

Patterns of Outpatient Mental Health Care Utilization Among Medicaid Patients Served
by Harborview Mental Health and Addictions Services (HMHAS) After Population Health
Stratification (PHS) Model Implementation

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Abstract

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Medicaid patients with the greatest need for mental health services often do not receive adequate outpatient mental health services, resulting in worse outcomes for the patient and increased utilization of costly and less effective inpatient and emergency services.

Those with severe mental health needs disproportionately experience co-occurring health challenges and social adversities. Increasingly, population health stratification (PHS) and value-based payment strategies are being implemented to incentivize mental health care providers within Medicaid integrated care networks to increase outpatient mental health services for clients at greatest risk of adverse health and social outcomes.

In King County, Washington, a new PHS model and value-based payment reform was implemented by the King County Integrated Care Network (KCICN) in July 2020 with the goal to increase quality of care for populations with the greatest need. To support Harborview Mental Health and Addictions Services (HMHAS) – a Seattle outpatient

mental health clinic – we conducted a descriptive analysis examining their patient population and whether PHS level of care was related to engagement in outpatient services and type of outpatient services in the context of the PHS level of care and value-based payment model. This descriptive analysis examined Recovery Services Medicaid patients ages 19 and older who were served between July 2020 – December 2022. We also conducted additional analyses to improve understanding of demographic and health-related characteristics among patients and the relationship between the PHS and the Level of Care Utilization System (LOCUS) levels of care, which each serve as indicators of patient need for mental health services.

We found that around 1 in 3 patients required a higher level of care than can be provided in an outpatient setting, that patients with the higher levels of care were disproportionately unable to meet service delivery adherence, and that patients with higher levels of care had higher prevalence of case management and peer services than lower level of care patients. Findings suggested that the clinic may not be equipped to meet the high needs of patients and that efforts to meet the basic needs of these individuals may be important to support their engagement in mental health services. Future research is needed to examine unintended consequences of PHS and value-based payment models and that explores strategies that successfully engage high need patients in outpatient care, such as a strong therapeutic alliance and more intensive case management and housing supports.

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Introduction

Value-Based Payment Models for Mental Health Care and Population Health Management

Mental health conditions are costly and common. Mental health and substance use conditions are involved in 1 out of every 8 emergency department visits by a U.S. adult (1), and across the U.S., all forms of mental health conditions are estimated to contribute to \$193.2 billion in lost earnings each year (1). Medicaid is the single largest payer of mental health services in the United States (2). In 2020, mental health conditions were the most common health condition experienced by people under the age of 65, and around 40 percent of all Medicaid enrollees were estimated to have a mental health condition or substance use disorder (SUD) (3, 4). In Washington state, improving mental health care services – particularly for people with mental illnesses covered by Medicaid who often experience interrelated social adversities– is a key policy priority. Washington state is currently ranked among the bottom half of states related to the status of its mental health care system (5).

Evidence suggests that the COVID-19 pandemic increased stressors among people with mental illnesses and disrupted access to in-person mental health care for typical outpatient services such as in-person treatment and case management (6, 7). These stressors and disruptions may have had particularly adverse effects on people with serious mental illnesses that require regular in-person outpatient mental health visits to maintain their wellbeing. Washington state has a longstanding shortage of mental health providers; there is just one mental health provider for every 360 people (8), and patients are more likely to receive mental health care from a primary care provider than a mental health specialist (8). There are also insufficient mental health residential facilities for

patients who require medically monitored recovery with support for basic needs like food, clothing, and shelter (5). This gap in mental health residential services has worsened over time and is particularly dire in King County, Washington. For example, one-third of mental health residential beds were lost in King County between 2018 and 2023 (5, 9). This systemic issue adds additional stress on outpatient clinics to provide care to patients outside of their scope of services who may require more outreach and engagement.

Outpatient services support patients who are at higher risk for challenges managing their conditions and offers them flexibility during their recovery. Outpatient mental health providers often offer a spectrum of services including physical health care, medication access, mental health services, and opportunities for social connection in recovery which are the heart of community mental health and substance use treatment.

Specifically, **outpatient mental health treatment** offers a variety of services to meet patient needs such as case management, treatment planning, individual and group counseling, family therapy, patient education, crisis intervention, recovery services, and discharge planning (10). These services can sometimes fall outside traditional health care services and include other factors as well, such as housing, food, clothing, and employment services. Outpatient mental health services are shown to support patients with serious mental illnesses and improve health outcomes and quality of life by allowing them to pursue any educational or work interests and integrate treatment into their daily lives, allowing them more flexibility during their recovery (11). The outpatient mental health care setting allows providers to care for the whole person throughout their recovery who may be struggling with mental health symptoms and any other adverse

social, economic, and health conditions. Outpatient mental health service utilization has been shown to significantly improve behavioral health outcomes like symptom reduction, functional improvements, reduced hospitalizations, and ED (Emergency Department) visits (12), and utilization of recovery maintenance services (13, 12), especially for low-income people (14). Additionally, outpatient mental health service utilization also encourages increased outpatient behavioral health care provider capacity and lowers costs and, improves care for patients who access more expensive services like inpatient settings (14, 15).

The 2010 Patient Protection and Affordable Care Act (ACA), which increased access to quality affordable health insurance and required coverage for mental health services at parity with physical health services, promoted the formation of **value-based payment models**. Value-based payment models seek to pay providers based on the quality of services they provide (16, 17). These payments could be organized to incentivize outpatient providers to engage patients at higher risk in effective services to prevent adverse outcomes and costly services like emergency department or inpatient visits. To accomplish this, **population health management programs** aggregate patient data to monitor performance and develop performance targets to guide decisions that optimize clinical and financial outcomes (16). Population health stratification (PHS) models may categorize patients based on their risk profile and recommend a given level of care (e.g., a recommendation for service utilization) to maximize the use of outpatient services and improve outcomes, while minimizing the use of expensive services to lower overall costs of healthcare (18). Increasingly, these models have been used to structure payments through **Medicaid Managed Care Organizations** (MCOs), health

plans who often contract with states to manage Medicaid-provided health services.

Ultimately, the implementation of population health stratification models and new payment structures aim to encourage high-value outpatient services while minimizing the use of less effective and costlier services (19), helping to accomplish the Triple Aim of health care – improving population health outcomes, increasing the quality of care, and reducing costs (19, 20).

Harborview's Outpatient Services and Population in King County

Harborview Medical Center was founded in 1877 as King County Hospital and is the safety net hospital for King County residents and a Level I Trauma Center (21). The hospital is owned by King County and under contract with the University of Washington (21). In 1877, governments were tasked with creating spaces to help "poor, sick, and homeless people" who did not have relatives to care for them (21). Harborview Mental Health and Addictions Services (HMHAS) provides mental health and substance use services to patients who have been marginalized throughout King County and is currently located in Seattle, Washington. **Marginalized** patients are defined by HMHAS, but are not limited to, non-English speaking, poor, uninsured, survivors of domestic violence or sexual assault, and people who have experienced incarceration. It also includes patients who represent target identities based on their race, sex, sexual orientation, income, educational attainment, and ability. HMHAS provides care to many patients who experience adverse and often complex **structural and social determinants of health**, such as insecure housing and criminal legal system involvement. Due in part to social determinants of health experienced over the life course, many patients served by HMHAS also have low **socioeconomic status (SES)**, defined by their education, income, and employment. Adverse social determinants of health and low SES may make it more difficult for a patient to access services that support their mental and physical health and well-being.

In 2022, HMHAS' Recovery Services served nearly 1600 unique patients (22). Around one-half of patients (47%) served by HMHAS are covered by Medicaid (22). HMHAS

uses an **integrated care model** in that a multitude of services are offered by a single organization, calculated towards their **service engagement** hours, including employment services, primary care providers, medication services, housing services, substance use treatment, recovery treatment with a mental health provider, peer services, and internal or external referrals. These integrated care models are especially useful when treating patients with unmet social needs due to increasing accessibility of all patients needs in one location.

In July 2020, an organization comprised of King County Behavioral Health and Recovery Division (BHRD) and provider agencies that serve the Medicaid population called the King County Integrated Care Network (KCICN) implemented a PHS model that affected payment for Medicaid service providers including HMHAS (23, 24)¹. This PHS model assigns each patient a quarterly risk score that determines their expected PHS level of care based on four dimensions: high-risk utilization, social determinants of health, chronic conditions, and the LOCUS level of care (Level of Care Utilization Score) assessment composite score (23). LOCUS level of care is a widely used assessment that is conducted for each patient at intake with a clinical provider that assesses a patient's service needs and historical context such as their recovery environment, motivations, risk of harm, substance use history, support systems, and level of stress (26) (see Appendix K). The **level of care** from the PHS determines the level of services a patient should be receiving and how many hours per month they should be engaged in services. They can be assigned a score of low, medium, or high with corresponding

¹ In King County, Washington, mental health services are regulated by the Health Care Authority, Washington State Administration Codes (WAC), and Center for Medicare and Medicaid Services (CMS) and contracted by Managed Care Organizations (MCOs). Services funded by Medicaid / Apple Health are managed by the King County Integrated Care Network (KCICN) (25).

expected **service delivery adherence (SDA)** for 1.5, 2.5, and 7.0 clinic hours respectively (23) (see Appendix J). For example, a patient who has a PHS score of 10 would be expected to receive 2.5 service hours every month within the clinic. When patients do not receive the number of services expected, they are considered to have not met the SDA. If a client receives less than 85 percent of their expected SDA, a ratio is calculated for payment for a deduction (25, 23) (see Figure 1). Additionally, a patient is then capped at 120 percent in services, where the clinic can be paid a maximum of 125 percent for those services (25). For a client that achieved 25 percent SDA, the clinic would then be paid 30 percent for the services provided (25). The stated goal of the PHS and corresponding payment model is to incentivize healthcare organizations to improve quality, costs, and outcomes for at-risk populations and shift from a reactive-based system to a proactive-based systems approach (6).

Figure 1: Ratio for Service Delivery Adherence Calculation (23)

$$SDA \% = \frac{\text{Prorated monthly service hours}}{\text{Number of monthly hours expected}}$$

Where:

$$\text{Prorated monthly service hours} = 30 * \frac{\text{Total billable service hours}}{\text{Total days the benefit was active}}$$

To inform HMHAS program operations and improve services for patients, HMHAS was interested in learning more about the population of Medicaid patients it served in their Recovery Services since the PHS was implemented in July 2020. Specifically, they wanted to learn about the patterns in utilization of services and engagement in services across mental health patients based on their level of need and risk (defined by LOCUS and PHS levels of care) and across demographic characteristics. Given adverse social

and structural determinants of health and more severe mental health care needs, we hypothesized that patients with greater levels of need and risk as assessed by the PHS and LOCUS levels of care were less likely to utilize outpatient care and receive an adequate number of services according to the SDA compared to patients with lower levels of need and risk. In alignment with HMHAS's mission, this analysis will benefit the HMHAS community by providing data and insights that can help them identify strategies to engage and serve the most economically and socially marginalized patients in greatest need of services. This project was submitted to the University of Washington Institutional Review Board (IRB) and did not meet the regulatory definition of research.

This study was a descriptive analysis to answer the following questions:

Aim 1: What were the demographic and health-related characteristics of HMHAS' Medicaid Recovery Services patients?

Aim 2: Among HMHAS Recovery Services mental health patients, were indicators of patient need (based on the population health stratification PHS level of care and their LOCUS level of care score) related to the utilization of services, specifically, their corresponding proportion of expected utilization of behavioral health services (known as service delivery adherence)?

Aim 3: Were patterns of need and utilization related to forms of service engagement (e.g., the drop-in center, peer-facilitated groups, housing services, physician and medical services, psychiatry, behavioral healthcare, and case management)?

We also conducted several additional analyses requested by HMHAS to further

understand patterns around the demographic and health-related characteristics for HMHAS' Medicaid Recovery Services patients and explore how LOCUS level of care dimension scores corresponded to the PHS level of care score.

Methods Section

Study Population

The study population consisted of HMHAS patients subject to PHS who were enrolled in Recovery Services who were 19 and older at the time of their LOCUS level of care screening at intake and insured by Medicaid while receiving services at any time between July 2020 to December 2022. We excluded patients who did not have a first and last quarterly PHS score from July 2020 - December 2022 or a LOCUS level of care assessment between July 2020 - December 2022. We conducted a descriptive analysis using de-identified, linked administrative data obtained from EPIC Ambulatory Care and King County's databases. We linked several data sources: 1) HMHAS demographic data, 2) LOCUS level of care assessment data, 3) PHS quarterly data, and 4) Current Procedural Terminology (CPT) data (i.e., patient engagement data).

Each data source with a description of the data cleaning and linkage process and potential limitations is described below. The codebook used to create the analytic data set and the diagnosis crosswalk is in Appendices G and H.

Data Sources

HMHAS' Demographic Data

The HMHAS demographic data included information collected from the patient at intake of services or when they renewed their PHS level of care to continue services.

Demographic data included information like sexual orientation, date of birth, race/ethnicity, sex, mailing ZIP code, educational attainment, primary diagnosis (submitted to insurance for payment requirements), unique King County ID (KCID), income level, military status, and marital status. Each patient was uniquely identified by their KCID, and each row represented a single patient in the dataset. The original data set had 1,382 unique patients. These data are subject to several limitations: data were entered by the clinician from the patient's intake form and there have been changes in the demographic data collection form over time which could lead to inconsistencies, errors, and missingness. For example, for some variables like income and educational attainment, a high proportion of patients have missing or unknown data.

HMHAS' LOCUS Level of Care Assessment Data

HMHAS' Recovery Services uses the LOCUS level of care at intake into services and when a patient is due for renewal for services. We identified each patient's most recent composite LOCUS level of care score between July 2020 - December 2022. Their final composite score is what King County uses for Category D of the PHS model. The LOCUS level of care assessment collects information for six evaluation parameters: 1) Risk of Harm, 2) Functional Status, 3) Medical Addictive and Psychiatric Co-Morbidity, 4) Recovery Environment, 5) Treatment and Recovery History; and 6) Engagement (2). A patient is then categorized into one of the following based on their composite score: 1) Recovery Maintenance and Health Maintenance (score 10-13), 2) Low-Intensity Community Based Services (score 14-16), 3) High-Intensity Community Based Services

(score 17-19), 4) Medically Monitored Non-Residential Services (PACT, SSH) (score 20-22), 5) Medically Monitored Residential Services (ECS, SL, LTR) (score 23-27), and 6) Medically Managed Residential Services (Inpatient) (score 28 or more) (2). While we used the most recent LOCUS level of care assessment for each patient, this may not contain complete or updated information on a patient's recovery environment between July 2020 - December 2022. For additional information on the LOCUS level of care scoring system refer to Appendix K.

HMHAS' PHS Quarterly Level of Care Data from King County

King County provides HMHAS with quarterly patient-level PHS data. These data indicate where patients fall within the low, medium, and high level of care categories for the PHS model, the patient's SDA, and their scoring on dimensions of the PHS model. These data include a total of ten quarters of data. The first quarter beginning in July 2020 was not included in the analysis because the SDA and dimension calculations had not been fully implemented yet. For Category A, risk of harm, this information is gathered from KCICN from hospitalizations from the Convergent Medical Terminology (CMT) and their internal database. Category B, housing stability and incarceration, comes from the residential arrangement transaction that is submitted by HMHAS and from data feeds stored in KCICN's system from jails. For example, a jail notification report is created daily for agencies which are used to track patients. Category C, chronic conditions, comes from Medicaid claims data. Finally, Category D, the LOCUS level of care assessment score, is obtained from HMHAS directly using the composite score submitted by the clinic. For this project's purposes, we used each patient's first

and last quarterly PHS score to summarize findings on a person level. Due to data security issues, the Category C, chronic conditions category level score was not included in the data provided to HMHAS and was labeled as missing, however, it was included in the overall PHS level of care score for each patient.

HMHAS' CPT Data (i.e., Patient Engagement Data)

To assess patient service engagement in distinct types of outpatient services, Current Procedural Terminology (CPT) data was pulled from EPIC Ambulatory Care for July 2020 – December 2022 for each patient. This dataset was at the event-level, meaning a patient could have multiple rows representing multiple events and this data set included their unique KCID, and information such as the date of services, location of services, type of service, and the length of time of services. These data were collapsed to the KCID level by creating an indicator of whether each person had each encounter type at any time between July 2020 - December 2022. Therefore, these data do not tell us about frequency or duration of services.

For additional information on datasets see Appendix I.

Data Linkage

HMHAS' Demographic Data Linked with Ethnicity and Mailing ZIP Code Datasets

The demographics data was our primary dataset (N=1382) and was cleaned to become a unique person-level dataset. The ethnicity dataset (N=1526) was de-duplicated to include unique patient observations leading to a drop of 103 cases (N=1423). The mailing ZIP code dataset began with duplicated patient observations (N=1593) and was

de-duplicated to unique patient observations (N=1383). Once cleaned, both the ethnicity and mailing ZIP datasets were linked to the demographic's dataset (N=1382).

HMHAS' LOCUS Level of Care Assessment Data Linked with Demographics Data

We de-duplicated LOCUS data by taking each unique patient's most recent LOCUS assessment score to obtain unique patient cases from N=3,095 to N=1698. This dataset was then linked to the demographic dataset; since not all individuals included in the demographic dataset had a LOCUS screen, we dropped about 1 percent of patients, or 16 un-joined cases (N=1366). The difference in the files may have been due to LOCUS level of care files including patients enrolled in old tier programs 2X1, 3A1, and 3B1 and the demographics file including non-Medicaid patients after a switch in systems. At this point, we also removed patients under the age of 19 at the time of the LOCUS assessment, which comprised of about 5 cases or less than 1 percent of observations (N=1361).

HMHAS' PHS Quarterly Data from King County Linked with Demographics Data

These 10 quarterly datasets were first uniquely identified by their KCID and then two separate datasets were produced: 1) the patient's first PHS level of care score, and 2) the patient's last PHS level of care score for the duration of their treatment between July 2020 - December 2022. They were joined to make a single PHS quarterly data file with each unique individual's first and last PHS level of care scores (N=1635). Once prepared, this dataset was merged with the demographics and LOCUS dataset by KCID, and a total of 49 cases were not able to be joined to the dataset, or 4 percent of cases (N=1316). At this point, we ensured all individuals included in the file were

enrolled in Medicaid status and a total of 10 patients (less than 1 percent) were removed due to not having an appropriate Medicaid status for the final dataset (N=1306).

HMHAS' CPT Data (i.e., Patient Engagement Data) Linked with Demographics Data

Lastly, all event data were gathered and organized to a person-level dataset linked by their unique KCID (N=41,798). Once these were coded to be patient-level, they were linked to the final dataset by KCID (N=1306). These event-level data were marked by whether a service engagement event occurred for the duration of the service period July 2020 - December 2022.

Descriptive Analysis

Using the analytic data set (n=1306), we ran descriptive statistics to answer each research aim.

First, to answer Aim 1, we summarized using counts and proportions, the demographic, health, and risk characteristics among unique mental health outpatient patients at HMHAS served between July 2020 - December 2022. Patient data were presented using their first and last PHS level of care scores and were stratified across the PHS level of care scores (see Table 1A). Additionally, we summarized the same demographic, health, and risk characteristics with the LOCUS level of care score categories (see Table 1B).

To answer Aim 2, we compared the expected and actual SDA for unique patients across their first and last PHS level of care quarter score using counts and proportions

with categories 'Did Not Meet SDA', '25-50% SDA', '50-75% SDA', '75-99% SDA', 'Met or Exceeded SDA' (see Figures 2-5). For Figure 2, we summarized the first and last quarter of data for all patients in a column chart and summarized the overall SDA hours that were met for both quarters. For Figure 3, we created a stacked column chart comparing the first and last PHS level of care scores for all patients. We also summarized the proportions and number of patients in each PHS level of care category across the percentage of SDA hours they met or did not meet. Figures 4 and 5 summarize the percentage of SDA hours a patient met compared to their LOCUS level of care categories.

For Aim 3, to describe the service engagement patients utilized depending on their PHS level of care scores, we examined service engagement proportions (based on CPT codes) and designed a stacked column chart comparing the first and last PHS level of care scores for all patients, organized by PHS low, medium, and high levels of care (see Figure 6). We summarized the proportions and number of patients who engaged in at least one encounter for the six most common service engagement types (individual treatment services, medication management, other telehealth behavioral services, intake evaluations, rehabilitation case management, and self-help peer services). Additionally, in Table 3, we summarized the LOCUS level of care categories and all forms of engagement for patients at HMHAS' Recovery Services using proportions and percentages. In Figure 7, we used the same summary data as Figure 6 but instead organized the column chart and percentages by the LOCUS level of care categories (Recovery Maintenance, Low-Intensity Community-Based Services, High-Intensity

Community-Based Services, and Patient Need Outside of Community-Based Services Capacity).

For additional analyses, HMHAS Recovery Services was interested in examining the primary mailing ZIP code (based on mailing address) for patients in relation to HMHAS's location mailing ZIP code which was an approximation using latitude and longitude data. We also examined the relationships between LOCUS level of care dimensions and the PHS quarterly level of care, and understanding the demographic characteristics of patients who did or did not meet service utilization requirements. For the geographic analysis, HMHAS was interested in learning about the general location of patients in relation to the clinic, relevant to thinking about transportation to the clinic. HMHAS also wanted to identify the demographic characteristics of patients who did or did not meet service utilization requirements.

Finally, HMHAS sought to understand the relationship between PHS level of care and LOCUS level of care dimension scores (scores that contribute to the overall LOCUS composite score). To illustrate these patterns, for Figure 8, we created a stacked bar chart with proportions and percentages of the LOCUS level of care categories and the distance from the patient's mailing address ZIP code to HMHAS. In Figures 9-15, we visualized stacked bar charts summarizing the proportion of patients who fall in the low, medium, and high PHS level of care categories for the first and last PHS stratified by each separate LOCUS level of care dimension score. For the final additional analyses (Figures 16-19), we produced stacked column charts using proportions and percentages for specific demographic characteristics (race, sexual orientation, relationship status, and primary diagnosis) organized by the percentage of SDA hours

met. We also ran additional tables (see Appendices A-F) comparing LOCUS level of care and PHS level of care quarterly data.

All analyses were conducted using R Studio (version 3.6.3).

