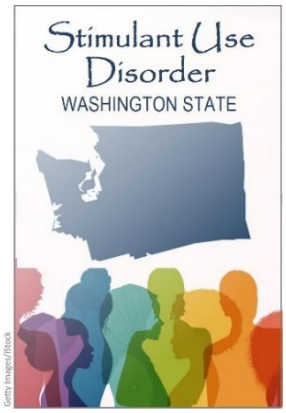

Characteristics of People with Apple Health and Stimulant Use Disorder Diagnosis in Washington State

Prevalence, Geographic Distribution and Healthcare Service Utilization over 5 Years (Fiscal Years 2018 to 2022)

Elizabeth Speaker, MS • Frank Angelo, PhD • Kevin Campbell, PhD • Irina Sharkova, PhD

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RECENT DRUG USE TRENDS show an alarming rise in stimulant misuse and overdose. In Washington State, psychostimulant-related overdose deaths rose dramatically from State Fiscal Years (SFY) 2018 to 2022, increasing from 6.2 deaths- to 16.8 deaths-per 100,000, respectively.[1] To inform intervention strategies and policies to mitigate the impacts of stimulant use, this report reviews characteristics of adults with Apple Health (AH) medical coverage (i.e., Medicaid) who had a stimulant use disorder (StimUD) diagnosis in SFYs 2018 through 2022. Special attention is given to the following priority populations: American Indian or Alaska Natives (AIAN); pregnant and postpartum individuals; people experiencing homelessness; and those involved with the criminal legal system.

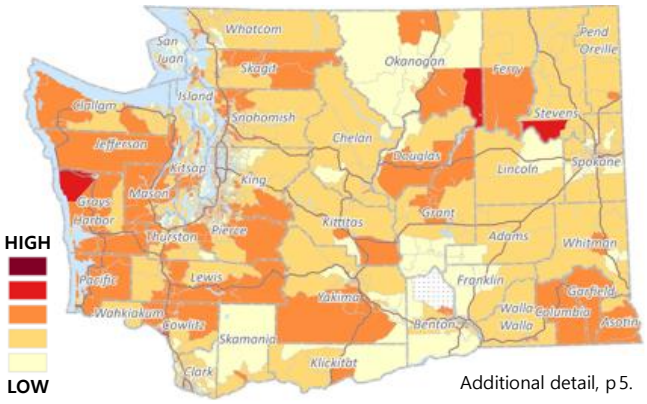
Key Findings

- The prevalence of diagnosed StimUD among the AH population was 5 percent. Among people with AH with any substance use disorder (SUD) diagnosis (14 percent), 34 percent also had a StimUD.
- The prevalence of StimUD among people with AH involved with criminal legal system (26 percent) or experiencing homelessness (18 percent) was higher than the AH statewide rate (5 percent).
- StimUD prevalence among AIAN was twice the AH average rate; it was also the only racial/ethnic group rate above the average. StimUD prevalence was elevated in census tracts within or near Tribal Lands (Figure 1).
- People with AH and StimUD had more SUD-related diagnoses and associated treatment, and utilized more acute health care services, such as emergency department visits, than adults with AH and any SUD diagnoses.
- The death rate among people with AH and StimUD diagnoses increased by 81 percent from SFY 2018 to SFY 2022, outpacing the mortality rate among adults with AH and any SUD diagnoses.

FIGURE 1.

Stimulant Use Disorder Prevalence

Percent of All Apple Health Clients by Census Tract, 2022



Additional detail, p 5.

[1] Department of Health. (2024, June). *Opioid and Drug Use Data Dashboard*. http://doh.wa.gov/data-and-statistical-reports/washington-tracking-network-wtn/opioids/overdose-dashboard

Background

Concurrent stimulant and opioid misuse and an increase in fentanyl availability in the illicit drug use supply have been suggested as potential drivers in the rise in stimulant misuse and overdose in Washington State from SFY 2018 to 2022.[2,3] Further exacerbating this trend was the start of the COVID-19 Public Health Emergency (PHE) in March 2020. Additionally, while access to opioid use disorder (OUD) treatment has increased with low barrier treatment models and relaxed guidelines to receive medications for OUD (MOUD), similar efforts have not been made to address stimulant use. Treatment options for stimulant use remain limited beyond traditional psychosocial therapies, such as contingency management and intensive outpatient treatment, and stimulant use has not received the same attention as opioid use in recent years. To better serve individuals with StimUD, and to inform intervention strategies and policies to mitigate the impacts of stimulant use, we report characteristics of adults with AH who had a StimUD diagnosis in SFYs 2018 through 2022.

Study Population and Methods

The primary study population are adults with AH who also have a StimUD.[4] This population is a subset of a larger reference population of adults with SUD, which is in turn a subset of adults with AH. The relationships between these groups are depicted in Figure 2 and described further below:

1. **Adult AH Population**: Adults ages 18 to 64 with full coverage, Title XIX Medicaid benefits for at least 1 month in a given SFY. This population is shown in demographic comparisons and used to calculate prevalences. Their index month for the study is the last month of a given SFY (June).
2. **AH – SUD**: This is a subset of the adult AH population who had any SUD diagnosis. This population is used as a reference group throughout the study. SUD diagnoses included those related to disordered use of the following substances in a measurement year: alcohol; cannabis; cocaine; sedative, hypnotic or anxiolytic; opioid, stimulant; or other psychoactive substance use disorder. Diagnoses for this group and the following group were based on the International Classification of Diseases, 10th Revision (ICD-10). While nicotine use disorder is an SUD, individuals that only had this diagnosis were excluded from AH – SUD as the treatment needs and experiences for this group differ from individuals with other SUDs. The index month for this group is when they had their first SUD diagnosis in an SFY.[5]
3. **AH – StimUD:** A subset of adults with AH – SUD who had a StimUD diagnosis. The StimUD diagnoses are associated with disordered use of amphetamine, methamphetamine and/or prescription drugs such as Adderall and Ritalin. Their index month is when they had their first StimUD diagnosis in an SFY.

This report includes retrospective, cross-sectional (by year) descriptive analyses using Washington State's Department of Social and Health Services' Integrated Client Databases (ICDB) to better understand the people with AH – StimUD. The ICDB contains data from several state administrative

[2] Ahmed, S., Sarfraz, Z., & Sarfraz, A. (2022). A changing epidemic and the rise of opioid-stimulant co-use. *Frontiers in psychiatry, 13*. https://doi.org/10.3389%2Ffpsyt.2022.918197

[3] McCall Jones, C., Baldwin, G. T., & Compton, W. M. (2017). Recent increases in cocaine-related overdose deaths and the role of opioids. *American journal of public health*, *107*(3), 430-432. https://doi.org/10.2105/AJPH.2016.303627

[4] People with Apple Health (AH) with a non-AH primary health care coverage (also referred to as third-party liability) and people with AH who are also Medicare recipients were excluded from this analysis given their additional benefit coverage could not be observed.

[5] Individuals were represented in each SFY where they had an SUD diagnosis and so may be represented in more than one SFY. Individuals were only counted once per SFY; if an individual had more than one diagnosis in an SFY, the first month with a diagnosis was used as the index month. Individuals could also be represented in both the SUD group and StimUD group in an SFY if they had a StimUD diagnosis and another SUD diagnosis.

data systems, including ProviderOne (Medicaid) claims data.[6] Special attention is given to the following priority populations[7] who may need more support or resources for equitable health outcomes:

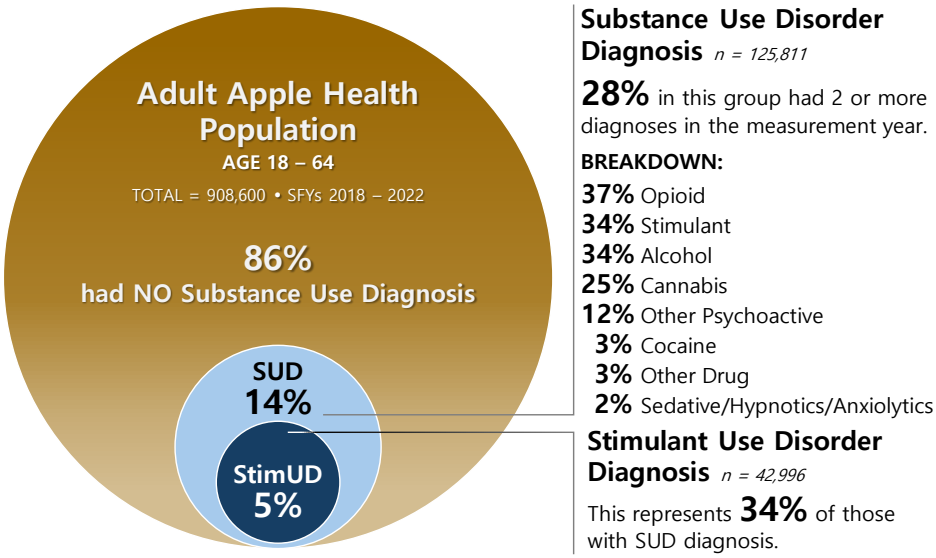
- American Indian or Alaska Natives;
- Pregnant and postpartum individuals;
- Those involved with the criminal legal system; and
- People experiencing homelessness.

