Frequency of Substance Use Disorder-Related Acute Events among Medicaid Beneficiaries
SUPPORT ACT §1003 Roadmap to Recovery Planning Grant

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IN SEPTEMBER 2019, the Centers for Medicare and Medicaid Services (CMS) awarded the Washington State Health Care Authority (HCA) a grant under the §1003 SUPPORT ACT.[1] Under this Phase 1 Planning Grant, HCA developed an implementation strategy for improving treatment and recovery services for Medicaid beneficiaries with a substance use disorder (SUD) diagnosis.[2] This report is the first of a series of three reports on data collected from adult Medicaid beneficiaries with a SUD diagnosis who had a SUD-related acute event in calendar year (CY) 2018. SUD-related acute events were categorized as emergency department outpatient visits, inpatient hospitalization, withdrawal management, and inpatient SUD treatment. This initial report shows the relative rates of these events across various demographic categories. Part 2 and 3 of this series of reports (Bittinger et al. 2023 and Lopez et al. 2023) examine services received in months following the acute event, including emergency department and hospital utilization, mental health services, SUD treatment services, and other outcomes, such as arrests and deaths due to overdose.

Key Findings

1. **Nearly a quarter (22.5 percent) of Medicaid beneficiaries with a SUD diagnosis had an acute SUD-related event in CY 2018.** SUD-related emergency department outpatient visits were the most common type of SUD-related acute event across almost all demographic categories followed by SUD-related inpatient hospitalization. Of those who experienced an acute event, 12 percent had multiple types of acute events within the month.

2. **SUD-related inpatient hospitalizations generally increased with age, whereas the opposite was observed for other types of acute events.** Older adults between 65-74 years old and those 75 and older had the highest rates of SUD-related inpatient hospitalizations and the lowest rates of all other types of SUD-related acute events.

3. **Disparities are present across race and ethnicity and SUPPORT ACT populations of interest for Medicaid beneficiaries with a SUD diagnosis who experienced an acute SUD-related event.** African American and American Indian/Alaska Native, individuals with criminal legal involvement, and those who are experiencing homelessness or unstable housing had higher than average rates of SUD-related acute events.

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[1] More information about the CMS §1003 SUPPORT ACT grant can be found at: https://www.medicaid.gov/medicaid/benefits/behavioral-health-services/substance-use-disorder-prevention-promotes-opioid-recovery-and-treatment-for-patients-and-communities-support-act-section-1003/index.html.

[2] More information about the SUPPORT ACT implementation in Washington can be found at: https://www.hca.wa.gov/about-hca/apple-health-medicaid/support-act.

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Data and Methods

To better understand the percentage of Medicaid beneficiaries with a SUD diagnosis who experience SUD-related acute events, we conducted a retrospective, cross-sectional descriptive analysis using Washington State administrative data. All data were drawn from the Department of Social and Health Service's Integrated Client Databases (ICDB). The ICDB contains data from several state administrative data systems, including the state's ProviderOne data system that contains Medicaid claims and encounter data.[3]

The study population was restricted to Medicaid beneficiaries who were ages 18 years or older as of the start of CY 2018 (intake year) who had continuous Medicaid enrollment within the intake year and the following year (CY 2018 and CY 2019, respectively). Medicaid beneficiaries with a non-Medicaid primary health care coverage (also referred to as third-party liability) were excluded from the analyses because complete health care information may not be available for these beneficiaries. Medicaid beneficiaries who were dually eligible for Medicaid and Medicare ("duals") are included.

We looked for Medicaid beneficiaries with any SUD or OUD diagnoses in the last 24 months prior to the start of the intake year (CY 2018). OUD diagnoses are a subset of SUD diagnoses. Of those with a SUD diagnosis, the first month in which they had an eligible acute event (described below) within the intake year was classified as their index month. Four types of SUD-related events were identified as "acute" index events – receipt of withdrawal management services, inpatient SUD treatment, SUD-related emergency department (ED) visits (outpatient), and SUD-related inpatient hospitalizations (transfer to inpatient hospitalization from ED). Table 1 below describes the categories of SUD-related acute events referred to throughout the three reports.

