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MENTAL HEALTH PARITY LAWS: A STUDY OF THE EFFECTIVENESS FOR TREATMENT

A THESIS APPROVED FOR THE
COLLEGE OF LIBERAL STUDIES

BY

_____
Dr. B. Mitchell Peck, Chair

_____
Dr. John Duncan

_____
Dr. Paul Ketchum

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I dedicate my thesis work to my loving family. Without the support and patience of my spouse Trent Cason, I would not have pushed myself to attempt this endeavor. I would also like to acknowledge my three amazing children, Eddie, Sidney, and Christian. You are the inspiration I used to complete a full week at work then use my evenings and weekends to complete schoolwork. Without the support from all of you, I would not have made it this far, thank you and I love you.

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Abstract

To date, research examining the effects of comprehensive state mental health parity on the receipt of substance abuse treatment is limited. Comprehensive state mental health parity laws address the inequality between the receipt of treatment between mental health services and medical/surgical services more systematically than federally mandated mental health parity laws. The goal of comprehensive state parity laws is to reduce barriers in place that affect the receipt of substance abuse treatment. In this study, I sample twenty states in order to identify the treatment gap rate for substance use disorders in percentages and the per capita state expenditures for mental health treatment in average dollars per person. The treatment gap percentage is the ratio of the total number of individuals identified as needing, but not receiving treatment for substance use disorders within the last year divided by individuals identified as having a substance use disorder in the past year. The twenty states sampled included ten with comprehensive state mental health parity laws and ten states with the federally mandated mental health parity laws, the purpose of this sample is to identify if comprehensive state mental health parity resulted in a reduced treatment gap rate. The second measure is to identify if states with comprehensive mental health parity reflected an increase in expenditures for substance abuse treatment per person. The result of the research conducted did not find a significant difference for the substance use disorder treatment gap with the exception of the age group 12-17 year olds. Second, state expenditures per capita on substance abuse treatment was significant for states with more comprehensive state mental health parity laws.

Chapter 1: Introduction

The previous barriers to treatment for substance use disorders has changed considerably since 2008. Two pivotal federally mandated changes occurred, the Mental Health Parity and Addiction Equity Act of 2008 (MHPAEA) and the Affordable Care Act of 2010 (ACA). Prior to both of these Acts, public and private insurers were not required to offer coverage benefits for substance use disorders equal to coverage benefits for other health conditions. These disparities were reflected in annual and lifetime dollar limits, financial requirements, and treatment limitations. After federal mental health parity laws went into effect insurers were required to offer equitable coverage for substance use disorders and other health benefits if the insurer offered any behavioral health coverage. In addition to the federal Acts that have contributed to mental health parity, certain states have passed state mental health parity laws exceeding the federal mandates.

A current estimate of the treatment gap rate for individuals reporting symptoms of a substance use disorder but not receiving substance abuse treatment in the United States is greater than 93.0 percent for public, private, and uninsured individuals (Bouchery, Hardwood, Dilonardo, and Vandivort-Warren, 2012). Considering the significant treatment gap between individuals stating they have symptoms of a substance use disorder and those receiving any type of substance abuse treatment would suggest that the federally mandated Acts are not having a substantial impact on the receipt of substance abuse treatment. The barriers reported to receiving substance abuse treatment are access, financial, and personal or organizational familiarity with the federal mental health parity Acts. Mental health parity laws are in place to ensure

equitable treatment of mental health disorders compared to other health conditions, the substance abuse treatment gap rate of 93.0 percent does not reflect an effectiveness of any mental health parity laws.

Several studies tracking expenditures on substance use disorders between 1992 and 2012 document an increase in spending on substance use disorder treatment. This is reflected in the overall spending on substance use disorders nationally and by type of treatment: inpatient, outpatient, and pharmaceutical. The trend is a decrease in spending on inpatient treatment and an increase on spending on outpatient and pharmaceutical. The same studies note that overall spending on substance abuse treatment is considerably less than spending on other health conditions (Mark & Vandivort-Warren, 2012, Mark & Coffey, 2004, and Mark, Levit, Yee, & Chow, 2014).

Chapter 2: Literature Review

Mental Health Parity and Equity Act 2008

According to a 2014 National Survey on Drug Use and Health (NSDUH) by the Substance Abuse and Mental Health Services Administration (SAMHSA) (2016), approximately 18.1 percent of Americans over the age of 18 experience some form of mental illness. The same study revealed that 8.4 percent or 20.2 million adults reported a substance use disorder. It is important to understand the relationship between mental illness and substance use disorders. According to Cosci & Fava (2011), date obtained from the National Comorbidity Survey indicate that 41.0 to 65.5 percent of individuals who suffer from a lifetime substance use disorder are also diagnosed with a lifetime of a minimum of one other mental illness. Understanding the relationship between substance

use disorders and other mental illnesses is imperative to understanding the complexity of a substance use disorder.

