

# Behavioral Health and Substance Use Disorder Service Outcomes Scorecard: User Guide

Version 1.0 Release (January 2026)



CABINET FOR HEALTH  
AND FAMILY SERVICES

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## Background

In accordance with [Kentucky House Bill 695 § 22](#) (2025), the Cabinet for Health and Family Services (CHFS) presents a publicly available scorecard evaluating behavioral health (BH) and substance use disorder (SUD) service quality outcome measures for use by all managed care organizations (MCOs) contracted by the Department of Medicaid Services (DMS). Developed in collaboration between DMS and MCOs, the scorecard evaluates quality outcome measures among provider organizations (providers) rendering BH and SUD services throughout Kentucky. Six provider types<sup>1-2</sup> are evaluated: Community Mental Health Centers (CMHCs), Psychiatric Hospitals, Behavioral Health Service Organizations<sup>2</sup> (BHSOs), Behavioral Health Multi-Specialty Groups, and Psychiatric Residential Treatment Facilities (Levels I & II). Data sources to support this scorecard include Kentucky Medicaid administrative claims data from the Medicaid Management Information System (MMIS) and member enrollment information from the Integrated Eligibility and Enrollment System (IEES).

**Notes:** <sup>1</sup> Certified Community Behavioral Health Clinics (CCBHCs) are not currently evaluated.

<sup>2</sup> Licensed Alcohol and Drug Counselors are grouped with BHSOs for analyses.

## Disclaimer

The data in this application is being provided pursuant HB 695, 2025 Ky Acts ch. 110. Sec. 22, which requires making publicly available a scorecard for behavioral health and substance use disorder treatment services and providers.

## Scorecard Features

The interactive scorecard dashboard allows users to review composite scores reflecting overall quality outcome measure performance within an individual provider type, across individual providers, and among MCOs. Additionally, scorecard features enable users to customize the level of importance of individual quality measures as they contribute to the overall composite score.

### HIGHLIGHTED FEATURES

#### **Customizable Scoring**

Weight individual metric *importance* based on user priority

#### **Performance Over Time**

Track provider performance across time (quarters)

#### **Comparisons**

Compare individual providers against other providers or the average across all providers

## About Scores

Scores shown on the Scorecard are scaled from 0 to 5, with 5 being the most favored. Displayed scores are aggregate composite scores derived from the four quality outcome measure domains, each comprised of various metrics (see “*Quality Outcome Measure Domain & Metrics*” for more details about metrics used in the Scorecard). All metrics are initially calculated as true percentage rates to preemptively avoid penalizing smaller providers. Percentage rates are calculated by dividing the total count of Medicaid members positive for a metric by the total count of members observed starting at a given *event date*. **Event date** is defined as an inpatient or outpatient BH and/or SUD treatment visit. The event date for inpatient visits occurs on the date of discharge or last date of service recorded for that visit. The event date for outpatient visits occurs on the last recorded date of service recorded over a series of *at least* two outpatient visits with the same provider in a continuous 90-day period. Note that a member *may* be counted multiple times in a given calculation depending on when the event dates occurred.

The scoring approach is outlined as follows: First, all metric rates are calculated at the required aggregate level (i.e., outcome measure and provider type, in addition to time (quarter), provider organization, or MCO level) as needed. These rates are then directionally scaled between 0 and 1 based on each individual metric’s specific *favored directionality*. **Favored directionality** is metric-dependent and reflects the direction of change in a value that is most ideal (e.g., a decrease in mortality is favored but an increase is unfavored). Once scaled, values are then weighted by metric-specific *importance values*. **Importance value** is a preset or user-selected value between 0 to 10, where a lower *importance value* **reduces** a metric’s influence on the final composite score and a higher *importance value* **increases** influence. The preset value for all metrics is currently set to 5. The sum of all weighted metric values across an aggregate, reshaped to reflect a final composite score between 0 and 5, yields the final composite score shown in the Scorecard (see “*Technical Addendum*” for more details).

### Important Notes

- Users can customize metric-specific *importance* values using the sliders located under *Importance Settings* located on the left margin of the “*Performance Rankings*,” “*Provider Over Time*,” and “*Metric Comparison*” Scorecard subpages. After changing importance values, users must click “Get Results” button to update scores.

## Quality Outcome Measure Domains & Metrics

Note: as of Version 1.0 release

### 1. Mortality

*Favored directionality: Decrease*

Defined by the presence of a date of death within certain amounts of time after the defined event date<sup>1</sup>. This measure is calculated from the number of deaths that occur after the defined event date within 7-days, 30-days, 6-months, and 1-year.