TABLE 1.
SUD-Related Acute Event Category Definitions

Type of Acute Event	Medicaid beneficiaries with a SUD diagnosis who had...
Any Acute SUD Event (Any)	Any relevant SUD-related acute event in the index month.
Multiple Types of Acute SUD Events (Multiple)	More than one type of acute event in the index month. Individuals with multiple acute events of only one type (e.g., multiple outpatient ED visits) are not included in this category.
Withdrawal Management (WM)*	A SUD withdrawal management service in the index month.
Inpatient or Residential SUD Treatment (IP SUD)*	An inpatient or residential SUD treatment service in the index month.
SUD related Emergency Department Visit – Outpatient (SUD ED-OP)*	An outpatient ED visit with any SUD-related diagnosis (the visit did not result in a transfer to a general medical inpatient hospitalization) in the index month.
SUD-related Inpatient Hospitalization (SUD IP-HOSP)*	An ED visit with any SUD-related diagnosis that resulted in a transfer to a general medical ED inpatient hospitalization (not inpatient SUD treatment) in the index month.

*Categories are not mutually exclusive. Medicaid beneficiaries with a SUD diagnosis who had more than one type of acute event in the index month are included in each type of acute event.

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[3] See, DSHS Integrated Client Databases, DSHS Research and Data Analysis Division, Mancuso, March 2020.

Rates of Acute SUD-related Events

Of the total number of Medicaid beneficiaries with a SUD diagnosis, nearly a quarter (22.5 percent) had at least one SUD-related acute event within CY 2018. Of those with Any SUD-related acute event, 12.0 percent had Multiple SUD-related acute events within the index month (see Table 2).

TABLE 2.
Summary of Acute Event Types
CY 2018, By Type of Acute Event in Index Month

	Medicaid Beneficiaries with a SUD-related Acute Event	
	NUMBER	PERCENT
Any Acute SUD Event (Any)	39,356	100%
Multiple Types of Acute SUD Events (Multiple)	4,718	12.0%
Type of SUD-related Acute Event in Index Month*		
Withdrawal Management (WM)	4,130	10.5%
Inpatient or Residential SUD Treatment (IP SUD)	5,311	13.5%
SUD-related ED Visit – Outpatient (SUD ED-OP)	23,535	59.8%
SUD-related Inpatient Hospitalization (SUD IP-HOSP)	11,849	30.1%

*Type of Acute Event categories are not mutually exclusive.

SUD ED-OP visits were the most common type of acute event in the index month, with nearly 60 percent having had at least one SUD ED-OP event in CY 2018. The next most prevalent type of acute event was SUD IP-HOSP, at about 30 percent. Approximately 14 percent had an IP SUD event and almost 11 percent had a WM event in CY 2018.

We further examined the distribution of SUD-related acute event rates across a variety of sociodemographic characteristics. These include age, race/ethnicity, gender, Medicaid coverage category, populations of interest (as defined in the SUPPORT ACT planning grant), urban/rural settings, integrated managed care regions, and counties. Demographic characteristics are identified based on the acute event index month. Additional information is included in the Technical Notes section at the end of the report.

TABLE 3
Acute Event Rates among Medicaid Beneficiaries with a SUD Diagnosis
CY 2018, By Type of Acute Event in the Index Month

	Types of Acute Events in the Index Month for Medicaid Beneficiaries with a SUD Diagnosis					
	Any (n=39,356)	Multiple (n=4,718)	WM (n=4,130)	IP SUD (n=5,311)	SUD ED-OP (n=25,535)	SUD IP-HOSP (n=11,849)
	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Total	**22.5%**	**2.7%**	**2.4%**	**3.0%**	**13.5%**	**6.8%**
Ages						
18 to 24	20.4%	2.0%	2.2%	3.2%	13.5%	3.7%
25 to 34	24.0%	3.0%	3.5%	4.2%	14.7%	5.1%
35 to 44	22.5%	2.8%	2.4%	3.4%	14.0%	6.0%
45 to 54	23.8%	2.9%	1.9%	2.6%	14.1%	8.7%
55 to 64	21.2%	2.6%	1.5%	1.5%	11.2%	10.1%
65 to 74	18.0%	1.1%	0.2%	**	7.7%	11.0%
75 and Older	12.9%	**	0.0%	0.0%	4.6%	8.7%