Results Section

Aim 1. Patients served by HMHAS were even proportions of male (52%) and female (45%), 36% identified as BIPOC, 12% were LGBTQ, 48% were 45 years or older, and common primary diagnoses were: depressive disorders (28%), schizophrenia spectrum (27%), and trauma or stressor related disorders (16%). One in three patients (28%) required a higher PHS level of care than could be provided in an outpatient setting and one-half (45%) of patients had a high PHS level of care according to PHS. Stratifying tables across PHS and LOCUS levels of care, we identified some differences across patients in their sociodemographic characteristics and in their health and social needs (measured by subcomponents of PHS).

In Table 1A, we examined demographics stratified by the patient's last population health stratification score. Overall, we found that there was a higher proportion of patients who are male (52%) than female (45%). Approximately three percent reported they were transgender and less than one percent intersex. Around one quarter of the patients (28%) reported they were older than 55 years of age. Forty percent of patients were between the ages of 35-54. Over one half of patients (59%) identified as White / Caucasian, a third of patients (36%) Black or African American (19%), followed by Asian (7%), American Indian / Alaska Native (3%), African Ethnic (6%), and Native Hawaiian or Other Pacific Islander (<1%). Twelve percent of the population in Recovery Services identified as LGBTQ for their sexual orientation, with most patients identifying as heterosexual (60%). Additionally, most patients were single or never married (62%). Of patients who were

separated / divorced / widowed, half of patients were in the high PHS level of care categorization (50%). Among patients overall, depressive disorders (28%), schizophrenia spectrum and other psychotic disorders (27%), trauma and stressor related disorders (16%), anxiety disorder (13%), and bipolar and related disorders (12%) were the most common primary diagnoses. Across patients in the low, medium, or high PHS level of care categories, about half of patients (55%-56%) either had schizophrenia spectrum and other psychotic disorders or depressive disorders.

Across the high PHS level of care categories, nearly one in five patients experienced homelessness (19%), around 40 percent of patients in the high PHS level of care had 6 or more emergency department / inpatient events in the past 6 months, and around 85% of these patients had scores 17+ indicating need for medically monitored care.

Table 1A: Characteristics of HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Stratified by Last Quarter Population Health Stratification Model Levels of Care, July 2020-December 2022 (N=1,306)

| Sample Characteristics | Overall PHS level of care, N= 1306 | Low, N = 196 | Medium, N = 516 | High, N = 594 |
|--|---|---------------------|------------------------|----------------------|
| Overall PHS level of care Proportions | 1,306 (100%) | 196 (15%) | 516 (40%) | 594 (45%) |
| Sex / Gender* | | | | |
| Male | 674 (52%) | 93 (47%) | 239 (46%) | 342 (58%) |
| Female | 591 (45%) | 99 (51%) | 256 (50%) | 236 (40%) |

| | | | | |
|-------------------------------------|-----------|-----------|-----------|-----------|
| Transgender or Intersex | 37 (2.9%) | 4 (2.0%) | 19 (3.7%) | 14 (2.4%) |
| Missing / Unknown | 4 (0.3%) | 0 (0%) | 2 (0.4%) | 2 (0.3%) |
| Age | | | | |
| 19-24 | 96 (7.4%) | 20 (10%) | 37 (7.2%) | 39 (6.6%) |
| 25-34 | 320 (25%) | 64 (33%) | 133 (26%) | 123 (21%) |
| 35-44 | 262 (20%) | 44 (22%) | 104 (20%) | 114 (19%) |
| 45-54 | 260 (20%) | 32 (16%) | 97 (19%) | 131 (22%) |
| 55-64 | 235 (18%) | 24 (12%) | 85 (16%) | 126 (21%) |
| 65+ | 133 (10%) | 12 (6.1%) | 60 (12%) | 61 (10%) |
| Race | | | | |
| American Indian or Alaska Native | 36 (2.8%) | 6 (3.1%) | 14 (2.7%) | 16 (2.7%) |
| African Ethnic | 82 (6.3%) | 16 (8.2%) | 34 (6.6%) | 32 (5.4%) |
| Asian | 85 (6.5%) | 19 (9.7%) | 42 (8.1%) | 24 (4.0%) |
| Black or African American | 253 (19%) | 30 (15%) | 92 (18%) | 131 (22%) |
| Native Hawaiian or Pacific Islander | 7 (0.5%) | 1 (0.5%) | 2 (0.4%) | 4 (0.7%) |
| White / Caucasian | 769 (59%) | 114 (58%) | 302 (59%) | 353 (59%) |
| Missing / Unknown | 74 (5.7%) | 10 (5.1%) | 30 (5.8%) | 34 (5.7%) |

| | | | | |
|-----------------------------------|-------------|-----------|-----------|-----------|
| Ethnicity | | | | |
| Hispanic | 94 (7.2%) | 14 (7.1%) | 37 (7.2%) | 43 (7.2%) |
| Not Hispanic | 1,128 (86%) | 168 (86%) | 444 (86%) | 516 (87%) |
| Missing / Unknown | 84 (6.4%) | 14 (7.1%) | 35 (6.8%) | 35 (5.9%) |
| Sexual Orientation | | | | |
| Heterosexual | 778 (60%) | 110 (56%) | 297 (58%) | 371 (62%) |
| LGBQ | 162 (12%) | 32 (16%) | 65 (13%) | 65 (11%) |
| Missing / Unknown | 366 (28%) | 54 (28%) | 154 (30%) | 158 (27%) |
| Military | | | | |
| Served in U.S. Military | 20 (1.5%) | 1 (0.5%) | 8 (1.6%) | 11 (1.9%) |
| Never Served in U.S. Military | 1,200 (92%) | 186 (95%) | 475 (92%) | 539 (91%) |
| Missing / Unknown | 86 (6.6%) | 9 (4.6%) | 33 (6.4%) | 44 (7.4%) |
| Relationship | | | | |
| Single or Never Married | 810 (62%) | 134 (68%) | 317 (61%) | 359 (60%) |
| Married or Committed Relationship | 141 (11%) | 27 (14%) | 60 (12%) | 54 (9.1%) |
| Separated / Divorced / Widowed | 287 (22%) | 29 (15%) | 112 (22%) | 146 (25%) |
| Missing / Unknown | 68 (5.2%) | 6 (3.1%) | 27 (5.2%) | 35 (5.9%) |
| Primary Diagnosis** | | | | |
| Anxiety Disorder | 165 (13%) | 23 (12%) | 77 (15%) | 65 (11%) |

| | | | | |
|---|-------------|------------|------------|-----------|
| Bipolar and Related Disorder | 154 (12%) | 31 (16%) | 59 (11%) | 64 (11%) |
| Depressive Disorder | 364 (28%) | 50 (26%) | 151 (29%) | 163 (27%) |
| Neurocognitive Disorder | 1 (<0.1%) | 0 (0%) | 1 (0.2%) | 0 (0%) |
| Neurodevelopmental Disorder | 13 (1.0%) | 6 (3.1%) | 5 (1.0%) | 2 (0.3%) |
| Obsessive-Compulsive and Related Disorder (OCD) | 13 (1.0%) | 3 (1.5%) | 8 (1.6%) | 2 (0.3%) |
| Other Mental Disorder | 3 (0.2%) | 0 (0%) | 0 (0%) | 3 (0.5%) |
| Personality Disorder | 31 (2.4%) | 1 (0.5%) | 13 (2.5%) | 17 (2.9%) |
| Schizophrenia Spectrum / Other Psychotic Disorder | 352 (27%) | 58 (30%) | 128 (25%) | 166 (28%) |
| Trauma and Stressor Related Disorder | 210 (16%) | 24 (12%) | 74 (14%) | 112 (19%) |
| PHS Category A: High Risk Utilization | | | | |
| No events | 589 (45%) | 181 (92%) | 332 (64%) | 76 (13%) |
| 1-2 Events | 304 (23%) | 15 (7.7%) | 165 (32%) | 124 (21%) |
| 3-5 Events | 189 (14%) | 0 (0%) | 19 (3.7%) | 170 (29%) |
| 6 + Events | 224 (17%) | 0 (0%) | 0 (0%) | 224 (38%) |
| PHS Category B: Housing Stability | | | | |
| Not Homeless | 1,191 (91%) | 196 (100%) | 515 (100%) | 480 (81%) |
| Homeless | 115 (8.8%) | 0 (0%) | 1 (0.2%) | 114 (19%) |
| PHS Category B: Criminal Justice Event – Past 6 Months | | | | |
| No events | 1,260 (96%) | 195 (99%) | 511 (99%) | 554 (93%) |

| | | | | |
|--|--------------|------------|------------|------------|
| 1-2 Events | 44 (3.4%) | 1 (0.5%) | 5 (1.0%) | 38 (6.4%) |
| 3+ Events | 2 (0.2%) | 0 (0%) | 0 (0%) | 2 (0.3%) |
| PHS Category B: Criminal Justice Event - Greater than 2 Years Within the Past 5 Years | | | | |
| No | 1,305 (100%) | 196 (100%) | 515 (100%) | 594 (100%) |
| Yes | 1 (<0.1%) | 0 (0%) | 1 (0.2%) | 0 (0%) |
| PHS Category C: Chronic Conditions*** | | | | |
| Missing / Unknown | 1,306 (100%) | 196 (100%) | 516 (100%) | 594 (100%) |
| PHS Category D: Assessments | | | | |
| LOCUS level of care Score < 14 Points | 90 (6.9%) | 77 (39%) | 9 (1.7%) | 4 (0.7%) |
| LOCUS level of care Score 14-16 Points | 449 (34%) | 119 (61%) | 247 (48%) | 83 (14%) |
| LOCUS level of care Score 17+ Points | 767 (59%) | 0 (0%) | 260 (50%) | 507 (85%) |

Notes: *Sex / Gender variable has changed over time in demographics form. **ICD-10 codes were used to define each of the primary mental health diagnoses. Due to Medicaid requirements, clinicians are only able to submit information using one diagnosis, so these are not comprehensive when considering the experiences of the patients served. ***Chronic conditions unavailable because King County is not allowed to save in their database. It is used in the stratification calculation, then not stored.

Additional Notes: PHS level of care SDA hourly engagement hours are categorized as follows: Low = 1.5 service hours per month, Medium = 2.5 service hours per month, High = 7 service hours per month.

In Table 1B, overall findings were similar to the PHS when stratifying by LOCUS level of care. Characteristics of patients

stratified by LOCUS level of care showed that demographic characteristics did not differ when compared to the PHS level of care. Nearly one-third of patients needed care that was outside of community-based care capacity (28%). About, 73 percent of patients who had a high last quarter PHS level of care score were also categorized within the LOCUS level of care as needing patient care outside of a community-based setting. However, some of these patients fell within the medium (26%) and low (2%) levels of care stratification. Around 22 percent of patients who identified as Black or African American had needs outside of community-based care capacity compared to 59 percent of White or Caucasian patients. Individuals who had LOCUS scores indicating need beyond community-based care capacity were disproportionately diagnosed with depressive disorders (32%) and personality disorders (4%).

Table 1B: Characteristics of HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Stratified by LOCUS level of care, July 2020-December 2022 (N=1,306)

| Sample Characteristics | Overall LOCUS level of care Dimensions, N = 1306 | Recovery Maintenance (Score 10-13), N =93 | Low Intensity Community-Based Services (Score 14-16), N = 455 | High Intensity Community-Based Services (Score 17-19), N = 387 | Patient Need Outside of Community Based Care Capacity* (Score 19+), N = 371 |
|--|---|--|--|---|--|
| Overall LOCUS level of care Proportions | 1,306 (100%) | 93 (7%) | 455 (35%) | 387 (30%) | 371 (28%) |
| First PHS Level of Care | | | | | |
| Low | 183 (14%) | 52 (56%) | 97 (21%) | 27 (7.0%) | 7 (1.9%) |

| | | | | | |
|-------------------------------|-----------|----------|-----------|-----------|-----------|
| Medium | 499 (38%) | 25 (27%) | 229 (50%) | 150 (39%) | 95 (26%) |
| High | 624 (48%) | 16 (17%) | 129 (28%) | 210 (54%) | 269 (73%) |
| Last PHS Level of Care | | | | | |
| Low | 196 (15%) | 78 (84%) | 112 (25%) | 3 (0.8%) | 3 (0.8%) |
| Medium | 516 (40%) | 12 (13%) | 252 (55%) | 154 (40%) | 98 (26%) |
| High | 594 (45%) | 3 (3.2%) | 91 (20%) | 230 (59%) | 270 (73%) |
| Sex / Gender** | | | | | |
| Male | 674 (52%) | 45 (48%) | 208 (46%) | 205 (53%) | 216 (58%) |
| Female | 591 (45%) | 48 (52%) | 237 (52%) | 162 (42%) | 144 (39%) |
| Transgender / Intersex | 37 (2.9%) | 0 (0%) | 7 (1.5%) | 19 (4.9%) | 11 (3.0%) |
| Missing | 4 (0.3%) | 0 (0%) | 3 (0.7%) | 1 (0.3%) | 0 (0%) |
| Age | | | | | |
| 19-24 | 96 (7.4%) | 8 (8.6%) | 34 (7.5%) | 23 (5.9%) | 31 (8.4%) |
| 25-34 | 320 (25%) | 23 (25%) | 101 (22%) | 91 (24%) | 105 (28%) |
| 35-44 | 262 (20%) | 16 (17%) | 95 (21%) | 85 (22%) | 66 (18%) |
| 45-54 | 260 (20%) | 20 (22%) | 74 (16%) | 84 (22%) | 82 (22%) |
| 55-64 | 235 (18%) | 18 (19%) | 81 (18%) | 74 (19%) | 62 (17%) |
| 65+ | 133 (10%) | 8 (8.6%) | 70 (15%) | 30 (7.8%) | 25 (6.7%) |

| | | | | | |
|---|-------------|----------|-----------|-----------|-----------|
| Race | | | | | |
| American Indian or Alaska Native | 36 (2.8%) | 5 (5.4%) | 14 (3.1%) | 6 (1.6%) | 11 (3.0%) |
| African Ethnic | 82 (6.3%) | 5 (5.4%) | 43 (9.5%) | 19 (4.9%) | 15 (4.0%) |
| Asian | 85 (6.5%) | 8 (8.6%) | 32 (7.0%) | 27 (7.0%) | 18 (4.9%) |
| Black or African American | 253 (19%) | 19 (20%) | 78 (17%) | 73 (19%) | 83 (22%) |
| Native Hawaiian or Other Pacific Islander | 7 (0.5%) | 1 (1.1%) | 3 (0.7%) | 2 (0.5%) | 1 (0.3%) |
| White / Caucasian | 769 (59%) | 52 (56%) | 258 (57%) | 239 (62%) | 220 (59%) |
| Missing / Unknown | 74 (5.7%) | 3 (3.2%) | 27 (5.9%) | 21 (5.4%) | 23 (6.2%) |
| Ethnicity | | | | | |
| Hispanic | 94 (7.2%) | 6 (6.5%) | 34 (7.5%) | 29 (7.5%) | 25 (6.7%) |
| Not Hispanic | 1,128 (86%) | 81 (87%) | 393 (86%) | 333 (86%) | 321 (87%) |
| Missing / Unknown | 84 (6.4%) | 6 (6.5%) | 28 (6.2%) | 25 (6.5%) | 25 (6.7%) |
| Sexual Orientation | | | | | |
| Heterosexual | 778 (60%) | 55 (59%) | 257 (56%) | 229 (59%) | 237 (64%) |
| LGBQ | 162 (12%) | 10 (11%) | 59 (13%) | 48 (12%) | 45 (12%) |
| Missing / Unknown | 366 (28%) | 28 (30%) | 139 (31%) | 110 (28%) | 89 (24%) |
| Military | | | | | |

| | | | | | |
|---|-------------|----------|-----------|-----------|-----------|
| Served in the U.S. Military | 20 (1.5%) | 3 (3.2%) | 8 (1.8%) | 4 (1.0%) | 5 (1.3%) |
| Never Served in the U.S. Military | 1,200 (92%) | 87 (94%) | 413 (91%) | 354 (91%) | 346 (93%) |
| Missing / Unknown | 86 (6.6%) | 3 (3.2%) | 34 (7.5%) | 29 (7.5%) | 20 (5.4%) |
| Relationship | | | | | |
| Single or Never Married | 810 (62%) | 56 (60%) | 268 (59%) | 238 (61%) | 248 (67%) |
| Married or Committed Relationship | 141 (11%) | 15 (16%) | 62 (14%) | 37 (9.6%) | 27 (7.3%) |
| Separated / Divorced / Widowed | 287 (22%) | 18 (19%) | 100 (22%) | 90 (23%) | 79 (21%) |
| Missing / Unknown | 68 (5.2%) | 4 (4.3%) | 25 (5.5%) | 22 (5.7%) | 17 (4.6%) |
| Primary Diagnosis*** | | | | | |
| Anxiety Disorder | 165 (13%) | 12 (13%) | 61 (13%) | 59 (15%) | 33 (8.9%) |
| Bipolar and Related Disorder | 154 (12%) | 13 (14%) | 65 (14%) | 43 (11%) | 33 (8.9%) |
| Depressive Disorder | 364 (28%) | 20 (22%) | 125 (27%) | 99 (26%) | 120 (32%) |
| Neurocognitive Disorder | 1 (<0.1%) | 0 (0%) | 0 (0%) | 0 (0%) | 1 (0.3%) |
| Neurodevelopmental Disorder | 13 (1.0%) | 5 (5.4%) | 4 (0.9%) | 2 (0.5%) | 2 (0.5%) |
| Obsessive-Compulsive and Related Disorder | 13 (1.0%) | 2 (2.2%) | 3 (0.7%) | 5 (1.3%) | 3 (0.8%) |

| | | | | | |
|---|-------------|----------|-----------|-----------|-----------|
| (OCD) | | | | | |
| Other Mental Disorder | 3 (0.2%) | 0 (0%) | 0 (0%) | 2 (0.5%) | 1 (0.3%) |
| Personality Disorder | 31 (2.4%) | 0 (0%) | 6 (1.3%) | 10 (2.6%) | 15 (4.0%) |
| Schizophrenia Spectrum and Other Psychotic Disorder | 352 (27%) | 28 (30%) | 122 (27%) | 102 (26%) | 100 (27%) |
| Trauma and Stressor Related Disorder | 210 (16%) | 13 (14%) | 69 (15%) | 65 (17%) | 63 (17%) |
| PHS Category A: High Risk Utilization (Last PHS level of care) | | | | | |
| No Events | 589 (45%) | 67 (72%) | 254 (56%) | 166 (43%) | 102 (27%) |
| 1-2 Events | 304 (23%) | 21 (23%) | 105 (23%) | 98 (25%) | 80 (22%) |
| 3-5 Events | 189 (14%) | 2 (2.2%) | 56 (12%) | 57 (15%) | 74 (20%) |
| 6+ Events | 224 (17%) | 3 (3.2%) | 40 (8.8%) | 66 (17%) | 115 (31%) |
| PHS Category B: Housing Stability (Last PHS level of care) | | | | | |
| Not Homeless | 1,191 (91%) | 92 (99%) | 448 (98%) | 369 (95%) | 282 (76%) |
| Homeless | 115 (8.8%) | 1 (1.1%) | 7 (1.5%) | 18 (4.7%) | 89 (24%) |
| PHS Category B: Criminal Justice Event - Past 6 Months (Last | | | | | |

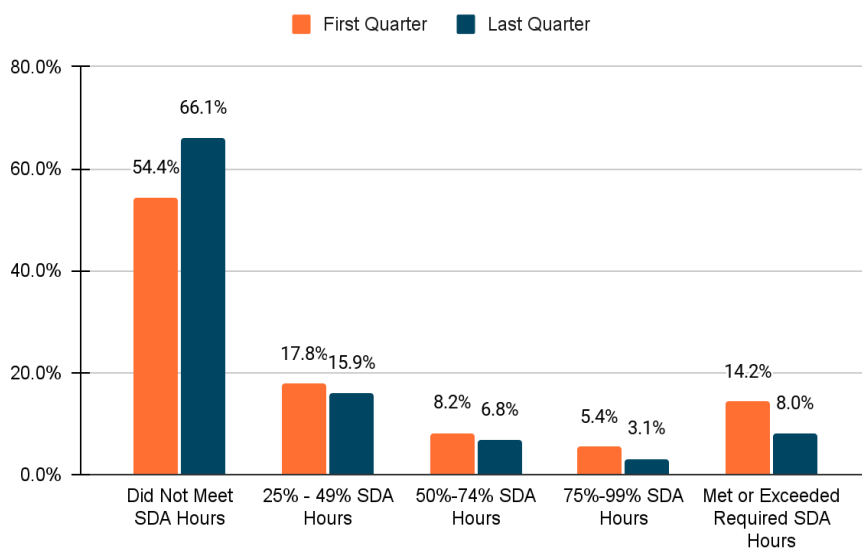
| | | | | | |
|---|--------------|-----------|------------|------------|------------|
| PHS level of care) | | | | | |
| No Events | 1,260 (96%) | 91 (98%) | 451 (99%) | 374 (97%) | 344 (93%) |
| 1-2 Events | 44 (3.4%) | 2 (2.2%) | 4 (0.9%) | 12 (3.1%) | 26 (7.0%) |
| 3+ Events | 2 (0.2%) | 0 (0%) | 0 (0%) | 1 (0.3%) | 1 (0.3%) |
| PHS Category B: Criminal Justice Event - Greater than 2 Years Within the Past 5 Years (Last PHS level of care) | | | | | |
| No | 1,305 (100%) | 93 (100%) | 455 (100%) | 387 (100%) | 370 (100%) |
| Yes | 1 (<0.1%) | 0 (0%) | 0 (0%) | 0 (0%) | 1 (0.3%) |
| PHS Category C: Chronic Conditions (Last PHS level of care)**** | | | | | |
| Missing / Unknown | 1,306 (100%) | 93 (100%) | 455 (100%) | 387 (100%) | 371 (100%) |
| PHS Category D: Assessments (Last PHS level of care) | | | | | |
| LOCUS Level of Care Score < 14 Points | 90 (6.9%) | 86 (92%) | 4 (0.9%) | 0 (0%) | 0 (0%) |
| LOCUS Level of Care Score 14-16 Points | 449 (34%) | 7 (7.5%) | 422 (93%) | 13 (3.4%) | 7 (1.9%) |
| | 767 (59%) | 0 (0%) | 29 (6.4%) | 374 (97%) | 364 (98%) |

| | | | | | |
|--|--|--|--|--|--|
| LOCUS Level of Care Score 17+ Points | | | | | |
| <p>Notes: *These include patients who require Medically monitored care or inpatient settings. **Sex / Gender variable has changed over time in demographics form. ***ICD-10 codes were used to define each of the primary mental health diagnoses. Due to Medicaid requirements, clinicians are only able to submit information using one diagnosis, so these are not comprehensive when considering the experiences of the patients served. ****Chronic conditions unavailable because King County is not allowed to save in their database. It is used in the stratification calculation, then not stored.</p> <p>Additional Notes: PHS level of care SDA hourly engagement hours are categorized as follows: Low = 1.5 service hours per month, Medium = 2.5 service hours per month, High = 7 service hours per month.</p> | | | | | |

Aim 2. Over half of all patients did not meet SDA and patients with higher levels of need / risk (PHS) tended to not meet SDA.