### 2. Emergency Department (ED) Utilization for Substance Use Disorder (SUD)

*Favored directionality: Decrease*

Defined by the presence of an emergency department claim with a substance use disorder diagnosis within certain amounts of time after the defined event date<sup>1</sup>. This measure is calculated from the number of emergency department visits that occur after the defined event date within 7-days, 30-days, 6-months, and 1-year.

### 3. Incarceration

*Favored directionality: Decrease*

Defined as the presence of an incarceration date within certain amounts of time after the event date<sup>1</sup>. This measure is calculated from the number of incarceration dates that occur after the defined event date within 7-days, 30-days, 6-months, and 1-year.

### 4. Overdose

*Favored directionality: Decrease*

Defined by the presence of claim for an overdose within certain amounts of time after the defined event date<sup>1</sup>. This measure is calculated from the number of overdoses that occur after the defined event date within 7-days, 30-days, 6-months, and 1-year.

Notes: <sup>1</sup> Event Date: Inpatient or outpatient behavioral health and/or substance use disorder treatment visit; (1) Inpatient: date of discharge or last date of service recorded for visit. (2) Outpatient: last recorded date of service recorded over a series of ≥2 outpatient visits with the same provider in a continuous 90-day period.

## Future Planned Quality Outcome Measure Domains & Metrics

Note: as of Version 1.0 release

### • Mental Health Service Utilization Following Hospitalization

*Favored directionality: Increase*

Defined by the presence of a claim for mental health service within 30 days of the defined event date for an *inpatient* hospital stay.

### • Mental Health Service Use Following Emergency Department Visit

*Favored directionality: Increase*

Defined by the presence of a claim for a mental health service within certain amounts of time after the defined event date for an emergency department visit.

### • Childhood Metabolic Monitoring

*Favored directionality: Increase*

Defined by the presence of metabolic testing claims for both cholesterol and blood glucose tests in a limited sample of children aged 1 to 17 who have claims for two or more antipsychotic prescriptions.

## Reporting Technical Issues

To report technical issues experienced while using the Scorecard, please use the following email:  
[OHDAAnalyticsRequest@ky.gov](mailto:OHDAAnalyticsRequest@ky.gov)

## Technical Addendum

### Scoring Methodology

All composite scores shown in the scorecard were derived across primary aggregates metric ( $i$ ) and provider type ( $j$ ) and various secondary aggregates ( $Q$ ) being provider organization ( $k$ ), MCO ( $l$ ) or time ( $t$ ) where applicable. For a demonstration of implemented scoring methods see “*Simplified Scoring Demonstration*” section of the *Technical Addendum*.

1. True rate ( $R_q$ ) derives from the total count of positive observations ( $V_q^+$ ) over the grand total count of observations ( $V_q^{TOTAL}$ ).

$$R_q = \frac{\sum_{q=1}^Q V_q^+}{\sum_{q=1}^Q V_q^{TOTAL}}$$

2. Scaled rate ( $R_{ijq_{scaled}}$ ) derives from true rate directionally scaled by metric-specific favored directionality. Metric-specific favored directionality dictated utilized scaled method. Increase-favored metrics were scaled across the primary aggregate using the min-max method whereas decrease-favored metrics used the inverse min-max method.

$$R_{q_{scaled}} = R_{q_{scaled}^+} = \frac{R_q - R_{MIN}}{R_{MAX} - R_{MIN}}$$

OR

$$R_{q_{scaled}} = R_{q_{scaled}^-} = \frac{R_{MAX} - R_q}{R_{MAX} - R_{MIN}}$$

3. Weighted scaled rate ( $R_{q_{scaled}}^\omega$ ) derives from the product of scaled rate and weight ( $\omega$ ) derived from metric-specific importance values ( $I_i$ ) over the sum of all importance values across the aggregate. Importance values are default or user-defined integers between 0 and 10. Note importance values  $> 5$  increase a metric's influence on the composite score and values  $< 5$  decrease influence.

$$\omega_i = \frac{I_i}{\sum I_i}$$

AND

$$R_{q_{scaled}}^\omega = R_{q_{scaled}} \times \omega_i$$

4. Composite score ( $S^\omega$ ) is derived from the product of composite weighted scaled rate, or the sum of all weighted scaled rates at the  $q^{th}$  level, and the maximum possible score ( $S^{MAX}$ ) of 5 to yield a final, reshaped value between 0 and 5.

$$S^\omega = S^{MAX} \times \sum_{q=1}^Q R_{q_{scaled}}^\omega$$

## Simplified Scoring Demonstrations

Simplified, fictitious examples illustrating implemented scoring methods to obtain composite scores across three metrics and various aggregate levels/scenarios are given in this section. *Note:* For simplicity, these examples do not consider time nor more than one provider type.

