

# Behavioral Health Access to Care Metrics

## Illustration of the Impact of Case-mix Adjustment

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**T**HIS POLICY BRIEF illustrates the potential to use case-mix adjustment models to create more equitable performance standards for health care performance measures. Case-mix adjustment recognizes that some factors affecting measures of health care access, health care quality and health outcomes are not readily influenced by providers or health plans. For example, health plans operating in frontier regions may face greater challenges in achieving high levels of access to care due to the greater distance between clients and potential providers. Similarly, providers treating populations with higher prevalence of barriers to care such as high chronic physical disease burden may be adversely affected by a failure to account for these differences in setting provider-level performance expectations.

Analyses reported in this brief use the Substance Use Disorder (SUD) Treatment Penetration and Mental Health Service Penetration measures developed as directed by Engrossed House Bill 1519 (Chapter 320, Laws of 2013) and Second Substitute Senate Bill 5732 (Chapter 338, Laws of 2013). These are measures of access to behavioral health care among the population of Medicaid enrollees with identified behavioral health service needs. We developed case-mix adjustment regression models for each measure, relating individual outcomes to a set of variables reflecting client demographics, client risk factors and residential population density.

We illustrate the potential impact of case-mix adjustment on measures of access to behavioral health care in the context of Regional Support Network (RSN) catchment areas as they existed in State Fiscal Year (SFY) 2014. Although we present results for a SUD treatment penetration metric in SFY 2014, we note that RSNs were not responsible for managing the SUD treatment benefit in this time period. Also note that we illustrate case-mix adjustment of Mental Health Service Penetration using the “broad” variant of the measure that includes services that are the responsibility of managed care organizations under contract with the Health Care Authority.

With the movement towards greater use of performance-based contracting for services, it is important for policy makers to recognize that client outcomes reflect the combined impact of plan and provider performance, client characteristics and other factors. Well-designed performance-based payment systems should not reinforce existing incentives for managed care organizations to achieve a favorable risk pool. If performance incentives are passed through health plans to their contracted providers, well-designed performance payment models should create incentives for providers to engage high-risk clients who may be less able to adhere to standards of care. In addition, payment models should account for access-to-care challenges faced by rural and frontier regions of the state and avoid reinforcing regional resource disparities.

## Model Development and Findings

Analyses reported in this brief use two measures of access to behavioral health services developed as directed by Engrossed House Bill 1519 (Chapter 320, Laws of 2013) and Second Substitute Senate Bill 5732 (Chapter 338, Laws of 2013).

- **SUD Treatment Penetration:** The percentage of members with an indication of an SUD treatment need who received SUD treatment services in the measurement year.
- **Mental Health Service Penetration:** The percentage of members with a mental health service need who received mental health services in the measurement year.

Detailed measure definitions are included in the Technical Notes. For each measure, we developed a regression model relating client outcomes on the measure to a set of variables reflecting client demographics, client risk factors and the population density of the client's zip code of residence. Case-mix models were calibrated using the experience over the three-year period spanning SFY 2011 to 2013, and then were used to predict performance by RSN catchment area in SFY 2014.

Key variables in the case-mix models are listed in Tables 1 and 2, along with the direction of the effect on predicted performance. If an effect is noted to be "positive", this indicates that clients with this characteristic are more likely to access services and therefore more likely to score positively on the performance measure. For example, clients with more severe mental illness conditions (e.g., schizophrenia) are more likely to access mental health services than clients who have been diagnosed with depression or anxiety. Similarly, clients diagnosed with drug use disorders are more likely to access SUD treatment than those diagnosed with alcohol use disorders. Key findings are noted below.