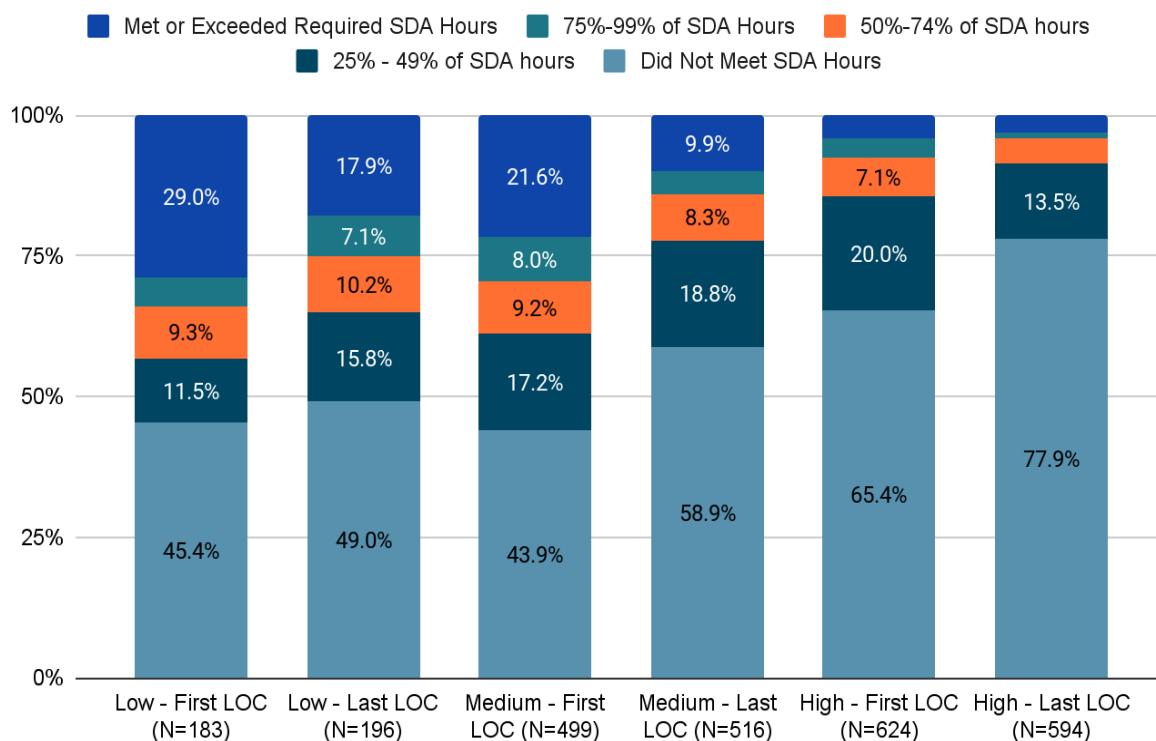
In Figure 2, we show a bar chart comparing service utilization comparing patients' first and last quarter of PHS data. We found that for the first and last PHS level of care score (54% and 66% of patients, respectively) did not meet SDA. Overall, more patients met SDA in their first quarter than their last quarter of PHS data. In Figure 3, we compared patients' SDA hours across first and last PHS level of care scores. When comparing patients across low, medium, and high PHS level of care scores, over a half of patients did not meet SDA, particularly those who had higher need or risk based on the PHS. For example, around half of patients in the lowest PHS level of care did not meet SDA hours compared to around three quarters of patients with the highest PHS level of care (65.4% and 77.9%, in the first and last quarter respectively).

Figure 2: HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Stratified by First and Last Quarter Service Delivery Adherence Calculation, July 2020-December 2022 (N=1306)



Note: LOC SDA hourly engagement hours are categorized as follows: Low = 1.5 service hours per month, Medium = 2.5 service hours per month, and High = 7 service hours per month.

Figure 3: HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Stratified by First and Last Quarter Service Delivery Adherence Calculation, July 2020-December 2022 (N=1306)

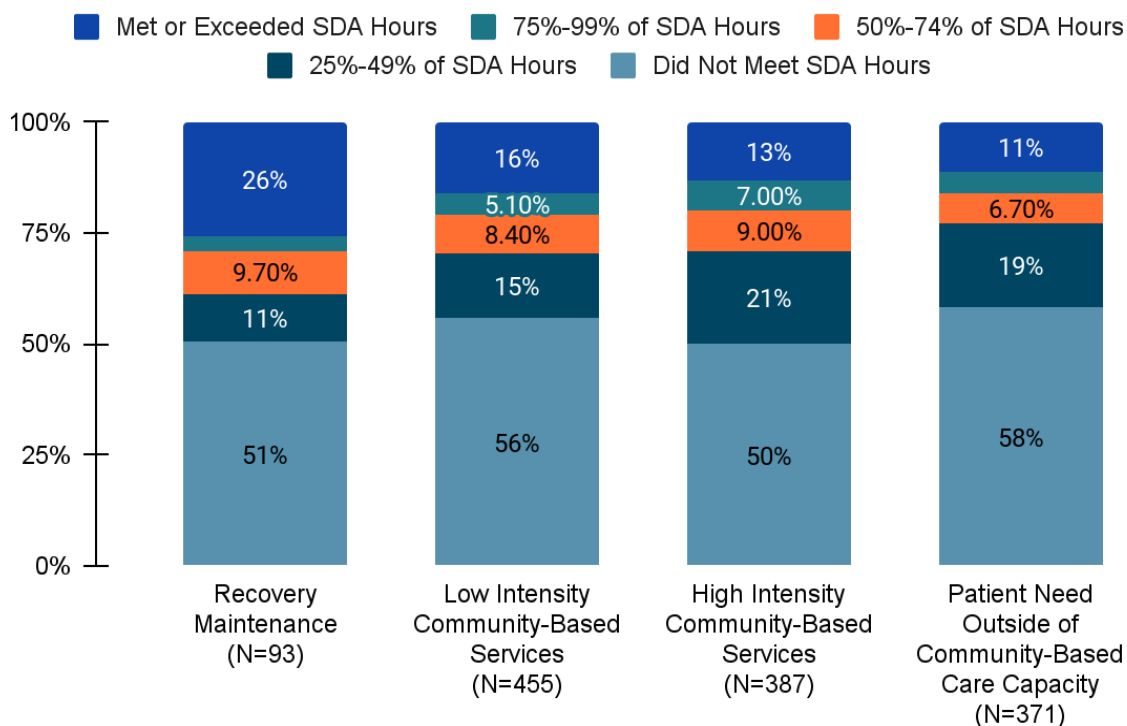


Note: LOC SDA hourly engagement hours are categorized as follows: Low = 1.5 service hours per month, Medium = 2.5 service hours per month, and High = 7 service hours per month.

In Figures 4 and 5, we summarized the first and last PHS level of care score and the corresponding LOCUS level of care assessment categorization in a stacked bar chart. Similar patterns were identified when using LOCUS level of care as the measure of patient need and risk where higher LOCUS level of care scores was related to a lower proportion of patients meeting SDA. For example, for patients who had need outside of the community-based care capacity, over half did not meet SDA (58% and 77%, in the

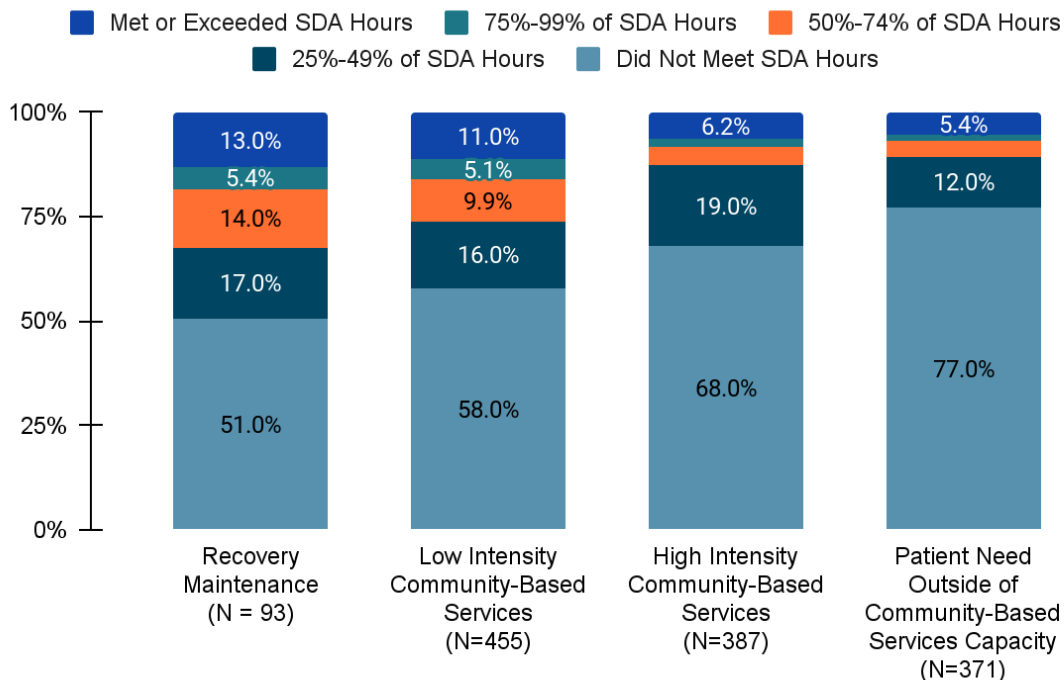
first and last PHS quarter of data, respectively). Of patients who were in the Recovery Maintenance category, from the first to last PHS level of care scores proportions remained largely the same.

Figure 4: HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Stratified by First Quarter Service Delivery Adherence Calculation and LOCUS Level of Care Assessment Level, July 2020-December 2022 (N=1,306)



Note: LOC SDA hourly engagement hours are categorized as follows: Low = 1.5 service hours per month, Medium = 2.5 service hours per month, and High = 7 service hours per month.

Figure 5: HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Stratified by Last Quarter Service Delivery Adherence Calculation and LOCUS Level of Care Assessment Level, July 2020-December 2022 (N=1,306)



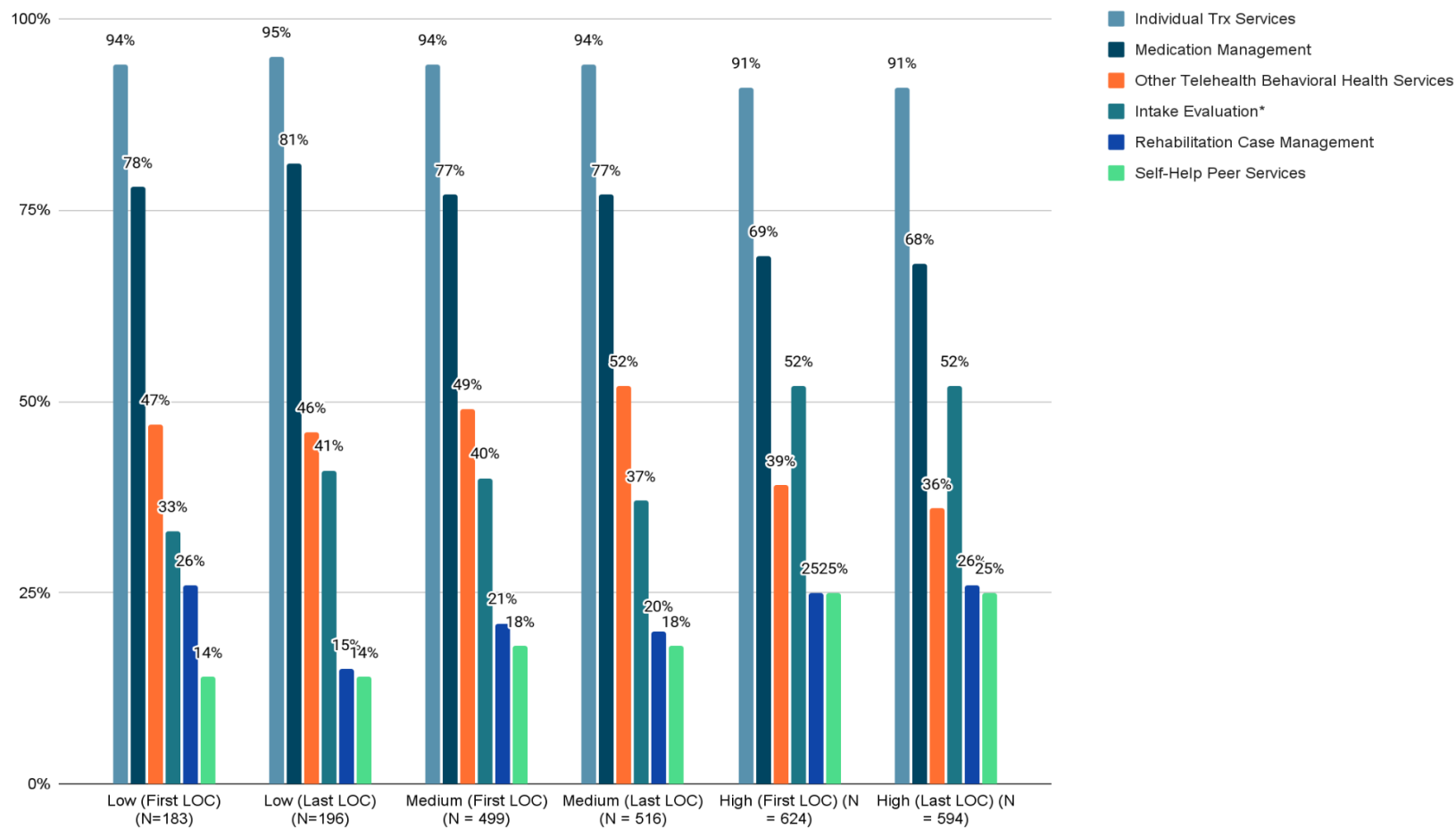
Note: LOC SDA hourly engagement hours are categorized as follows: Low = 1.5 service hours per month, Medium = 2.5 service hours per month, and High = 7 service hours per month.

Aim 3. Many patients engaged at least once in individual treatment services, medication management, and other telehealth or peer services. Patients who had a LOCUS level of care than indicated need beyond community-based services were less likely to have received services overall compared to patients with a LOCUS level of care within the clinic's capacity.

In Figure 6, the bar chart compares the most common service engagement types across PHS levels of care. Overall, more patients received individual treatment services across all levels of care categories compared to other service engagement formats.

Patients in the high PHS level of care categories overall had more engagement in services like self-help peer services and case management.

Figure 6: HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Stratified by Engagement and First and Last Quarter Population Health Stratification Level of Care, July 2020-December 2022 (N=1,306)



Note: These represent an event occurring at least once per patient enrollment from July 2020 - December 2022. *Intake evaluations were conducted by IBIS up through 2022.

Table 3 shows the service engagement type and the LOCUS level of care for patients. Patients were considered to have service engagement if they engaged at least once in the service during the duration of the patient's enrollment. Overall, 93 percent of patients received individual treatment services during their enrollment, followed by 73 percent of patients receiving Medication Management, 44 percent received Other Telehealth Behavioral Health Services, 22 percent received Rehabilitation Case Management, and 21 percent received Self-Help Peer Services. Group Treatment Services, Medication Monitoring, and Supported Housing services were less common with less than 1 percent ever receiving these services, individually, and less than a quarter of patients received any of these services. The service engagement type patients received did not differ greatly between PHS and LOCUS levels of care.

Table 3: HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Engagement Type Stratified by LOCUS Level of Care Category, July 2020-December 2022 (N=1,306)

| Engagement Type | Overall (N=1306) | Recovery Maintenance (Score 10-13) (N=93) | Low Intensity Community- Based Services (Score 14-16) (N=455) | High Intensity Community- Based Services (Score 17-19) (N=387) | Patient Need Outside of Community- Based Services Capacity (Score 19+) (N = 371) |
|------------------------|-----------------------------|--|--|---|---|
| Crisis services | 20 (0.02%) | 0 (0%) | 9 (2.0%) | 8 (2.1%) | 3 (0.8%) |
| Day Support | 20 (0.02%) | 3 (3.2%) | 4 (0.9%) | 9 (2.3%) | 4 (1.1%) |
| Family Treatment | 1 (<0.01%) | 0 (0%) | 0 (0%) | 1 (0.3%) | 0 (0%) |

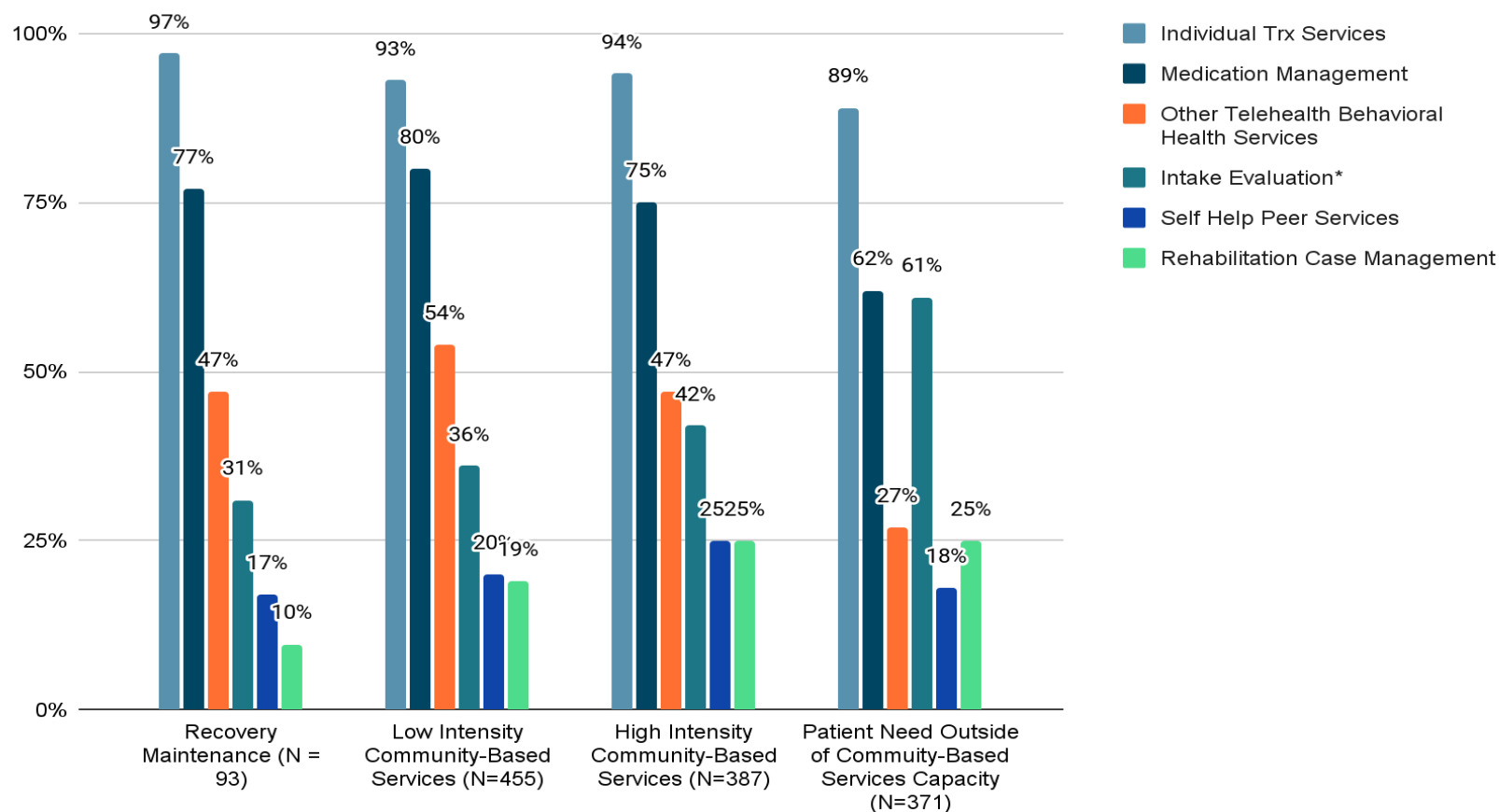
| | | | | | |
|---|-------------|----------|-----------|-----------|-----------|
| Group Treatment Services | 111 (0.08%) | 12 (13%) | 31 (6.8%) | 36 (9.3%) | 32 (8.6%) |
| High Intensity Treatment | 5 (<0.01%) | 0 (0%) | 1 (0.2%) | 2 (0.5%) | 2 (0.5%) |
| Individual Treatment Services | 1,209 (93%) | 90 (97%) | 425 (93%) | 363 (94%) | 331 (89%) |
| Intake Evaluation* | 583 (45%) | 29 (31%) | 164 (36%) | 164 (42%) | 226 (61%) |
| Medication Management | 955 (73%) | 72 (77%) | 363 (80%) | 291 (75%) | 229 (62%) |
| Medication Monitoring | 128 (0.01%) | 9 (9.7%) | 45 (9.9%) | 45 (12%) | 29 (7.8%) |
| Offender Reentry Community Safety Program | 1 (<0.01%) | 0 (0%) | 0 (0%) | 0 (0%) | 1 (0.3%) |
| Other Telehealth Behavioral Health Services | 571 (44%) | 44 (47%) | 244 (54%) | 182 (47%) | 101 (27%) |
| Rehabilitation Case Management | 287 (22%) | 9 (9.7%) | 87 (19%) | 97 (25%) | 94 (25%) |
| Respite Care Services | 3 (<0.01%) | 0 (0%) | 1 (0.2%) | 2 (0.5%) | 0 (0%) |
| Self-Help / Peer Services | 273 (21%) | 16 (17%) | 92 (20%) | 97 (25%) | 68 (18%) |
| Supported Employment | 22 (0.02%) | 2 (2.2%) | 9 (2.0%) | 6 (1.6%) | 5 (1.3%) |
| Supported Housing | 1 (<0.01%) | 0 (0%) | 0 (0%) | 0 (0%) | 1 (0.3%) |
| Therapeutic | 2 (<0.01%) | 0 (0%) | 0 (0%) | 2 (0.5%) | 0 (0%) |

| | | | | | |
|-----------------|--|--|--|--|--|
| Psychoeducation | | | | | |
|-----------------|--|--|--|--|--|

Note: These represent an event occurring at least once per patient enrollment from July 2020 - December 2022. *Intake evaluations were conducted by IBIS up through 2022 so this is not representative for the sample.