	Types of Acute Events in the Index Month for Medicaid Beneficiaries with a SUD Diagnosis					
	Any (n=39,356)	**Multiple** (n=4,718)	**WM** (n=4,130)	**IP SUD** (n=5,311)	**SUD ED-OP** (n=25,535)	**SUD IP-HOSP** (n=11,849)
	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Race/Ethnicity (Inclusive)						
American Indian or Alaska Native	27.4%	3.4%	2.4%	4.4%	16.8%	7.8%
Asian	16.8%	1.8%	1.6%	2.0%	10.3%	5.1%
Black or African American	23.3%	2.2%	1.9%	2.3%	14.1%	7.5%
Hispanic/Latino(a)	20.3%	2.5%	2.2%	2.7%	12.8%	5.4%
Native Hawaiian or Pacific Islander	18.3%	2.1%	1.8%	2.3%	11.0%	5.5%
Other	20.0%	2.2%	2.0%	2.5%	12.5%	5.5%
White, Non-Hispanic	22.8%	2.8%	2.5%	3.2%	13.5%	6.9%
Unknown Race	18.2%	1.8%	1.2%	1.3%	9.3%	8.4%
Gender						
Female	21.3%	2.3%	2.2%	2.7%	12.5%	6.6%
Male	23.6%	3.1%	2.5%	3.4%	14.3%	6.9%
Medicaid Coverage Type						
Classic, Non-Disabled	18.5%	2.0%	2.1%	2.8%	10.1%	5.8%
Disabled	27.2%	2.6%	1.4%	1.8%	15.9%	11.1%
New Adult	22.9%	3.0%	2.8%	3.7%	14.2%	5.7%
Dual (Medicaid and Medicare)	22.7%	1.7%	0.8%	1.0%	11.9%	10.9%
SUPPORT ACT Target Populations						
Transition Age Young Adults	21.0%	2.3%	2.5%	3.4%	13.7%	3.9%
American Indian or Alaska Native	27.4%	3.4%	2.4%	4.4%	16.8%	7.8%
Pregnant/Post-Partum Individuals	18.9%	1.7%	2.8%	1.0%	8.0%	8.8%
Criminal Legal Involvement – Prior	33.9%	4.4%	4.2%	6.4%	21.2%	7.2%
Criminal Legal Involvement – Index	11.9%	6.5%	6.2%	5.6%	10.2%	3.9%
Experiencing Unstable Housing	26.4%	3.5%	3.4%	4.0%	16.7%	6.4%
Experiencing Homelessness	28.2%	3.7%	3.4%	3.9%	18.3%	6.8%
Urban/Rural Settings						
Urban	23.9%	2.9%	2.4%	2.9%	14.3%	7.5%
Rural	20.3%	2.4%	2.2%	3.2%	12.2%	5.6%
Integrated Managed Care Region						
Great Rivers	18.7%	1.9%	1.8%	2.5%	10.4%	6.3%
Greater Columbia	20.5%	2.2%	2.4%	2.9%	12.7%	5.0%
King	25.1%	2.5%	1.7%	2.0%	15.5%	8.8%
North Central	19.1%	2.7%	1.8%	2.8%	13.3%	5.0%
North Sound	24.7%	2.8%	2.8%	3.8%	14.7%	6.7%
Pierce	23.2%	2.5%	2.5%	2.5%	13.0%	8.0%
Salish	22.5%	4.1%	3.6%	4.7%	13.7%	5.4%
Southwest	21.1%	4.2%	3.2%	4.9%	10.8%	7.2%
Spokane	21.9%	2.8%	2.4%	2.9%	14.2%	5.7%
Thurston-Mason	19.2%	2.3%	1.8%	3.8%	10.2%	5.8%

**Suppressed due to small numbers of beneficiaries in the event/demographic category (n<11)

Age. Adults between 25 to 34 years of age had the highest rate of Any SUD-related acute event (24 percent) as well as the highest rate of WM (3.5 percent), IP SUD (4.2 percent), and SUD ED-OP (14.7 percent) events. SUD IP-HOSP events occurred most frequently among adults older than 45 years of age, with adults aged 65 to 74 having the highest rate of SUD IP-HOSP events (11 percent). In general, the rate of acute events decreased with age, with the exception of SUD IP-HOSP events which generally increased with age.