Descriptive profiles, including demographics and geographic distribution for the study populations above, were created using person-level data from the ICDB. Regional attributions were determined based on the person's county of residence and the census tract where they resided for most of the measurement year. Measures for behavioral health diagnoses and treatment as well as healthcare utilization were evaluated in the 24 months prior to the index month. Similar measurement concepts, including mortality, were evaluated in the 6 months after the index month. Unless otherwise noted, measures are reported based on the average for the 5-year period from SFY 2018 to 2022.

Stimulant Use Disorder Prevalence among People with Apple Health

The prevalence rates both StimUD and SUD among people with AH remained relatively stable, 5 and 14 percent, respectively, across SFYs. Among the population with SUD, 34 percent had a StimUD (Figure 2). The following sections highlight the distribution and prevalence of StimUD by demographics, geographic regions, and the priority populations. For more information about within-group variations, as well as comparisons to SUD prevalence, see Appendix Tables A1 and A3.

FIGURE 2.
Five percent of the Adult Apple Health Population had a Stimulant Use Disorder Diagnoses
Stimulant Use Disorder Prevalence, SFY 2018 – SFY 2022, Average Annual Adult Apple Health Population = 908,600



Demographic Prevalence

Age. Among people with AH ages 18 to 25, prevalence of StimUD diagnosis was the lowest (2 percent). Prevalence increased for the 25 to 34 age group and peaked for those ages 35 – 44 at 7 percent. Prevalence steadily declined in the older age groups (Figure 3).

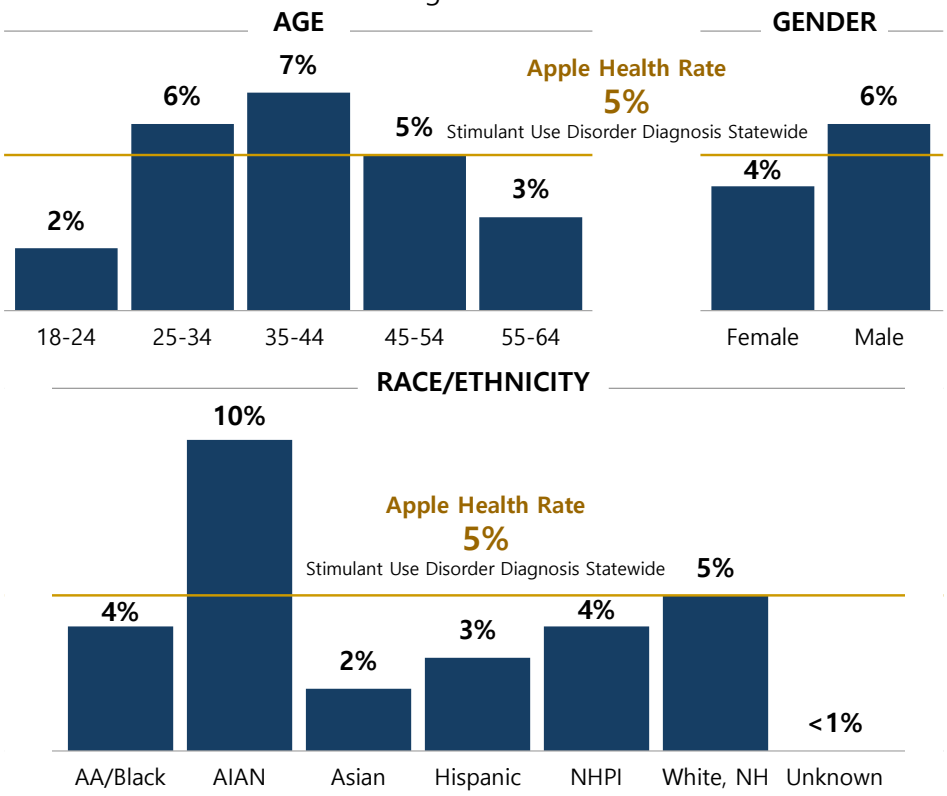
Gender. Prevalence for StimUD was higher for males compared to females (6 percent and 4 percent). Males had prevalence slightly higher than the statewide AH average rate, while females were just under this rate (Figure 3).

[6] Mancuso, D. & Huber, A. (2021). Washington State Health and Human Services: Integrated Client Databases. *DSHS Research and Data Analysis Division*. 11.205. https://www.dshs.wa.gov/sites/default/files/rda/reports/research-11-205.pdf
[7] Sub population definitions can be found in the Technical Notes.

Race/Ethnicity. The AIAN racial group was the most disproportionally affected by StimUD, with StimUD prevalence double (10 percent) the statewide AH rate (Figure 3). All other racial and ethnic groups had prevalence rates at or below the statewide average.

FIGURE 3.
Stimulant Use Disorder Diagnoses were Most Prevalent among AIAN Individuals, People Ages 34 to 44, and Males
Stimulant Use Disorder Prevalence, SFY 2018 – SFY 2022

NOTES: AA = African American; AIAN = American Indian/Alaska Native; Hispanic = Hispanic/ Latino; NHPI = Native Hawaiian/Pacific Islander; NH = Non-Hispanic; Unknown = Unknown Race. Race/Ethnicity. Categories are not mutually exclusive, except for White, non-Hispanic.



Geographic Prevalence

Apple Health Managed Care (AHMC) Regions. Washington State's Health Care Authority (HCA) manages AH, and managed care plans covering physical and mental health, and substance use treatment services are offered through ten AHMC Regions.[8] StimUD prevalence across the AHMC Regions ranged from 4 to 7 percent (Appendix Table A1). The only Region with StimUD prevalence above the statewide AH rate was Great Rivers (7 percent).

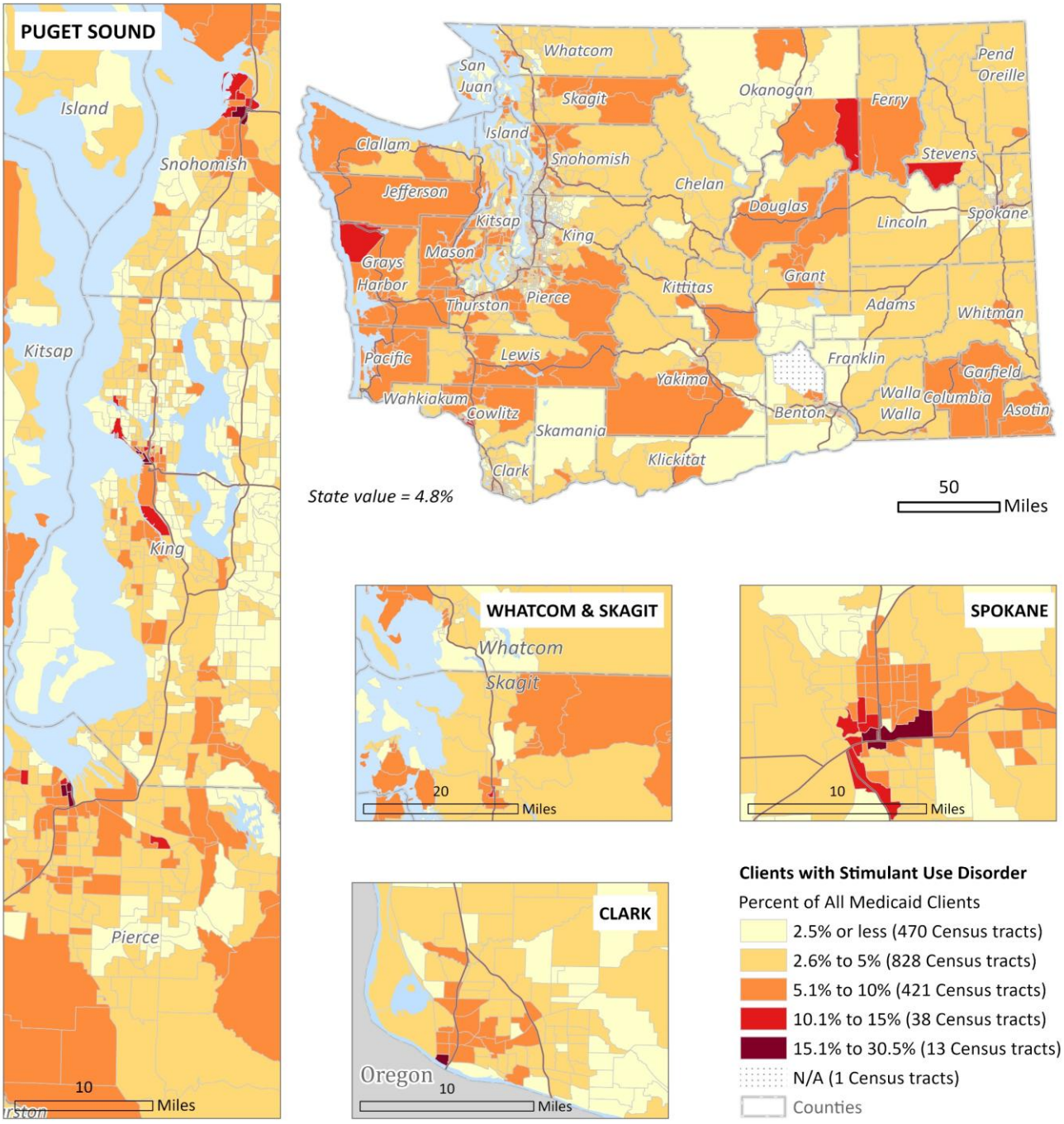
Census Tracts. To better understand the geographic distribution of high StimUD prevalence areas, we evaluated SFY 2022 prevalence rates within 2020 census tracts. People with AH were assigned to the census tract where they resided most of SFY 2022. The Figure 4 maps show census tracts shaded from light-yellow to dark red, signaling increasing StimUD prevalence from light to dark. Light-yellow and yellow census tracts have prevalence at or below the statewide AH average, and most (73 percent) of these census tracts are in rural and suburban areas of the state. Many of the census tracts shaded in orange clustered in the more populous, western portion of the State, signaling StimUD prevalence above the statewide average. A closer inspection reveals some rural regions with limited resource and service access and areas near or within Tribal Lands experienced higher than average StimUD prevalence. Within Grays Harbor County, the red census tract indicating prevalence of 10.1 to 15 percent, contains the Quinault Reservation. In the northeast corner of the state, within Okanogan, Ferry, and Stevens Counties, the orange and red cluster contain the Colville and Spokane Reservations. Additionally, four of the seven census tracts containing most of the Yakama Nation Reservation in Yakima County had above average prevalence.