In Figure 7, a bar chart shows the most common service engagement types and patient LOCUS level of care. We examined LOCUS level of care categories across engagement in service types and found that patients beyond community-based services capacity (N=371), overall, tended to access fewer types of services compared to patients with other LOCUS level of care categories (Recovery Maintenance, Low Intensity Community-Based Services, and High Intensity Community-Based Services). Although, compared to other service engagement formats, patients beyond community-based services capacity had the same or more prevalence of use of Case Management Rehabilitation services anytime within the study period when compared to other groups (25%).

Figure 7: HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Stratified by Engagement and LOCUS Level of Care Assessment, July 2020-December 2022 (N=1,306)

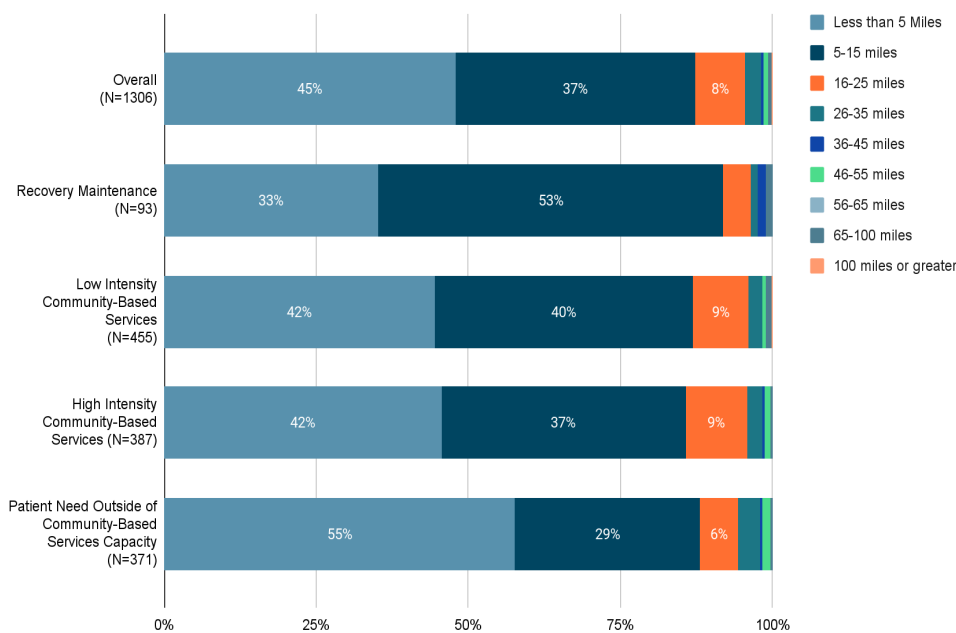


Note: These represent an event occurring at least once per patient enrollment from July 2020 - December 2022. *Intake evaluations were conducted by IBIS up through 2022.

Additional Analyses - Majority of patients have a mailing ZIP code within 5 miles of the clinic (45%). Half of patients who are in Recovery Maintenance (53%) are within 5-15 miles of the clinic.

At HMHAS, we added additional analyses to support deeper understanding of the population being served and findings from the main aims. In Figure 8, the bar chart shows the patient’s mailing ZIP code and its distance in miles to the clinic. We found that almost half of patients had a mailing ZIP code within a 5-mile radius of the clinic (45%). An equal distribution of patients in both Low Intensity Community-Based Services and High Intensity Community-Based Services had mailing ZIP code mailing addresses 5 miles of the clinic (42%) and between 37%-40% between 5-15 miles of the clinic.

Figure 8: HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Stratified by LOCUS Level of Care Categories and Distance to HMHAS from Primary Household Mailing ZIP Code, July 2020-December 2022 (N=1,306)

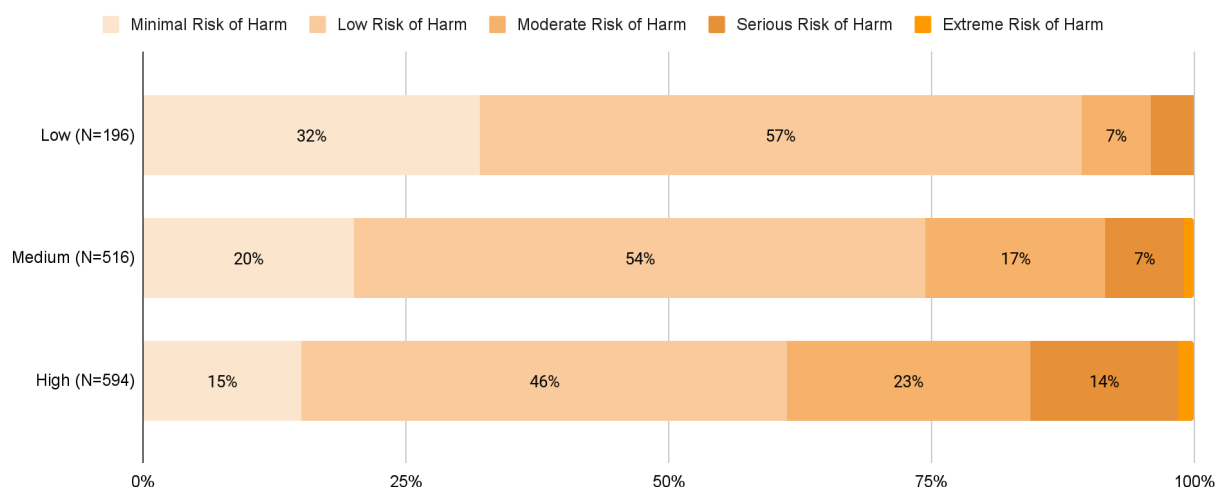


Note: These are based on unique person-level KCID. Mailing ZIP Codes were used to approximate distance when compared to the clinic mailing ZIP.

Additional Analyses – Patients with higher PHS level of care scores had increased proportions for more stressful recovery environments, risk of harm, comorbidities, functional status, and support systems in LOCUS level of care compared to low and medium PHS level of care scores.

In Figures 9-15 below, we designed separate bar charts for the LOCUS level of care dimension scores stratified by their last PHS level of care quarter scores. Figures 10-16 show that the higher the PHS level of care score, the higher risk for each associated dimension. Figure 9 examines the risk of harm score from the LOCUS level of care dimensions. This dimension determines any risk of harm either to self or others, intentionally or unintentionally, due to diagnosis symptoms or substance use behaviors. Overall, patients who were in the high PHS level of care category indicated increased proportions for moderate risk of harm (23%) and serious risk of harm (14%) compared to other groups.

Figure 9: HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Stratified by Last Quarter Population Health Stratification Model Levels of Care and LOCUS Level of Care Dimension I: Risk of Harm Scores, July 2020 - December 2022

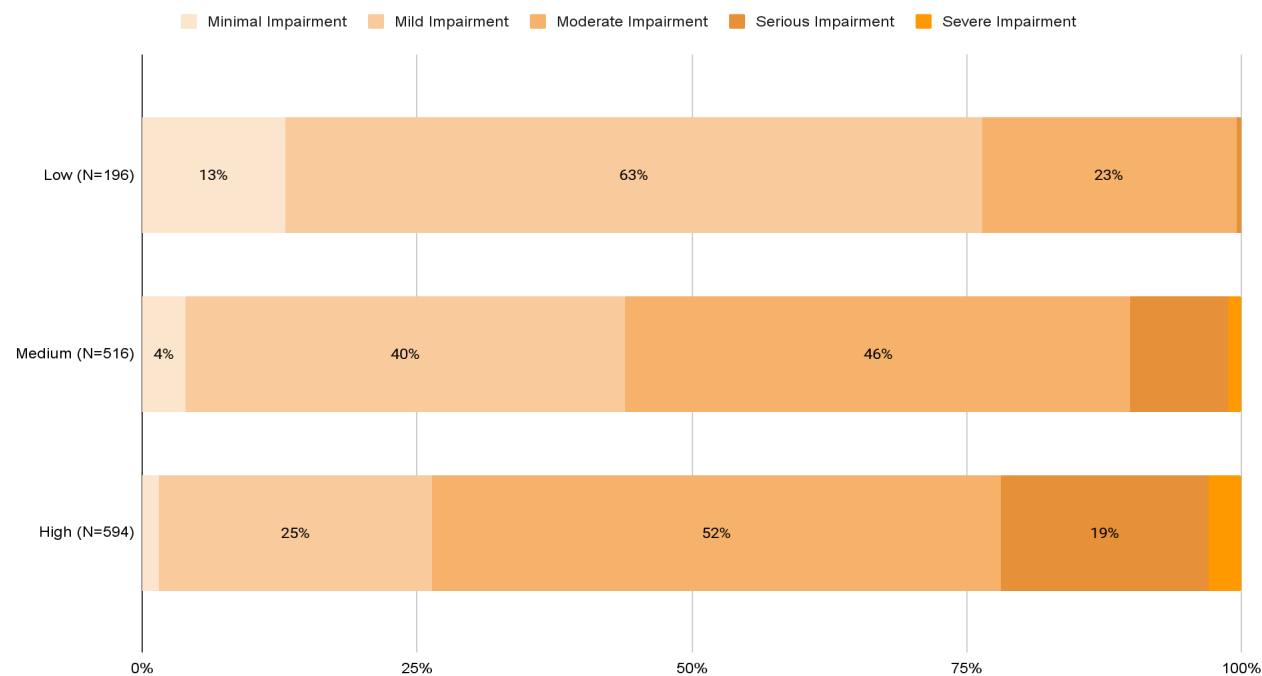


Note: LOC SDA hourly engagement hours categorized as follows: Low = 1.5 service hours per month, Medium = 2.5 service hours per month, High = 7 service hours per month. LOCUS level of care dimension categorization is determined by the clinician during the patient's intake assessment.

Figure 10 examines patient functional status from the LOCUS level of care dimensions, in other words, this is a patient's ability for social connection, self-care, any social responsibilities, and physical responsibilities (sleeping, eating, etc.).

Overall, half of patients who were in the high PHS level of care category indicated increased prevalence of moderate impairment (50%) and serious impairment (19%) compared to other groups. For the low PHS level of care scores, almost 1 out of 3 patients had more mild and minimal impairment than other groups (60% and 12%, respectively).

Figure 10: HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Stratified by Last Quarter Population Health Stratification Model Levels of Care and LOCUS Level of Care Dimension II: Functional Status Scores, July 2020 - December 2022

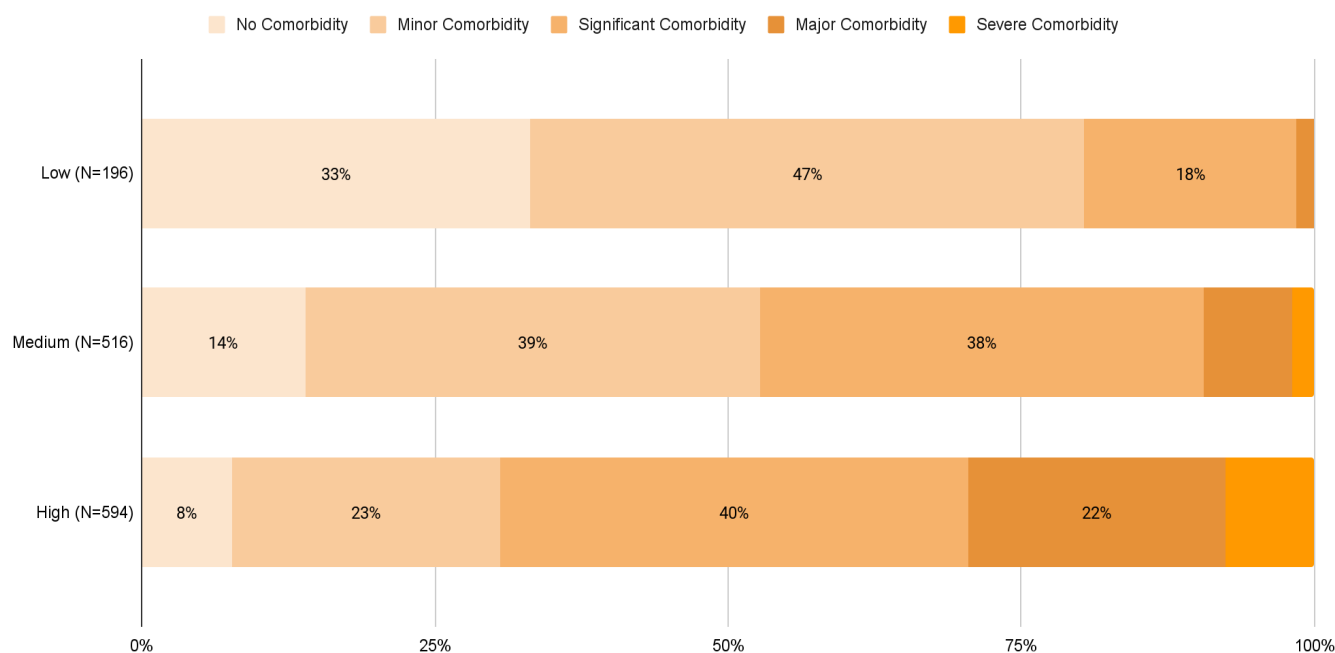


Note: LOC SDA hourly engagement hours categorized as follows: Low = 1.5 service hours per month, Medium = 2.5 service hours per month, High = 7 service hours per month. LOCUS level of care dimension categorization is determined by the clinician during the patient's intake assessment.

Figure 11 examines the patient's last PHS level of care score and the LOCUS level of care dimension focused on medical, addictive, and psychiatric co-morbidity. This dimension seeks to understand the co-existing disorders in addition to the patient's presenting primary diagnosis. Overall, patients who were in the high PHS level of care category indicated

increased proportions for significant comorbidity (40%), major comorbidity (22%), and severe comorbidity (8%). Over a third of patients in the medium PHS level of care category in the last quarter had significant comorbidity (38%) and minor comorbidity ratings (39%).

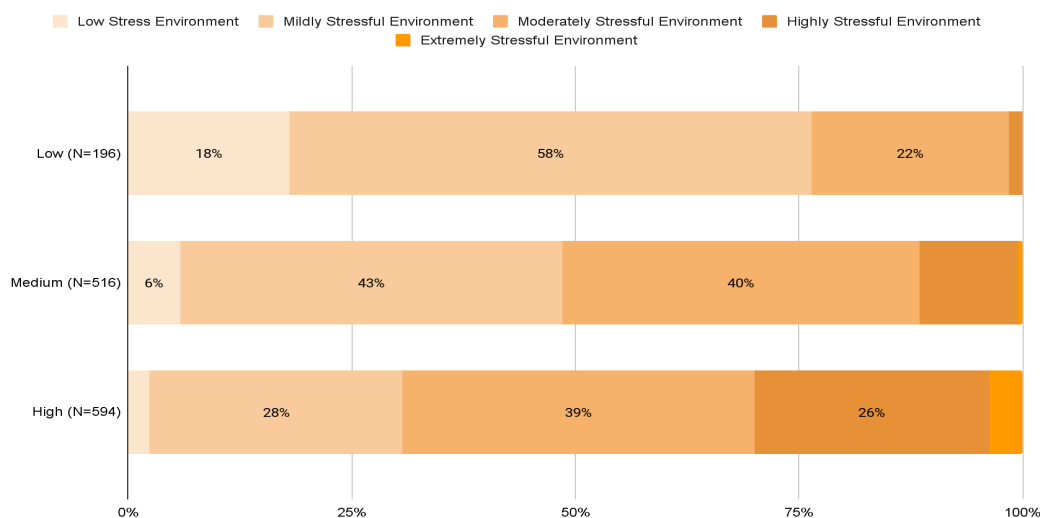
Figure 11: HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Stratified by Last Quarter Population Health Stratification Model Levels of Care and LOCUS Level of Care Dimension III: Medical, Addictive, and Psychiatric Co-Morbidity Scores, July 2020 - December 2022



Note: LOC SDA hourly engagement hours categorized as follows: Low = 1.5 service hours per month, Medium = 2.5 service hours per month, High = 7 service hours per month. LOCUS level of care dimension categorization is determined by the clinician during the patient’s intake assessment.

Figure 12 illustrates proportions of the patient recovery environment focused on stress levels in the LOCUS level of care dimensions. This dimension examines a patient’s environment and the impact it has on their recovery and symptoms. Stressful circumstances include anything that can cause personal conflict or an inability to maintain responsibilities with worries around their safety or health. Overall, a quarter of patients who were in the high PHS level of care category indicated highly stressful environments (26%), and over a third of patients had a moderately stressful environment (39%), compared to other groups.

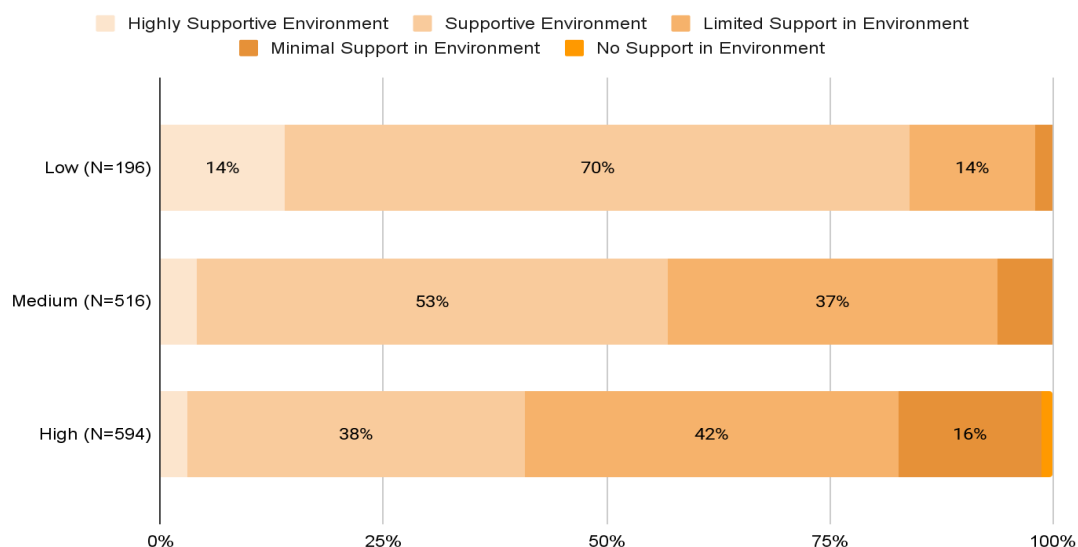
Figure 12: HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Stratified by Last Quarter Population Health Stratification Model Levels of Care and LOCUS Level of Care Dimension IV A: Recovery Environment Level of Stress Scores, July 2020 - December 2022



Note: LOC SDA hourly engagement hours categorized as follows: Low = 1.5 service hours per month, Medium = 2.5 service hours per month, High = 7 service hours per month. LOCUS level of care dimension categorization is determined by the clinician during the patient's intake assessment.

Figure 13 illustrates the LOCUS level of care dimension focused on the level of support a patient may or may not have for recovery. This dimension includes the proportion of the patient's level of support when enabling their maintenance in recovery. Overall, patients who were in the high PHS level of care category indicated increased proportions for minimal support environments (16%), and limited support environments (42%). However, patients who had a low PHS level of care score expressed increased support with higher proportions in the highly supportive environment (14%) and supportive environments (70%) compared to other groups.

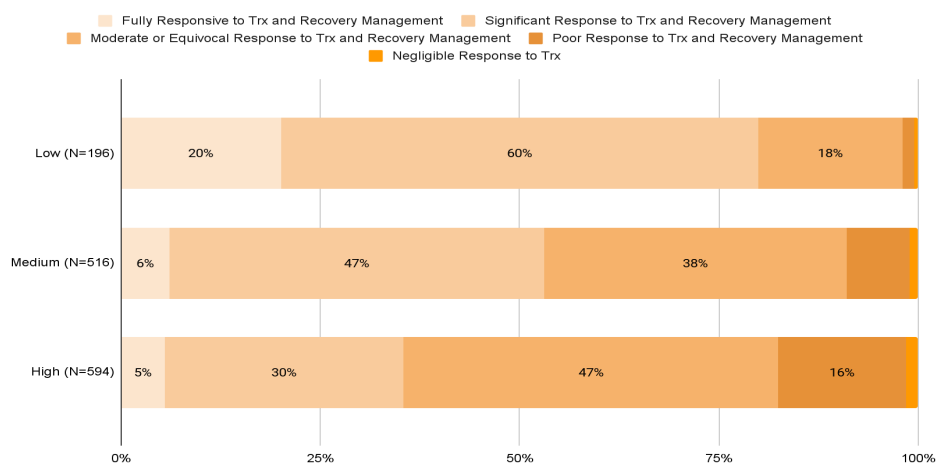
Figure 13: HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Stratified by Last Quarter Population Health Stratification Model Levels of Care and LOCUS Level of Care Dimension IV B: Recovery Environment Level of Support Scores, July 2020 - December 2022



Note: LOC SDA hourly engagement hours categorized as follows: Low = 1.5 service hours per month, Medium = 2.5 service hours per month, High = 7 service hours per month. LOCUS level of care dimension categorization is determined by the clinician during the patient's intake assessment.

Figure 14 represents proportions of patients with their level of responsiveness to treatment and recovery history for this LOCUS level of care dimension. A patient's treatment and recovery history seek to understand a patient's past circumstances to consider their responsiveness to treatment. Overall, patients who were in the low PHS level of care category indicated increased proportions for a fully responsive or significant response to treatment and recovery management for their last PHS level of care quarter scores (80%). For patients in the higher PHS level of care categories, there are increased levels of 'poor response to treatment and recovery management' for the last PHS level of care (16%) compared to other PHS levels of care.