Race/Ethnicity. Medicaid beneficiaries who self-identify as American Indian or Alaska Native, Black or African American, and White, Non-Hispanic had higher-than-average rates of Any SUD-related acute event. American Indian or Alaska Native Medicaid beneficiaries had the highest rate of Any SUD-related acute event (27.4 percent), Multiple SUD-related acute events (3.4 percent), IP SUD events (4.4 percent), and SUD ED-OP events (16.8 percent). White, Non-Hispanic Medicaid beneficiaries had the highest rate of WM events (2.5 percent), while Medicaid beneficiaries with an unknown race/ethnicity had the highest rate of SUD IP-HOSP events (8.4 percent). Asian American and Native Hawaiian or Pacific Islander Medicaid beneficiaries had lower-than-average rates of all SUD-related acute events.

Gender. Male Medicaid beneficiaries with a SUD diagnosis had a slightly higher rate of SUD-related acute events of all types compared to female Medicaid beneficiaries. Twenty three percent of males had Any SUD-related acute event in CY 2018 compared to 21 percent of females. SUD ED-OP had the greatest difference between female and male Medicaid beneficiaries with a SUD diagnosis (12.5 percent and 14.3 percent respectively).

Medicaid Coverage Category. Medicaid beneficiaries with a SUD diagnosis were identified as having one of four types of Medicaid coverage: Classic, Disabled, New Adult, and Dual (Medicaid and Medicare). Among these four groups, individuals in the Classic Medicaid coverage category were the only Medicaid coverage group to have consistently lower-than-average rates of SUD-related acute events. Individuals with Disabled Medicaid coverage had the highest rate of Any SUD-related acute event (27.2 percent), SUD ED-OP events (15.9 percent), and SUD IP-HOSP events (11.1 percent). Individuals with New Adult Medicaid coverage had the highest frequency of Multiple acute SUD events (3.0 percent), WM events (2.8 percent), and IP SUD events (3.7 percent).

SUPPORT ACT Target Populations. In general, Medicaid beneficiaries in SUPPORT ACT target populations tended to have higher-than-average rates of SUD-related acute events compared to the broader population. Individuals with prior criminal legal involvement had above average rates for all types of SUD-related acute events and had the highest rate of Any SUD-related event (33.9 percent compared to the study population average of 22.5 percent). Individuals experiencing unstable housing or homelessness had higher-than-average rates of most types of SUD-related acute events and an average rate of SUD IP-HOSP acute events. However, Pregnant/Post-Partum individuals had lower-than-average rates for most of the SUD-related acute event categories with the exception of WM and SUD IP-HOSP acute events. Transition Age Young Adults (TAYA) had a lower-than-average rate of Any SUD-related acute event, Multiple SUD-related acute events, and SUD IP-HOSP events.

Urban/Rural. Medicaid beneficiaries with a SUD diagnosis living in urban areas have higher rates of Any SUD-related acute event and Multiple SUD-related acute events compared to those living rural areas (23.9 percent vs. 20.3 percent and 2.9 percent vs. 2.4 percent, respectively). While those living in urban areas also have higher rates of WM, SUD ED-OP, and SUD IP-HOSP, those living in rural areas have higher rates of IP SUD. This may indicate that access to IP SUD services is different for those living in rural areas compared to those living in urban areas.

Integrated Managed Care (IMC) Region. The rates of acute SUD-related events vary greatly across IMC regions. For example, the North Sound IMC region has a higher rate of Any, Multiple, WM, IP SUD, and SUD ED-OP events compared to the study population average. When looking at specific types of acute SUD-related events, King County IMC region has the highest rate of Any SUD-related acute event, SUD ED-OP, and SUD IP-HOSP. Southwest IMC region has the highest rate of Multiple SUD-related acute events and IP SUD. Salish IMC region has the highest rate of WM acute events. Overall, these regional differences suggest there is considerable variability in what types of services Medicaid beneficiaries with SUD diagnoses are able to access across the state.