Mental health disorders involve deviations in thinking, mood, and behaviors. These behavioral irregularities also affect interpersonal relationships and decision-making skills. However, mental health disorders are treatable and manageable. A substance use disorder is diagnosed when an individual experiences recurring use of alcohol or illicit/prescription drugs which creates significant impairment. Types of impairments caused by substance use disorders include health problems, disability, and failure to meet work, school, or home obligations. Types of treatment for substance use disorders include one or more of the following: individual and group counseling, inpatient and residential treatment, intensive outpatient treatment, partial hospitalization program, case or care management, medication, recovery support services, 12-step fellowship, and peer support (SAMHSA, 2016).

The Mental Health Parity and Addiction Equity Act of 2008 (MHPAEA) ensures that group health plans and issuers of health insurance policies provide equitable benefits compared to medical/surgical benefits (U.S. Department of Labor, 2010). MHPAEA requires that financial obligations of copays, deductibles, and coinsurance are equal to these same type of financial obligations for medical/surgical coverage, treatment limitations (visit limits) must also be equal among both mental health coverage and medical/surgical coverage (U.S. Department of Labor, 2010). MHPAEA applies to both public and employer sponsored insurance plans (U.S. Department of Labor, 2010).

The MHPAEA is a federally mandated act that applies to all states within the United States. States have the option to pass legislative mandates addressing mental health parity that exceed the requirements of MHPAEA. The state mental health parity laws legislated that exceed the requirements of MHPAEA are considered comprehensive state mental health parity (National Alliance on Mental Illness (NAMI), 2010). Comprehensive parity is defined as equal coverage of an extensive range of mental health conditions that includes substance use disorders, comprehensive parity does not allow for exemptions for private insurers conducting business within comprehensive parity states (NAMI, 2010). The comprehensive state parity laws attempt to address some of the loopholes of MHPAEA.

Types of Health Insurance and the Affordable Care Act of 2010

Public insurance coverage is a combination of federal and state funding, enrollment in public insurance coverage is dependent upon qualifications based on an individual's limited income and resources (Centers for Medicare & Medicaid Services (CMS), 2016). After the final regulations issued in 2014 by the ACA of 2010, employer sponsored health plans are required to meet organizational and benefit minimums of coverage (Internal Revenue Service (IRS), 2016). According to the ACA, employers employing a minimum of 50 full-time individuals or part-time and full-time employees equaling 50 or more full-time individuals are subject to ACA guidelines (IRS, 2016). Benefits offered by employers meeting ACA guidelines are required to offer essential benefits as identified by CMS (2016). Individual health plans purchased on an individual basis that are not part of an employer sponsored health plan are required to

meet ACA standards of minimum required. Each health insurance plan is required to cover the following: ambulatory patient services, emergency services, hospitalizations, pregnancy/maternity/newborn care, mental and substance use disorder services, prescription drugs, rehabilitative services, laboratory services, prevention and wellness, pediatrics, birth control coverage, and breastfeeding coverage (CMS, 2016).

Individual and employer sponsored health insurance plans are responsible for a fee structure that assigns a portion to the insurer and a portion to the patient, these portions combined are paid to the provider of the healthcare services, this combined payment is called cost-sharing (Blue Cross Blue Shield Network (BCBS), 2016). Cost sharing becomes a significant factor in the receipt of substance abuse treatment. Examples of cost sharing are deductibles, coinsurance, and copays (BCBS, 2016). A deductible is the portion the patient pays for services before the insurer begins to pay a contribution (BCBS, 2016). Coinsurance is the patient's share of the cost of the services received figured as a percentage of the total allowable cost from the provider (BCBS, 2016). A copay is a fixed amount the patient is responsible for based on the type of health related service received (BCBS, 2016). If cost sharing for substance abuse treatment is not equitable to the receipt of other health conditions financial barriers may contribute to an increased substance use treatment gap.

Expenditures on Substance Use Disorders by Private Insurers 1992-2012 and Projections through 2020

Expenditures 1992 – 2001

A study by Mark and Coffey (2004) examined trends in substance use disorder treatment financed through private insurance from 1992 to 2001. The findings reflect a

decline in spending on any substance abuse service including inpatient, outpatient, and pharmaceutical services. Examining each category independently, outpatient treatment dropped 5 percent during this time and in 2001 the mean spending per visit in real dollars dropped by one-third. The length of stay for inpatient treatment decreased by ten days while the rate of admission or readmission rate increased by 4.2 percent (Mark & Coffey, 2004). The spending per prescription by the patient increased by 90.5 percent in 1992 and 271.1 percent in 2001 (Mark & Coffey, 2004). Overall spending on substance abuse treatment by private insurers decreased by 73.6 percent in nominal dollars. Cost sharing by the patient increased from 14.0 percent in 1992 to 19.0 percent in 2001 (Mark & Coffey, 2004).