1. **Case-mix adjustment models account for most performance variation across regions.** Expressed in terms of r-squared, the case-mix models account for more than 70 percent of the variation across regions in these measures of access to behavioral health care. In other words, most of the performance variation across RSNs is accounted for by client characteristics and residential population density – variables that are not directly influenced by RSN actions.
2. **Rural and frontier regions experience predictably lower rates of access to behavioral health care.** Residential population density is a powerful predictor of the likelihood that a client accesses behavioral health care, with lower residential density associated with lower likelihood of accessing care. This may reflect the impact of greater distance between clients and providers and systematic challenges in building provider networks in rural and frontier regions.
3. **Clients with behavioral health needs who have more impactful physical comorbidities (as indicated by high chronic disease scores) are less likely to access behavioral health care.**
4. **Clients with behavioral health needs who reside in residential care settings are less likely to access behavioral health care.** This may reflect the impact of client mobility limitations, greater clinical complexity, and challenges in delivering care directly in residential settings.
5. **Criminal justice involvement is associated with higher likelihood of accessing behavioral health care.** This occurs because criminal justice involvement is an indication of level of functioning that correlates with RSN access standards and addiction severity assessment criteria, and because courts can mandate entry into behavioral health treatment.
6. **Homelessness is associated with a slightly higher likelihood of accessing behavioral health services.** Although it is a barrier to engagement in health care services, homelessness is also an indication of level of functioning likely to correlate to RSN access standards and addiction severity assessment criteria.

TABLE 1.

**Case-mix Adjustment: Substance Use Disorder Treatment Penetration Metric**

Calibration using SFY 2011 to SFY 2013 experience

<b>EFFECT TYPE</b>	<b>EFFECT ON LIKELIHOOD OF ACCESSING SUD TREATMENT</b>
Alcohol use disorder relative to drug use disorder	Greater positive association with drug use disorder
Presence of co-occurring mental health need	Negative
Physical condition disease burden	Negative
Age	Negative
Gender	No effect
Race/ethnicity	Variation across race/ethnicity groups
Criminal justice involvement	Positive
Homeless	Slightly positive
Residence in an institutional or residential care setting	Negative
Population density of zip code of residence	Positive

TABLE 2.

**Case-mix Adjustment: Mental Health Service Penetration Metric**

Calibration using SFY 2011 to SFY 2013 experience

<b>EFFECT TYPE</b>	<b>EFFECT ON LIKELIHOOD OF ACCESSING MH SERVICES</b>
Mental illness condition severity	Strongly positive
Presence of co-occurring substance use disorder	Positive
Physical condition disease burden	Negative
Age	Negative
Gender	Female slightly positive
Race/ethnicity	Variation across race/ethnicity groups
Criminal justice involvement	Positive
Homeless	Slightly positive
Residence in an institutional or residential care setting	Negative
Population density of zip code of residence	Positive

# Case-mix Adjustment Accounts for Most Variation across Regions

We used the case-mix adjustment models to predict performance in SFY 2014 by RSN catchment area. The correlation across regions between observed and predicted performance for each case-mix model is approximately 85 percent. This means that case-mix models account for more than 70 percent of the variation across regions in measures of access to behavioral health care. Tables 3 and 4 report the detailed data that underlie the scatterplots charted below.

FIGURE 1.

## Substance Use Disorder Treatment Penetration

Among Adults 18 and Over with SUD Treatment Need, by RSN Catchment Area • State Fiscal Year 2014