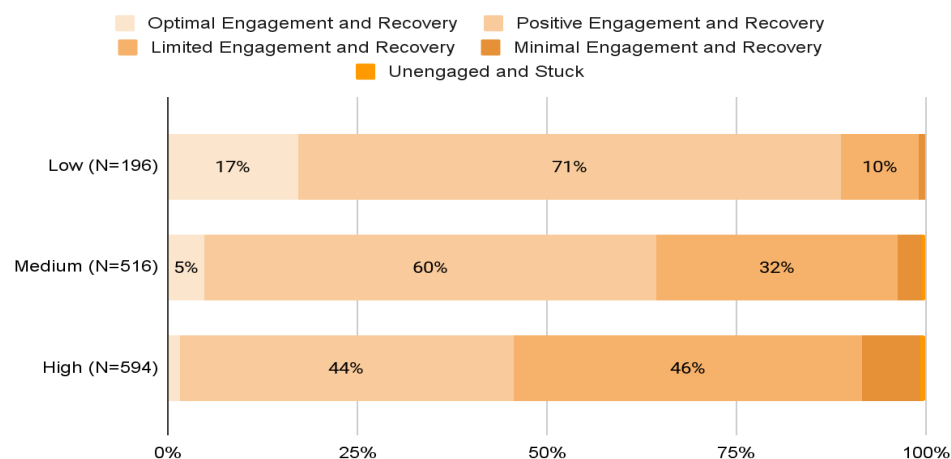
Figure 14: HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Stratified by Last Quarter Population Health Stratification Model Levels of Care and LOCUS Level of Care Dimension V: Treatment and Recovery History Scores, July 2020 - December 2022



Note: LOC SDA hourly engagement hours categorized as follows: Low = 1.5 service hours per month, Medium = 2.5 service hours per month, High = 7 service hours per month. LOCUS level of care dimension categorization is determined by the clinician during the patient's intake assessment.

Lastly, in Figure 15, this describes a patient's LOCUS level of care score for engagement and recovery. This dimension examines a patient's willingness to engage in treatment and the stage of the change process. In other words, their ability to trust others and accept assistance to be successful. Overall, patients who were in the low PHS level of care category indicated increased proportions for more optimal engagement and positive engagement and recovery for their last PHS level of care quarter scores (88%). For patients in the higher PHS level of care categories, this drops in half to 46% of patients who consider themselves to have an optimal and positive engagement and recovery environment.

Figure 15: HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Stratified by Last Quarter Population Health Stratification Model Levels of Care and LOCUS Level of Care Level of Care Dimension VI: Engagement and Recovery Scores, July 2020 - December 2022

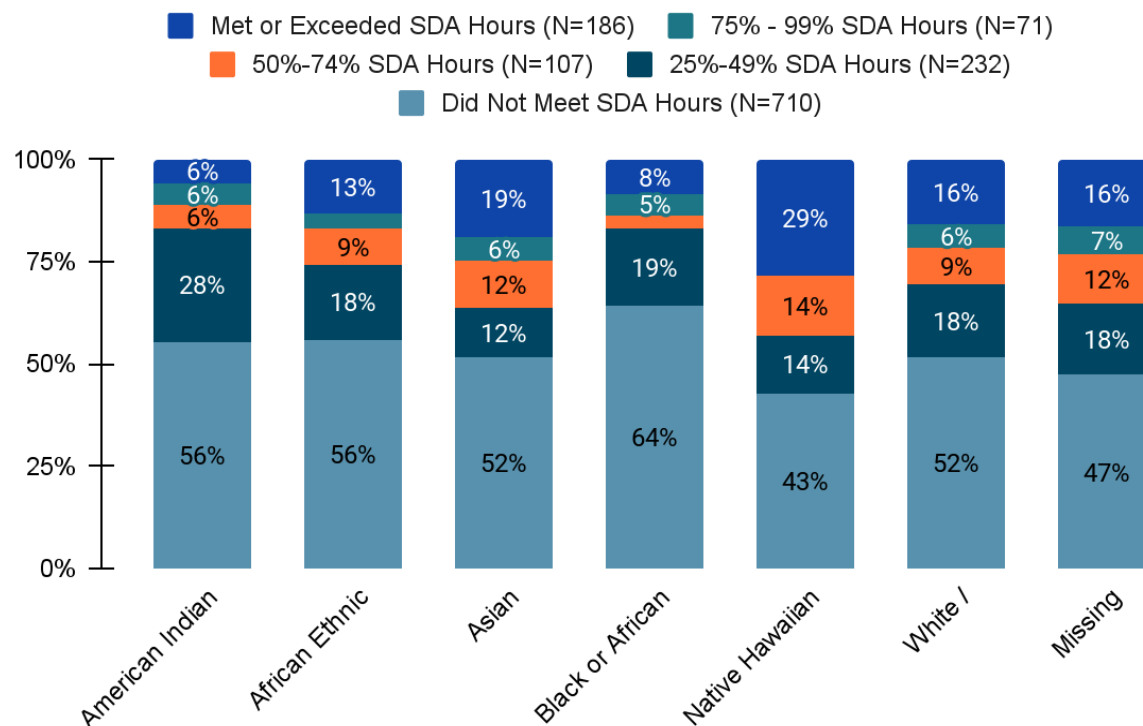


Note: LOC SDA hourly engagement hours categorized as follows: Low = 1.5 service hours per month, Medium = 2.5 service hours per month, High = 7 service hours per month. LOCUS level of care Level of Care dimension categorization is determined by the clinician during the patient’s intake assessment.

Additional Analyses – Related to our additional analyses to explore what demographic of patients could meet versus not meet the service utilization hours recommendation, we found higher proportions of patients who are Black or African American (64%, n=253) did not meet SDA when compared to other racial/ethnic groups (52%, n=769). Additionally, patients who identified as LGBQ (28%, n=162) were more likely to meet SDA hours compared to heterosexual populations (12%, n=778). If a patient was single or never married (53%, n=810) or separated / widowed / divorced (57%, n=287) they are slightly less likely to meet SDA hours than someone who is in a committed relationship (52%, n=141). Lastly, a higher proportion of patients diagnosed with depression (58%, n=364), schizophrenia or other psychotic disorder (55%, n=352), trauma or other related disorders and obsessive-compulsive disorders (54%, n=210) compared with patients of other primary diagnoses, did not meet SDA hours at all.

In Figure 16, we were interested in examining SDA hour utilization for those meeting or exceeding SDA expectations were geared towards HMHAS' mission population. In Figure 17, we created a stacked bar chart which highlights patients who have or have not met SDA hours when examined with their race/ethnicity for their first PHS level of care score. A larger proportion of patients who identified as non-white were more likely to not meet SDA hours. For example, 64 percent of Black or African American patients were not able to meet SDA hours and 19 percent of these patients were below the 50 percent threshold (n=253). Similar findings were present for Native American and Alaska Native (84%, n=36) and African Ethnic (74%, n=82) patients, and over half met less than 50 percent of the required SDA hours.

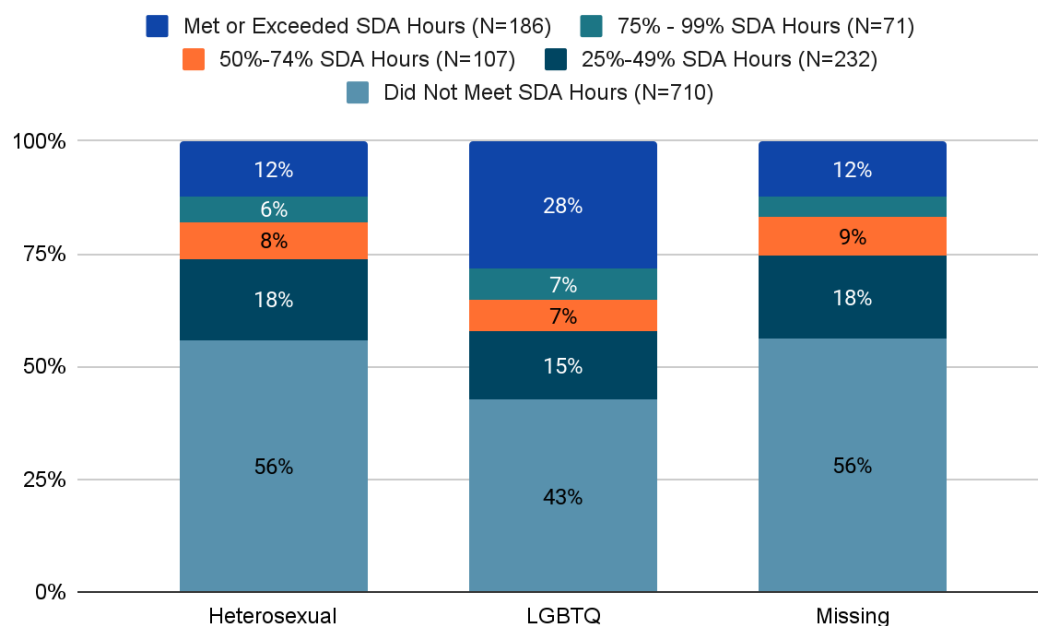
Figure 16: HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Stratified by First Quarter Service Delivery Adherence and Racial Demographics, July 2020 - December 2022 (N=1306)



Note: LOC SDA hourly engagement hours categorized as follows: Low = 1.5 service hours per month, Medium = 2.5 service hours per month, High = 7 service hours per month. LOCUS level of care dimension categorization is determined by the clinician during the patient’s intake assessment.

In Figure 17, we created a stacked bar chart to describe the sexual orientation of the patient population for their first PHS level of care score. Patients who identified as LGBTQ (28%, n=162) were more likely to meet SDA hours than those who identified as heterosexual (12%, n=778). Almost three quarters of heterosexual patients (74%) were unable to meet their hours or were above the 50% threshold for SDA utilization.

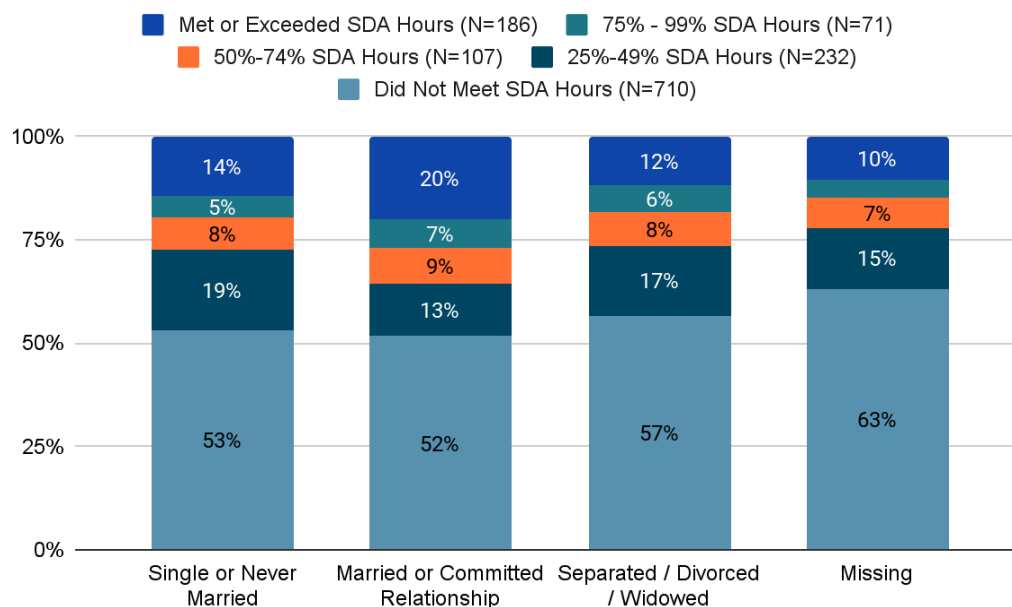
Figure 17: HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Stratified by First Quarter Service Delivery Adherence and Sexual Orientation Demographics, July 2020 - December 2022 (N=1306)



Note: LOC SDA hourly engagement hours categorized as follows: Low = 1.5 service hours per month, Medium = 2.5 service hours per month, High = 7 service hours per month. LOCUS level of care dimension categorization is determined by the clinician during the patient’s intake assessment.

In Figure 18, we created a stacked bar chart to describe patient relationships and whether they met SDA PHS level of care utilization requirements for their first PHS level of care score. The figure shows slightly higher proportions of patients who are separated / divorced / widowed (74%, n=287) that met less than 50 percent of the threshold than patients who are in relationships (65%, n=141). Additionally, for patients who were single or never married the proportion of patients who met less than 50 percent of the threshold was 72 percent (n=810). A higher proportion of patients who were married of in a committed relationship met or exceeded SDA hours (20%, n=141).

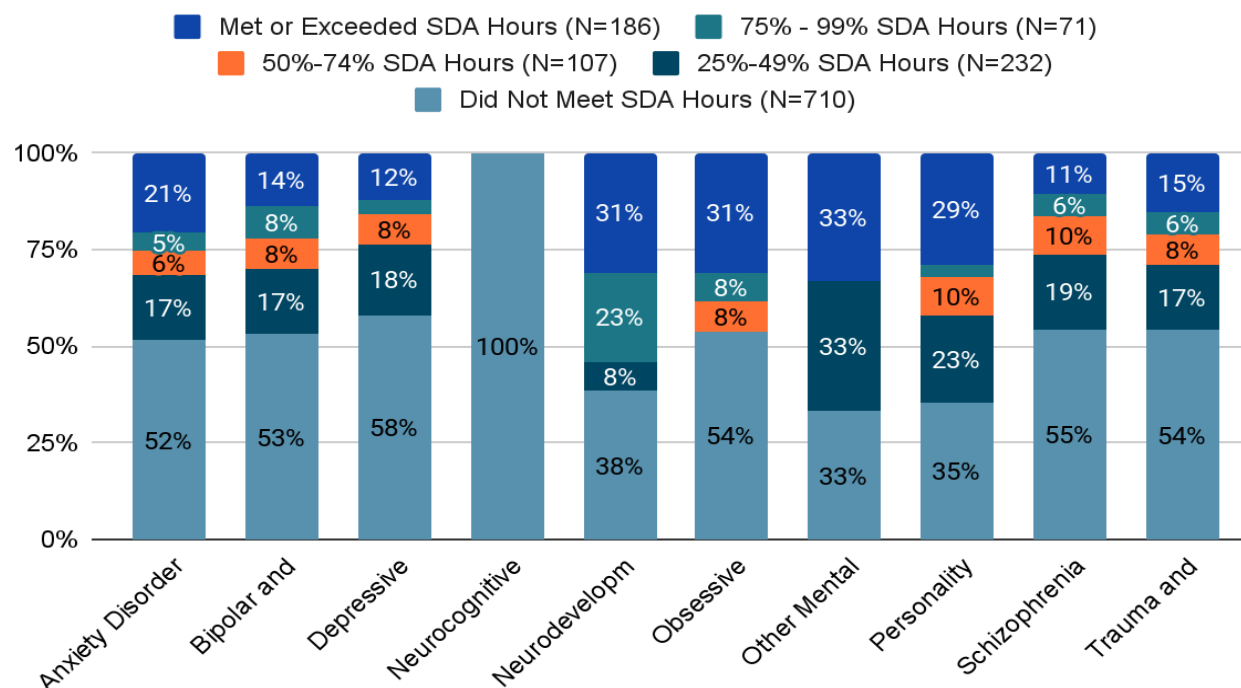
Figure 18: HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Stratified by First Quarter Service Delivery Adherence and Relationship Demographics, July 2020 - December 2022 (N=1306)



Note: LOC SDA hourly engagement hours categorized as follows: Low = 1.5 service hours per month, Medium = 2.5 service hours per month, High = 7 service hours per month. LOCUS level of care dimension categorization is determined by the clinician during the patient’s intake assessment.

Figure 19 is a stacked bar chart examining the patient’s primary diagnosis and their level of utilization for SDA hours for the first PHS level of care score. A slightly higher proportion of patients were diagnosed with depression (58%, n=364), schizophrenia or other psychotic disorder (55%, n=352), trauma or other related disorders, and obsessive compulsive disorders (54%, n=210) and did not meet SDA hours at all. Of patients that successfully met or exceeded SDA hours, a higher proportion of patients had a primary diagnosis of other mental disorders (33%, n=3), neurodevelopmental disorders (31%, n=13), obsessive compulsive disorders (31%, n=13), and personality disorders (29%, n=31).

Figure 19: HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Stratified by First Quarter Service Delivery Adherence and Primary Diagnoses, July 2020 - December 2022 (N=1306)



Note: LOC SDA hourly engagement hours categorized as follows: Low = 1.5 service hours per month, Medium = 2.5 service hours per month, High = 7 service hours per month. LOCUS level of care dimension categorization is determined by the clinician during the patient’s intake assessment.

Discussion Section

The goal of these descriptive analyses was to improve HMHAS’ understanding of their patient population and examine service utilization and service engagement across

patients with differing needs and risk profiles after PHS and value-based care implementation in July 2020. In the first aim, a major finding was that one in three patients served by HMHAS required a higher level of care than could be provided in an outpatient setting. This is important when thinking about service utilization and engagement because mental health residential services are scarce in Washington state. King County patients who are in this medically monitored care category may not engage in care for a variety of reasons, due to unmet needs like housing insecurity and assistance with activities of daily living outside of the influence or scope of an outpatient behavioral health clinic. For example, scheduled appointments that are typically designed for outpatient settings may not be as effective for patients with this level of care which could influence service utilization. Presently, HMHAS has a small outreach team of about three case managers for patients who have extreme crises' (27), which is not sufficient to meet the approximately 300 patients who need this higher PHS level of care. Additionally, HMHAS is unique in that it serves a larger proportion of patients who are African Ethnic compared to other outpatient mental health clinics. Due to this, culturally responsive care is particularly important for strategies to improve treatment and service engagement outcomes (30).

In our second aim, we found that many patients did not meet SDA and patients who had a higher level of need and risk based on their PHS or LOCUS level of care scores disproportionately did not meet expected outpatient SDA requirements. Given the high proportion of patients who fall outside outpatient care capacity, limited available resources compared to high patient need may explain why such a high proportion of patients were not able to meet the expected service delivery adherence and why

patients with high levels of care often had low service engagement.

The goal of the PHS level of care model is to encourage quality outpatient services while minimizing use of less effective services to improve population health outcomes, increase quality of care, and reduce costs (19, 20). However, the PHS level of care scores on their own do not provide clinicians in outpatient settings a strong understanding of the patient experience and information about broader barriers or access issues they face. As a result, outpatient clinics like HMHAS' Recovery Services who serve many patients with needs beyond community-based care capacity who face unmet needs that prevent sustained and consistent engagement in outpatient mental health services may be penalized by this value-based payment model.

For our final aim, we sought to understand the level of service utilization, types of service engagement, and how this may differ across patient PHS or LOCUS levels of care. From our descriptive analyses, we were able to infer that many patients engaged in individual treatment services, medication management, other telehealth, and peer services at least once for the duration of their treatment at HMHAS' Recovery Services. Patients being served who needed services beyond community-based services (i.e., Medically Monitored Care) were less likely to access services overall when compared to patients who were within the capacity of the clinic (Low-Intensity and High-Intensity Outpatient Services). Service engagement formats did not differ between patients with different PHS or LOCUS level of care level of care needs. However, findings differed based on patient PHS level of care categorization. The LOCUS level of care revealed more than the PHS model overall about the patient recovery environment and their level

of need. For example, patients needing the highest levels of care are more commonly engaged in rehabilitation case management compared to other service engagement formats. This finding signals the importance of increased support to meet basic needs for these patients compared to other groups. Another key component to understanding HMHAS' Recovery Services high level of care patients is that often there is a slow engagement process to build rapport and trust between the patient and healthcare workers, and being able to quickly engage and increase a patient's service utilization is not always possible.

For additional analyses related to demographics of the patient population, we discovered there are higher proportions of patients who are Black or African American that did not meet SDA when compared to patients of other racial/ethnic groups. We also found that patients who identified as LGBTQ had a higher prevalence of meeting SDA hours than people of other sexual orientations. Also, patients in a committed relationship were slightly more likely to meet SDA than those who were single or separated. Lastly, proportions did not differ between different primary diagnoses.

Lastly, when we conducted additional analyses examining the LOCUS level of care and PHS level of care scores, we found that most patients in the PHS high level of care categories had increased prevalence of more stressful recovery environments, risk of harm, comorbidities, functional status, and support systems compared to low and medium PHS level of care patients. This is important to explore when comparing the PHS level of care model compared to the LOCUS level of care level of care as a model for determining a client's risk and readiness for treatment. As expected, patients who

had a more stressful environment and less of a support system tended to be in a higher PHS level of care category. This was also true for individuals regarding their motivations for change.

Limitations

Limitations of Findings

There were several data limitations of the data we used for this analysis. For electronic health record and administrative data, it is common to have missing and incomplete data, and this was present in the housing status and mailing ZIP code data. Additionally, there were inconsistencies in how the demographic information was collected internally, as well as potential data entry errors present in these data. Analyses were also limited by data availability. For example, diagnosis included only the primary diagnosis submitted to the payee and King County. Some patients may have multiple co-occurring disorders, including substance use disorders, not examined in this analysis due to data accessibility issues. Finally, the analytic data set needed to be limited to patients who had complete data, so findings may not be entirely representative of the population we intended to study.

Additionally, the timing of this analysis and findings related to patterns of service utilization and engagement type may be influenced by the COVID-19 pandemic. The PHS and value-based payment model was implemented in July 2020 in the first few months of the COVID-19 pandemic which creates additional complexity. For example, during this period, peer-drop-in services and hours were removed, groups were eliminated, and HMHAS' Recovery Services also suffered from staffing issues, like

other organizations in the healthcare and service industries. It is important to consider whether future analyses with a similar population would uncover different results due to a differing service and societal context.

Unintended Consequences

This descriptive analysis was motivated by the need to understand the implications of a newly implemented PHS and value-based payment model in a community-based outpatient mental health clinic. Our findings highlight that these approaches may hold a provider responsible for issues that affect care engagement, especially among high-need patients, that may be outside of providers' control. For instance, the COVID-19 pandemic beginning in 2020 impacted services and service delivery in many ways. These strategies, in particular, may also challenge outpatient providers who care for patients with complex conditions, serious illness, or criminal justice involvement who may have more barriers when trying to engage consistently in care (28).

Finally, the PHS level of care prioritizes quantity of care which may overshadow consistent and high-quality care between the patient and clinician. The client and clinician relationship are a long-term relationship built on trust and rapport, known as the therapeutic alliance. This process can take months to years depending on the severity of a patient's diagnosis and history of exposures to various adverse events. This is also dependent on the patient's recovery environment. A patient's success may be dependent not on the specific hours they receive every quarter, but on the individualized treatment plan and therapeutic alliance between the patient and clinician. To create meaningful change for socially marginalized patients, it is essential think critically about

the unintended consequences of these structures and the relational process of successfully delivering outpatient mental health services.