Expenditures 2001 – 2009

The overall expenditure for substance abuse treatment between 2001 and 2009 averaged $18 per privately insured patient, spending on substance abuse treatment per enrolled member increased from 9.81 percent in 2001 to 17.86 percent in 2009 (Mark & Vandivort-Warren, 2012). During this time period, substance abuse expenditures by private insurers grew faster than general medical expenditures. Per category of treatment type, inpatient, outpatient, or pharmaceutical, 53.0 percent of expenditures were reflected in outpatient services, 46.0 percent for inpatient services, and 1.0 percent for pharmaceuticals in 2001. In 2009, expenditures on outpatient treatment equaled 43.0 percent, inpatient 43.0 percent, and pharmaceuticals 29.0 percent. Receipt of substance abuse treatment between 2001 and 2009 was an average of 5.1 annual visits for outpatient treatment, 7.3 days were the average length of stay for inpatient treatment, and number of days supplied for pharmaceuticals increased from 93.0 to 143.3 days

annually. On average overall substance abuse expenditures per person annually increased 7.8 percent between 2001 and 2009, the annual average rate for outpatient treatment increased by 3.4 percent, 5.8 percent for inpatient treatment, and 20.3 percent for pharmaceuticals. The result in overall spending on substance abuse treatment increased in each category of treatment between 2001 and 2009 (Mark & Vandivort-Warren, 2012).

Expenditures 2004 – 2012

Between 2004 and 2012 per capita spending on substance abuse treatment increased 14.7 percent for commercially insured individuals (Thomas Parks, Hodgkin, Levit, and Mark, 2016). Comparing this time period to the 2004-2009 and 2009-2012, overall health care spending per capita decreased from 6.5 percent to 3.9 percent annually, annual spending for substance abuse treatment increased from 10.0 percent to 22.8 percent. By 2012, substance abuse treatment spending represented less than 1.0 percent of total health care spending at $32.65 per member per year compared to spending on all health care at over $5,000 per member per year. The change in spending for substance abuse treatment from 2009 to 2012 reflected a growth in outpatient treatment at 63.3 percent, inpatient decreased to 25.4 percent, and prescription drugs decreased to 11.3 percent compared to the 2004 to 2009 study period. Although expenditures for treatment by private insurers has increased between 2009 to 2012, individuals receiving substance abuse treatment remains low compared to a prevalence of 8.0 percent of those individuals that meet the criteria for a substance use disorder (Thomas Parks et al., 2016).

Projected Expenditures Through 2020

Spending on the treatment of mental and substance use disorders grew at an average annual rate of 2.0 percentage points slower than spending on all health from 1986 through 1998 (Mark, Levit, Yee, and Chow, 2014). From 1998 through 2009 the average annual growth rate in spending were similar for mental and substance use disorders (6.7 percent) and for all health (6.8 percent). Projections for 2009 through 2020 is expecting to see a return to slower spending growth rate for the treatment of mental and substance use disorders (4.6 percent annual average increase) then the previous growth rate of 6.7 percent for the prior 11 years. Concluding that the downward trend in the share of all health spending for treatment of mental and substance use disorders from 7.4 percent in 2009 to 6.5 percent in 2020 is expected to resume. When factoring in ACA legislation, the gaining of coverage both private and public will result in a 25.0 percent increase in all spending, by 2020 expenditures will be 2.7 percent higher than what would be estimated without the legislation. The ACA legislation will provide higher enrollments in Medicaid and private insurers adding financial protection to patients, in 2020 the result in higher spending for Medicare will result in 7.6 billion and 2.6 billion for private insurers and lower out-of-pocket expenses by 1.0 billion. Spending on substance use disorders accounted for 1.0 percent of all health spending in 2009 and is projected to remain at this level through 2020, growth in spending for substance use disorders is expected to lag behind spending for all health care, 5.1 percent and 5.8 percent, which continues the long historical trend (Mark, et al., 2014). The share of treatment spending on substance use disorders by private insurers is expected to pay 0.5 percent of its total expenditures through the projected time-period.

Expenditure conclusion

The data presented by the authors represents a twenty-four-year historical view of an eleven-year projection of treatment spending for mental and substance use disorders (Mark et al., 2014). The projected spending rates of mental and substance use disorder treatment will increase due to expanded coverage and an improving economy. The authors predict the historical trend of payment for treatment of mental and substance use disorders will continue; the share paid by insurers will increase and the out-of-pocket for individuals will decrease. This increase in access to treatment is a result of a broader access to treatment; treatment accessed through primary care physicians and general hospitals instead of treatment centers specific to mental and substance use disorders (Mark et al., 2014).

Treatment Barriers

According to Bouchery et al. (2012), 6.5 percent of individuals nationally reporting symptoms of a substance use disorder received any type of substance abuse treatment resulting in a 93.0 percent or greater treatment gap based on data estimates from NSDUH. The research examines the correlation between the type of insurance coverage and the receipt of substance abuse treatment. The findings suggest that when controlling for demographic characteristics, type of treatment needed, and the representations for the severity of substance use disorder, persons with private insurance (individual and employer-sponsored) are less likely to receive treatment for a substance use disorder than individuals with other types of health insurance (Medicaid, Medicare, Champus/VA, and uninsured) (Bouchery et al., 2012).

