Michigan Association of Community Mental Health Boards:
Center for Healthcare Research and Innovation

Bending the Healthcare Cost Curve: The success of Michigan's public mental health system in achieving sustainable healthcare cost control

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History and Background

Michigan's public behavioral health and intellectual/developmental disability services and supports system (BHIDD) system is made up of a statewide network of Community Mental Health Services Programs (CMHSPs), all of whom are linked to or are departments of county government; regional public Medicaid Prepaid Inpatient Health Plans (PIHP) formed and governed by the CMHSPs; and a highly organized set of local and regional provider panels. The CMHSPs directly provide or purchase, from these local/regional provider networks, both Medicaid and non-Medicaid BHIDD services.

From the early days of Michigan's public BHIDD system in the 1960s until the present, the system has been funded, in the main, by a combination of federal (initially federal mental health block grant dollars), state, and local government dollars. In the early 1980s, Michigan, as did most of the states, began to use federal Medicaid funds to supplement the state dollars provided to the public mental health system. From the early 1980s through 1997, Michigan's Medicaid program was a fee-for-service system. In an attempt to control costs, Michigan, in 1998, converted its Medicaid program to a managed care system.

In 1998, Michigan's public behavioral health and intellectual/developmental disability services and supports system (BHIDD) – the county-based CMHSP system - became the public managed care system for the state's Medicaid specialty benefit and provider network. Under two concurrent federal Medicaid waivers (1915(b) and (c)) the state of Michigan, in that year, developed shared risk contracts with the state's CMHSPs, in which each served as the Medicaid Specialty Prepaid Inpatient Health Plans (PIHPs) for their region.

Throughout this period, from 1998 through the present, the management of the Medicaid physical health benefit has been carried out by private for-profit and non-profit health plans and the Specialty BHIDD benefit was managed by the public CMHSP system, with the CMHSPs, or structures formed by the CMHSPs, serving as Prepaid Inpatient Health Plans (PIHP) as allowed under a series of cutting edge federal 1915(b) and (c) Medicaid waivers.

Since 1998, the State of Michigan revised the PIHP role twice. The first revision, designed to ensure a sufficiently large number of covered Medicaid lives for risk management, resulted in some CMHSPs serving as the PIHPs for a number of other CMHSPs in a hub-and-spoke arrangement. Larger CMHSPs were allowed to continue to operate as the PIHPs for a single CMH. This structure ran for over a decade from 2002 through 2014). In 2014, the state worked with the state's CMHSPs to create regional PIHPs, all of which retained their public identity and link to the county-based CMHSP system. They were described in the federal Medicaid waivers through which these new PIHP structures were developed, as CMH/member- owned PIHPs, with these PIHPs being formed and governed by the CMHSPs within the PIHP region.

Throughout this period, since 1998, Michigan's public specialty managed care system managed the Medicaid mental health and intellectual disability benefit, and eventually the substance use disorder benefit, for four distinct groups: adults with mental illness; children and adolescents with emotional disturbance; children, adolescents, and adults with intellectual and developmental disabilities; and children, adolescents, and adults with substance use disorders.

Two factors underscore the wisdom of using the public county-based CMHSP system as the managed care and provider system backbone for the state's specialty Medicaid program:[1]

- By tying the state's Medicaid BHIDD dollars and managed care responsibilities, the chief financing source for the public BHIDD system was linked to the public system that holds the statutory responsibility to serve as the state's behavioral health and intellectual/developmental disability services and supports safety net. To have severed this connection would have left the statutorily defined safety net without control over nor unhindered access to the funds needed to fulfill this safety net role. Given that Medicaid makes up over 90% of the revenues that support the public BHIDD system in Michigan, such a severing of the connection between these funds and the safety net role would have left the 325,000 vulnerable persons and communities across the state, served by this system, without the resources needed to assure access to those services.

- The expertise of Michigan's public BHIDD system in serving persons with complex needs that spanned a wide range of health and human sectors (from psychiatry to housing supports, from peer-delivered services to inpatient psychiatry, from respite care to assertive community treatment, from homebased care to employment supports), far outside of the expertise of traditional managed care arrangements, was seen as a vital asset in the ability to manage the Medicaid benefit.