County. County level information is included in the Appendix (Table A1). The rate of different types of acute events varies by county.

Summary

The analyses contained in this report provide information on the demographic profiles of adult Medicaid beneficiaries with a SUD diagnosis who had a SUD-related acute event in CY2018. We categorized SUD-related acute events based on the types of services received within the index month and described how the rate of these service types varied across different demographic categories.

While nearly a quarter of Medicaid beneficiaries with a SUD diagnosis had a SUD-related acute event in CY 2018, the frequency of such events is not evenly distributed across different demographics of the Medicaid population with a SUD diagnosis. Adults ages 65 to 74 had the highest rates of SUD-related inpatient hospitalizations while younger adults had the highest rates of all other SUD-related acute events. Beneficiaries with a SUD diagnosis who identify as American Indian or Alaska Native had consistently higher-than-average rates of SUD-related acute events. Individuals with criminal legal involvement and those who are unstably housed or experiencing homelessness had substantially higher rates of acute SUD-relate events compared to the study population average except for IP-HOSP.

The descriptive profiles presented in this report contribute to a deeper understanding of the utilization of behavioral health services by Medicaid beneficiaries with a SUD diagnosis. To further understand how Medicaid beneficiaries with SUD diagnoses interact with the broader behavioral health and physical health systems, analyses of services received and outcomes at 3 and 12 months of the index month are outlined in Parts 2 and 3 of this report series (Bittinger et al., 2023; Lopez et al., 2023), which discuss the occurrence of subsequent SUD-related acute events, non-SUD-related ED and hospital utilization, receipt of SUD-related treatment services, receipt of mental health treatment services, support service utilization, deaths, and criminal legal involvement.

TABLE A1.

Medicaid Beneficiaries with a Substance Use Disorder Diagnosis by County
CY 2018, By Type of Acute Event in Index Month

	Types of Acute Events in the Index Month for Medicaid Beneficiaries with a SUD Diagnosis					
	Any (n=39,356)	**Multiple** (n=4,718)	**WM** (n=4,130)	**IP SUD** (n=5,311)	**SUD ED-OP** (n=23,535)	**SUD IP-HOSP** (n=11,849)
	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Population	**22.5%**	**2.7%**	**2.4%**	**3.0%**	**13.5%**	**6.8%**
County						
Adams	17.8%	**	**	**	13.2%	**
Asotin	21.4%	1.1%	**	1.3%	16.6%	4.3%
Benton	17.3%	2.2%	2.7%	2.0%	10.6%	4.3%
Chelan	17.6%	3.8%	2.8%	3.5%	10.4%	6.7%
Clallam	22.9%	5.1%	4.0%	5.5%	14.9%	4.7%
Clark	21.4%	4.3%	3.4%	5.1%	10.7%	7.3%
Columbia	13.4%	**	**	**	8.1%	**
Cowlitz	18.0%	1.5%	1.6%	2.7%	8.9%	6.4%
Douglas	20.0%	3.2%	2.4%	2.9%	13.1%	6.1%
Ferry	20.7%	**	**	5.1%	10.5%	6.5%
Franklin	17.9%	3.1%	3.3%	2.0%	11.9%	4.5%
Garfield	**	**	0.0%	0.0%	**	**
Grant	21.7%	2.3%	1.3%	3.0%	16.6%	4.0%
Grays Harbor	17.4%	2.0%	2.6%	2.4%	8.9%	5.9%
Island	19.9%	2.1%	1.7%	3.3%	11.4%	5.9%
Jefferson	24.6%	4.0%	2.4%	6.8%	14.2%	5.8%
King	25.1%	2.5%	1.7%	2.0%	15.5%	8.8%
Kitsap	22.0%	3.7%	3.6%	4.0%	13.0%	5.7%
Kittitas	21.1%	2.9%	1.3%	4.6%	13.3%	4.9%
Klickitat	17.2%	2.4%	**	2.4%	10.7%	5.5%
Lewis	22.0%	2.2%	1.5%	2.4%	14.0%	6.8%
Lincoln	19.1%	**	**	**	12.3%	6.8%
Mason	16.7%	2.5%	1.7%	3.7%	9.4%	4.6%
Okanogan	16.3%	1.8%	1.3%	1.7%	11.6%	3.9%
Pacific	18.4%	2.3%	**	1.6%	13.3%	5.2%
Pend Oreille	14.9%	**	**	**	9.3%	4.7%
Pierce	23.2%	2.5%	2.5%	2.5%	13.0%	8.0%
San Juan	20.8%	**	**	**	13.4%	5.6%
Skagit	26.0%	2.8%	2.2%	4.2%	16.1%	6.7%
Skamania	21.1%	**	**	**	14.4%	6.7%
Snohomish	25.4%	2.9%	2.9%	3.7%	15.4%	6.8%
Spokane	22.7%	3.0%	2.5%	3.0%	14.7%	5.8%
Stevens	17.2%	2.0%	1.6%	2.4%	10.8%	4.7%
Thurston	20.1%	2.2%	1.9%	3.9%	10.6%	6.3%
Wahkiakum	17.1%	**	**	**	**	**
Walla Walla	15.3%	1.6%	1.3%	2.3%	8.4%	5.1%
Whatcom	23.2%	2.8%	3.2%	4.1%	12.6%	6.8%
Whitman	20.7%	**	**	2.2%	16.9%	2.9%
Yakima	24.2%	2.4%	2.9%	3.8%	14.4%	5.7%