The ways in which private plans impede access to substance abuse treatment are through the implementation of managed care utilization controls that create barriers (Bouchery et al., 2012). Additional treatment barriers by private plans are through limiting service coverage and imposing higher copayments. Persons with private insurance most likely have these plans gained through employment; missed work and the possibility of stigma relating to substance use disorders may decrease the likelihood that individuals meeting the requirements for substance use disorders with seek treatment. Bouchery et al. (2012) state findings from a cross-cultural study of the degree of stigma and concluded that drug addiction were more stigmatized when compared to other health conditions like obesity and dementia. The study concluded that individuals with private insurance that meet the requirements for medical necessity were less likely to receive treatment, among the group studied; the treatment gap is 70.0 percent (Bouchery et al., 2012.

A majority of private health plans contract their mental health benefits to a third party administrator, primarily managed behavioral health care organizations (MHBO) (Merrick, Reif, Hiatt, Hodgkin, Horgan, and Ritter, 2012). Employers and health plans contract MHBOs to deliver managed mental health services, enrolled patients contact the MHBO by phone and then are referred to a specialist based the determined need by the MHBO representative (Merrick et al., 2012).

A survey conducted by Merrick et al. (2012) on the patient's experience of treatment indicated that 18.4 percent of the respondents felt that their specialty substance abuse treatment provider had communicated with their primary care physician. The survey also concluded that 27.6 percent of the respondents indicated that

treatment had stopped sooner then what the patient felt was needed (Merrick et al., 2012). The authors note a concern for MHBOs in that there is a lack of integration between specialty mental health and other medical care, this lack of integration creates a treatment barrier (Merrick, et al., 2012).

An additional barrier to receipt of treatment is through a disconnect of understanding by providers on how the MHPAEA affects patients benefits (Edmond, Aletraris, Roman, Fields, and Bride, 2016). In a survey conducted that questioned administrators of various centers providing substance abuse treatment found that 36.0 percent of administrators reported a high level of familiarity of MHPAEA (Edmond et al., 2016). Administrators that perceived MHPAEA as having no impact on their facility equaled 71.0 percent (Edmond et al., 2016). During the time of the survey, the facilitates interviewed reported an 18.0 percent increase in admission to a program by the privately insured and 15.0 percent reported an increase in insurance coverage (Edmond et al., 2016). The authors concluded although the familiarity of MHPAEA was low those that perceived a high familiarity of MHPAEA reported that it has had a positive impact on the receipt of treatment (Edmond et al., 2016).

Federal Mental Health Parity vs State Mental Health Parity

According to CMS (2016) insurance plans subject to ACA guidelines are required to offer mental health and substance abuse coverage if the insurer provides any type of mental health and substance abuse coverage, insurance plans that provide no mental and substance abuse coverage are exempt. Essential mental or substance abuse coverage include mental health treatment in the form of psychotherapy, counseling or inpatient services. Substance use disorder treatment is required but treatment type is not

specified by ACA (2016). Federal parity protection for the treatment of mental or substance use disorders include deductibles, copayments, coinsurance, out-of-pocket limits, limits of number of days or visits covered, and care management (ACA, 2016).

As previously mentioned the MHPAEA 2008 and ACA 2010 regulate the ways in which private and public insurers deliver substance abuse coverage and treatment. Each individual state must comply with these regulations but have the ability to enact state parity laws that exceed what is required by the MHPAEA 2008 and ACA 2010. Following is a list of types of state parity laws that affect the delivery of mental and substance abuse coverage and treatment by private insurers (NAMI, 2010):

- Comprehensive parity: equal coverage of a wide range of mental health conditions and substance use disorders.
- Broad-based parity: equal coverage of a wide range of mental health conditions with some limitations or exemptions.
- Limited parity: limits equal coverage to a specific list of mental health conditions and/or excludes coverage for significant policy groups and/or limits equal coverage for specific durations of time, financial limits or cost sharing and/or allows plans to opt out of parity due to cost-increase provisions.
- Mandated if offered: requires mental health coverage equal to other medical conditions if the plan offers mental health coverage.
- Mandated offering: requires plans to offer the mental health coverage that is equal to coverage for other medical conditions but the consumer is not required to enroll in mental health coverage.

- Minimum mandated benefit: mandates minimum mental health coverage that is not required to be equal to other medical conditions.

A study conducted by Dave and Mukerjee (2011) investigated the impact of state comprehensive mental health parity on treatment admission rates and cost sharing. Comprehensive state parity for mental and substance abuse treatment significantly affected the admission of substance abuse treatment, these states reported a 12.58 percent increase in total treatment admissions. States with limited parity legislation reported a 4.7 percent increase. Comprehensive state mental health parity reports that self-referrals for substance abuse treatment increase by 23.1 percent; limited state mental health parity had no impact on self-referrals. Referrals of admission to treatment by healthcare provider or employer indicate a 20.7 percent increase with comprehensive parity, limited parity reflected no effect. States that mandate comprehensive parity have a higher probability of 3.7 percentage points that the treatment admission by privately insured after enacting the law, there is no significant impact of limited parity legislation (Dave & Mukerjee, 2011). The combined increase in private and public coverage of substance abuse admissions reduces the probability that an admission is uninsured by 10.0 percentage points among states with comprehensive parity.