Impetus behind study

The emergence, over the past decade, of the triple aim as a core set of concepts for driving healthcare reform and transformation, provided the impetus for this study.[i] Nearly all of the leaders, observers, and critics of this country's health care system use the triple aim's constructs of improving population health, enhancing the patient's/consumer's experience of care, and controlling the per capita cost of care to measure the performance of the system, as a whole, and any segment of that system. Given this centrality of the triple aim to measuring the success of any healthcare design or transformation effort and with nearly two decades of experience, by Michigan's public behavioral health and intellectual/developmental disability system operating a public specialty managed care system, the Michigan Association of Community Mental Health Boards (MACMHB) and the Association's Center for Healthcare Research and Innovation identified the need to examine the performance of the state's public BHIDD system along the third dimension of the triple aim – the control of per member costs.

[1] Note: the ability to control the per member cost of Medicaid, over these years, - the subject of this paper - underscores this wisdom.

Methodology

In an effort to measure the cost control impact of Michigan's public BHIDD system's management of the BHIDD benefit, the actual and projected Medicaid rate data, over a number of years, were compared with two healthcare cost trends over that same period.

Comparative rate trends: The comparative trends used were:

- **The average Medicaid rate increases across the country**

  Drawn from the Kaiser Family Foundation's (KFF) study: Young, K., Rudowitz, R., Rouhani, S., & Garfield, R. (2015, January 28). Medicaid Per Enrollee Spending: Variation Across States. Retrieved January 31, 2017, from http://kff.org/medicaid/issue-brief/medicaid-per-enrollee-spending-variation-across-states/

  The rate increase for Medicaid programs across the country was determined through the use of a composite rate for each year. This composite annual growth rate, developed for this study using Kaiser Family Foundation data for 2000 through 2011, is the average of the annual Medicaid growth rates, for the subpopulations studied by KFF: aged population (annual PEPM growth rate of 3.7%), beneficiaries with disabilities (annual PEPM growth rate of 4.5%), adult beneficiaries (annual PEPM growth rate of 5.6%), and children enrolled in Medicaid (annual PEPM growth rate of 5.3%). The composite annual PEPM growth rate, across all of these populations of Medicaid beneficiaries), using this methodology was 4.7%. This growth rate was applied in the analysis for all of the years examined in this study.

- **The average commercial health insurance rate increases across the country**

  Drawn from the Kaiser Family Foundation's study: Young, K., Rudowitz, R., Rouhani, S., & Garfield, R. (2015, January 28). Medicaid Per Enrollee Spending: Variation Across States. Retrieved January 31, 2017, from http://kff.org/medicaid/issue-brief/medicaid-per-enrollee-spending-variation-across-states/

  The Kaiser Family Foundation also reported the data for commercial health insurance rate increases at an average rate increase of 6.7%. The data for this estimate was taken from the National Health Expenditure Accounts to evaluate the rate increases.

Michigan BHIDD rate trends: The Michigan BHIDD rates were drawn from the actuarial certification letters developed, annually, for the State of Michigan, by Milliman,(the firm that conducts that actuarial analysis and actuarial certification of Michigan's Specialized Medicaid benefit (BHIDD services) rates for each year from 2004 through 2015. These reports provide the actuarial basis for the Medicaid rates paid to Michigan's CMHSP/PIHP system by the Michigan Department of Health and Human Services (MDHHS). To ensure comparability across the data analysis period, this research effort limited its review of Michigan's Specialty Medicaid rate data from 2004 through 2015.

A composite per enrollee per month (PEPM) rate was used as the unit of measurement of Michigan's Specialty Medicaid rate cost control analysis. This composite PEPM for each year in the study was the sum of the PEPMs for TANF and DAB state plan and TANF and DAB b3 services for each year. This composite excluded the Quality Assurance Assessment Program (QAAP) payment, Health Insurance Claims Assessment (HICA), and the Use Tax related payments that accompanied the base PEPM payments. These tax-related revenues were not included in this analysis, given that the CMHSPs/PIHPs were required to make tax payments, back to the state, in the amount of these revenue payments, and thus were not available to fund Medicaid services. Thus the QAAP, HICA, and Use Tax payments (as special financing) were removed from the composite rates used in this our study. The most significant special financing adjustments are related to the netting out of the QAAP tax-related segment of the rates for the period of 2005 through 2011.