[8] Health Care Authority. (n.d.). *Apple Health Managed Care*. https://www.hca.wa.gov/free-or-low-cost-health-care/i-need-medical-dental-or-vision-care/apple-health-managed-care

FIGURE 4.

Stimulant Use Disorder Prevalence Among People with Apple Health was Highest in High-Density, Urban Areas and Rural Areas with Limited Resource Acess

Stimulant Use Disorder Prevalence by 2020 Census Tracts (Ages 18 to 64, SFY 2022)



NOTES: People with Apple Health (AH) medical coverage, ages 18 to 64 years old as of June 30, with a Stimulant Use Disorder diagnosis as a percentage of adult people with AH, in State Fiscal Year (SFY) 2022, by 2020 Census tract. People must have at least one or more months of coverage in SFY 2022. Map classification: modified natural breaks (Jenks).

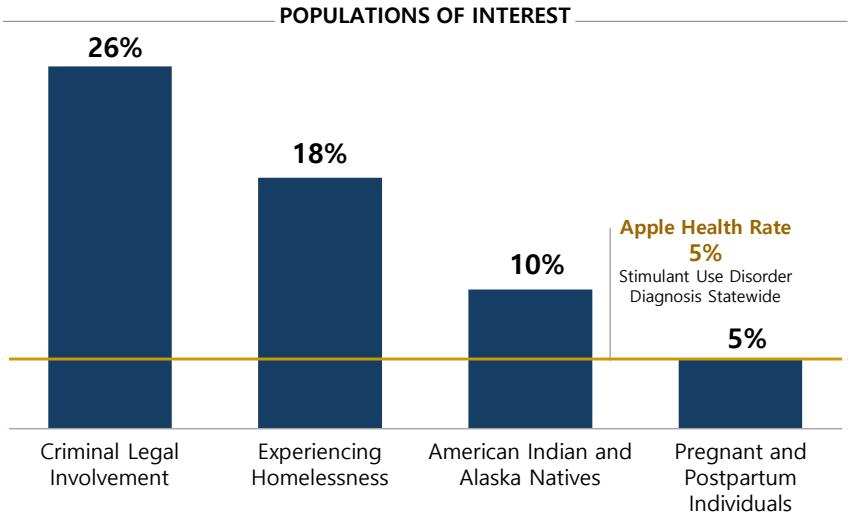
SOURCE: DSHS Research and Data Analysis Division.

The 13 census tracts with the highest prevalence (15.1 percent to 30.5 percent) fell within densely populated urban areas, including the four largest cities (Seattle, Spokane, Tacoma and Vancouver), as well as Everett. Within the Puget Sound call-out map, the concentration of census tracts with the highest prevalence fell within the city centers of Seattle, Tacoma and Everett. The Spokane and Clark County call-out maps also reveal high prevalence census tracts clustering around the city centers of Spokane and Vancouver. Additionally, the city center of Mount Vernon in the Whatcom and Skagit map shows much higher than average StimUD prevalence (10.1 percent to 15 percent).

Priority Populations

The following priority populations were evaluated: pregnant and/or postpartum individuals; American Indian/Alaskan Natives (AIAN)[9]; individuals involved with the criminal legal system; and individuals experiencing homelessness. Figure 4 shows StimUD diagnosis prevalence rates among these populations. *Pregnant and postpartum individuals* had rates of StimUD similar to the statewide AH rate (Figure 5). Although the rates of use among this population were comparable to statewide rates, the potential negative consequences of substance use by pregnant and postpartum individuals are concerning; prenatal substance use exposure is associated with adverse outcomes such as birth defects or pregnancy loss. About nine percent of people with AH were involved with the *criminal legal system* in the 24 months prior to their index event, and among them, about one in four had a StimUD diagnosis (26 percent). Fifteen percent of people with AH *experienced homelessness*, and among them 18 percent were diagnosed with a StimUD (Figure 5). See Appendix Table A1 for more details.

FIGURE 5.
Most Populations of Interest had Above Average Stimulant Use Disorder Prevalence Rates Compared to the Apple Health Statewide Rate
Stimulant Use Disorder Prevalence by Populations of Interest, SFY 2018 – SFY 2022



Behavioral Health Diagnoses and Health Care Utilization

The following sections summarize behavioral health conditions among the people with AH – StimUD and how these rates compare to the broader AH population of people with any SUD. Behavioral health treatment service utilization and hospitalizations are also reviewed in the 24 months prior to diagnosis. For additional details, including numbers and a comparison of the entire AH population, see Appendix Table A2.

Behavioral Health Diagnoses

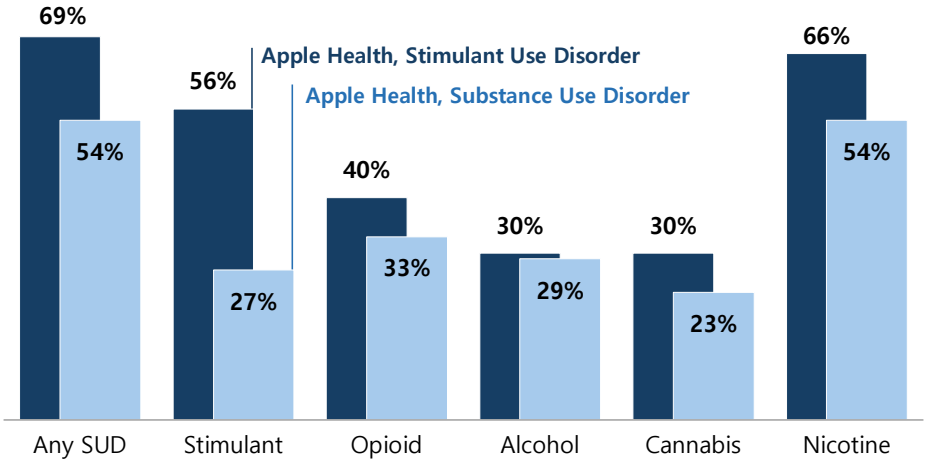
Substance Use Disorders. Nearly seven out of ten people (69 percent) with AH – StimUD had other SUD diagnoses in the 24 months before their index diagnosis. Over half (56 percent) had already been

[9] The AIAN population was discussed earlier in the Demographic Prevalence section and so will not be covered in this section.

diagnosed with a StimUD, and 40 percent had OUD (Figure 6). Compared to people with AH – SUD, those with StimUD had higher rates of prior SUD diagnoses across all substance categories.