Before MHPAEA, receipt of substance abuse treatment declined for all age groups (Mark & Coffey, 2001). However, post MHPAEA research finds mixed results on the effectiveness of MHPAEA based on the receipt of substance abuse treatment based on age groups. Dave & Mukerjee (2011) also find that age is negatively related to substance abuse treatment admissions. Their results indicate that as age increases the likelihood of receiving treatment decreases. Conversely, Bouchery et al. (2012) find that

children and young adults ages 12 – 21 are approximately half as likely to have received any substance abuse disorder treatment compared to 35 – 50 year olds. The contradictive results in the literature on the effects of MHPAEA on age is worth further examination.

An examination of the effect of Oregon's comprehensive parity law on the utilization and spending of alcohol and other drug abuse treatment services, independent of utilization and spending on treatment of other mental disorders found a statistically significant increase in spending on alcohol treatment but not for other drug abuse treatment (McConnell, Ridgely, and McCarty, 2012). According to the authors, this study is the first to assess the effects of a parity law that restricts non-quantitative treatment limitations on the utilization and spending on substance abuse treatment services (McConnell et al., 2012). The authors point out that separating alcohol treatment and drug abuse treatment is important for identifying the significant differences in spending (McConnell et al, 2012). Using the Oregon control group, spending on alcohol treatment services increases by 100 percent over the 2005-2006 to 2007-2008 time period, other studies reflect growth rates closer to 50 percent for a similar time period (McConnell et al., 2012). Federal parity has been associated with an overall reduction in out-of-pocket spending; Oregon's parity law was not associated with these reductions (McConnell et al., 2012). In Oregon, "medical necessity" is the means that insurers use to deny claims for substance abuse treatment; post-parity health plans faced greater risk because of the lack of managed care and prior authorization (McConnell et al., 2012). Without managed care and prior authorization, insurers have more liberty to deny claims based on medical necessity (McConnell et al., 2012). A

limitation pointed out by the authors is the period used for the study, a two-year period (McConnell et al., 2012).

An additional study on Oregon's comprehensive state parity by McConnell, Gast, Ridgely, Wallace, Jacuzzi, Rieckmann, McFarland, and McCarty (2012) concluded that the comprehensive state parity had no significant increase on mental or substance abuse treatment. The study was conducted was over a four year time period in which two years prior to Oregon's state parity was in place and two years after is examined (McConnell et al., 2012). The Oregon Insurance Division interpreted the MHPAEA as meaning that mental health benefits would have the same expenditure consideration as medical/surgical benefits; however, the result of the study reflected no substantial increase in expenditures for mental health or substance abuse treatment post-state parity (McConnell, 2012).

Chapter 3: Research Question and Hypotheses

The goal of the current study is to gain a deeper understanding of how federally mandated mental health parity and comprehensive state mental health parity laws affect the cost of treatment by the insurer and patient. Previous literature suggests that over a period of time the cost by private insurers has increased suggesting that the patients' financial responsibility decreased. Two factors affecting the receipt of treatment for substance use disorders are federal mandated mental health parity and comprehensive state parity. Considering the treatment gap for the receipt of treatment for substance use disorders and factoring federal and state parity, logically the receipt of treatment would increase in states that have state mental health parity laws that are more comprehensive than federal mental health parity. I am comparing 10 states with the federally mandated

minimum mental health parity to 10 states with comprehensive state mental health parity. To this end, I will test the following research question and hypotheses:

Research Question

What impact, if any, does comprehensive state mental health parity laws have on the receipt of treatment for substance use disorders compared to states with the minimum mandated federal mental health parity?

Hypotheses

Hypothesis 1

States with comprehensive parity will have a decreased treatment gap compared to states without parity.

Hypothesis 2

States with comprehensive parity will have increased expenditures on substance abuse treatment.

Chapter 4: Data and Methods

Sample

Data for this study were taken from a sample of twenty states. Ten states with comprehensive mental health parity laws (Connecticut, Georgia, Kansas, Maryland, Michigan, Minnesota, Missouri, Nevada, New Hampshire, and Vermont) and ten states with the minimum mandated mental health parity laws (Arizona, Kentucky, Massachusetts, California, Oklahoma, South Dakota, West Virginia, Delaware, Idaho, and Illinois) for the year 2014.

The criteria used to determine which states have comprehensive mental health parity laws included alcoholism and drug abuse as a covered illness. In addition to

substance use disorders as a covered illness, each comprehensive state applies their laws to group and individual health insurance coverage (NAMI, 2010). There are additional states besides the 10 previously mentioned but they do not have an inclusion for drug and alcohol abuse or only apply their law to certain types of insurers, for that reason those states were excluded.

The criteria used to determine which states have the federally minimum mandated parity do not have an inclusion clause for comprehensive treatment for substance use disorders (NAMI, 2010). The ten states chosen as the minimum mandated mental health parity have no additional state parity laws or if they do, it only applies the mental health treatment, not substance use disorders.