Recommendations

Recommendations for the Clinic

Given findings that patients have higher level of care needs than can be offered within the clinic, the clinic may benefit from engaging in high level of care patients with increased day services and drop-in opportunities. This is especially important for these patients since these services would offer them food, socialization, and shelter during the day. The clinic may also consider supplementing outpatient care with services related to self-management, particularly related to service engagement and service utilization (29).

Given findings that case management and peer services were slightly higher among patients with higher levels of care, expanding intensive case management may be a strategy to increase engagement among this patient population (29). Intensive case management has been linked to reduced drop-outs, lower inpatient treatment and improved social functioning compared to standard outpatient care (29). Other opportunities worth exploring include increasing the number of bachelors level clinicians to expand the flexibility of care and diversity of services being offered.

Recommendations for Future Research

Future research could examine the role of value-based payment models in community-based mental health outpatient settings and potential unintended consequences. In

addition, future research could examine the long-standing therapeutic relationship between the patient and the clinician when considering the design of value-based payment models.

Additionally, future evaluation research could study the implementation and outcomes of new PHS and value-based models in patient outcomes. Due to the timing of King County's PHS and value-based payment implementation, we were unable to conduct such an evaluation.

Conclusion

Community-based outpatient clinics work with marginalized groups of people that need trust, support, and accessible services. Future PHS and value-based models must explore the lived experiences of providing and receiving care when considering the design and implementation of value-based payment models to ensure they can meet their goals to improve patient outpatient engagement and health outcomes. Without careful consideration of these dynamics, it may lead to unintended consequences not just for the outpatient settings and their community health workers, but the clients with the greatest need.

Appendices

Appendix A: Additional Demographics Data Tables

Table 1A: Characteristics of HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Stratified by First Quarter Population Health Stratification Model Levels of Care, July 2020-December 2022 (N=1,306)

| Sample Characteristics | N | Overall, N = 1,306 | Low, N = 183 | Medium, N = 499 | High, N = 624 |
|---|--------------|-------------------------------|-------------------------|----------------------------|--------------------------|
| Sex / Gender* | 1,306 | | | | |
| Male | | 674 (52%) | 94 (51%) | 214 (43%) | 366 (59%) |
| Female | | 591 (45%) | 86 (47%) | 267 (54%) | 238 (38%) |
| Transgender / Intersex | | 37 (2.9%) | 3 (1.6%) | 15 (3.0%) | 19 (3.1%) |
| Missing | | 4 (0.3%) | 0 (0%) | 3 (0.6%) | 1 (0.2%) |
| Age | 1,306 | | | | |
| 19-24 | | 96 (7.4%) | 14 (7.7%) | 42 (8.4%) | 40 (6.4%) |
| 25-34 | | 320 (25%) | 54 (30%) | 130 (26%) | 136 (22%) |
| 35-44 | | 262 (20%) | 40 (22%) | 92 (18%) | 130 (21%) |
| 45-54 | | 260 (20%) | 31 (17%) | 81 (16%) | 148 (24%) |
| 55-64 | | 235 (18%) | 30 (16%) | 82 (16%) | 123 (20%) |
| 65+ | | 133 (10%) | 14 (7.7%) | 72 (14%) | 47 (7.5%) |
| Race | 1,306 | | | | |
| American Indian or Alaska Native | | 36 (2.8%) | 4 (2.2%) | 12 (2.4%) | 20 (3.2%) |
| African Ethnic | | 82 (6.3%) | 16 (8.7%) | 27 (5.4%) | 39 (6.2%) |
| Asian | | 85 (6.5%) | 15 (8.2%) | 43 (8.6%) | 27 (4.3%) |
| Black or African American | | 253 (19%) | 28 (15%) | 93 (19%) | 132 (21%) |
| Native Hawaiian or Other Pacific Islander | | 7 (0.5%) | 1 (0.5%) | 1 (0.2%) | 5 (0.8%) |
| White / Caucasian | | 769 (59%) | 112 (61%) | 298 (60%) | 359 (58%) |
| Missing / Unknown | | 74 (5.7%) | 7 (3.8%) | 25 (5.0%) | 42 (6.7%) |
| Ethnicity | 1,306 | | | | |
| Hispanic | | 94 (7.2%) | 9 (4.9%) | 32 (6.4%) | 53 (8.5%) |
| Not Hispanic | | 1,128 (86%) | 164 (90%) | 437 (88%) | 527 (84%) |
| Missing / Unknown | | 84 (6.4%) | 10 (5.5%) | 30 (6.0%) | 44 (7.1%) |

Appendix A: Additional Demographics Tables

| | | | | | |
|---|-------|-------------|-----------|-----------|-----------|
| Sexual Orientation | 1,306 | | | | |
| Heterosexual | | 778 (60%) | 104 (57%) | 269 (54%) | 405 (65%) |
| LGBQ | | 162 (12%) | 28 (15%) | 69 (14%) | 65 (10%) |
| Missing / Unknown | | 366 (28%) | 51 (28%) | 161 (32%) | 154 (25%) |
| Income | 1,306 | | | | |
| No Income | | 365 (28%) | 46 (25%) | 132 (26%) | 187 (30%) |
| \$1-\$5,000 | | 103 (7.9%) | 4 (2.2%) | 28 (5.6%) | 71 (11%) |
| \$5,001-\$10,000 | | 134 (10%) | 15 (8.2%) | 36 (7.2%) | 83 (13%) |
| \$10,001-\$40,000 | | 171 (13%) | 29 (16%) | 70 (14%) | 72 (12%) |
| \$40,001-\$75,000 | | 11 (0.8%) | 2 (1.1%) | 6 (1.2%) | 3 (0.5%) |
| \$75,001-\$100,000 | | 1 (<0.1%) | 0 (0%) | 1 (0.2%) | 0 (0%) |
| Greater than \$100,000 | | 1 (<0.1%) | 1 (0.5%) | 0 (0%) | 0 (0%) |
| Missing / Unknown | | 520 (40%) | 86 (47%) | 226 (45%) | 208 (33%) |
| Military | 1,306 | | | | |
| Served in U.S. Military | | 20 (1.5%) | 3 (1.6%) | 7 (1.4%) | 10 (1.6%) |
| Never Served in U.S. Military | | 1,200 (92%) | 167 (91%) | 459 (92%) | 574 (92%) |
| Missing / Unknown | | 86 (6.6%) | 13 (7.1%) | 33 (6.6%) | 40 (6.4%) |
| Relationship | 1,306 | | | | |
| Single or Never Married | | 810 (62%) | 130 (71%) | 307 (62%) | 373 (60%) |
| Married or Committed Relationship | | 141 (11%) | 18 (9.8%) | 59 (12%) | 64 (10%) |
| Separated / Divorced / Widowed | | 287 (22%) | 29 (16%) | 105 (21%) | 153 (25%) |
| Missing / Unknown | | 68 (5.2%) | 6 (3.3%) | 28 (5.6%) | 34 (5.4%) |
| Education | 1,306 | | | | |
| Less than High School Diploma or GED (General Equivalency Degree) | | 87 (6.7%) | 3 (1.6%) | 21 (4.2%) | 63 (10%) |
| High School Diploma or GED | | 229 (18%) | 19 (10%) | 64 (13%) | 146 (23%) |
| Some college | | 91 (7.0%) | 14 (7.7%) | 36 (7.2%) | 41 (6.6%) |
| 2 Years of College or Associate's Degree / Vocational | | 110 (8.4%) | 17 (9.3%) | 37 (7.4%) | 56 (9.0%) |
| 3-4 years of college | | 40 (3.1%) | 6 (3.3%) | 15 (3.0%) | 19 (3.0%) |
| Bachelor's Degree | | 117 (9.0%) | 21 (11%) | 56 (11%) | 40 (6.4%) |
| Post-graduate education | | 41 (3.1%) | 9 (4.9%) | 17 (3.4%) | 15 (2.4%) |
| Missing / Unknown | | 591 (45%) | 94 (51%) | 253 (51%) | 244 (39%) |
| Current Education Enrollment | 1,306 | | | | |

Appendix A: Additional Demographics Tables

| | | | | | |
|--|-------|--------------|------------|------------|------------|
| Full-time Education | | 38 (2.9%) | 12 (6.6%) | 17 (3.4%) | 9 (1.4%) |
| Part-time Education | | 19 (1.5%) | 4 (2.2%) | 11 (2.2%) | 4 (0.6%) |
| Not in Educational Activities | | 680 (52%) | 74 (40%) | 225 (45%) | 381 (61%) |
| Missing / Unknown | | 569 (44%) | 93 (51%) | 246 (49%) | 230 (37%) |
| Primary Diagnosis** | 1,306 | | | | |
| Anxiety Disorder | | 165 (13%) | 23 (13%) | 74 (15%) | 68 (11%) |
| Bipolar and Related Disorder | | 154 (12%) | 21 (11%) | 60 (12%) | 73 (12%) |
| Depressive Disorder | | 364 (28%) | 49 (27%) | 139 (28%) | 176 (28%) |
| Neurocognitive Disorder | | 1 (<0.1%) | 1 (0.5%) | 0 (0%) | 0 (0%) |
| Neurodevelopmental Disorder | | 13 (1.0%) | 6 (3.3%) | 5 (1.0%) | 2 (0.3%) |
| Obsessive-Compulsive and Related Disorder (OCD) | | 13 (1.0%) | 4 (2.2%) | 7 (1.4%) | 2 (0.3%) |
| Other Mental Disorder | | 3 (0.2%) | 0 (0%) | 1 (0.2%) | 2 (0.3%) |
| Personality Disorder | | 31 (2.4%) | 0 (0%) | 14 (2.8%) | 17 (2.7%) |
| Schizophrenia Spectrum and Other Psychotic Disorder | | 352 (27%) | 55 (30%) | 124 (25%) | 173 (28%) |
| Trauma and Stressor Related Disorder | | 210 (16%) | 24 (13%) | 75 (15%) | 111 (18%) |
| PHS Category A: High Risk Utilization | 1,306 | | | | |
| No events | | 534 (41%) | 172 (94%) | 287 (58%) | 75 (12%) |
| 1-2 Events | | 310 (24%) | 11 (6.0%) | 180 (36%) | 119 (19%) |
| 3-5 Events | | 231 (18%) | 0 (0%) | 32 (6.4%) | 199 (32%) |
| 6 + Events | | 231 (18%) | 0 (0%) | 0 (0%) | 231 (37%) |
| PHS Category B: Housing Stability | 1,306 | | | | |
| Not Homeless | | 1,129 (86%) | 183 (100%) | 496 (99%) | 450 (72%) |
| Homeless | | 177 (14%) | 0 (0%) | 3 (0.6%) | 174 (28%) |
| PHS Category B: Criminal Justice Event – Past 6 Months | 1,306 | | | | |
| No events | | 1,244 (95%) | 181 (99%) | 492 (99%) | 571 (92%) |
| 1-2 Events | | 60 (4.6%) | 2 (1.1%) | 7 (1.4%) | 51 (8.2%) |
| 3+ Events | | 2 (0.2%) | 0 (0%) | 0 (0%) | 2 (0.3%) |
| PHS Category B: Criminal Justice Event - Greater Than 2 Years Within the Past 5 Years | 1,306 | | | | |
| No | | 1,305 (100%) | 183 (100%) | 498 (100%) | 624 (100%) |
| Yes | | 1 (<0.1%) | 0 (0%) | 1 (0.2%) | 0 (0%) |
| PHS Category C: Chronic Conditions*** | 1,306 | | | | |

Appendix A: Additional Demographics Tables

| | | | | | |
|---|-------|--------------|------------|------------|------------|
| Missing / Unknown | | 1,306 (100%) | 183 (100%) | 499 (100%) | 624 (100%) |
| PHS Category D: Assessments | 1,306 | | | | |
| LOCUS level of care Score < 14 Points | | 97 (7.4%) | 76 (42%) | 13 (2.6%) | 8 (1.3%) |
| LOCUS level of care Score 14-16 Points | | 404 (31%) | 107 (58%) | 220 (44%) | 77 (12%) |
| LOCUS level of care Score 17+ Points | | 805 (62%) | 0 (0%) | 266 (53%) | 539 (86%) |
| <p>Notes: *Sex / Gender variable has changed over time in demographics form. **ICD-10 codes were used to define each of the primary mental health diagnoses. Due to Medicaid requirements, clinicians are only able to submit information using one diagnosis, so these are not comprehensive when considering the experiences of the patients served. ***Chronic conditions unavailable because King County is not allowed to save in their database. It is used in the stratification calculation, then not stored.</p> <p>Additional Notes: PHS level of care SDA hourly engagement hours are categorized as follows: Low = 1.5 service hours per month, Medium = 2.5 service hours per month, High = 7 service hours per month.</p> | | | | | |

Table 1B: Characteristics of HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Stratified by Last Quarter Population Health Stratification Model Levels of Care, July 2020-December 2022 (N=1,306)

| Sample Characteristics | N | Overall, N = 1,306 | Low, N = 196 | Medium, N = 516 | High, N = 594 |
|---|----------|-------------------------------|-------------------------|----------------------------|--------------------------|
| Sex / Gender* | 1,306 | | | | |
| Male | | 674 (52%) | 93 (47%) | 239 (46%) | 342 (58%) |
| Female | | 591 (45%) | 99 (51%) | 256 (50%) | 236 (40%) |
| Transgender / Intersex | | 37 (2.9%) | 4 (2.0%) | 19 (3.7%) | 14 (2.4%) |
| Missing / Unknown | | 4 (0.3%) | 0 (0%) | 2 (0.4%) | 2 (0.3%) |
| Age | 1,306 | | | | |
| 19-24 | | 96 (7.4%) | 20 (10%) | 37 (7.2%) | 39 (6.6%) |
| 25-34 | | 320 (25%) | 64 (33%) | 133 (26%) | 123 (21%) |
| 35-44 | | 262 (20%) | 44 (22%) | 104 (20%) | 114 (19%) |
| 45-54 | | 260 (20%) | 32 (16%) | 97 (19%) | 131 (22%) |
| 55-64 | | 235 (18%) | 24 (12%) | 85 (16%) | 126 (21%) |
| 65+ | | 133 (10%) | 12 (6.1%) | 60 (12%) | 61 (10%) |
| Race | 1,306 | | | | |
| American Indian or Alaska Native | | 36 (2.8%) | 6 (3.1%) | 14 (2.7%) | 16 (2.7%) |
| African Ethnic | | 82 (6.3%) | 16 (8.2%) | 34 (6.6%) | 32 (5.4%) |
| Asian | | 85 (6.5%) | 19 (9.7%) | 42 (8.1%) | 24 (4.0%) |
| Black or African American | | 253 (19%) | 30 (15%) | 92 (18%) | 131 (22%) |
| Native Hawaiian or Other Pacific Islander | | 7 (0.5%) | 1 (0.5%) | 2 (0.4%) | 4 (0.7%) |
| White / Caucasian | | 769 (59%) | 114 (58%) | 302 (59%) | 353 (59%) |
| Missing / Unknown | | 74 (5.7%) | 10 (5.1%) | 30 (5.8%) | 34 (5.7%) |
| Ethnicity | 1,306 | | | | |
| Hispanic | | 94 (7.2%) | 14 (7.1%) | 37 (7.2%) | 43 (7.2%) |
| Not Hispanic | | 1,128 (86%) | 168 (86%) | 444 (86%) | 516 (87%) |
| Missing / Unknown | | 84 (6.4%) | 14 (7.1%) | 35 (6.8%) | 35 (5.9%) |
| Sexual Orientation | 1,306 | | | | |
| Heterosexual | | 778 (60%) | 110 (56%) | 297 (58%) | 371 (62%) |

Appendix A: Additional Demographics Tables

| | | | | | |
|---|-------|-------------|-----------|-----------|-----------|
| LGBQ | | 162 (12%) | 32 (16%) | 65 (13%) | 65 (11%) |
| Missing / Unknown | | 366 (28%) | 54 (28%) | 154 (30%) | 158 (27%) |
| Income | 1,306 | | | | |
| No Income | | 365 (28%) | 60 (31%) | 133 (26%) | 172 (29%) |
| \$1-\$5,000 | | 103 (7.9%) | 8 (4.1%) | 27 (5.2%) | 68 (11%) |
| \$5,001-\$10,000 | | 134 (10%) | 10 (5.1%) | 41 (7.9%) | 83 (14%) |
| \$10,001-\$40,000 | | 171 (13%) | 31 (16%) | 69 (13%) | 71 (12%) |
| \$40,001-\$75,000 | | 11 (0.8%) | 3 (1.5%) | 6 (1.2%) | 2 (0.3%) |
| \$75,001-\$100,000 | | 1 (<0.1%) | 0 (0%) | 1 (0.2%) | 0 (0%) |
| Greater than \$100,000 | | 1 (<0.1%) | 1 (0.5%) | 0 (0%) | 0 (0%) |
| Missing / Unknown | | 520 (40%) | 83 (42%) | 239 (46%) | 198 (33%) |
| Military | 1,306 | | | | |
| Served in U.S. Military | | 20 (1.5%) | 1 (0.5%) | 8 (1.6%) | 11 (1.9%) |
| Never Served in U.S. Military | | 1,200 (92%) | 186 (95%) | 475 (92%) | 539 (91%) |
| Missing / Unknown | | 86 (6.6%) | 9 (4.6%) | 33 (6.4%) | 44 (7.4%) |
| Relationship | 1,306 | | | | |
| Single or Never Married | | 810 (62%) | 134 (68%) | 317 (61%) | 359 (60%) |
| Married or Committed Relationship | | 141 (11%) | 27 (14%) | 60 (12%) | 54 (9.1%) |
| Separated / Divorced / Widowed | | 287 (22%) | 29 (15%) | 112 (22%) | 146 (25%) |
| Missing / Unknown | | 68 (5.2%) | 6 (3.1%) | 27 (5.2%) | 35 (5.9%) |
| Education | 1,306 | | | | |
| Less than High School Diploma or GED | | 87 (6.7%) | 7 (3.6%) | 18 (3.5%) | 62 (10%) |
| High School Diploma or GED | | 229 (18%) | 23 (12%) | 71 (14%) | 135 (23%) |
| Some college | | 91 (7.0%) | 14 (7.1%) | 40 (7.8%) | 37 (6.2%) |
| 2 Years of College or Associate's Degree / Vocational | | 110 (8.4%) | 17 (8.7%) | 40 (7.8%) | 53 (8.9%) |
| 3-4 years of college | | 40 (3.1%) | 7 (3.6%) | 16 (3.1%) | 17 (2.9%) |
| Bachelor's Degree | | 117 (9.0%) | 21 (11%) | 56 (11%) | 40 (6.7%) |
| Post-graduate education | | 41 (3.1%) | 13 (6.6%) | 12 (2.3%) | 16 (2.7%) |
| Missing / Unknown | | 591 (45%) | 94 (48%) | 263 (51%) | 234 (39%) |
| Current Education Enrollment | 1,306 | | | | |
| Full-time Education | | 38 (2.9%) | 11 (5.6%) | 12 (2.3%) | 15 (2.5%) |
| Part-time Education | | 19 (1.5%) | 4 (2.0%) | 12 (2.3%) | 3 (0.5%) |
| Not in Educational Activities | | 680 (52%) | 90 (46%) | 235 (46%) | 355 (60%) |

Appendix A: Additional Demographics Tables

| | | | | | |
|--|-------|--------------|------------|------------|------------|
| Missing / Unknown | | 569 (44%) | 91 (46%) | 257 (50%) | 221 (37%) |
| Primary Diagnosis** | 1,306 | | | | |
| Anxiety Disorder | | 165 (13%) | 23 (12%) | 77 (15%) | 65 (11%) |
| Bipolar and Related Disorder | | 154 (12%) | 31 (16%) | 59 (11%) | 64 (11%) |
| Depressive Disorder | | 364 (28%) | 50 (26%) | 151 (29%) | 163 (27%) |
| Neurocognitive Disorder | | 1 (<0.1%) | 0 (0%) | 1 (0.2%) | 0 (0%) |
| Neurodevelopmental Disorder | | 13 (1.0%) | 6 (3.1%) | 5 (1.0%) | 2 (0.3%) |
| Obsessive-Compulsive and Related Disorder (OCD) | | 13 (1.0%) | 3 (1.5%) | 8 (1.6%) | 2 (0.3%) |
| Other Mental Disorder | | 3 (0.2%) | 0 (0%) | 0 (0%) | 3 (0.5%) |
| Personality Disorder | | 31 (2.4%) | 1 (0.5%) | 13 (2.5%) | 17 (2.9%) |
| Schizophrenia Spectrum and Other Psychotic Disorder | | 352 (27%) | 58 (30%) | 128 (25%) | 166 (28%) |
| Trauma and Stressor Related Disorder | | 210 (16%) | 24 (12%) | 74 (14%) | 112 (19%) |
| PHS Category A: High Risk Utilization | 1,306 | | | | |
| No events | | 589 (45%) | 181 (92%) | 332 (64%) | 76 (13%) |
| 1-2 Events | | 304 (23%) | 15 (7.7%) | 165 (32%) | 124 (21%) |
| 3-5 Events | | 189 (14%) | 0 (0%) | 19 (3.7%) | 170 (29%) |
| 6 + Events | | 224 (17%) | 0 (0%) | 0 (0%) | 224 (38%) |
| PHS Category B: Housing Stability | 1,306 | | | | |
| Not Homeless | | 1,191 (91%) | 196 (100%) | 515 (100%) | 480 (81%) |
| Homeless | | 115 (8.8%) | 0 (0%) | 1 (0.2%) | 114 (19%) |
| PHS Category B: Criminal Justice Event – Past 6 Months | 1,306 | | | | |
| No events | | 1,260 (96%) | 195 (99%) | 511 (99%) | 554 (93%) |
| 1-2 Events | | 44 (3.4%) | 1 (0.5%) | 5 (1.0%) | 38 (6.4%) |
| 3+ Events | | 2 (0.2%) | 0 (0%) | 0 (0%) | 2 (0.3%) |
| PHS Category B: Criminal Justice Event - Greater Than 2 Years Within the Past 5 Years | 1,306 | | | | |
| No | | 1,305 (100%) | 196 (100%) | 515 (100%) | 594 (100%) |
| Yes | | 1 (<0.1%) | 0 (0%) | 1 (0.2%) | 0 (0%) |
| PHS Category C: Chronic Conditions*** | 1,306 | | | | |
| Missing / Unknown | | 1,306 (100%) | 196 (100%) | 516 (100%) | 594 (100%) |
| PHS Category D: Assessments | 1,306 | | | | |
| LOCUS level of care Score < 14 Points | | 90 (6.9%) | 77 (39%) | 9 (1.7%) | 4 (0.7%) |

Appendix A: Additional Demographics Tables

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|--|--|-----------|-----------|-----------|-----------|
| LOCUS level of care Score 14-16 Points | | 449 (34%) | 119 (61%) | 247 (48%) | 83 (14%) |
| LOCUS level of care Score 17+ Points | | 767 (59%) | 0 (0%) | 260 (50%) | 507 (85%) |

Notes: *Sex / Gender variable has changed over time in demographics form. **ICD-10 codes were used to define each of the primary mental health diagnoses. Due to Medicaid requirements, clinicians are only able to submit information using one diagnosis, so these are not comprehensive when considering the experiences of the patients served. ***Chronic conditions unavailable because King County is not allowed to save in their database. It is used in the stratification calculation, then not stored.