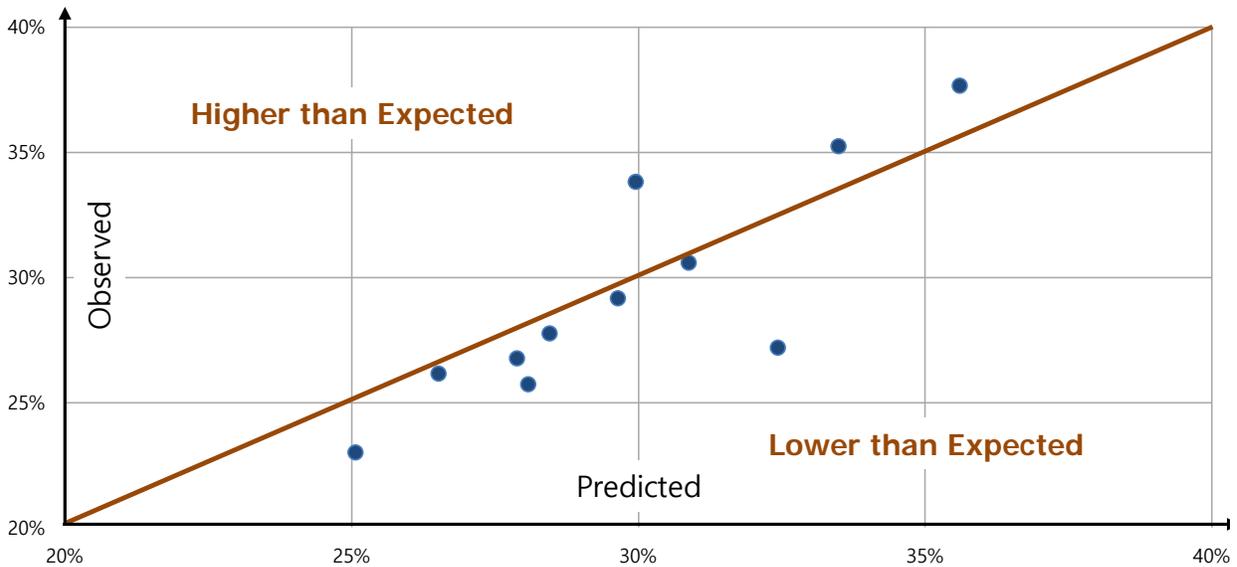
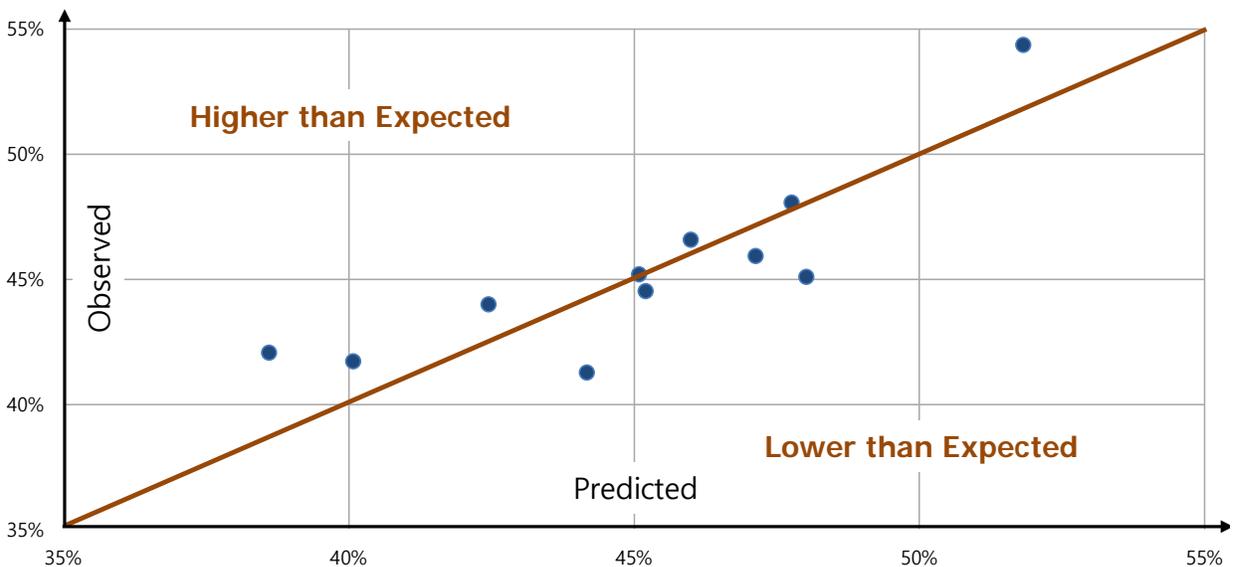


FIGURE 2.