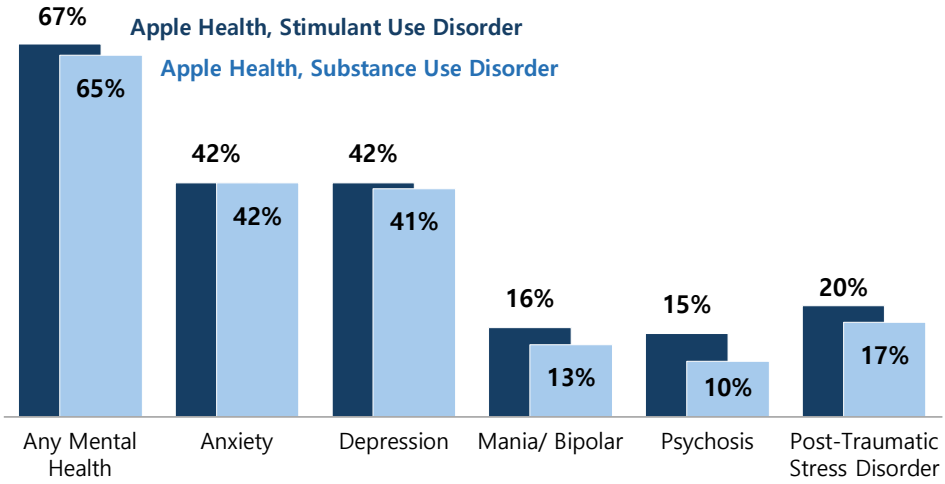
Mental Health Diagnoses. Over two-thirds (67 percent) of the people with AH – StimUD had mental health (MH) diagnoses, with anxiety and depression being the most common (both 42 percent). Anxiety and depression rates were similar among people with AH – SUD. Overall, the StimUD group had slightly higher rates of MH diagnoses, with disorders related to mania/bipolar, psychosis and post-traumatic stress being diagnosed more often in this group. Diagnoses related to psychosis had the largest difference between the study groups (15 percent and 10 percent, Figure 7).

FIGURE 6.
Prior Substance Use Disorder Diagnosis was More Common Among People with AH – StimUD
Substance Use Disorder Diagnoses in the 24 Months before Index Diagnosis, SFY 2018 – SFY 2022



NOTES: SUD diagnoses are less than 100 percent because some people with an SUD diagnosis in a measurement year did not have a diagnosis in the prior 24 months. Nicotine use disorder is displayed to show the co-occurrence of this diagnosis among the study groups, however individuals with only nicotine use disorder were not included in the study group with any SUD or the prior any SUD measure displayed in this figure.

FIGURE 7.
Prior Mental Health Diagnoses were Common among People in the Study Groups
Mental Health Diagnoses in the 24 Months before Index Diagnosis, SFY 2018 – SFY 2022



Health Care Utilization

Behavioral Health Treatment. People with AH – StimUD were generally accessing SUD treatment at higher rates than people with AH – SUD before their index diagnosis. Outpatient SUD treatment was the most common modality, with two in five (39 percent) people with AH – StimUD receiving this treatment modality (Figure 8). Nearly a quarter (23 percent) of this population also accessed MOUD treatment, consistent with the concurrent OUD diagnoses among this population in the 24 months prior to their index StimUD diagnosis.

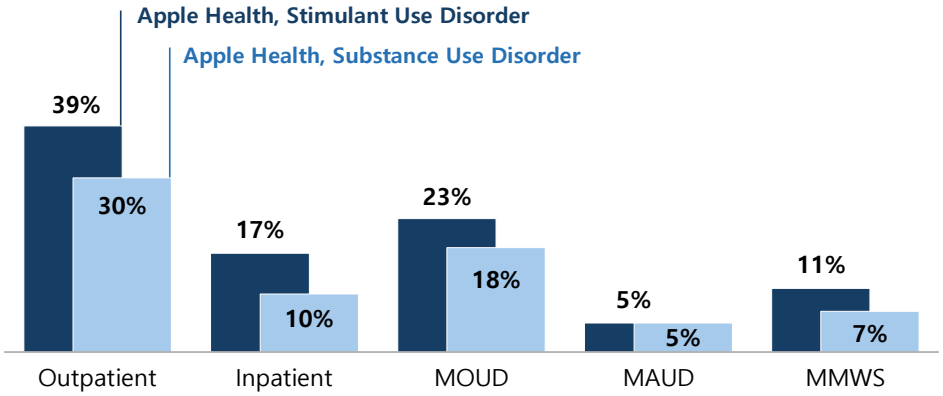
While medically managed withdrawal services (MMWS), or detoxification, is not considered SUD treatment, it can be an important step towards recovery.[10] People with AH – StimUD accessed MMWS more often than people with AH – SUD (11 percent and 7 percent, respectively, Figure 8).

Over half (53 percent) of the population with StimUD received mental health treatment in the 24 months prior to index (see Appendix Table A2). The people with AH – SUD accessed mental health treatment at a similar rate (50 percent).

FIGURE 8.

People with AH – StimUD had Higher Rates of Prior Outpatient SUD and MOUD Treatment

Substance Use Treatment Rates in the 24 Months before Index Diagnosis, SFY 2018 – SFY 2022



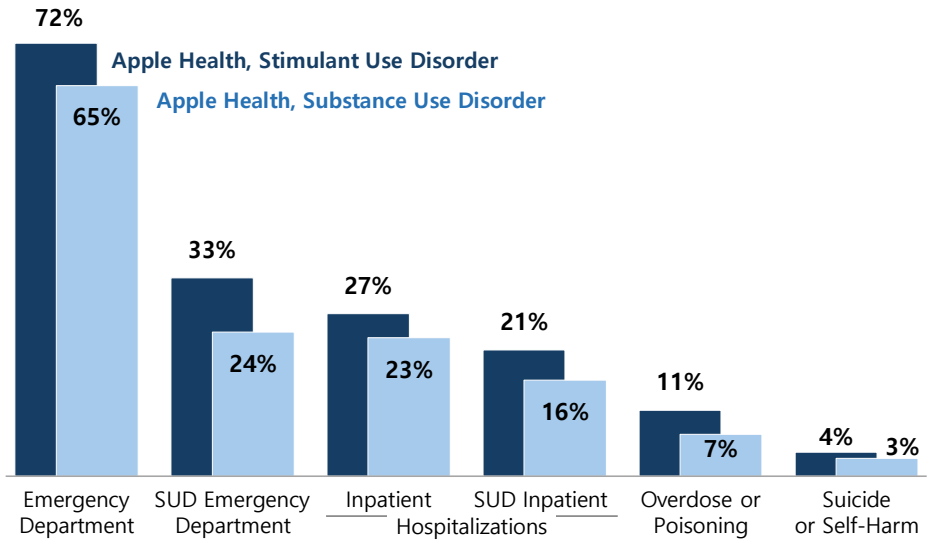
NOTE: MOUD = Medication for opioid use disorder; MAUD = Medication for alcohol use disorder; MMWS = Medically managed withdrawal services. People may receive more than one type of treatment service.

Hospitalizations. A higher percentage of people with AH – StimUD utilized acute healthcare services than the people with AH – SUD. Nearly three-quarters (72 percent) of people with AH – StimUD had emergency department visits in the 24 months prior to their index month, and one-third (33 percent) had an SUD-related ED visit (Figure 9). Inpatient hospitalization admissions were experienced by 27 percent of the people with AH – StimUD, and 21 percent had an SUD-related hospitalization. Further, 11 percent of people with AH – StimUD had an overdose or poisoning diagnosis that resulted in a hospitalization or medical encounter and 4 percent had a suicide or self-harm diagnosis (Figure 9 and Table A2).

FIGURE 9.

Emergency Department Visits were the Most Common Type of Acute Care Received by People in the Study Groups

Acute Healthcare Service Utilization in the 24 Months before Index Diagnosis, SFY 2018 – SFY 2022



[10] Rush, B. & Furlong, A. 2019. Review of Withdrawal Management Services: Models and Practices. Virgo Planning and Evaluation Consultants, Inc. https://www.virgoeval.org/wp-content/uploads/2020/10/Review-of-Withdrawal-Management-Services.pdf

Experiences in the 6 Months After StimUD or SUD Diagnosis

The following sections describe the experiences of people with AH – StimUD in the 6 months after their diagnosis, or index month.[11] Behavioral health treatment utilization and acute hospitalizations were examined to understand what services people are accessing after a diagnosis. Mortality was also examined. Measures in this section include trends over time, rather than the 5-year averages presented earlier in the report. See Appendix Table A4 for more details.