**Suppressed due to small numbers (n<11).

STUDY FUNDING

This study is funded under Health Care Authority (HCA) Contract #K4249-01, Department of Social and Health Services/Research and Data Analysis. Contract Description: Roadmap to Recovery: Substance Use and Opioid Use Recovery Planning Grant: A Pilot Study Funded Under Section 1003 of the SUPPORT Act by Centers for Medicare & Medicaid Services with Washington State Health Care Authority. Dates of service: 2/15/2020-9/30/2021.

STUDY POPULATION

Adult (ages 18+) individuals enrolled in Title XIX Medicaid at the start of the intake year (CY 2018), who have been diagnosed with substance use disorder (SUD) and/or opioid use disorder (OUD), are the focus of these analyses. Medicaid beneficiaries with non-Medicaid primary health care coverage (also referred to as third-party liability) were excluded from the analyses, as complete health care information may not be available for these individuals. Analyses were further restricted to individuals who were continuously enrolled in Medicaid in CY 2018 and CY 2019. Definitions of SUD and OUD diagnoses are as follows:

- **Substance Use Disorder diagnosis** is defined as the presence of a substance use disorder (SUD) diagnosis 24 months prior to the start of the intake year. Example SUD diagnoses include diagnoses related to alcohol, amphetamines (including methamphetamine), cocaine and other stimulants, heroin, and other opioids (including synthetic opioids), and cannabis. It does not include diagnoses related to tobacco use disorder.

- **Opioid Use Disorder diagnosis** is defined as the presence of an Opioid Use Disorder (OUD) diagnosis 24 months prior to the start of the intake year. Example OUD diagnoses include diagnoses related to synthetic and non-synthetic opioids, such as heroin and fentanyl. OUD diagnoses are a subset of SUD diagnoses (all individuals with an OUD diagnosis will also be identified as having a SUD diagnosis).

Five populations of interest, as defined in the SUPPORT ACT planning grant, were also examined. The index month for individuals with an acute event is the month in which the acute event occurred. Demographic characteristics for those without an acute event are as of the first month of the intake year (January 2018).

1. **Pregnant and postpartum individuals** are individuals with the presence of any pregnancy- or delivery-related diagnosis code in the index month. To ensure consistency with current Medicaid eligibility definitions, postpartum is defined as the 60 days after a delivery. Individuals who had given birth within the last 60 days but did not have a pregnancy- or delivery-related diagnosis within the measurement year were included to capture the 60-day postpartum period.

2. **Transition age young adults** are individuals aged 18 to 25 years in the index month. Traditionally, transition age young adults are defined as ages 16 to 25 years. However, given that the focus of this report is on adult Medicaid beneficiaries, this population was restricted to those aged 18 years and older.