Data gathered from the SAMSHA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2013 and 2014 was used to generate the substance use disorder treatment gap for each state individually. The 2015 SAMSHA Uniform Reporting System (URS) Output Tables was used to generate state expenditures per capita total for fiscal year 2014 to control for population. The statistics include both mental health expenditures and substance use disorder expenditures combined. The year 2014 was chosen for the complete data available post-parity. As stated previously, information from NAMI (2010) was used to categorize states with comprehensive state parity laws and states with the federally mandated minimum mental health parity laws.

SAMHSA was established by congress in 1992 in an effort to make substance abuse and mental health disorder information, services, and research more available (SAMHSA, 2016). SAMHSA is an agency within the U.S. Department of Health and

Human Services; the administration promotes public health efforts to improve mental health in the United States (SAMHSA, 2016).

Measures

Dependent variables

As stated previously, my first dependent variable, treatment gap, is created from information collected by the Substance Abuse and Mental Health Services Administration in the 2014 wave of the National Survey of Drug Use and Health. Treatment gap is defined as the percentage of individuals who are identified as needing, but not receiving, treatment for drug and alcohol dependency and abuse. The treatment gap percentage is presented as the ratio of the following information: the total number of individuals identified as needing, but not receiving treatment for illicit drug dependency and/or abuse is combined with individuals identified as needing, but not receiving treatment for alcohol dependency and/or abuse within the last year. This total number is then divided by the aggregate of individuals identified as having an illicit drug dependency and/or abuse and individuals identified as having alcohol dependency and/or abuse in the past year in the sample.

My second dependent variable, state expenditures is created using information obtained from Substance Abuse and Mental Health Services Administration Uniform Reporting System, which provides both public and private expenditures per capita for treatment of both mental, and substance use disorder treatment measured in U.S. Dollars. This data is limited by the fact that state expenditures for substance use disorders are not separated from state expenditures for total mental health. As mentioned previously, the likelihood that and individual is diagnosed with a substance

used disorder has a 40.0 to 65.5 percent chance of also having at least one diagnosis of a mental illness (Cosci & Fava, 2011). Therefore state expenditures per capita on all mental health treatment is not precise but serves as an adequate proxy for the populations studied. An increase in the total state expenditures may be interpreted as an increase in both substance abuse disorder and other mental health expenditures.

Independent variables

The independent variable is state mental health parity (dummy variable) with values 0=no state comprehensive parity and 1=states with comprehensive state parity laws. States assigned a 0 value include the following characteristics: no supplemental substance use disorder coverage, some states have additional exemptions for the receipt of mental health treatment. States assigned a value of 1include the following characteristics: mandatory individual and group coverage (some states add Managed Health Organizations (HMO)) for mental health disorders, including substance abuse treatment must be equal to other covered health conditions.

Analysis

To test the hypotheses I rely on comparisons of means using t-test. The t-test is a statistical method used to determine whether the difference in means between two groups is significant (Stata, 2011). In this case, the two groups of states are defined by the existence of state-mandated parity. In this research, I perform two-sample mean-comparison t-tests to identify if the mean of the first dependent variable, treatment gap in states where there is no state mandated parity is significantly different from the mean treatment gap in states with state-mandated parity. The results of the t-test will

determine if significantly more robust provisions for substance abuse disorder treatment results in the reduction of the treatment gap.

Similarly, I then perform the same two-sample mean-comparison t-tests to determine if the mean mental health disorder expenditures in states where there is no state-mandated parity is significantly different from the mean substance use expenditures in states with state-mandated parity. The results of this t-test will determine if significantly more robust provisions for mental health disorder treatment results in the increase in substance use disorder expenditures.

Results

Appendix A indicates the descriptive statistics for dependent and independent variables by age group. The mean treatment gap for ages 12-17 years old is 93.0 percent, the illicit drug dependency or abuse in thousands is 18.15 thousand, alcohol dependency or abuse is 13.55 in Thousands, needed but not received treatment for drugs is 17.15 in thousands, and needed but not received treatment for alcohol is 13.1 in thousands.

The mean treatment gap for ages 18-25 years old 92.70 percent, illicit drug dependency or abuse is 51.6 in thousands, alcohol dependency or abuse is 93.3 in thousands, needed but not received treatment for drugs is 46.75 in thousands, and needed but did not receive treatment for alcohol abuse is 88.25 percent in thousands.

The mean treatment gap for ages 26 years old and older is 92.0 percent, illicit drug dependency or abuse is 73.0 in thousands, alcohol dependency or abuse is 239.6 in thousands, needed but did not receive treatment for drug abuse is 63.1 in thousands, and needed but did not receive treatment for alcohol abuse is 227.5 in thousands.

Appendix B shows the results of the two sample t-tests. Initial analysis regarding the total substance use disorder treatment gap for states with parity is not significantly different from states without comprehensive parity (t= -0.56, p= 0.71). What is interesting in these results is that the substance use disorder treatment gap, at least while age groups are combined is *increased* in states with comprehensive parity versus states without (as denoted by the negative test statistic) with an actual increase in the substance use disorder treatment gap from 92%-93%. The results suggest that Hypothesis 1 is not supported. However, with the considerable variation in the ages of individuals in the sample from children (minimum of age 12 in the sample) to adults of all ages, it seems prudent to further parse the results into specific age groups as defined by the dataset. As Appendix B demonstrates, these age groups are 12-17 year olds, 18-25 year olds, and individuals 26 and up.

