y_{ij} / Y_j$, then equation (1) becomes:

$$Y_i = D_i + \sum_j a_{ij} Y_j \quad (2)$$

Suppose the economy has n industries. We can write equation (2) in matrix form:

$$Y = D + AY$$

$$\Rightarrow (I - A)Y = D$$

Where Y is a vector ($n \times 1$) of industry outputs, D is a vector ($n \times 1$) of final demands, and A is an $n \times n$ matrix of a_{ij}

$$\begin{matrix} a_{11} & \cdot & \cdot & \cdot & a_{1n} \\ \cdot & \cdot & \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot & \cdot & \cdot \\ a_{n1} & \cdot & \cdot & \cdot & a_{nn} \end{matrix}$$

The matrix A is called direct requirement matrix in the I/O literature.

One more step will lead us to the following result:

$$Y = (I - A)^{-1} D \tag{3}$$

If $M = (I - A)^{-1}$ is known, then given any change in final demand, equation (3) can be used to calculate its total effects on all other industries and therefore the economy as a whole. Thus matrix M can be viewed as the “multiplier matrix”.

Construction of Regional I/O Model

The Leontief I/O model is frequently applied to regional impact analysis, namely, the study of the impact on regional economy of a specific change in final demand. To construct an empirical regional I/O model, the technical difficulty is that, given the national I/O table, how can we estimate regional I/O coefficients that account for the economic structure of a specific region, i.e. import / export flow of goods for a state?

There are essentially two choices for regional analysts. One is the survey-based technique, and the other is the non-survey technique. The former, although probably giving more accurate results, is rarely adopted because an extensive survey is too expensive and time-consuming for most researchers. As a matter of fact, most of today’s computer-generated regional I/O models are developed using non-survey techniques.

A number of non-survey approaches are frequently used by regional economists: commodity-balance ratio, simple location quotient, gravity model, or some combination thereof. While such estimation procedures can be extremely sophisticated, there are several software packages available. Three of the most popular ones are IMPLAN, RIMS, and REMI. Details are as following:

RIMS II: Regional Input-Output Modeling System, developed by the Bureau of Economic Analysis US Department of Commerce. Refer to <http://www.bea.gov/bean/regional/rims>

IMPLAN: An economic input-output model developed by Minnesota IMPLAN Group Inc. Refer to www.implan.com

REMI Policy Insight: An impact-analysis software package developed by Regional Economic Models Inc. Refer to www.remi.com

Most economic impact analyses utilized either the RIMS II or the IMPLAN model to estimate the indirect and induced effects of program changes. The RIMS II model is employed in this present study.

Limitations of the I/O Model

As a static model, I/O has two major limitations. One is that I/O assumes constant coefficients, which implies that changes in technology, price level and consumption pattern will not affect the A matrix. The other is that the model takes the form of linear equations, which may not be able to describe the real world with precision. Despite these limitations, the I/O framework is still the best tool we can use in regional impact analysis, in the sense that the model gives satisfying estimations and predictions in the short run, in other words, it provides researchers with a roughly accurate snapshot of the economy at one point in time.

Appendix 2: List of Relevant Studies on Economic Impact of Medicaid/HCBS Waiver

Economic Impact Research Specifically for Medicaid HCBS Waiver

Utah: Jan Crispin-Little, "The Economic Impact of the Medicaid Home and Community-based Services Waiver Program", Disability Community Alliance and Utah Developmental Disabilities Council, January 2006.

<http://www.disabilitylawcenter.org/docs/EconomicImpact.pdf>

Economic Impact Research for Medicaid Programs in General

Nation-wide Study: "Medicaid: Good Medicine for State Economies", Families USA, Pub.No.03-101, January 2003 (2004 update is also available on their website).

www.familiesusa.org

Alaska: Gerald A. Doeksen and Cheryl St. Clair, "Economic Impact of the Medicaid Program on Alaska's Economy", March 2002.