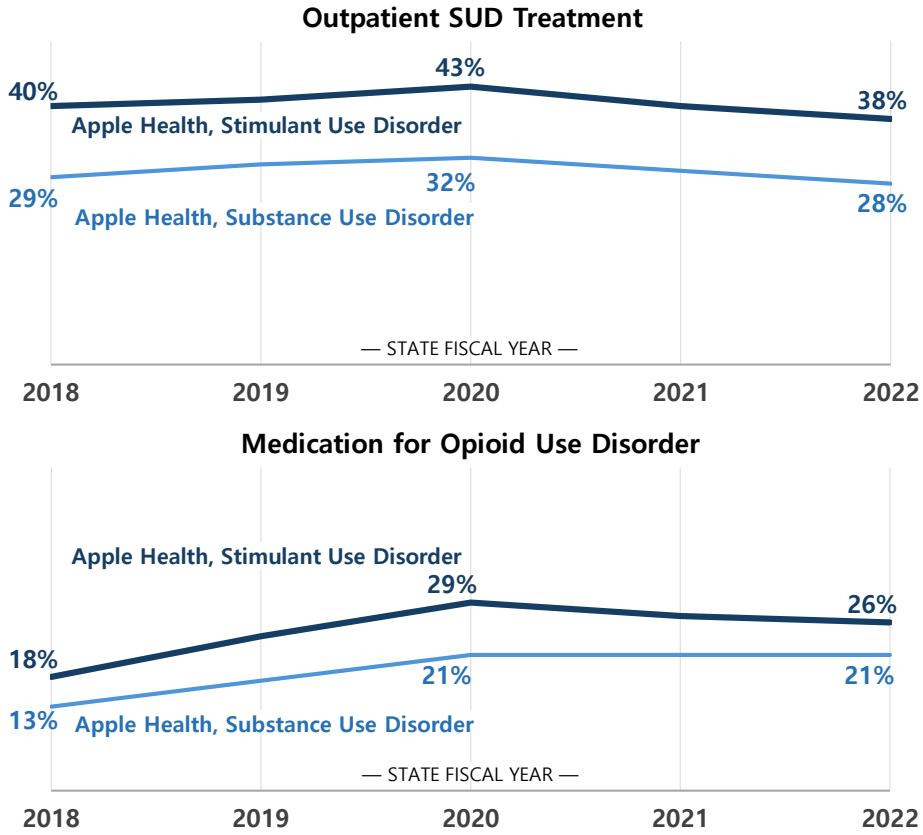
Health Care Utilization after Diagnosis

Behavioral Health Treatment. Treatment rates for SUDs were higher among people with AH – StimUD than those with any SUD after the index month. Similar to before diagnosis, outpatient SUD treatment was the most common modality, followed by MOUD. Across these two modalities, treatment rates increased through SFY 2020 and then either declined or leveled through SFY 2022. The declining treatment rates may have been due to the COVID-19 PHE, which resulted in healthcare service disruptions. By SFY 2022, outpatient SUD treatment declined by 4 – 5 percentage points from the SFY 2020 rates and remained lower than SFY 2018 (Figure 10). MOUD treatment rates remained higher than in SFY 2018. All other SUD treatment modalities and MMWS were stable over time (See Appendix Table A4).

FIGURE 10.

Despite Impacts of the COVID-19 PHE on Outpatient SUD and MOUD Treatment, People in Both Study Groups Utilized MOUD Treatment at Overall Increased Rates from SFY 2018 to SFY 2022

Substance Use Disorder Treatment Receipt in the 6 Months after Index Diagnosis, SFY 2018 – SFY 2022



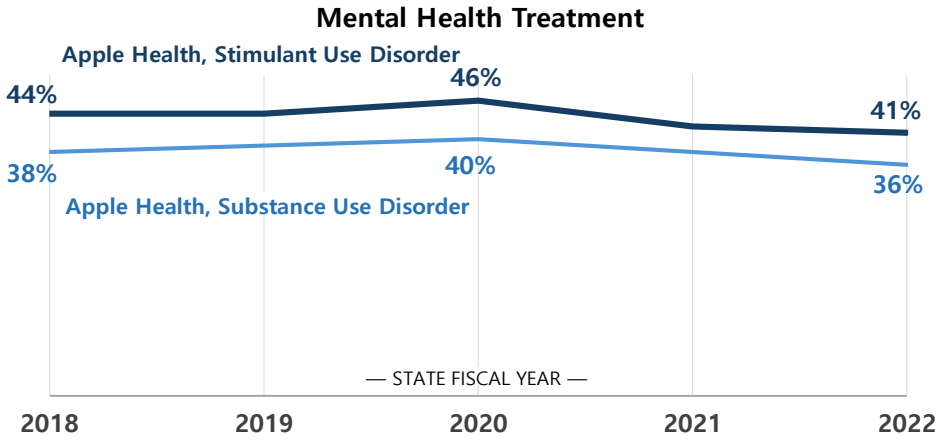
Mental health treatment trends were similar to outpatient SUD and MOUD treatment. While MH diagnoses rates were similar in the study groups, MH treatment receipt was 5 – 6 percentage points higher for people with AH – StimUD over the SFYs, averaging 43 percent and 38 percent (Figure 11). Mental health treatment rates in SFY 2022 were lower than earlier SFYs, potentially due to health care service disruptions due to the COVID-19 PHE.

[11] For 6 month follow up outcomes displayed across the SFYs, people are represented in the SFY of their diagnosis regardless of if their follow-up period crosses into a new SFY.

FIGURE 11.

Receipt of Mental Health Treatment Declined Among People in the Study Groups Across the State Fiscal Years

Mental Health Treatment Receipt in the 6 Months after Index Diagnosis, SFY 2018 – SFY 2022

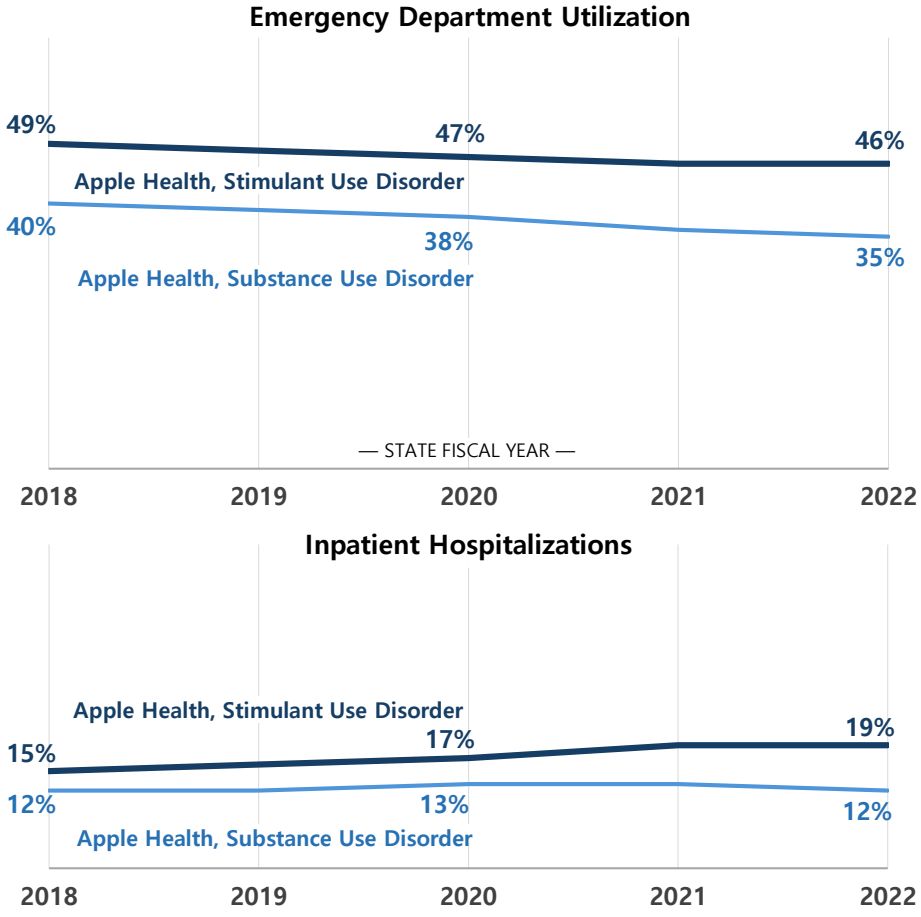


Hospitalizations. Nearly half (47 percent on average) of people with AH – StimUD had an emergency department (ED) visit for any reason in the 6 months after the index month (Figure 12), and 20 percent had an SUD-related ED visit (Appendix Table A4). Seventeen percent of people with AH – StimUD had inpatient hospital admissions, and 15 percent were hospitalized for an SUD-related event. Over the 5 years, the percentage of people utilizing the ED declined slightly, while hospitalizations increased (Figure 12). Comparatively, fewer people with AH – SUD had ED visits or inpatient hospitalizations (9 – 11 percentage points lower and 3 – 7 percentage points lower, respectively). Hospitalizations remained stable for people with AH – SUD over the 5 SFYs, while ED utilization declined (Figure 12).

FIGURE 12.

Emergency Department Utilization Declined for Both Study Groups, while Inpatient Hospitalizations Increased Among People with Stimulant Use Disorder

Acute Healthcare Utilization Receipt in the 6 Months after Index Diagnosis, SFY 2018 – SFY 2022

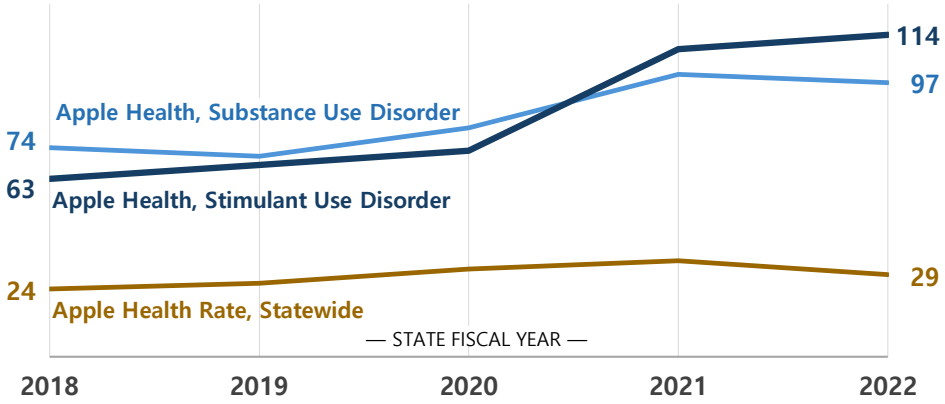


These same patterns were also observed when we evaluated number of visits per 1,000 months of AH coverage in the 6 months before index and the 6 months after (See Appendix Table A4 under "Healthcare Utilization", measures that start with "Pre" and "Post"). The number of ED visits declined over the SFYs while the number of inpatient visits increased for people with AH – StimUD. People with AH – StimUD had more ED encounters and inpatient hospitalizations than the people with AH – SUD. Further, both groups had more ED encounters and hospitalizations in the 6 months after diagnosis compared to the 6 months prior in all SFYs, with people with AH – StimUD having a larger increase between pre and post index periods (Appendix Table A4).