## Mental Health Treatment Penetration, Broadly Defined

Among Adults 18 and Over with Mental Health Treatment Need, by RSN Catchment Area • State Fiscal Year 2014



## Detail Tables

Note: RSNs were not responsible for managing the SUD treatment benefit in this time period, and the “broad” variant of the Mental Health Service Penetration measure reported here includes services provided by managed care organizations under contract with the Health Care Authority.

TABLE 3.

### Substance Use Disorder Treatment Penetration

Among Adults 18+ with Substance Use Disorder Treatment Need • State Fiscal Year 2014

RSN	OBSERVED PERFORMANCE			Predicted Rate	Difference Observed minus Predicted	Difference Observed minus Statewide
	Denominator	Numerator	Rate			
Statewide	47,513	14,962	31.5%	31.5%	0.0%	0.0%
Spokane RSN	6,497	1,894	29.2%	29.7%	- 0.5%	- 2.3%
King County RSN	10,635	4,004	37.6%	35.6%	2.0%	6.2%
North Sound RSN	7,505	2,644	35.2%	33.5%	1.7%	3.7%
Greater Columbia RSN	5,161	1,349	26.1%	26.5%	- 0.4%	- 5.4%
Peninsula RSN	2,745	928	33.8%	30.0%	3.8%	2.3%
Thurston-Mason RSN	2,150	575	26.7%	27.9%	- 1.2%	- 4.7%
OptumHealth-Pierce County RSN	5,853	1,591	27.2%	32.5%	- 5.3%	- 4.3%
Grays Harbor RSN	968	249	25.7%	28.1%	- 2.4%	- 5.8%
Southwest Washington Behavioral Health RSN	4,133	1,264	30.6%	30.9%	- 0.3%	- 0.9%
Chelan-Douglas RSN	735	204	27.8%	28.5%	- 0.7%	- 3.7%
Timberlands RSN	1,131	260	23.0%	25.1%	- 2.1%	- 8.5%

TABLE 4.

### Mental Health Treatment Penetration – Broadly Defined

Among Adults 18+ with Mental Health Treatment Need • State Fiscal Year 2014

RSN	OBSERVED PERFORMANCE			Predicted Rate	Difference Observed minus Predicted	Difference Observed minus Statewide
	Denominator	Numerator	Rate			
Statewide	162,230	76,191	47.0%	47.0%	0.0%	0.0%
Spokane RSN	22,803	9,409	41.3%	44.2%	- 2.9%	- 5.7%
King County RSN	37,073	20,151	54.4%	51.8%	2.5%	7.4%
North Sound RSN	23,154	11,128	48.1%	47.8%	0.3%	1.1%
Greater Columbia RSN	18,791	8,267	44.0%	42.5%	1.5%	- 3.0%
Peninsula RSN	9,026	4,204	46.6%	46.0%	0.6%	- 0.4%
Thurston-Mason RSN	7,507	3,342	44.5%	45.2%	- 0.7%	- 2.4%
OptumHealth-Pierce County RSN	20,606	9,289	45.1%	48.0%	- 3.0%	- 1.9%
Grays Harbor RSN	2,901	1,220	42.1%	38.6%	3.4%	- 4.9%
Southwest Washington Behavioral Health RSN	14,118	6,483	45.9%	47.1%	- 1.2%	- 1.0%
Chelan-Douglas RSN	2,618	1,183	45.2%	45.1%	0.1%	- 1.8%
Timberlands RSN	3,633	1,515	41.7%	40.1%	1.6%	- 5.3%

NOTE: Measures exclude clients with Third Party Liability or Medicare Part C coverage.

SOURCE: DSHS Research and Data Analysis Division, Integrated Client Databases, June 2016.

## Implications

These findings have implications for the development of performance-based contracting under Engrossed House Bill (EHB) 1519 (Chapter 320, Laws of 2013) and related statutory requirements. EHB 1519 requires that state agency contracts with Area Agencies on Aging, Behavioral Health Organizations, and Managed Care Organizations include performance measures to address a wide range of outcomes, including the behavioral health access measures examined in this brief. As the state moves towards performance-based contracting for services, it is important for policy makers to recognize that client outcomes reflect the combined impact of the care the client receives, the client's risk attributes and other factors.