The actual composite PEPM data were used for 2004 through 2015. Projections of composite PEPMs for years 1998 through 2003 and 2016 through 2024 were developed by applying the average growth rate of the composite PEPM over the 2004 through 2015 period to each year in these periods.

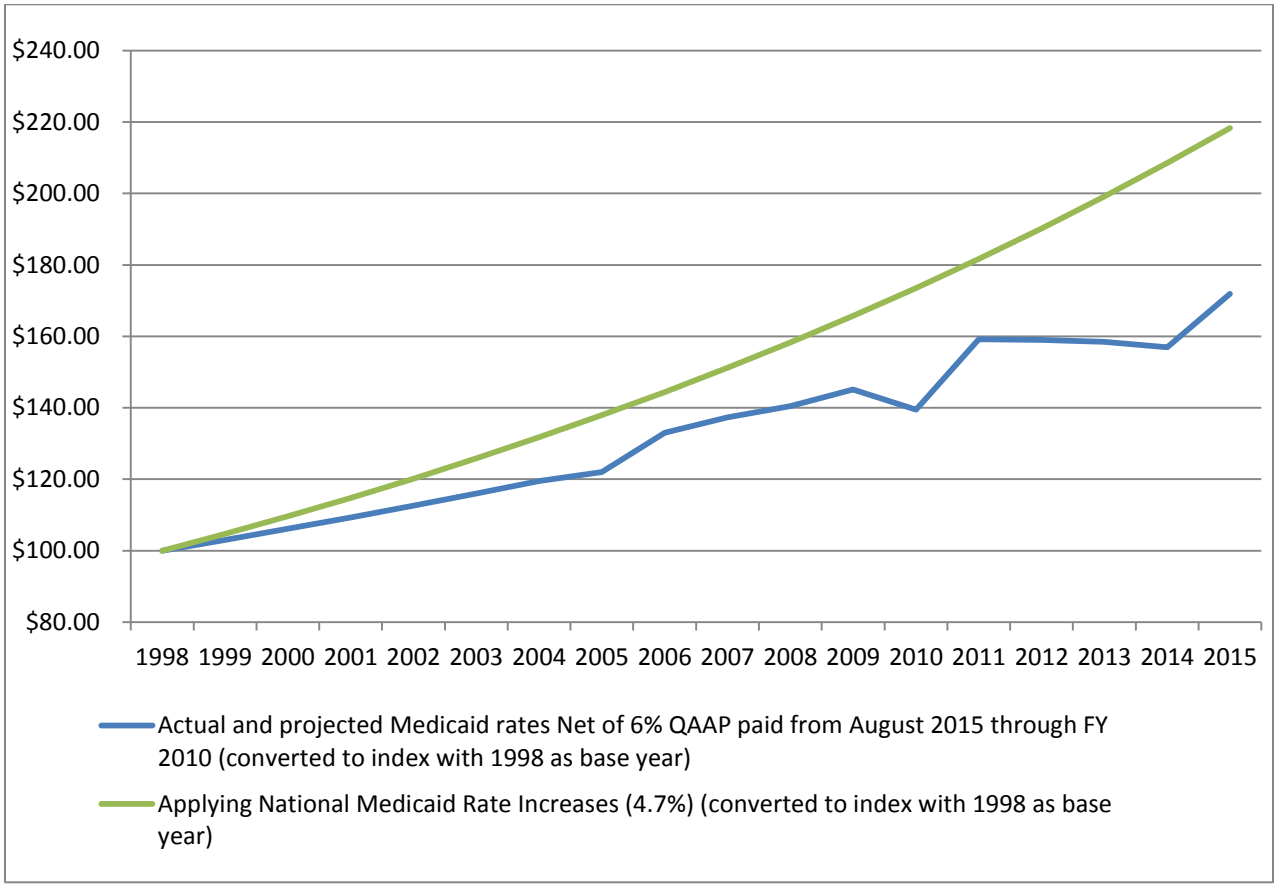
Findings and Analysis

Both of these comparative analyses found that the managed care work of Michigan's public BHIDD system, for the past two decades, has successfully controlled the per enrollee cost of the Medicaid specialty benefit – keeping the cost significantly below that of national Medicaid per enrollee cost increases and those of commercial health insurers.