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### *Demonstration: Obtaining Scores by Provider Organization*

#### **GOAL:**

Obtain composite scores for all individual provider organizations within the Behavioral Health Service Organization (BHSO) provider type. (Results are summarized at “*Demonstration: Obtaining Scores by Provider Organization: Results*”)

#### **PRIMARY AGGREGATE(S):**

*metrics (i, n=3)*

- (1) Incarcerated within 7 days of event date (*decrease-favored*)
- (2) Mortality within 7 days of event date (*decrease-favored*)
- (3) Overdose within 7 days of event date (*decrease-favored*)

*provider type (j, n=1)*

- (1) Behavioral Health Service Organization (BHSO)

#### **SECONDARY (TARGET LEVEL) AGGREGATE(S):**

*provider organization (k, n=4)*

- A, B, C, & D

#### **IMPORTANCE VALUE SCHEDULE (INCLUDING ALTERNATES):**

Set Name	Description	<i>I<sub>mortality</sub></i>	<i>I<sub>overdose</sub></i>	<i>I<sub>incarcerated</sub></i>	<i>ΣI<sub>i</sub></i>
Default	All metric importance values equal (uniform importance)	5	5	5	15
Alternate A	Mortality highest importance, overdose lowest importance, incarceration moderate importance	10	1	5	16
Alternate B	Mortality lowest importance, overdose highest importance, incarceration moderate importance	1	10	5	16
Alternate C	Mortality lowest importance, overdose moderate importance, incarceration highest importance	1	5	10	16

[Demonstration Results Summarized Next Page]



**Demonstration: Obtaining Scores by Provider Organization: Tabulated Results**

Default Importance Score Schedule (All Metric Importance Values Uniform)															Using Alternate Importance Score Schedule(s) <sup>1</sup>		
prov. type	prov. org.	metric	pos. obs.	tot. obs.	true rate	min true rate	max true rate	scaled rate	imp. value	sum imp. value	wt.	wtd. scaled rate	comp. rate	(rank) comp. score	(rank) comp. score Alternate A	(rank) comp. score Alternate B	(rank) comp. score Alternate C
$j$	$k$	$i$	$V_{ijk}^+$	$V_{ijk}^{TOTAL}$	$R_{ijk}$	$R_{ij}^{MIN}$	$R_{ij}^{MAX}$	$R_{ijk_{scaled}}$	$I_i$	$\Sigma I_i$	$\omega_i$	$R_{ijk_{scaled}}^{\omega}$	$\Sigma_{k=1}^K R_{ijk_{scaled}}^{\omega}$	$S_k^{\omega}$	$S_k^{\omega}$		
BHSO	A	Incarcerated 7 days	38	224	0.17	0.17	0.89	1.00	5	15	0.33	0.33	0.67	(2) 3.33	▼ (4) 1.88	(2) 4.69	(2) 4.69
		Mortality 7 days	130	143	0.91	0.08	0.91	0.00	5		0.33	0.00					
		Overdose 7 days	18	204	0.09	0.09	0.88	1.00	5		0.33	0.33					
	B	Incarcerated 7 days	40	201	0.20	0.17	0.89	0.96	5	15	0.33	0.32	0.65	(3) 3.27	▲ (2) 4.62	▼ (4) 1.81	(3) 3.31
		Mortality 7 days	12	145	0.08	0.08	0.91	1.00	5		0.33	0.33					
		Overdose 7 days	49	56	0.88	0.09	0.88	0.00	5		0.33	0.00					
	C	Incarcerated 7 days	156	175	0.89	0.17	0.89	0.00	5	15	0.33	0.00	0.58	(4) 2.92	▲ (3) 2.75	▲ (3) 3.27	(4) 1.76
		Mortality 7 days	45	171	0.26	0.08	0.91	0.78	5		0.33	0.26					
		Overdose 7 days	17	150	0.11	0.09	0.88	0.97	5		0.33	0.32					
	D	Incarcerated 7 days	23	135	0.17	0.17	0.89	1.00	5	15	0.33	0.33	0.96	(1) 4.79	(1) 4.77	(1) 4.79	(1) 4.88
		Mortality 7 days	43	313	0.14	0.08	0.91	0.93	5		0.33	0.31					
		Overdose 7 days	33	242	0.14	0.09	0.88	0.94	5		0.33	0.31					

Notes:

- \* Synthesized data used for demonstrative purposes only. Refer to “Scoring Methodology” section of the *Technical Addendum* for more information regarding formulaic calculations.
- <sup>1</sup> Simulated composite scores shown are derived from alternate importance score schedules. Comparative direction of change in rank from the default schedule shown, where ▲ denotes higher rank result and ▼ denotes lower rank result.  
*Related Note(s):* Upstream calculations of alternate importance value schedules not shown see “Importance Value Schedule (Including Alternates)” in previous section for more information.

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