3. **American Indian/Alaska Native** are self-identified by the individual through the DSHS Economic Service Administration's Automated Client Eligibility System (ACES) or when enrolling in Medicaid. Individuals who self-identify as only AI/AN as well as those who identify as AI/AN and another race/ethnicity are included.

4. **Persons with criminal legal involvement** are defined in two ways: Criminal Legal Involvement – Prior is defined as any arrest within January to December 2017. Criminal Legal Involvement – Index is defined as any arrest in the index month. Arrests are identified via the WASIS database that is maintained by the Washington State Patrol. The database is comprised of arrest charges for offenses resulting in fingerprint identification. The database provides a relatively complete record of felony and gross misdemeanor charges but excludes some arrest charges for misdemeanor offenses that are not required to be reported.

5. **Persons experiencing homelessness and/or housing instability** are defined as ever being homeless without housing or homeless with housing (unstably housed) in the index month. Housing status is identified using the DSHS Economic Services Administration's Automated Client Eligibility System (ACES) that is used by caseworkers to record information about client self-reported living arrangements and shelter expenses. Separate rates are reported for persons who are homeless and unstably housed.

Additional variables used in these analyses include:

- **Demographic characteristics** included age, gender, and race/ethnicity. Race/ethnicity is self-identified and is not mutually exclusive (individuals are included in each race/ethnicity they self-identify as). Medicaid coverage information included four different categories of Medicaid coverage: New Adults covered by Medicaid Expansion under the Affordable Care Act, Disabled Adults, "Classic" non-disabled Medicaid adults enrolled in coverage categories that existed prior to Medicaid Expansion, and Duals who are enrolled in both Medicaid and Medicare.

- **Regional attribution** was based on county of residence in the index month. Medicaid beneficiaries were attributed to the state, an integrated managed care (IMC) region, and a county based on their county of residence in the index month.

ACUTE EVENTS

Within the population of Medicaid beneficiaries with a SUD diagnosis, the first month with an eligible acute event (described below) within the intake year (CY 2018) was classified as the index month. Four types of acute events were identified. These categories are not mutually exclusive. Medicaid beneficiaries with a SUD diagnosis who had more than one type of acute event in the index month are included in each type of acute event category.

- **Withdrawal management.** Medicaid beneficiaries with a SUD diagnosis who had a SUD withdrawal management service in the index month.

- **Inpatient/residential SUD treatment.** Medicaid beneficiaries with a SUD diagnosis who had an inpatient SUD treatment service in the index month.

- **Emergency department visit – outpatient.** Medicaid beneficiaries with a SUD diagnosis who had an outpatient ED visit with any SUD-related diagnosis (the visit did not result in a transfer to a general medical inpatient hospitalization) in the index month. A SUD diagnosis in any diagnosis field (primary and other) qualifies the ED visit as SUD-related.

- **Inpatient SUD-related hospitalization.** Medicaid beneficiaries with a SUD diagnosis who had an ED visit with any SUD-related diagnosis that resulted in a transfer to a general medical inpatient hospitalization (not inpatient SUD treatment) in the index month. A SUD diagnosis in any diagnosis field (primary and other) qualifies the ED visit as SUD-related.

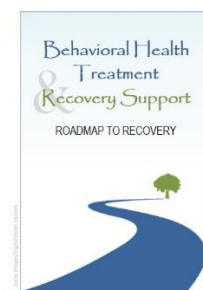Two additional summary categories are included in the report:

- **Any acute SUD event.** Medicaid beneficiaries with a SUD diagnosis who had any relevant SUD-related acute event in the index month.

- **Multiple types of acute events**. Medicaid beneficiaries with a SUD diagnosis who had more than one type of acute events in the index month. Individuals with multiple acute events of only one type (e.g., multiple outpatient ED visits) are not included in this category.

DATA SOURCES

Data used in this report came from the integrated administrative data maintained in the Department of Social and Health Services Integrated Client Databases (ICDB). The ICDB contains data from several state administrative data systems, including the state's ProviderOne MMIS data system that contains Medicaid claims and encounter data. The ICDB allows for the examination of a broad set of measures for Medicaid beneficiaries.

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