When the cost trends are applied to the Medicaid BHIDD expenditures in the years covered by the study, we find that the magnitude of the savings to the State of Michigan's Medicaid program to be impressive. These savings are outlined below.

Against national Medicaid per enrollee rate increases: The cost control performance of Michigan's public behavioral health and intellectual and developmental disability services system, as the state's Medicaid Specialty Managed Care System, against national Medicaid rate increases, as determined via comparison of those two growth rates over the period of 1998 through 2015. These comparative growth rates are outlined in the graph and tabular analysis below.

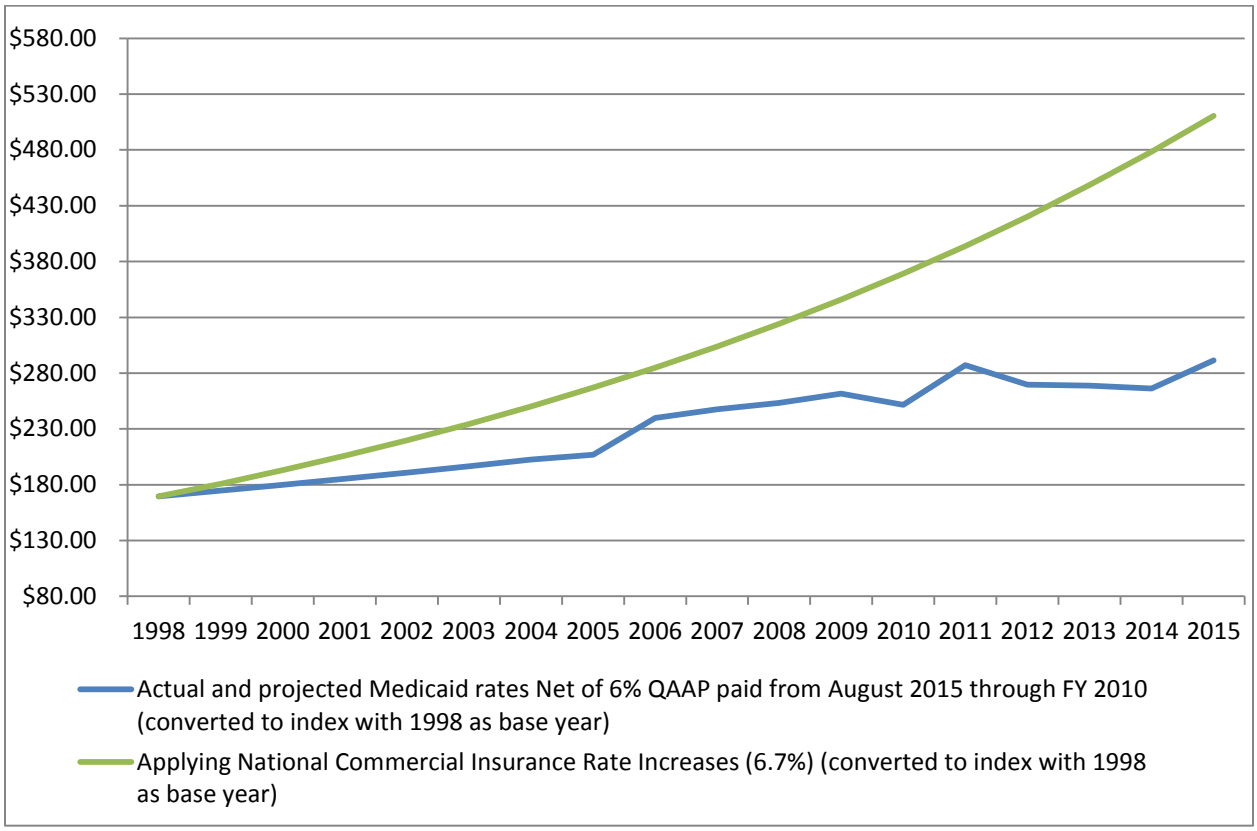
Graph 1: Comparison of Michigan Specialty (behavioral health and intellectual and developmental disability services) Medicaid rate increase (per enrollee per month) with those of average national Medicaid rate increases – as index with 1998 as base year at 100.