Additional Notes: PHS level of care SDA hourly engagement hours are categorized as follows: Low = 1.5 service hours per month, Medium = 2.5 service hours per month, High = 7 service hours per month.

Table 2: Characteristics of HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Stratified by LOCUS level of care,, July 2020-December 2022 (N=1,306)

| Sample Characteristics | N | Overall, N = 1,306 | Recovery Maintenance (Score 10-13), N = 93 | Low Intensity Community- Based Services (Score 14-16), N = 455 | High Intensity Community- Based Services (Score 17-19), N = 387 | Patient Need Outside of Community- Based Services Care Capacity (Score 19+), N = 371 |
|---|----------|-----------------------------------|---|---|--|---|
| Stratification Level – First LOC | 1,306 | | | | | |
| Low | | 183 (14%) | 52 (56%) | 97 (21%) | 27 (7.0%) | 7 (1.9%) |
| Medium | | 499 (38%) | 25 (27%) | 229 (50%) | 150 (39%) | 95 (26%) |
| High | | 624 (48%) | 16 (17%) | 129 (28%) | 210 (54%) | 269 (73%) |
| Stratification Level – Last LOC | 1,306 | | | | | |
| Low | | 196 (15%) | 78 (84%) | 112 (25%) | 3 (0.8%) | 3 (0.8%) |
| Medium | | 516 (40%) | 12 (13%) | 252 (55%) | 154 (40%) | 98 (26%) |
| High | | 594 (45%) | 3 (3.2%) | 91 (20%) | 230 (59%) | 270 (73%) |
| Sex / Gender* | 1,306 | | | | | |
| Male | | 674 (52%) | 45 (48%) | 208 (46%) | 205 (53%) | 216 (58%) |
| Female | | 591 (45%) | 48 (52%) | 237 (52%) | 162 (42%) | 144 (39%) |
| Transgender / Intersex | | 37 (2.9%) | 0 (0%) | 7 (1.5%) | 19 (4.9%) | 11 (3.0%) |
| Missing | | 4 (0.3%) | 0 (0%) | 3 (0.7%) | 1 (0.3%) | 0 (0%) |
| Age | 1,306 | | | | | |
| 19-24 | | 96 | 8 (8.6%) | 34 (7.5%) | 23 (5.9%) | 31 (8.4%) |

Appendix A: Additional Demographics Tables

| | | | | | | |
|---|-------|----------------|----------|-----------|-----------|-----------|
| | | (7.4%) | | | | |
| 25-34 | | 320 (25%) | 23 (25%) | 101 (22%) | 91 (24%) | 105 (28%) |
| 35-44 | | 262 (20%) | 16 (17%) | 95 (21%) | 85 (22%) | 66 (18%) |
| 45-54 | | 260 (20%) | 20 (22%) | 74 (16%) | 84 (22%) | 82 (22%) |
| 55-64 | | 235 (18%) | 18 (19%) | 81 (18%) | 74 (19%) | 62 (17%) |
| 65+ | | 133 (10%) | 8 (8.6%) | 70 (15%) | 30 (7.8%) | 25 (6.7%) |
| Race | 1,306 | | | | | |
| American Indian or Alaska Native | | 36 (2.8%) | 5 (5.4%) | 14 (3.1%) | 6 (1.6%) | 11 (3.0%) |
| African Ethnic | | 82 (6.3%) | 5 (5.4%) | 43 (9.5%) | 19 (4.9%) | 15 (4.0%) |
| Asian | | 85 (6.5%) | 8 (8.6%) | 32 (7.0%) | 27 (7.0%) | 18 (4.9%) |
| Black or African American | | 253 (19%) | 19 (20%) | 78 (17%) | 73 (19%) | 83 (22%) |
| Native Hawaiian or Other Pacific Islander | | 7 (0.5%) | 1 (1.1%) | 3 (0.7%) | 2 (0.5%) | 1 (0.3%) |
| White / Caucasian | | 769 (59%) | 52 (56%) | 258 (57%) | 239 (62%) | 220 (59%) |
| Missing / Unknown | | 74 (5.7%) | 3 (3.2%) | 27 (5.9%) | 21 (5.4%) | 23 (6.2%) |
| Ethnicity | 1,306 | | | | | |
| Hispanic | | 94 (7.2%) | 6 (6.5%) | 34 (7.5%) | 29 (7.5%) | 25 (6.7%) |
| Not Hispanic | | 1,128 (86%) | 81 (87%) | 393 (86%) | 333 (86%) | 321 (87%) |
| Missing / Unknown | | 84 (6.4%) | 6 (6.5%) | 28 (6.2%) | 25 (6.5%) | 25 (6.7%) |

Appendix A: Additional Demographics Tables

| | | | | | | |
|-------------------------------|-------|----------------|----------|-----------|-----------|-----------|
| Sexual Orientation | 1,306 | | | | | |
| Heterosexual | | 778 (60%) | 55 (59%) | 257 (56%) | 229 (59%) | 237 (64%) |
| LGBQ | | 162 (12%) | 10 (11%) | 59 (13%) | 48 (12%) | 45 (12%) |
| Missing / Unknown | | 366 (28%) | 28 (30%) | 139 (31%) | 110 (28%) | 89 (24%) |
| Income | 1,306 | | | | | |
| No Income | | 365 (28%) | 28 (30%) | 111 (24%) | 104 (27%) | 122 (33%) |
| \$1-\$5,000 | | 103 (7.9%) | 5 (5.4%) | 21 (4.6%) | 27 (7.0%) | 50 (13%) |
| \$5,001-\$10,000 | | 134 (10%) | 5 (5.4%) | 30 (6.6%) | 40 (10%) | 59 (16%) |
| \$10,001-\$40,000 | | 171 (13%) | 12 (13%) | 56 (12%) | 46 (12%) | 57 (15%) |
| \$40,001-\$75,000 | | 11 (0.8%) | 0 (0%) | 7 (1.5%) | 1 (0.3%) | 3 (0.8%) |
| \$75,001-\$100,000 | | 1 (<0.1%) | 0 (0%) | 1 (0.2%) | 0 (0%) | 0 (0%) |
| Greater than \$100,000 | | 1 (<0.1%) | 0 (0%) | 1 (0.2%) | 0 (0%) | 0 (0%) |
| Missing / Unknown | | 520 (40%) | 43 (46%) | 228 (50%) | 169 (44%) | 80 (22%) |
| Military | 1,306 | | | | | |
| Served in U.S. Military | | 20 (1.5%) | 3 (3.2%) | 8 (1.8%) | 4 (1.0%) | 5 (1.3%) |
| Never Served in U.S. Military | | 1,200 (92%) | 87 (94%) | 413 (91%) | 354 (91%) | 346 (93%) |
| Missing / Unknown | | 86 (6.6%) | 3 (3.2%) | 34 (7.5%) | 29 (7.5%) | 20 (5.4%) |
| Relationship | 1,306 | | | | | |
| Single or Never Married | | 810 | 56 (60%) | 268 (59%) | 238 (61%) | 248 (67%) |

Appendix A: Additional Demographics Tables

| | | | | | | |
|---|-------|---------------|----------|-----------|-----------|------------|
| | | (62%) | | | | |
| Married or Committed Relationship | | 141 (11%) | 15 (16%) | 62 (14%) | 37 (9.6%) | 27 (7.3%) |
| Separated / Divorced / Widowed | | 287 (22%) | 18 (19%) | 100 (22%) | 90 (23%) | 79 (21%) |
| Missing / Unknown | | 68 (5.2%) | 4 (4.3%) | 25 (5.5%) | 22 (5.7%) | 17 (4.6%) |
| Education | 1,306 | | | | | |
| Less than High School Diploma or GED | | 87 (6.7%) | 4 (4.3%) | 18 (4.0%) | 21 (5.4%) | 44 (12%) |
| High School Diploma or GED | | 229 (18%) | 8 (8.6%) | 64 (14%) | 59 (15%) | 98 (26%) |
| Some college | | 91 (7.0%) | 4 (4.3%) | 27 (5.9%) | 27 (7.0%) | 33 (8.9%) |
| 2 Years of College or Associate's Degree / Vocational | | 110 (8.4%) | 9 (9.7%) | 32 (7.0%) | 32 (8.3%) | 37 (10.0%) |
| 3-4 years of college | | 40 (3.1%) | 3 (3.2%) | 12 (2.6%) | 10 (2.6%) | 15 (4.0%) |
| Bachelor's Degree | | 117 (9.0%) | 9 (9.7%) | 40 (8.8%) | 37 (9.6%) | 31 (8.4%) |
| Post-graduate education | | 41 (3.1%) | 9 (9.7%) | 10 (2.2%) | 11 (2.8%) | 11 (3.0%) |
| Missing / Unknown | | 591 (45%) | 47 (51%) | 252 (55%) | 190 (49%) | 102 (27%) |
| Current Education Enrollment | 1,306 | | | | | |
| Full-time Education | | 38 (2.9%) | 6 (6.5%) | 16 (3.5%) | 8 (2.1%) | 8 (2.2%) |
| Part-time Education | | 19 (1.5%) | 2 (2.2%) | 5 (1.1%) | 11 (2.8%) | 1 (0.3%) |
| Not in Educational Activities | | 680 (52%) | 39 (42%) | 185 (41%) | 186 (48%) | 270 (73%) |
| Missing / Unknown | | 569 (44%) | 46 (49%) | 249 (55%) | 182 (47%) | 92 (25%) |

Appendix A: Additional Demographics Tables

| | | | | | | |
|--|-------|--------------|----------|-----------|-----------|-----------|
| Primary Diagnosis** | 1,306 | | | | | |
| Anxiety Disorder | | 165 (13%) | 12 (13%) | 61 (13%) | 59 (15%) | 33 (8.9%) |
| Bipolar and Related Disorder | | 154 (12%) | 13 (14%) | 65 (14%) | 43 (11%) | 33 (8.9%) |
| Depressive Disorder | | 364 (28%) | 20 (22%) | 125 (27%) | 99 (26%) | 120 (32%) |
| Neurocognitive Disorder | | 1 (<0.1%) | 0 (0%) | 0 (0%) | 0 (0%) | 1 (0.3%) |
| Neurodevelopmental Disorder | | 13 (1.0%) | 5 (5.4%) | 4 (0.9%) | 2 (0.5%) | 2 (0.5%) |
| Obsessive-Compulsive and Related Disorder (OCD) | | 13 (1.0%) | 2 (2.2%) | 3 (0.7%) | 5 (1.3%) | 3 (0.8%) |
| Other Mental Disorder | | 3 (0.2%) | 0 (0%) | 0 (0%) | 2 (0.5%) | 1 (0.3%) |
| Personality Disorder | | 31 (2.4%) | 0 (0%) | 6 (1.3%) | 10 (2.6%) | 15 (4.0%) |
| Schizophrenia Spectrum and Other Psychotic Disorder | | 352 (27%) | 28 (30%) | 122 (27%) | 102 (26%) | 100 (27%) |
| Trauma and Stressor Related Disorder | | 210 (16%) | 13 (14%) | 69 (15%) | 65 (17%) | 63 (17%) |
| PHS Category A: High Risk Utilization (First LOC) | 1,306 | | | | | |
| No events | | 534 (41%) | 60 (65%) | 236 (52%) | 148 (38%) | 90 (24%) |
| 1-2 Events | | 310 (24%) | 20 (22%) | 110 (24%) | 108 (28%) | 72 (19%) |
| 3-5 Events | | 231 (18%) | 8 (8.6%) | 62 (14%) | 70 (18%) | 91 (25%) |
| 6 + Events | | 231 (18%) | 5 (5.4%) | 47 (10%) | 61 (16%) | 118 (32%) |
| PHS Category B: Housing Stability (First LOC) | 1,306 | | | | | |
| Not Homeless | | 1,129 | 87 (94%) | 430 (95%) | 343 (89%) | 269 (73%) |

Appendix A: Additional Demographics Tables

| | | | | | | |
|--|-------|-----------------|-----------|------------|------------|------------|
| | | (86%) | | | | |
| Homeless | | 177 (14%) | 6 (6.5%) | 25 (5.5%) | 44 (11%) | 102 (27%) |
| PHS Category B: Criminal Justice Event - Past 6 Months (First LOC) | 1,306 | | | | | |
| No events | | 1,244 (95%) | 89 (96%) | 447 (98%) | 373 (96%) | 335 (90%) |
| 1-2 Events | | 60 (4.6%) | 4 (4.3%) | 8 (1.8%) | 13 (3.4%) | 35 (9.4%) |
| 3+ Events | | 2 (0.2%) | 0 (0%) | 0 (0%) | 1 (0.3%) | 1 (0.3%) |
| PHS Category B: Criminal Justice Event - Greater Than 2 Years Within the Past 5 Years (First LOC) | 1,306 | | | | | |
| No | | 1,305 (100%) | 93 (100%) | 455 (100%) | 387 (100%) | 370 (100%) |
| Yes | | 1 (<0.1%) | 0 (0%) | 0 (0%) | 0 (0%) | 1 (0.3%) |
| PHS Category C: Chronic Conditions (First LOC)*** | 1,306 | | | | | |
| Missing / Unknown | | 1,306 (100%) | 93 (100%) | 455 (100%) | 387 (100%) | 371 (100%) |
| PHS Category D: Assessments (First LOC) | 1,306 | | | | | |
| LOCUS level of care Score < 14 Points | | 97 (7.4%) | 55 (59%) | 30 (6.6%) | 12 (3.1%) | 0 (0%) |
| LOCUS level of care Score 14-16 Points | | 404 (31%) | 20 (22%) | 280 (62%) | 77 (20%) | 27 (7.3%) |
| LOCUS level of care Score 17+ Points | | 805 (62%) | 18 (19%) | 145 (32%) | 298 (77%) | 344 (93%) |
| PHS Category A: High Risk Utilization (Last LOC) | 1,306 | | | | | |
| No events | | 589 (45%) | 67 (72%) | 254 (56%) | 166 (43%) | 102 (27%) |

Appendix A: Additional Demographics Tables

| | | | | | | |
|---|-------|-----------------|-----------|------------|------------|------------|
| 1-2 Events | | 304 (23%) | 21 (23%) | 105 (23%) | 98 (25%) | 80 (22%) |
| 3-5 Events | | 189 (14%) | 2 (2.2%) | 56 (12%) | 57 (15%) | 74 (20%) |
| 6 + Events | | 224 (17%) | 3 (3.2%) | 40 (8.8%) | 66 (17%) | 115 (31%) |
| PHS Category B: Housing Stability (Last LOC) | 1,306 | | | | | |
| Not Homeless | | 1,191 (91%) | 92 (99%) | 448 (98%) | 369 (95%) | 282 (76%) |
| Homeless | | 115 (8.8%) | 1 (1.1%) | 7 (1.5%) | 18 (4.7%) | 89 (24%) |
| PHS Category B: Criminal Justice Event – Past 6 Months (Last LOC) | 1,306 | | | | | |
| No events | | 1,260 (96%) | 91 (98%) | 451 (99%) | 374 (97%) | 344 (93%) |
| 1-2 Events | | 44 (3.4%) | 2 (2.2%) | 4 (0.9%) | 12 (3.1%) | 26 (7.0%) |
| 3+ Events | | 2 (0.2%) | 0 (0%) | 0 (0%) | 1 (0.3%) | 1 (0.3%) |
| PHS Category B: Criminal Justice Event - Greater Than 2 Years Within the Past 5 Years (Last LOC) | 1,306 | | | | | |
| No | | 1,305 (100%) | 93 (100%) | 455 (100%) | 387 (100%) | 370 (100%) |
| Yes | | 1 (<0.1%) | 0 (0%) | 0 (0%) | 0 (0%) | 1 (0.3%) |
| PHS Category C: Chronic Conditions (Last LOC)*** | 1,306 | | | | | |
| Missing / Unknown | | 1,306 (100%) | 93 (100%) | 455 (100%) | 387 (100%) | 371 (100%) |
| PHS Category D: Assessments (Last LOC) | 1,306 | | | | | |
| LOCUS level of care Score < 14 Points | | 90 | 86 (92%) | 4 (0.9%) | 0 (0%) | 0 (0%) |

Appendix A: Additional Demographics Tables

| | | | | | | |
|--|--|-----------|----------|-----------|-----------|-----------|
| | | (6.9%) | | | | |
| LOCUS level of care Score 14-16 Points | | 449 (34%) | 7 (7.5%) | 422 (93%) | 13 (3.4%) | 7 (1.9%) |
| LOCUS level of care Score 17+ Points | | 767 (59%) | 0 (0%) | 29 (6.4%) | 374 (97%) | 364 (98%) |

Notes: *Sex / Gender variable has changed over time in demographics form. **ICD-10 codes were used to define each of the primary mental health diagnoses. Due to Medicaid requirements, clinicians are only able to submit information using one diagnosis, so these are not comprehensive when considering the experiences of the patients served. ***Chronic conditions unavailable because King County is not allowed to save in their database. It is used in the stratification calculation, then not stored.

Additional Notes: PHS level of care SDA hourly engagement hours are categorized as follows: Low = 1.5 service hours per month, Medium = 2.5 service hours per month, High = 7 service hours per month.

Table 3A: HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Stratified by First Quarter Service Delivery Adherence and Demographics, July 2020-December 2022 (N=1,306)

| Sample Characteristics | N | Overall, N = 1,306 | Did Not Meet SDA Hours, N = 710 | 25%-49% of SDA Hours, N = 232 | 50%-74% of SDA Hours, N = 107 | 75%-99% of SDA Hours, N = 71 | Met or Exceeded Required SDA Hours, N = 186 |
|------------------------|-------|--------------------|---------------------------------|-------------------------------|-------------------------------|------------------------------|---|
| Sex / Gender* | 1,306 | | | | | | |
| Male | | 674 (52%) | 399 (56%) | 124 (53%) | 48 (45%) | 35 (49%) | 68 (37%) |
| Female | | 591 (45%) | 295 (42%) | 104 (45%) | 55 (51%) | 33 (46%) | 104 (56%) |
| Transgender / Intersex | | 37 (2.9%) | 13 (1.8%) | 3 (1.3%) | 3 (2.8%) | 3 (4.2%) | 14 (7.5%) |
| Missing / Unknown | | 4 (0.3%) | 2 (0.3%) | 1 (0.4%) | 1 (0.9%) | 0 (0%) | 0 (0%) |
| Age | 1,306 | | | | | | |
| 19-24 | | 96 (7.4%) | 40 (5.6%) | 16 (6.9%) | 4 (3.7%) | 8 (11%) | 28 (15%) |
| 25-34 | | 320 (25%) | 146 (21%) | 51 (22%) | 34 (32%) | 19 (27%) | 70 (38%) |
| 35-44 | | 262 (20%) | 139 (20%) | 48 (21%) | 17 (16%) | 15 (21%) | 43 (23%) |
| 45-54 | | 260 (20%) | 145 (20%) | 55 (24%) | 25 (23%) | 14 (20%) | 21 (11%) |
| 55-64 | | 235 (18%) | 148 (21%) | 39 (17%) | 21 (20%) | 11 (15%) | 16 (8.6%) |
| 65+ | | 133 (10%) | 92 (13%) | 23 (9.9%) | 6 (5.6%) | 4 (5.6%) | 8 (4.3%) |
| Race | 1,306 | | | | | | |

Appendix A: Additional Demographics Tables

| | | | | | | | |
|---|-------|-------------|-----------|-----------|-----------|----------|-----------|
| | 6 | | | | | | |
| American Indian or Alaska Native | | 36 (2.8%) | 20 (2.8%) | 10 (4.3%) | 2 (1.9%) | 2 (2.8%) | 2 (1.1%) |
| African Ethnic | | 82 (6.3%) | 46 (6.5%) | 15 (6.5%) | 7 (6.5%) | 3 (4.2%) | 11 (5.9%) |
| Asian | | 85 (6.5%) | 44 (6.2%) | 10 (4.3%) | 10 (9.3%) | 5 (7.0%) | 16 (8.6%) |
| Black or African American | | 253 (19%) | 163 (23%) | 47 (20%) | 9 (8.4%) | 13 (18%) | 21 (11%) |
| Native Hawaiian or Other Pacific Islander | | 7 (0.5%) | 3 (0.4%) | 1 (0.4%) | 1 (0.9%) | 0 (0%) | 2 (1.1%) |
| White / Caucasian | | 769 (59%) | 399 (56%) | 136 (59%) | 69 (64%) | 43 (61%) | 122 (66%) |
| Missing / Unknown | | 74 (5.7%) | 35 (4.9%) | 13 (5.6%) | 9 (8.4%) | 5 (7.0%) | 12 (6.5%) |
| Ethnicity | 1,306 | | | | | | |
| Hispanic | | 94 (7.2%) | 43 (6.1%) | 21 (9.1%) | 6 (5.6%) | 9 (13%) | 15 (8.1%) |
| Not Hispanic | | 1,128 (86%) | 626 (88%) | 198 (85%) | 95 (89%) | 56 (79%) | 153 (82%) |
| Missing / Unknown | | 84 (6.4%) | 41 (5.8%) | 13 (5.6%) | 6 (5.6%) | 6 (8.5%) | 18 (9.7%) |
| Sexual Orientation | 1,306 | | | | | | |
| Heterosexual | | 778 (60%) | 435 (61%) | 140 (60%) | 64 (60%) | 44 (62%) | 95 (51%) |
| LGBQ | | 162 (12%) | 69 (9.7%) | 25 (11%) | 11 (10%) | 11 (15%) | 46 (25%) |
| Not Asked / Unknown | | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) |
| Missing / Unknown | | 366 (28%) | 206 (29%) | 67 (29%) | 32 (30%) | 16 (23%) | 45 (24%) |
| Income | 1,306 | | | | | | |
| No Income | | 365 (28%) | 169 (24%) | 64 (28%) | 29 (27%) | 29 (41%) | 74 (40%) |
| \$1-\$5,000 | | 103 (7.9%) | 60 (8.5%) | 18 (7.8%) | 12 (11%) | 7 (9.9%) | 6 (3.2%) |
| \$5,001-\$10,000 | | 134 (10%) | 69 (9.7%) | 34 (15%) | 11 (10%) | 7 (9.9%) | 13 (7.0%) |
| \$10,001-\$40,000 | | 171 (13%) | 70 (9.9%) | 22 (9.5%) | 11 (10%) | 9 (13%) | 59 (32%) |
| \$40,001-\$75,000 | | 11 (0.8%) | 4 (0.6%) | 2 (0.9%) | 1 (0.9%) | 2 (2.8%) | 2 (1.1%) |
| \$75,001-\$100,000 | | 1 (<0.1%) | 1 (0.1%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) |
| Greater than \$100,000 | | 1 (<0.1%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 1 (0.5%) |
| Missing / Unknown | | 520 (40%) | 337 (47%) | 92 (40%) | 43 (40%) | 17 (24%) | 31 (17%) |