Arkansas: Wayne Miller and John Pickett, "Economic & Fiscal Impact of Additional \$100 Million in State Funding for Medicaid Programs", March 2003.

http://www.arcommunities.org/econ_dev/economic/economicimpact/medicaid.htm

Connecticut: "Cost of Proposed Medicaid and Husky A change to the Connecticut Economy", Connecticut Health Foundation, March 2004.

http://www.ctkidslink.org/pub_detail_151.html

Florida: Priya Sampath, "Penny Wise and Pound Foolish: Why Cuts to Medicaid Hurt Florida's Economy", October 2003

Idaho: Will Pitz. "Medicaid Matters for Idaho's County Economies." Northwest Federation of Community Organizations and Idaho Community Action Network. March 2006. http://idahocan.org/about/pubs/2006-0308_Medicaid.Matters.IDs.Co.Econ.pdf

Iowa: “Economic Impact of Medicaid and hawk-i Spending”, Issue Brief, Covering Kids and Families Initiative, March 2005.

www.idph.state.ia.us/coveringkids/common/pdf/taskforce/issue7.pdf

Mississippi: Benjamin Blair and Meghan Millea, “Economic Impacts of Federal Medicaid Expenditures on the State of Mississippi in 2002”, August 2003

Michigan: John Goddeeris and Yong Li, “Effects of Changes in Medicaid on Incomes and Jobs in Michigan: Estimates from the RIMS II Model”, Institute for Health Care Studies at Michigan State University, February 2005.

http://www.ihcs.msu.edu/pdf/Economic_Value_of_Medicaid_Study.pdf

Missouri: Joel Ferber, Heather Bednarke and Muhammad Islam. “Economic and Health Benefits of Missouri Medicaid.” Missouri Foundation for Health, Spring 2004.

<http://www.mffh.org/mm/files/ShowMe5Final.pdf>

Montana: Steve Seninger, “Economic Impact of Medicaid on Montana and on the Billings, Butte, and Miles City Healthcare Market Areas”, January 2003

North Carolina: Kerry E. Kilpatrick, Joshua Olinick, Michael I. Luger and Jun Koo, “The Economic Impact of Proposed Reduction in Medicaid Spending in North Carolina”, April 2002.

http://www.kenan-flagler.unc.edu/assets/documents/ED_Economic_Impact_Medicaid.pdf

Christopher Dumas, William Hall and Patricia Garrett. “The Economic Impacts of Medicaid in North Carolina.” North Carolina Journal of Medicine 69(2), March/April 2008. www.ncmedicaljournal.com/mar-apr-08/dumas.pdf

Ohio: Robert Greenbaum and Anand Desai, “Uneven Burden: Economic Analysis of Medicaid Expenditure Changes in Ohio”, Ohio State University, April 2003.

<https://kb.osu.edu/dspace/bitstream/1811/267/1/UnevenBu.pdf>

Oklahoma: Cheryl St. Clair and Gerald Doeksen. “The Economic Impact of the Medicaid Program on Oklahoma’s Economy.” Oklahoma Health Care Authority, May 2007.

http://www.ruralhealthworks.org/downloads/Economic/Oklahoma_Medicaid_Report_May_2007.pdf

Oregon: “Economic Benefit of State Medicaid Funding”, Office of Oregon Health Policy and Research, February 2004

South Carolina: “Economic Impact of Medicaid on South Carolina”, The SC Dept of Health and Human Services, January 2002,

http://www.scha.org/images/stories/compliance/medicaid/EconomicStudy_1.pdf

Utah: Jan Crispin-Little, “Economic Impact of Medicaid and CHIP on the Utah Economy”, Utah Economic and Business Review 63(3/4), March/April 2003.

<http://www.bebr.utah.edu/Documents/uebr/UEBR2003/Mar-Apr%202003.pdf>

Virginia: “The Impact of Additional Medicaid Spending in Virginia”, Fiscal Analytics, Ltd., June 2003

West Virginia: Christiadi and Tom S. Witt, “Economic Impact of Medicaid Federal-Match on the West Virginia Economy FY2002”, West Virginia University, January 2002.

http://www.be.wvu.edu/bber/economic_impact.htm

Wisconsin: Steven C. Deller, Linda A. Hall and Jon Peacock, “Economic Impact of Reducing Medicaid and BadgerCare Expenditures”, February 2003.

<http://www.wccf.org/pdf/econimpact.pdf>