	Michigan public BHIDD system per enrollee rates	National Medicaid per enrollee rates
Cumulative increase from 1998 through 2015:	71.88%	118.32%
Cumulative savings from 1998 through 2015:	$ 5,273,089,686	
If this eighteen year trend continued through 2024:	$ 12,737,764,999	

Against national commercial insurance rate increases: The cost control performance of Michigan's public behavioral health and intellectual and developmental disability services system, as the state's Medicaid Specialty Managed Care System, against national Medicaid rate increases, as determined via comparison of those two growth rates over the period of 1998 through 2015. These comparative growth rates are outlined in the graph and tabular analysis below.

Graph 2: Comparison of Michigan Specialty (behavioral health and intellectual and developmental disability services) Medicaid rate increase (per enrollee per month) with those of average commercial health insurance rate increases – as index with 1998 as base year at 100.



	Michigan public BHIDD system per enrollee rates	National Commercial Insurance per enrollee rates
Cumulative increase from 1998 through 2015:	71.88%	201.16%
Cumulative savings from 1998 through 2015:	$ 13,992,156,174	

If this eighteen year trend continued through 2024:	$	35,949,101,168

Analysis: This study was designed to measure the cost control performance of Michigan's public BHIDD. While no attempt was made to determine the variables that led to this success, some variables, not typically seen in other managed care systems, appear to be related to the system's ability to sustain cost control over nearly two decades. These factors include:

1. Active management of comprehensive and closely aligned service and support provider networks and central community convener role: The public BHIDD system has a very long history, since the 1960s in nearly all of Michigan communities, of operating a comprehensive, tightly managed and interwoven provider network. In communities across the state, whether the CMHSP serves as a core provider, purchaser of services, or both, the county-based public CMHSP designs, organizes, pays, evaluates, and refines the services and supports network while also holding the role of convener of community efforts to address a range of health and human services needs. Both of these traits – active management of the service network and close ties to the community – allow Michigan's public BHIDD system to align the work of its provider network and that of other community partners to addressing BHIDD and related needs.

2. Guided by whole person orientation, impact of social determinants of health, and a person-centered planning approach. A whole person orientation, with person-centered planning at its core (as required by Michigan statute), the public BHIDD system develops its services around cost effective methods that are community-based, non-traditional and focus on a wide range of social determinants of health. These approaches, long utilized in Michigan's public BHIDD system, are being applied, in ever greater frequency , by healthcare providers and care managers in other sectors of health care.

3. High medic al loss ratios (low overhead/ administrative costs): Low administrative costs and no profits drawn out of the system allow for 94% of the funds received by the public BHIDD system to be used to provide services in the year in which the funds were received or in future years. This 94%, the system's medical loss ratio, is far below that of traditional private health plans – ratios that hover around 85%.

4. Impact of whole person orientation and healthcare integration efforts: The recent work of the public BHIDD system to pursue a wide range of healthcare integration efforts is in keeping with these factors and holds great promise for continued cost control.
These methods include:

- addressing a range of social determinants of health through a whole-person orientation by working closely with a range of healthcare and human services in the consumer's home community
- weaving the services offered by the CMH and provider network with the care that families and friends provide
- using other consumers as peer supports and advocates on behalf of the persons served
- using an array of both traditional (psychiatric care, psychotherapy, inpatient psychiatric care) and nontraditional services (housing supports, employment supports, homebased services).