Mortality

Mortality rates among people with AH – StimUD diagnoses outpaced the general AH statewide death rate in the 6 months after the index month.[12] Over the study period, mortality rates among people with AH – StimUD increased from 63 deaths per 10,000 people with AH in SFY 2018 to 114 per 10,000 in SFY 2022, an 81 percent increase. A similar pattern was observed for people with AH – SUD, though the increase was not as large (31 percent). While the death rates for all groups increased, the mortality rates of the general AH population had the lowest percentage increase (21 percent, Figure 13).

FIGURE 13.
Mortality Rates Increased Among People in the Study Groups Over the State Fiscal Years
Mortality Rates per 10,000 People with Apple Health, SFY 2018 – SFY 2022



Summary

This analysis highlights characteristics of people with AH – StimUD in Washington State. The prevalence of StimUD among the AH population was 5 percent overall. Among people with AH and an SUD diagnosis (14 percent), 34 percent had a StimUD. The AH StimUD prevalence was 5 percent over the study period. Compared to the adults with any SUD, those with StimUD tended to have higher rates of concurrent SUD diagnoses, higher healthcare utilization, increased involvement with the criminal legal system, and higher rates of homelessness.

Strategies to address disproportionate rates of StimUD among priority populations are needed. Addressing StimUD among AIAN communities require culturally appropriate strategies to be effective, and HCA is awaiting approval for a Centers for Medicaid and Medicare Services (CMS) 1115 waiver that will allow Apple Health (Medicaid) to cover traditional health care practices provided by Indian Health Services and tribal facilities. Statewide efforts to increase MOUD access in jails should consider expanding services to address stimulant use, as people in jail with SUD are at increased risk for

[12] Crude death rates (non-adjusted) were calculated within the 6 months post index diagnosis or index month (number of deaths divided by population total).

overdose upon release.[13,14,15] The HCA's Medicaid Transformation Project (MTP), another CMS 1115 waiver demonstration project, allows incarcerated individuals' Apple Health benefits to be reinstated within 90 days of release. This may improve continuity in health care and broader SUD treatment options for this population while incarcerated. Homeless outreach and housing programs offer an opportunity to identify and refer people that may benefit from SUD treatment. Substance use is considered a potential cause and consequence of homelessness, so increasing housing support for people with SUD may alleviate the impact of StimUD as a public health issue.[16] Although pregnant and post-partum individuals were not disproportionately impacted by StimUD, they should remain a priority population as substance use while pregnant has negative impacts on the fetus and neonatal children.

Regional variation in StimUD prevalence was observed in this study. High-density, urban census tracts, as well as those within or near federally recognized Tribal Lands, are areas that could benefit from increased prevention, treatment and recovery support efforts to address StimUD. Local, state, and tribal agencies that provide SUD support in these areas should focus on strategies to address StimUD.

Diagnoses of behavioral health conditions, ED utilization, and inpatient hospital admissions among people with StimUD were high. Acute healthcare is costly and both study groups utilize these services at high rates. Further, most people with AH – StimUD had prior SUD diagnoses in the 24 months before their index diagnoses, indicating their substance use is being identified by healthcare professionals. Hospitals are a critical access point in identifying individuals with SUD, so improving connections to primary care and treatment services from acute care settings may mitigate costs associated with excessive, and sometimes unnecessary, hospital utilization.

Although the study population was accessing SUD treatment, treatment gaps remain, and effective StimUD treatment options are limited. Contingency management (CM) is the most promising treatment for StimUD[17], and the HCA is increasing proficiency among health care professionals through training initiatives. Further, the MTP also includes a pilot CM benefit for people with AH – SUD.[18] Efforts to monitor and evaluate these initiatives should be prioritized to better understand their impact on individual outcomes. Additionally, many people with StimUD also experience OUD. Concomitant use of stimulants and opioids has been on the rise, complicating MOUD treatment retention outcomes.[19] Given this, more research is needed to understand how stimulant use impacts MOUD treatment, and to identify ways to better engage and retain individuals in treatment.

The toll of SUD on individuals and society is multifaceted, resulting in excessive morbidity and mortality. In 2021, 47 percent of overdose deaths were attributed to stimulants alone or in

[13] Revised Code of WA 71.24.599. Opioid Use Disorder – City and County Jails-Funding. https://app.leg.wa.gov/RCW/default.aspx?cite=71.24.599

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[18] Washington State Health Care Authority. (2023, October). *Contingency Management*. Retrieved July 12, 2024, from https://www.hca.wa.gov/assets/program/fact-sheet-contingency-management.pdf

[19] Russell, C., Law, J., Imtiaz, S., Rehm, J., Le Foll, B., & Ali, F. (2023, August). The impact of methamphetamine use on medications for opioid use disorder (MOUD) treatment retention: a scoping review. *Addiction Science & Clinical Practice*, 18, 48. https://doi.org/10.1186/s13722-023-00402-0

combination with fentanyl.[20] Mortality rates steadily climbed for the study groups over the SFYs, with a more pronounced increase among those with StimUD. Marked increases began in 2020, coinciding with the COVID – 19 PHE and a rise in fentanyl availability; Washington State fentanyl drug seizures increased by 1,670 percent between 2019 and 2022, according to the Drug Enforcement Agency.[21] The rising death rates speak to an alarming and urgent public health crisis in need of increased attention and resources. Further analyses are needed to understand the changes in mortality rates and how the COVID-19 PHE, poly-substance use, or illicit fentanyl availability may have contributed.

Directions for Future Research

Prevention efforts should focus on targeted strategies aimed at reducing stimulant use and ensure they are reaching individuals at risk for StimUD. Intervention strategies underway, such as the 1115 CMS waiver for CM or MOUD treatment availability in jails and EDs, should be more systematically evaluated to better understand the impact they are having on individuals with StimUD. Additionally, enhancements to treatment programs, such as using peer professionals in CM models of care, should be explored as ways to better engage and retain individuals in treatment and recovery programs.[22]

High-density urban areas had the highest prevalence of StimUD diagnoses in SFY 2022, but it is difficult to discern further patterns by looking at diagnoses alone. Further geographic analyses could identify more nuanced trends and inform targeted interventions by including person-level data and variables such as SUD treatment and healthcare utilization, homelessness, or demographic factors. Geographic analyses by race and ethnicity may help to better understand regional disparities in SUD rates across groups, highlight local trends, and allow for culturally appropriate targeted interventions.

Healthcare services were severely disrupted due to the COVID-19 PHE over the time frame of this study. Re-evaluating people with AH – StimUD in the future may inform how healthcare utilization and diagnoses have responded as more time passes from the COVID-19 PHE and as the healthcare system continues to recover.

Study Limitations

The information presented in this study is limited to individuals ages 18 to 64 with AH, Title XIX Medicaid full benefits, and the findings are not generalized to the statewide population. This study relied on AH claims data and therefore is limited to individuals that utilize the health care system, have AH coverage, and receive services that are submitted for reimbursement. Further, the care and diagnoses individuals receive can depend on several factors, such as age, gender, race or ethnicity, proximity to medical services, or the attending provider. Disruptions to healthcare services during the COVID-19 PHE impacted outcomes related to diagnoses and healthcare utilization and should be reviewed with caution. Census tract analyses utilized addresses derived from administrative records. As a result, individuals experiencing homelessness may have been attributed to census tracts that do not correspond to their actual or current location.

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APPENDIX

TABLE A1.