In a separate paper we illustrated the impact of behavioral health disorders on a broader set of health care quality and outcome measures.<sup>1</sup> For example, persons with substance use disorders score significantly lower on diabetes care quality measures such as hemoglobin A1c testing and LDL-C screening, and have far higher rates of hospitalizations for "avoidable" ambulatory care sensitive conditions including diabetes complications. Low diabetes quality scores for persons with substance use disorders reflect in part the impact of substance use on a client's ability to engage in an effective diabetes care plan.

This is an important issue to consider in constructing performance-based payment models designed to hold managed care entities accountable for the outcomes experienced by the clients they serve. Poorly designed payment models risk creating incentives for health plans to exclude providers from their network who serve populations with less desirable risk attributes, in favor of "higher value" providers who serve a lower-risk client population with whom it is possible to achieve higher quality and outcome scores.

Well-designed performance-based payment systems should not reinforce existing incentives for managed care organizations to achieve a favorable risk pool. If performance incentives are passed through health plans to their contracted providers, well-designed performance payment models should create incentives for providers to engage high-risk clients who may be less able to adhere to standards of care. In addition, payment models should account for access-to-care challenges faced by rural and frontier regions of the state and avoid reinforcing regional resource disparities.

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<sup>1</sup> DSHS Research and Data Analysis Division, "Managed Medical Care for Persons with Disabilities and Behavioral Health Needs: Preliminary Findings from Washington State" (Mancuso, et. al.) January 2015. <https://www.dshs.wa.gov/sesa/rda/research-reports/managed-medical-care-persons-disabilities-and-behavioral-health-needs>

## STUDY POPULATION

Analyses reported in this brief use measures of access to behavioral health services developed as directed by Engrossed House Bill 1519 (Chapter 320, Laws of 2013) and Second Substitute Senate Bill 5732 (Chapter 338, Laws of 2013).

The **substance use disorder (SUD) treatment penetration** metric used in this report is based on the following criteria:

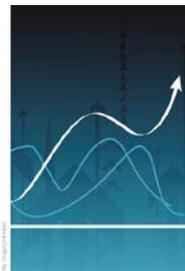
- **Description:** The percentage of members with an indication of a substance use disorder treatment (SUD) need who received SUD treatment services in the measurement year
- **Continuous enrollment requirement:** at least 11 months of enrollment in Medicaid and at least 11 months of residence in the region in the measurement year
- **Denominator inclusion:** an indication of SUD treatment need in 24-month window including the measurement year and the prior year
  - SUD and related diagnoses
  - Receipt of medications to treat SUD (e.g., methadone, buprenorphine)
  - Receipt of outpatient or inpatient/residential SUD treatment, detoxification or brief intervention services
- **Numerator inclusion:** use of at least one qualifying SUD treatment service in the measurement year
  - Outpatient or inpatient/residential SUD treatment services
  - Medication-assisted treatment (e.g., methadone or buprenorphine)

The **mental health service penetration (broad variant)** metric used in this report is based on the following criteria:

- **Description:** The percentage of members with a mental health service need who received mental health services in the measurement year
- **Continuous enrollment requirement:** at least 11 months of enrollment in Medicaid and at least 11 months of residence in the region in the measurement year
- **Denominator inclusion:** an indication of mental health need in 24-month window including the measurement year and the prior year
  - Diagnosis of mental illness
  - Receipt of psychotropic medication
  - Receipt of mental health services
- **Numerator inclusion:** use of at least one qualifying mental health service in the measurement year
  - Specified RSN outpatient services
  - Mental health services provided through the Medicaid MCO benefit
  - Management of a mental health condition in primary care setting

## DATA SOURCES

Data was sourced from the DSHS Integrated Client Databases, including Medicare data for dual eligibles enrolled in traditional fee-for-service Medicare. Persons enrolled in a Medicare Advantage (Part C) managed care plan or with other third party liability coverage were excluded from measurement due to the likely incompleteness of the available health service data.



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