Additionally, over the last several years, the CMHs, PHPs, and their provider networks have been at the forefront of designing and implementing healthcare integration efforts that result not only in

improved care but in healthcare cost control. These efforts include: shared and linked electronic health records, walk-in centers, the co-location of mental health practitioners in primary clinics and the provision of primary care providers on CMH campuses, and efforts to identify and work closely with super-utilizers of health care. These healthcare innovation efforts were recently cataloged by the Center for Healthcare Research and Innovation in the white paper, "Healthcare Integration and Coordination: Hundreds of innovative initiatives identified in a survey of Michigan's CMHs, PIHPs and Providers", which can be found at: https://www.macmhb.org/sites/default/files/attachments/files/Healthcare%20Integration%20Report%20-%20final-rev.pdf

Conclusion

This study finds that Michigan's public behavioral health and intellectual/developmental disabilities services and supports system – its CMH, PIHP, and provider network - has shown a tremendous return on investment, saving the state billions of health care dollars over the past two decades. While the achievement of the triple aim – improving the overall health of our population, improving patient care, and reducing the per capita cost of healthcare – has long been the aim of Michigan's public mental health system, as it has been for the entire healthcare industry, this study makes clear the system's ability to meet the cost control component of the triple aim. Low overhead, working closely with the health care consumer, a closely knit provide network, integrating a range of non-traditional and traditional services, a whole person orientation to healthcare, and the integration of mental health and physical health care have led to the successful cost control work of Michigan's public mental health system.

This study underscores the wisdom of those who have recommended that Michigan's public mental health system remain publicly managed.

The success that Michigan's public mental health system has achieved in controlling healthcare costs for nearly two decades and resulting in the saving of billions of taxpayer dollars is eye opening for those unaware of the strong fiscal and risk management skills of this system. In addition to cost control, the system's value lies in its ability to employ and continually develop innovative mental health practices in communities across the state, with one of the broadest mental health services arrays in the country, in serving as the state's mental health safety net, serving some of the state's most vulnerable and resilient community members make this state's public system

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The Michigan Association of Community Mental Health Boards (MACMHB) is a state association representing the state's public Community Mental Health (CMH) centers, the public Prepaid Inpatient Health Plans ((PIHP) public health plans formed and governed by the CMH centers) and the providers within the CMH and PIHP provider networks. Information on MACMHB can be found at www.macmhb.org or by calling (517) 374-6848.

The Center for Healthcare Research and Innovation is the research and analysis office within MACMHB, issuing white papers and analyses on a range of healthcare issues with a focus on behavioral health and intellectual/developmental disability services.

Appendices

Appendix A: Sources for Michigan Medicaid rates:

1. The TANF Mental Health State Plan data for FY 2004 to FY 2015 were obtained from the Medicaid Rates Milliman Reports.
2. The DAB Mental Health State Plan data for FY 2004 to FY 2015 were obtained from the Medicaid Rates Milliman Reports.
3. The TANF Mental Health 1915 (b)(3) data for FY 2004 to FY 2015 were obtained from the Medicaid Rates Milliman Reports.
4. The DAB Mental Health 1915 (b)(3) data for FY 2004 to FY 2015 were obtained from the Medicaid Rates Milliman Reports.
5. The total for FY 2004 was found by finding the sum of the State Plan and 1915(b)(3) services for TANF Mental Health and DAB Mental Health per the Milliman Reports. (Publication date was not included.)
6. The total for FY 2005 was found by finding the sum of the State Plan and 1915 (b)(3) services for TANF Mental Health and DAB Mental Health per the Milliman Reports. (Publication date: 7/13/2004)
7. The total for FY 2006 was found by finding the sum of the State Plan and 1915 (b)(3) services for TANF Mental Health and DAB Mental Health per the Milliman Reports. The QAAP/Claims Tax was then removed to remove the artificial inflation. (Publication date: 8/29/2005)
8. The total for FY 2007 was found by finding the sum of the State Plan and 1915 (b)(3) services for TANF Mental Health and DAB Mental Health per the Milliman Reports. The QAAP/Claims Tax was then removed to remove the artificial inflation. (Publication date: 8/18/2006)
9. The total for FY 2008 was found by finding the sum of the State Plan and 1915 (b)(3) services for TANF Mental Health and DAB Mental Health per the Milliman Reports; using the *Low Rate Range* data as it was the only data provided for this year. The QAAP/Claims Tax was then removed to remove the artificial inflation. (Publication date: 8/20/2007)
10. The total for FY 2009 was found by finding the sum of the State Plan and 1915 (b)(3) services for TANF Mental Health and DAB Mental Health per the Milliman Reports. The QAAP/Claims Tax was then removed to remove the artificial inflation. (Publication date: 3/13/2009. *Previous mid year publication date was unavailable for this year.*)
11. The total for FY 2010 was found by finding the sum of the State Plan and 1915 (b)(3) services for TANF Mental Health and DAB Mental Health per the Milliman Reports. The QAAP/Claims Tax was then removed to remove the artificial inflation. (Publication date: 7/20/2010. *Previous mid year publication date was unavailable for this year*.)
12. The total for FY 2011 was found by finding the sum of the State Plan and 1915 (b)(3) services for TANF Mental Health and DAB Mental Health per the Milliman Reports. The QAAP/Claims Tax was then removed to remove the artificial inflation. (Publication date: 10/21/2010)
13. The total for FY 2012 was found by finding the sum of the State Plan and 1915 (b)(3) services for TANF Mental Health and DAB Mental Health per the Milliman Reports. The QAAP/Claims Tax was then removed to remove the artificial inflation. (Publication date: 10/5/2011)
14. The total for FY 2013 was found by finding the sum of the State Plan and 1915 (b)(3) services for TANF Mental Health and DAB Mental Health per the Milliman Reports. The QAAP/Claims Tax was then removed to remove the artificial inflation. (Publication date: 8/2/2012)
15. The total for FY 2014 was found by finding the sum of the State Plan and 1915 (b)(3) services for TANF Mental Health and DAB Mental Health per the Milliman Reports. The QAAP/Claims Tax was then removed to remove the artificial inflation. (Publication date: 9/24/2013)
16. The total for FY 2015 was found by finding the sum of the State Plan and 1915 (b)(3) services for TANF Mental Health and DAB Mental Health per the Milliman Reports; using the *Low Rate Range* data as it was the only data provided for this year. The QAAP/Claims Tax was then