Prevalence of SUD and StimUD Diagnoses among Adults with Apple Health by Demographics and Geographic Regions, 5-Year Average SFY 2018 – 2022

		People with Apple Health with a Substance Use Disorder Diagnosis		People with Apple Health with a Stimulant Use Disorder Diagnosis	
	People with Apple Health				
	NUMBER	NUMBER	PERCENT	NUMBER	PERCENT
Population Size (Average)	908,600	125,811	14%	42,996	5%
Age					
18 to 24	195,668	14,136	7%	3,534	2%
25 to 34	262,468	39,848	15%	15,638	6%
35 to 44	186,850	32,074	17%	12,393	7%
45 to 54	134,698	21,811	16%	7,400	5%
55 to 64	128,915	17,943	14%	4,030	3%
Race/Ethnicity					
African American or Black	95,974	13,773	14%	4,239	4%
American Indian or Alaska Native	76,392	18,971	25%	7,400	10%
Asian	72,552	4,815	7%	1,670	2%
Hispanic/Latino(a)	163,538	16,523	10%	5,327	3%
Native Hawaiian or Pacific Islander	40,826	3,673	9%	1,441	4%
Unknown Race	14,667	425	3%	39	<1%
White, non-Hispanic	468,710	72,066	15%	24,588	5%
Gender					
Female	503,118	57,373	11%	18,431	4%
Male	405,431	68,434	17%	24,563	6%
Apple Health Managed Care Regions					
Great Rivers	49,883	8,488	17%	3,662	7%
Greater Columbia	108,579	13,856	13%	4,923	5%
King	208,035	26,009	13%	7,773	4%
North Central	38,813	5,123	13%	1,692	4%
North Sound	136,790	20,415	15%	6,442	5%
Pierce	113,282	15,909	14%	5,653	5%
Salish	44,808	6,946	16%	2,393	5%
Southwest	62,171	7,528	12%	2,786	4%
Spokane	101,375	15,045	15%	5,458	5%
Thurston-Mason	44,715	6,487	15%	2,214	5%
Populations of Interest					
Pregnant or Postpartum Individuals	91,653	12,991	14%	4,404	5%
AIAN	76,392	18,971	25%	7,400	10%
Criminal Legal Involvement	84,951	42,665	50%	22,045	26%
Experienced Homelessness	135,749	48,204	36%	24,515	18%

NOTES: Data in these tables represent the 5-year averages across SFY 2018 – SFY 2022. The percentages displayed are row calculations, showing the percentage of people within the study group that fall into the row categories (e.g., age, gender), out of the total number of people with AH in that category (denominator). A total of 148 people with Apple Health (AH) could not be assigned to an AHMC Region. Among people with SUD and StimUD, fewer than 11 individuals could not be assigned to an AHMC Region. A total of 50 people with AH had a missing gender. Among people with SUD and StimUD, fewer than 11 individuals were missing gender. Due to small number suppression rules, numbers representing people with unknown AHMC Regions and gender were not displayed.

TABLE A2.

Behavioral Health Diagnoses and Acute Health Service Utilization among Study Groups in the 24 Months Prior to Index, 5-Year Average SFY 2018 – 2022

	People with Apple Health with a Stimulant Use Disorder Diagnosis					
	People with Apple Health with a Substance Use Disorder Diagnosis					
	People with Apple Health					
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
Population Size (Average)	908,600	100%	125,811	100%	42,996	100%
Substance Use Disorder (SUD) Diagnoses (Prior 24 Months)						
Any SUD	103,838	11%	68,500	54%	29,832	69%
Alcohol (AUD)	54,179	6%	36,448	29%	12,735	30%
Cannabis	46,758	5%	28,946	23%	12,772	30%
Cocaine	8,229	1%	6,300	5%	3,070	7%
Nicotine	201,126	22%	68,372	54%	28,379	66%
Opioid (OUD)	52,197	6%	41,895	33%	17,388	40%
Stimulant	45,912	5%	33,911	27%	24,062	56%
Mental Health (MH) and Trauma Diagnoses (Prior 24 Months)						
Any MH	375,492	41%	81,454	65%	28,626	67%
Anxiety	223,160	25%	52,400	42%	17,975	42%
Depression	209,312	23%	51,424	41%	17,938	42%
Impulse/Conduct	7,318	1%	2,991	2%	1,555	4%
Mania/Bipolar	42,119	5%	15,841	13%	6,836	16%
Psychosis	27,375	3%	12,402	10%	6,551	15%
PTSD	65,695	7%	21,856	17%	8,762	20%
Trauma/Stressor	110,833	12%	31,130	25%	11,922	28%
Behavioral Health Treatment (Prior 24 Months)						
Inpatient SUD	15,218	2%	12,851	10%	7,134	17%
Outpatient SUD	49,428	5%	38,452	31%	16,784	39%
Medication for AUD	7,888	1%	5,735	5%	2,013	5%
Medication for OUD	28,516	3%	23,011	18%	9,758	23%
MMWS	10,108	1%	8,752	7%	4,711	11%
Any MH Treatment	271,669	30%	63,086	50%	22,923	53%
Healthcare Utilization (Prior 24 Months)						
Inpatient Hospitalizations	108,878	12%	28,841	23%	11,786	27%
Inpatient Hospitalizations SUD	30,716	3%	20,414	16%	9,223	21%
ED Utilization	379,498	42%	81,603	65%	31,086	72%
ED SUD Utilization	44,432	5%	30,631	24%	14,368	33%
Suicide/Self Harm & Overdose/Poisoning Diagnoses (Prior 24 Months)						
Any Suicide/Self Harm	7,069	1%	3,469	3%	1,581	4%
SUD Suicide/Self Harm	1,763	<1%	1,053	1%	520	1%
Any Overdose/Poisoning	15,589	2%	8,641	7%	4,599	11%
SUD Overdose/Poisoning	6,395	1%	4,581	4%	2,698	6%

NOTES: Data in these tables represent the 5-year averages across SFY 2018 – SFY 2022. The percentages displayed are column based, meaning they show the percentage of the study population that meets the condition listed in each row. Measures were assessed in the 24 months prior to the index month. The Apple Health (AH) population's index month was set to June of the SFY and should be compared cautiously as the people with StimUD and SUD had an index month marked by a medical encounter resulting in an SUD diagnosis. While Nicotine Use Disorder is displayed, individuals with only Nicotine Use Disorder were not included in the people with any SUD Diagnosis denominator. AUD = Alcohol use disorder; OUD = Opioid use disorder; MH = mental health; PTSD = post-traumatic stress disorder; MMWS = medically managed withdrawal services; ED = emergency department; ED SUD Utilization = Emergency Department visit for SUD-related cause; Inpatient Hospitalization SUD = Inpatient hospitalization for SUD-related cause.

TABLE A3.

Demographic and Geographic Regional Characteristics among the Study Groups, 5-Year Average SFY 2018 – 2022

	People with Apple Health		People with Apple Health with a Substance Use Disorder Diagnosis		People with Apple Health with a Stimulant Use Disorder Diagnosis	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
Population Size (Average)	908,600	100%	125,811	100%	42,996	100%
Age						
18 to 24	195,668	22%	14,136	11%	3,534	8%
25 to 34	262,468	29%	39,848	32%	15,638	36%
35 to 44	186,850	21%	32,074	25%	12,393	29%
45 to 54	134,698	15%	21,811	17%	7,400	17%
55 to 64	128,915	14%	17,943	14%	4,030	9%
Average	36.8		38.8		37.8	
Median	34.2		37.0		36.1	
Race/Ethnicity						
African American or Black	95,974	11%	13,773	11%	4,239	10%
AIAN	76,392	8%	18,971	15%	7,400	17%
Asian	72,552	8%	4,815	4%	1,670	4%
Hispanic/Latino(a)	163,538	18%	16,523	13%	5,327	12%
NHPI	40,826	4%	3,673	3%	1,441	3%
Unknown Race	14,667	2%	425	<1%	39	<1%
White, non-Hispanic	468,710	52%	72,066	57%	24,588	57%
Gender						
Female	503,118	55%	57,373	46%	18,431	43%
Male	405,431	45%	68,434	54%	24,563	57%
Apple Health Managed Care Regions						
Great Rivers	49,883	5%	8,488	7%	3,662	9%
Greater Columbia	108,579	12%	13,856	11%	4,923	11%
King	208,035	23%	26,009	21%	7,773	18%
North Central	38,813	4%	5,123	4%	1,692	4%
North Sound	136,790	15%	20,415	16%	6,442	15%
Pierce	113,282	12%	15,909	13%	5,653	13%
Salish	44,808	5%	6,946	6%	2,393	6%
Southwest	62,171	7%	7,528	6%	2,786	6%
Spokane	101,375	11%	15,045	12%	5,458	13%
Thurston-Mason	44,715	5%	6,487	5%	2,214	5%
Populations of Interest						
PP Individuals	91,653	10%	12,991	10%	4,404	10%
AIAN	76,392	8%	18,971	15%	7,400	17%
Criminal Legal Involvement	84,951	9%	42,665	34%	22,045	51%
Experienced Homelessness	135,749	15%	48,204	38%	24,515	57%

NOTES: Data in these tables represent the 5-year averages of SFY 2018 – SFY 2022. The percentages displayed are column based, meaning they show the percentage of the study population that meets the condition listed in each row. AIAN = American Indian or Alaska Native; NHPI = Native Hawaiian or Pacific Islander; PP Individuals = Pregnant and Postpartum Individuals. Among the people with SUD and StimUD, fewer than 11 individuals were missing gender or AHMC. Due to small number suppression rules, numbers representing people with unknown AHMC Regions and gender were not displayed.

TABLE A4.