As displayed in the results both age groups containing adults (18-25 and 26 and up) continue the trend of an *increased* substance use disorder treatment gap for states with parity versus states without parity (t= -0.81, p= 0.78 and t= -0.97, p= 0.82 respectively) with average substance use disorder treatment gaps increasing from 92% to 94% for individuals aged 18-25 and 91%-93% for individuals aged 26 and up across the twenty states in the sample. This result is similar to the results discussed above. However, for the 12-17 age group I find that the substance use disorder treatment gap is *reduced* for states with comprehensive parity versus those without parity and this result is moderately significant (t= 1.62, p= 0.06) with an average reduction in the substance use disorder treatment gap from 97%-89%. This result suggests that in the final analysis, Hypothesis 1 finds partial support when age is considered.

The results of the t-tests also suggest that state public and private expenditures for substance use disorder treatment is significantly higher (t=1.94, p= 0.03) for states with comprehensive parity versus those without. As indicated in Appendix B, the average cost increased from $100.03 per individual treated for substance use disorder in states without comprehensive parity to $158.50 per individual treated in states with comprehensive parity. Taken together, the overall results suggest that the shift to comprehensive state substance use disorder treatment parity as well as the increased expenditures that accompany it are effective in reducing the treatment gap for the vulnerable age group of 12-17 years.

Chapter 5: Discussion and Conclusion

In the study I performed, twenty states were examined, ten states with comprehensive state mental health parity laws and ten states with the federally mandated minimum mental health parity. This comparison of states with comprehensive mental health parity to states with the federally mandated minimum is to identify if comprehensive mental health parity had an impact on the receipt of substance abuse treatment and the expenditures per capita within each state. There was not statistical significance in the receipt of substance abuse treatment in states with more comprehensive mental health parity laws compared to states without comprehensive state parity laws. In contrast, there was statistical significance in expenditures for mental health treatment in states with comprehensive parity when compared to states without comprehensive state parity. This suggests that comprehensive state parity has shifted the financial responsibility away from the patient. The statistical insignificance in the treatment gap suggests that access to substance abuse treatment has not changed.

When choosing my research question and hypotheses I speculated that states with more comprehensive state parity laws would have reduced treatment gaps. The literature that compared Oregon, a state with comprehensive parity, to other states without parity did not find significant difference in the receipt of treatment. The literature suggested that not enough time had passed for the state parity laws to affect the receipt of treatment rates; the research was performed for the years 2005 to 2008. I used a sample year of 2014 to identify if the treatment gap was reduced due to recent data availability. The analysis showed that the overall treatment gap was not significantly different for parity vs non-parity states. The trend reflects that the treatment gap for the receipt of substance use disorders is decreasing but not significantly as of 2014. Hypothesis 1 indicated that states with comprehensive mental health parity would have a decreased treatment gap; this hypothesis was proven partially true but not significant when parsed by age. However, further analysis by age groups shows a significant difference in the treatment gap for ages 12-17 years suggesting that comprehensive state parity is reducing the treatment gap from 97.0 percent for states without parity to 93.0 percent for states with parity. In contrast, the treatment gap increases for states with parity for ages 18 and older compared to states without parity. The overall treatment gap when all age groups are combined is relatively the same but there is a slight shift in the reduction of the substance abuse treatment gap in states with more comprehensive parity. This suggests that a high-risk group of the 12-17 year olds are receiving the benefits of comprehensive state parity and solicits further research.

The literature analyzing the spending on substance abuse treatment between 1992 and 2012 noted a gradual increase of expenditures for substance use disorders nationally. Logically with the implementation of MHPAEA and ACA that requires mental health coverage to be equal to other medical coverage an increase in spending would occur. The literature did not make a distinction between states with comprehensive parity with states having no additional parity provisions. The significance with hypothesis 2 is that it made a distinction between states with comprehensive parity and states without. By doing this, I was able to identify if the increase in mental health expenditures was affected by MHPAEA and ACA only or if state comprehensive parity laws were significant on their own. The results on state expenditures for mental health per capita for states with comprehensive parity is $158.50 per person compared to states without parity resulting in expenditures at $100.03 per person. The states with comprehensive parity laws spend significantly more per person for mental health treatment than states with the federally mandated minimum. This reflects an impact that comprehensive state mental health parity laws are having on the expenditures for mental health treatment compared to states only complying with MHPAEA and ACA.

In answering the question what if any impact does comprehensive state mental health parity laws have on the receipt of treatment for substance use disorders compared to states with the federally mandated minimum the answer is both yes and no within the context of this study. The treatment gap rate for states with and without comprehensive state parity are not significant except for the age group of 12-17 years. The significant

impact is on the receipt of mental health treatment in states with comprehensive parity is on state expenditures per capita.