removed to remove the artificial inflation. (Publication date: 6/10/2015. Previous mid year publication date was unavailable for this year)

[17.] The Projected Rate of Growth based on years 2004-2011 took the average rate of growth of the total found for those years and that rate of 4.32% determined the cost per enrollee per month for years 2012-2025. Each year starting with 2012, 4.32% was added to the total to project the possible growth.

[18.] The Projected Rate of Growth based on years 2004-2015 took the average rate of growth of the total found for those years and that rate of 2.92% determined the cost per enrollee per month for years 2016-2025. Each year starting with 2016, 2.92% was added to the total to project the possible growth.

[19.] The U.S. Consumer Price Index data was based off of information from the U.S. Bureau of Labor and Statistics from FRED economic research. Source: https://fred.stlouisfed.org/series/CPIMEDSL#0

[20.] The data referring to the 6% QAAP/Claims Tax are found in the Milliman Report.

[21.] Rates for Nationwide average of medicaid per enrolle spending found from The Henry J. Kaiser Family Foundation. (Publication date: January 28, 2015).

[22.] Rates for Private Insurance per enrollee spending found from The Henry J. Kaiser Family Foundation (Publication date: January 28, 2015).

Appendix B: Additional Resources Used in Constructing this Analysis

Algorithms for Innovation. (2016). Bending the cost curve: The Utah Way. Retrieved January 31, 2017, from https://healthsciences.utah.edu/innovation/money/utahway.php

Consumer Price Index for All Urban Consumers: Medical Care. (2017, January 18). Retrieved January 31, 2017, from https://fred.stlouisfed.org/series/CPIMEDSL

James, B. C., & Poulsen, G. P. (2016, July & aug.). The Case for Capitation. Harvard Business Review. Retrieved from https://hbr.org/2016/07/the-case-for-capitation

Lewin Group. (2016, February 17). Oregon: Bending the LTSS Cost Curve. Retrieved December, 2016, from https://www.oregon.gov/DHS/ABOUTDHS/DHSBUDGET/20152017%20Budget/Lewin-APD-DD-Sustainability.pdf

United States Department of Labor. (2010, April). How BLS Measures Price Change for Medical Care Services in the Consumer Price Index. Retrieved January 31, 2017, from https://www.bls.gov/cpi/cpifact4.htm

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[i] Berwick DM, Nolan TW, Whittington J. The Triple Aim: care, health, and cost. Health Affairs; 2008; 27(3); p. 759-769