Behavioral Health, Healthcare Utilization, and Death Trends among the Study Groups in the 6 Months after Index, SFY 2018 – SFY 2022

	People with Apple Health with a Substance Use Disorder Diagnosis					People with Apple Health with Stimulant Use Disorder Diagnosis				
State Fiscal Year	**2018**	**2019**	**2020**	**2021**	**2022**	**2018**	**2019**	**2020**	**2021**	**2022**
Population Size	119,499	123,305	123,879	129,950	132,423	39,847	44,120	45,196	43,443	42,372
Behavioral Health Treatment (Post 6 Months)										
Inpatient SUD	7%	7%	7%	7%	7%	13%	13%	13%	13%	14%
Outpatient SUD	29%	31%	32%	30%	28%	40%	41%	43%	40%	38%
Medication for AUD	3%	3%	4%	4%	4%	3%	4%	4%	4%	4%
Medication for OUD	13%	17%	21%	21%	21%	18%	24%	29%	27%	26%
MMWS	4%	4%	3%	4%	4%	7%	7%	6%	7%	7%
Any MH Treatment	38%	39%	40%	38%	36%	44%	44%	46%	42%	41%
Healthcare Utilization (Post 6 Months)										
Inpatient Hosp	12%	12%	13%	13%	12%	15%	16%	17%	19%	19%
SUD Inpatient Hosp	8%	9%	10%	10%	10%	12%	13%	15%	17%	17%
Pre IP Hosp/1,000 MAH*	22.3	22.3	23.9	23.1	23.9	26.6	26.7	30.6	33.6	35.7
Post IP Hosp/1,000 MAH	32.2	32.4	34.5	34.6	34.0	43.2	44.0	49.8	55.0	57.7
ED Utilization	40%	39%	38%	36%	35%	49%	49%	47%	46%	46%
SUD ED Utilization	13%	13%	13%	12%	11%	21%	20%	20%	20%	19%
Pre ED Util/1,000 MAH*	154.5	147.6	146.2	127.1	126.7	196.2	185.7	187.3	176.8	176.9
Post ED Util/1,000 MAH	164.4	159.4	151.5	140.3	137.0	227.8	218.1	213.3	209.9	210.4
Mortality (Post 6 Months)										
Deaths	0.7%	0.7%	0.8%	1.0%	1.0%	0.6%	0.7%	0.7%	1.1%	1.1%
Deaths per 10,000 People	74	71	81	100	97	63	68	73	109	114

NOTES: The percentages displayed are column based, meaning they show the percentage of the study population that meets the condition listed in each row. SUD = substance use disorder; AUD = Alcohol use disorder; OUD = Opioid use disorder; MMWS = medically managed withdrawal services; MH = mental health; Hosp = Hospitalization; Pre = 6 months prior to index; Post = 6 months after diagnosis; IP = Inpatient; ED = Emergency Department; MAH = Months of Apple Health Coverage; Asterisked (*) measures were assessed in the 6 months prior to the index month.

TABLE A5.

Death Trends Among Adults with Apple Health in the 6 Months after Index
SFY 2018 – SFY 2022

	People with Apple Health				
State Fiscal Year	**2018**	**2019**	**2020**	**2021**	**2022**
Population Size	869,040	831,951	821,768	958,104	1,062,135
Deaths	0.2%	0.3%	0.3%	0.3%	0.3%
Deaths per 10,000 People	24	26	31	34	29

NOTE: The percentages displayed are column based, meaning they show the percentage of the study population that meets the condition listed in each row.

STUDY FUNDING

This study is funded under Health Care Authority (HCA) Contract #K5989-06, Department of Social and Health Services/Research and Data Analysis. Contract Description: Contractor will conduct an analysis that focuses on the prevalence of stimulant use disorder among people with Apple Health and a descriptive profile of these individuals.

STUDY POPULATION

Adult (ages 18 – 64) individuals enrolled in Title XIX Medicaid (Apple Health, full benefits) are the focus of these analyses. People with Apple Health (AH) 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 enrolled in AH for at least one month in a given measurement year. This report focuses on individuals who have been diagnosed with substance use disorder (SUD) or stimulant use disorder (StimUD):

1. **Substance Use Disorder Diagnosis** is defined as the presence of an SUD diagnosis within the measurement years (SFY 2018 – 2022). Example SUD diagnoses include diagnoses related to alcohol, amphetamines (including methamphetamine), cocaine and other stimulants, heroin and other opioids (including synthetic opioids), and cannabis. The population defined as people with AH -SUD does not include individuals that only had diagnoses related to nicotine use disorder, as their treatment and social health needs differ from other types of SUD.
2. **Stimulant Use Disorder Diagnosis** is defined as the presence of a StimUD diagnosis within the measurement years (SFY 2018 – 2022). StimUD diagnoses include the family of International Classification of Diseases, Tenth Revision (ICD-10) diagnoses related to stimulants (e.g., F15 codes). StimUD diagnoses are a subset of SUD diagnoses (individuals with a StimUD diagnosis will also be identified as having an SUD diagnosis. Individuals with StimUD as well as other SUD diagnoses are included in the AH – StimUD group).

Populations of Focus

1. **Pregnant and postpartum individuals** are defined as individuals flagged with the presence of any pregnancy- or delivery-related diagnosis code within the 24 months prior to their index month, or diagnosis event. To ensure consistency with current AH eligibility definitions, postpartum is defined as the 60 days after delivery. Individuals that gave 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 time.
2. **American Indian/Alaskan Native** are identified through the DSHS Economic Service Administration's Automated Client Eligibility System (ACES) or when enrolling in AH. Individuals who identify as only AIAN as well as those who identify as AIAN and another race/ethnicity are included.
3. **Criminal Legal Involvement** is defined as ever arrested in the 24 months prior to the index month, or diagnosis event. Arrests serve as a proxy for involvement with the criminal legal system and are not intended to represent every individual who may be involved with this system. Arrests are identified via the Washington State Identification System (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.
4. **Individuals experiencing homelessness** are defined as ever being homeless, without housing, or homeless with housing within the 24 months prior to the index month, or diagnosis event. Housing status is identified using the DSHS Economic Services Administration's Automated Client Eligibility System (ACES) that is used by case workers to record information about client self-reported living arrangements and shelter expenses.

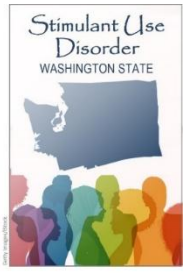
Additional Variables Used in the Analyses

Variables were assessed across 5 state fiscal years (SFY): 2018 – 2022. Most variables are reported as the averages across the 5 State Fiscal Years, unless otherwise indicated. Demographic characteristics were based on the person with AH at the time of diagnosis or in the index month (June of the SFY for the adult people with AH). Variables were assessed in the 24 months prior to the diagnosis or index month and 6 months after this point in time, unless otherwise noted in the text.

- **Demographic characteristics** included age, gender, and race/ethnicity. These characteristics are derived from the ICDB and various source administrative data systems. Race and ethnicity groups are not mutually exclusive, except for White, non-Hispanic. For example, if a person is indicated as Asian and Black, they would be counted in both groups. Race and Ethnicity categories may not be self-identified depending on the source administrative data. Unknown race/ethnicity means the information was missing. Medicaid, or Apple Health, coverage information comes from ProviderOne and is broken out into categories based on eligibility: 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** (e.g., Apple Health Managed Care (AHMC) Regions and 2020 Census tract), was based on the Apple Health person's county of residence and residential location within a census tract. Regional attribution was determined based on where the individual resided for the majority of the measurement year.
- **Health Diagnoses** includes diagnoses related to mental health conditions (e.g., depression, anxiety); stress disorders (e.g. PTSD); suicide or self-harm (e.g., intentional substance related, firearms); and overdose or poisoning codes (e.g., accidental, unintentional, undetermined) from ICD – 10. The data are derived from claims, encounters, and assessments in ProviderOne (HCA's AH data system), Behavioral Health Service Summary (HCA), and the Comprehensive Assessment Reporting Evaluation system (DSHS-ALTSA).
- **Healthcare Utilization** includes procedure codes related to SUD or MH treatment (e.g., inpatient, outpatient), medically managed withdrawal services, emergency department visits, and inpatient hospitalizations. The data are derived from paid hospital claims, accepted managed care hospital encounters, fee-for-service claims, event data, and accepted encounters in ProviderOne (HCA's AH data system) and Behavioral Health Service Summary (HCA).
- **ED or Inpatient Hospitalizations per 1,000 Months of Apple Health Coverage (MAH)** are the sum of all ED visits or inpatient hospitalizations among the study groups, divided by the number of months with AH coverage, and multiplied by 1,000. This variable was calculated in the 6 months prior to diagnosis, or index month, and in the 6 months after the index.
- **Deaths (all causes)** include all deaths due to any cause in the 6 months after index month. Crude death rates were calculated (number of deaths divided by total population; multiplied by 10,000).
- **Arrests (all)** include any arrest as identified via the WASIS database that is maintained by the Washington State Patrol.

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 (Apple Health) claims and encounter data. The ICDB allows for the examination of a broad set of measures across the following topics: access to care, geographic distribution of individuals, coordination of care, utilization of services, and social determinants of health.



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