After reviewing the literature and based on the results of this study, treatment barriers continue to be a significant obstacle in the receipt of substance abuse treatment. Financial, insurance coverage type, personal obligations, and a lack of understanding on how state and federal mental health parity works are the primary barriers to treatment. The out-of-pocket expense for substance abuse treatment remains high. This is especially true if mental health benefit coverage is managed by a MBHO. The MBHO has the option to determine any type of mental health treatment as not medically necessary. If this occurs, the total financial responsibility falls on the patient. The literature stated that often times missing work is a significant reason why an individual would not pursue needed treatment. Most likely, if an individual has private insurance it is employer sponsored, an absence at work would be noticed. In addition, a fear of stigma attached to a mental health disorder would deter an employee from wanting to disclose why they would need time off work if the employer required a specific reason. One study indicated that administrators of substance abuse treatment centers were 36.0 percent of having high familiarity with of MHPAEA and 71.0 percent felt that MHPAEA had no impact on the receipt of treatment (Edmond et al., 2016). This would affect the coordination of benefits between the insurer and the treatment cost if the treatment facility were unclear on how the insurer is required to pay for treatment.

Education seems to be a key factor in reducing these barriers to treatment access. Understanding that substance use disorders are a chronic illness and not simply a lifestyle disease would reduce the stigma attached to individuals that suffer from these

types of disorders. Treatment for substance use disorders would be considered medical necessity instead of a need for behavioral modification through self-control. Members of insurance plans need to understand how their benefits work in order to have an informed approach to coordinating benefits between the insurer and the treatment facility. Employers could focus more on confidential employee assistant programs that assist and employee with navigating treatment options based on their type of insurance plan. Treatment facilities need to have a better understand of how MHPAEA affects the delivery and financial responsibilities between the facility and the patient. The more we engage as a society in discussion about mental and substance use disorders the more we will realize that this not an individual problem but a societal epidemic.

Limitations

The date supplied in this study is a mere snapshot in the processes of determining the reasons for the substance abuse treatment gap. I only had access to open source data that did not supply as much information as I would need to further identify the reasons for the substance abuse treatment gap. The data used to calculate the state expenditures per capita combined both mental health treatment and substance use disorder expenditures; I was not able to parse the expenditures for substance use disorder treatment. Voluntary data with a cost would supply claim information that would provide detailed data for the cost of treatment for the three treatment types: inpatient, outpatient, and pharmaceutical. These voluntary data sources would further parse the data into claims paid by private (Health Managed Organizations (HMO) and Preferred Provider Organization (PPO)), public, or self-pay. If this data were readily available an in depth research by various categories could have been performed for each

state respectively. A benefit of future research is to have more of a time lapse to track the changes for state comprehensive parity, MHPAEA, and ACA in relation to the substance abuse treatment gap.

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Appendix A: Descriptive Statistics Dependent and Independent Variables by Parity and Age Group

Appendix A. Descriptive Statistics Dependent and Independent Variables by Parity and Age Group

	Comprehensive Parity				Non-Comprehensive Parity			
Age Group/Variables	Mean	Std Dev	Min	Max	Mean	Std Dev	Min	Max
Age 12-17 years								
Treatment Gap %	89.18	14.33	50	100	96.84	4.2	87.5	100
Illicit Drug Dependency or Abuse (in thousands)	12.9	8.63	2	28	23.4	37.27	2	125
Alcohol Dependency or Abuse (in thousands)	10.2	5.92	2	20	16.9	24.96	2	85
Needed but not Received Treatment: Drugs (in thousands)	12	8.31	1	27	22.3	35.56	2	119
Needed but not Received Treatment: Alcohol (in thousands)	9.6	5.87	1	19	16.6	24.7	2	84
Age 18-25 years								
Treatment Gap %	93.54	3	88.9	97.3	91.85	6.1	75.94	97.3
Illicit Drug Dependency or Abuse (in thousands)	38	24.21	7	80	65.2	99.64	6	336
Alcohol Dependency or Abuse (in thousands)	68	43.2	11	142	118.6	172.68	14	582
Needed but not Received Treatment: Drugs (in thousands)	34.4	22.36	6	72	59.1	89.93	5	303
Needed but not Received Treatment: Alcohol (in thousands)	65.3	41.2	10	138	111.2	168.85	13	569
Age 26+ years								
Treatment Gap %	92.6	1.9	88.57	94.9	91.47	3.1	86.89	95.4
Illicit Drug Dependency or Abuse (in thousands)	56.6	39.9	9	131	89.4	121.78	7	415
Alcohol Dependency or Abuse (in thousands)	183.4	111.67	26	355	295.8	430.99	32	1460
Needed but not Received Treatment: Drugs (in thousands)	47.7	33.26	7	109	78.5	108.86	6	369
Needed but not Received Treatment: Alcohol (in thousands)	175.7	108.33	24	343	278.4	407.13	30	1377

Source: Substance Abuse and Mental Health Services Administration, 2014 National Survey of Drug Use and Health