Appendix A: Additional Demographics Tables

| | | | | | | | |
|---|-------|-------------|-----------|-----------|----------|----------|-----------|
| Military | 1,306 | | | | | | |
| Served in U.S. Military | | 20 (1.5%) | 12 (1.7%) | 0 (0%) | 3 (2.8%) | 1 (1.4%) | 4 (2.2%) |
| Never Served in U.S. Military | | 1,200 (92%) | 645 (91%) | 219 (94%) | 96 (90%) | 65 (92%) | 175 (94%) |
| Missing / Unknown | | 86 (6.6%) | 53 (7.5%) | 13 (5.6%) | 8 (7.5%) | 5 (7.0%) | 7 (3.8%) |
| Relationship | 1,306 | | | | | | |
| Single or Never Married | | 810 (62%) | 431 (61%) | 156 (67%) | 66 (62%) | 40 (56%) | 117 (63%) |
| Married or Committed Relationship | | 141 (11%) | 73 (10%) | 18 (7.8%) | 12 (11%) | 10 (14%) | 28 (15%) |
| Separated / Divorced / Widowed | | 287 (22%) | 163 (23%) | 48 (21%) | 24 (22%) | 18 (25%) | 34 (18%) |
| Missing / Unknown | | 68 (5.2%) | 43 (6.1%) | 10 (4.3%) | 5 (4.7%) | 3 (4.2%) | 7 (3.8%) |
| Education | 1,306 | | | | | | |
| Less than High School Diploma or GED | | 87 (6.7%) | 47 (6.6%) | 20 (8.6%) | 8 (7.5%) | 2 (2.8%) | 10 (5.4%) |
| High School Diploma or GED | | 229 (18%) | 121 (17%) | 45 (19%) | 16 (15%) | 18 (25%) | 29 (16%) |
| Some college | | 91 (7.0%) | 46 (6.5%) | 11 (4.7%) | 8 (7.5%) | 6 (8.5%) | 20 (11%) |
| 2 Years of College or Associate's Degree / Vocational | | 110 (8.4%) | 44 (6.2%) | 21 (9.1%) | 5 (4.7%) | 7 (9.9%) | 33 (18%) |
| 3-4 years of college | | 40 (3.1%) | 21 (3.0%) | 3 (1.3%) | 4 (3.7%) | 4 (5.6%) | 8 (4.3%) |
| Bachelor's Degree | | 117 (9.0%) | 45 (6.3%) | 21 (9.1%) | 8 (7.5%) | 10 (14%) | 33 (18%) |
| Post-graduate education | | 41 (3.1%) | 15 (2.1%) | 5 (2.2%) | 5 (4.7%) | 5 (7.0%) | 11 (5.9%) |
| Missing / Unknown | | 591 (45%) | 371 (52%) | 106 (46%) | 53 (50%) | 19 (27%) | 42 (23%) |
| Current Education Enrollment | 1,306 | | | | | | |
| Full-time Education | | 38 (2.9%) | 13 (1.8%) | 5 (2.2%) | 0 (0%) | 4 (5.6%) | 16 (8.6%) |
| Part-time Education | | 19 (1.5%) | 5 (0.7%) | 3 (1.3%) | 0 (0%) | 2 (2.8%) | 9 (4.8%) |
| Not in Educational Activities | | 680 (52%) | 328 (46%) | 122 (53%) | 57 (53%) | 47 (66%) | 126 (68%) |
| Missing | | 569 (44%) | 364 (51%) | 102 (44%) | 50 (47%) | 18 (25%) | 35 (19%) |

Appendix A: Additional Demographics Tables

| Primary Diagnosis** | 1,306 | | | | | | |
|---|-------|-----------|-----------|----------|-----------|----------|----------|
| Anxiety Disorder | | 165 (13%) | 85 (12%) | 28 (12%) | 10 (9.3%) | 8 (11%) | 34 (18%) |
| Bipolar and Related Disorder | | 154 (12%) | 82 (12%) | 26 (11%) | 12 (11%) | 13 (18%) | 21 (11%) |
| Depressive Disorder | | 364 (28%) | 212 (30%) | 66 (28%) | 29 (27%) | 13 (18%) | 44 (24%) |
| Neurocognitive Disorder | | 1 (<0.1%) | 1 (0.1%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) |
| Neurodevelopmental Disorder | | 13 (1.0%) | 5 (0.7%) | 1 (0.4%) | 0 (0%) | 3 (4.2%) | 4 (2.2%) |
| Obsessive-Compulsive and Related Disorder (OCD) | | 13 (1.0%) | 7 (1.0%) | 0 (0%) | 1 (0.9%) | 1 (1.4%) | 4 (2.2%) |
| Other Mental Disorder | | 3 (0.2%) | 1 (0.1%) | 1 (0.4%) | 0 (0%) | 0 (0%) | 1 (0.5%) |
| Personality Disorder | | 31 (2.4%) | 11 (1.5%) | 7 (3.0%) | 3 (2.8%) | 1 (1.4%) | 9 (4.8%) |
| Schizophrenia Spectrum and Other Psychotic Disorder | | 352 (27%) | 192 (27%) | 68 (29%) | 35 (33%) | 20 (28%) | 37 (20%) |
| Trauma and Stressor Related Disorder | | 210 (16%) | 114 (16%) | 35 (15%) | 17 (16%) | 12 (17%) | 32 (17%) |

Notes: *Sex / Gender variable has changed over time in demographics form. **ICD-10 codes were used to define each of the primary mental health diagnoses. Due to Medicaid requirements, clinicians are only able to submit information using one diagnosis, so these are not comprehensive when considering the experiences of the patients served.

Additional Notes: PHS level of care SDA hourly engagement hours are categorized as follows: Low = 1.5 service hours per month, Medium = 2.5 service hours per month, High = 7 service hours per month.

Table 3B: HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Stratified by Last Quarter Service Delivery Adherence and Demographics, July 2020-December 2022 (N=1,306)

| Sample Characteristics | N | Overall, N = 1,306 | Did Not Meet SDA Hours, N = 863 | 25%-49% of SDA Hours, N = 208 | 50%-74% of SDA Hours, N = 89 | 75%-99% of SDA Hours, N = 41 | Met or Exceeded Required SDA Hours, N = 105 |
|---|----------|-------------------------------|--|--|---|---|--|
| Sex / Gender* | 1,306 | | | | | | |
| Male | | 674 (52%) | 477 (55%) | 99 (48%) | 39 (44%) | 14 (34%) | 45 (43%) |
| Female | | 591 (45%) | 364 (42%) | 103 (50%) | 50 (56%) | 25 (61%) | 49 (47%) |
| Transgender / Intersex | | 37 (2.9%) | 18 (2.1%) | 6 (2.9%) | 0 (0%) | 2 (4.9%) | 10 (9.5%) |
| Missing | | 4 (0.3%) | 3 (0.3%) | 0 (0%) | 0 (0%) | 0 (0%) | 1 (1.0%) |
| Age | 1,306 | | | | | | |
| 19-24 | | 96 (7.4%) | 61 (7.1%) | 17 (8.2%) | 7 (7.9%) | 3 (7.3%) | 8 (7.6%) |
| 25-34 | | 320 (25%) | 203 (24%) | 51 (25%) | 22 (25%) | 10 (24%) | 34 (32%) |
| 35-44 | | 262 (20%) | 168 (19%) | 48 (23%) | 15 (17%) | 7 (17%) | 24 (23%) |
| 45-54 | | 260 (20%) | 177 (21%) | 40 (19%) | 17 (19%) | 10 (24%) | 16 (15%) |
| 55-64 | | 235 (18%) | 163 (19%) | 35 (17%) | 17 (19%) | 4 (9.8%) | 16 (15%) |
| 65+ | | 133 (10%) | 91 (11%) | 17 (8.2%) | 11 (12%) | 7 (17%) | 7 (6.7%) |
| Race | 1,306 | | | | | | |
| American Indian or Alaska Native | | 36 (2.8%) | 25 (2.9%) | 7 (3.4%) | 1 (1.1%) | 2 (4.9%) | 1 (1.0%) |
| African Ethnic | | 82 (6.3%) | 55 (6.4%) | 14 (6.7%) | 8 (9.0%) | 0 (0%) | 5 (4.8%) |
| Asian | | 85 (6.5%) | 57 (6.6%) | 12 (5.8%) | 6 (6.7%) | 2 (4.9%) | 8 (7.6%) |
| Black or African American | | 253 (19%) | 182 (21%) | 35 (17%) | 14 (16%) | 7 (17%) | 15 (14%) |
| Native Hawaiian or Other Pacific Islander | | 7 (0.5%) | 2 (0.2%) | 3 (1.4%) | 1 (1.1%) | 0 (0%) | 1 (1.0%) |
| White / Caucasian | | 769 (59%) | 498 (58%) | 123 (59%) | 56 (63%) | 27 (66%) | 65 (62%) |
| Missing / Unknown | | 74 (5.7%) | 44 (5.1%) | 14 (6.7%) | 3 (3.4%) | 3 (7.3%) | 10 (9.5%) |
| Ethnicity | 1,306 | | | | | | |

Appendix A: Additional Demographics Tables

| | | | | | | | |
|-----------------------------------|-------|-------------|-----------|-----------|----------|----------|----------|
| Hispanic | | 94 (7.2%) | 59 (6.8%) | 21 (10%) | 7 (7.9%) | 2 (4.9%) | 5 (4.8%) |
| Not Hispanic | | 1,128 (86%) | 760 (88%) | 174 (84%) | 74 (83%) | 33 (80%) | 87 (83%) |
| Missing / Unknown | | 84 (6.4%) | 44 (5.1%) | 13 (6.2%) | 8 (9.0%) | 6 (15%) | 13 (12%) |
| Sexual Orientation | 1,306 | | | | | | |
| Heterosexual | | 778 (60%) | 530 (61%) | 112 (54%) | 57 (64%) | 25 (61%) | 54 (51%) |
| LGBQ | | 162 (12%) | 89 (10%) | 30 (14%) | 11 (12%) | 10 (24%) | 22 (21%) |
| Not Asked / Unknown | | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) |
| Missing / Unknown | | 366 (28%) | 244 (28%) | 66 (32%) | 21 (24%) | 6 (15%) | 29 (28%) |
| Income | 1,306 | | | | | | |
| No Income | | 365 (28%) | 238 (28%) | 51 (25%) | 30 (34%) | 12 (29%) | 34 (32%) |
| \$1-\$5,000 | | 103 (7.9%) | 74 (8.6%) | 18 (8.7%) | 6 (6.7%) | 3 (7.3%) | 2 (1.9%) |
| \$5,001-\$10,000 | | 134 (10%) | 95 (11%) | 22 (11%) | 10 (11%) | 3 (7.3%) | 4 (3.8%) |
| \$10,001-\$40,000 | | 171 (13%) | 107 (12%) | 29 (14%) | 9 (10%) | 5 (12%) | 21 (20%) |
| \$40,001-\$75,000 | | 11 (0.8%) | 8 (0.9%) | 1 (0.5%) | 0 (0%) | 1 (2.4%) | 1 (1.0%) |
| \$75,001-\$100,000 | | 1 (<0.1%) | 1 (0.1%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) |
| Greater than \$100,000 | | 1 (<0.1%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 1 (1.0%) |
| Missing / Unknown | | 520 (40%) | 340 (39%) | 87 (42%) | 34 (38%) | 17 (41%) | 42 (40%) |
| Military | 1,306 | | | | | | |
| Served in U.S. Military | | 20 (1.5%) | 12 (1.4%) | 3 (1.4%) | 2 (2.2%) | 0 (0%) | 3 (2.9%) |
| Never Served in U.S. Military | | 1,200 (92%) | 791 (92%) | 196 (94%) | 84 (94%) | 38 (93%) | 91 (87%) |
| Missing / Unknown | | 86 (6.6%) | 60 (7.0%) | 9 (4.3%) | 3 (3.4%) | 3 (7.3%) | 11 (10%) |
| Relationship | 1,306 | | | | | | |
| Single or Never Married | | 810 (62%) | 530 (61%) | 135 (65%) | 57 (64%) | 23 (56%) | 65 (62%) |
| Married or Committed Relationship | | 141 (11%) | 98 (11%) | 18 (8.7%) | 10 (11%) | 4 (9.8%) | 11 (10%) |
| Separated / Divorced / | | 287 (22%) | 188 (22%) | 50 (24%) | 20 (22%) | 11 (27%) | 18 (17%) |

Appendix A: Additional Demographics Tables

| | | | | | | | |
|---|-------|------------|-----------|-----------|----------|----------|----------|
| Widowed | | | | | | | |
| Missing / Unknown | | 68 (5.2%) | 47 (5.4%) | 5 (2.4%) | 2 (2.2%) | 3 (7.3%) | 11 (10%) |
| Education | 1,306 | | | | | | |
| Less than High School Diploma or GED | | 87 (6.7%) | 67 (7.8%) | 16 (7.7%) | 3 (3.4%) | 0 (0%) | 1 (1.0%) |
| High School Diploma or GED | | 229 (18%) | 167 (19%) | 33 (16%) | 11 (12%) | 3 (7.3%) | 15 (14%) |
| Some college | | 91 (7.0%) | 66 (7.6%) | 11 (5.3%) | 5 (5.6%) | 5 (12%) | 4 (3.8%) |
| 2 Years of College or Associate's Degree / Vocational | | 110 (8.4%) | 68 (7.9%) | 24 (12%) | 5 (5.6%) | 2 (4.9%) | 11 (10%) |
| 3-4 years of college | | 40 (3.1%) | 23 (2.7%) | 7 (3.4%) | 4 (4.5%) | 1 (2.4%) | 5 (4.8%) |
| Bachelor's Degree | | 117 (9.0%) | 67 (7.8%) | 13 (6.2%) | 15 (17%) | 8 (20%) | 14 (13%) |
| Post-graduate education | | 41 (3.1%) | 21 (2.4%) | 9 (4.3%) | 5 (5.6%) | 1 (2.4%) | 5 (4.8%) |
| Missing / Unknown | | 591 (45%) | 384 (44%) | 95 (46%) | 41 (46%) | 21 (51%) | 50 (48%) |
| Current Education Enrollment | 1,306 | | | | | | |
| Full-time Education | | 38 (2.9%) | 17 (2.0%) | 7 (3.4%) | 6 (6.7%) | 3 (7.3%) | 5 (4.8%) |
| Part-time Education | | 19 (1.5%) | 9 (1.0%) | 4 (1.9%) | 3 (3.4%) | 0 (0%) | 3 (2.9%) |
| Not in Educational Activities | | 680 (52%) | 462 (54%) | 104 (50%) | 43 (48%) | 18 (44%) | 53 (50%) |
| Missing / Unknown | | 569 (44%) | 375 (43%) | 93 (45%) | 37 (42%) | 20 (49%) | 44 (42%) |
| Primary Diagnosis** | 1,306 | | | | | | |
| Anxiety Disorder | | 165 (13%) | 110 (13%) | 30 (14%) | 9 (10%) | 4 (9.8%) | 12 (11%) |
| Bipolar and Related Disorder | | 154 (12%) | 103 (12%) | 25 (12%) | 11 (12%) | 3 (7.3%) | 12 (11%) |
| Depressive Disorder | | 364 (28%) | 264 (31%) | 45 (22%) | 17 (19%) | 8 (20%) | 30 (29%) |
| Neurocognitive Disorder | | 1 (<0.1%) | 1 (0.1%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) |
| Neurodevelopmental Disorder | | 13 (1.0%) | 9 (1.0%) | 2 (1.0%) | 2 (2.2%) | 0 (0%) | 0 (0%) |
| Obsessive-Compulsive and Related Disorder (OCD) | | 13 (1.0%) | 11 (1.3%) | 1 (0.5%) | 0 (0%) | 0 (0%) | 1 (1.0%) |
| Other Mental Disorder | | 3 (0.2%) | 0 (0%) | 1 (0.5%) | 1 (1.1%) | 1 (2.4%) | 0 (0%) |
| Personality Disorder | | 31 (2.4%) | 13 (1.5%) | 6 (2.9%) | 4 (4.5%) | 4 (9.8%) | 4 (3.8%) |
| Schizophrenia Spectrum and | | 352 (27%) | 216 (25%) | 64 (31%) | 28 (31%) | 14 (34%) | 30 (29%) |

Appendix A: Additional Demographics Tables

| | | | | | | | |
|--|--|-----------|-----------|----------|----------|---------|----------|
| Other Psychotic Disorder | | | | | | | |
| Trauma and Stressor Related Disorder | | 210 (16%) | 136 (16%) | 34 (16%) | 17 (19%) | 7 (17%) | 16 (15%) |
| <p>Notes: *Sex / Gender variable has changed over time in demographics form. **ICD-10 codes were used to define each of the primary mental health diagnoses. Due to Medicaid requirements, clinicians are only able to submit information using one diagnosis, so these are not comprehensive when considering the experiences of the patients served.</p> <p>Additional Notes: PHS level of care SDA hourly engagement hours are categorized as follows: Low = 1.5 service hours per month, Medium = 2.5 service hours per month, High = 7 service hours per month.</p> | | | | | | | |

Appendix B: Distance to HMHAS Using Mailing ZIP Code Data Tables

Table 4A: HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Stratified by LOCUS level of care Categories and Distance to HMHAS from Primary Household Mailing ZIP Code, July 2020-December 2022 (N=1,306)

| Distance to HMHAS by Mailing ZIP Code | N | Overall, N = 1,306 | Recovery Maintenance (Score 10 -13), N = 93 | Low Intensity Community-Based Services (Score 14-16), N = 455 | High Intensity Community-Based Services (Score 17-19), N = 387 | Patient Need Outside of Community-Based Services Care Capacity (Score 19+), N = 371 |
|---------------------------------------|-------|--------------------|---|---|--|---|
| Distance in Miles | 1,306 | | | | | |
| Less than 5 miles | | 588 (45%) | 31 (33%) | 190 (42%) | 163 (42%) | 204 (55%) |
| 5-15 miles | | 484 (37%) | 49 (53%) | 181 (40%) | 145 (37%) | 109 (29%) |
| 16-25 miles | | 101 (7.7%) | 4 (4.3%) | 39 (8.6%) | 36 (9.3%) | 22 (5.9%) |
| 26-35 miles | | 33 (2.5%) | 1 (1.1%) | 10 (2.2%) | 9 (2.3%) | 13 (3.5%) |
| 36-45 miles | | 4 (0.3%) | 1 (1.1%) | 0 (0%) | 2 (0.5%) | 1 (0.3%) |
| 46-55 miles | | 10 (0.8%) | 0 (0%) | 2 (0.4%) | 3 (0.8%) | 5 (1.3%) |
| 56-65 miles | | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) |
| 65-100 miles | | 7 (0.5%) | 1 (1.1%) | 4 (0.9%) | 1 (0.3%) | 1 (0.3%) |
| 100 miles or greater | | 1 (<0.1%) | 0 (0%) | 1 (0.2%) | 0 (0%) | 0 (0%) |
| Missing | | 78 (6.0%) | 6 (6.5%) | 28 (6.2%) | 28 (7.2%) | 16 (4.3%) |

Notes: Based on a unique person-level KCID. Mailing ZIP Codes were used to approximate distance.

Appendix B: Distance to HMHAS Using Mailing ZIP Code Data Tables

Table 4B: HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Stratified by First and Last Quarter Population Health Stratification PHS level of care Distance to HMHAS from Primary Household Mailing ZIP Code, July 2020-December 2022 (N=1,306)

| Distance to HMHAS by Mailing ZIP Code | N | Overall, N = 1,306 | Decreasing Risk, N = 213 | Increasing Risk, N = 181 | No Change, N = 912 |
|--|----------|---------------------------|---------------------------------|---------------------------------|---------------------------|
| Distance in Miles | 1,306 | | | | |
| Less than 5 miles | | 588 (45%) | 99 (46%) | 77 (43%) | 412 (45%) |
| 5-15 miles | | 484 (37%) | 81 (38%) | 78 (43%) | 325 (36%) |
| 16-25 miles | | 101 (7.7%) | 17 (8.0%) | 6 (3.3%) | 78 (8.6%) |
| 26-35 miles | | 33 (2.5%) | 5 (2.3%) | 0 (0%) | 28 (3.1%) |
| 36-45 miles | | 4 (0.3%) | 1 (0.5%) | 0 (0%) | 3 (0.3%) |
| 46-55 miles | | 10 (0.8%) | 1 (0.5%) | 1 (0.6%) | 8 (0.9%) |
| 56-65 miles | | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) |
| 65-100 miles | | 7 (0.5%) | 1 (0.5%) | 1 (0.6%) | 5 (0.5%) |
| 100 miles or greater | | 1 (<0.1%) | 0 (0%) | 0 (0%) | 1 (0.1%) |
| Missing | | 78 (6.0%) | 8 (3.8%) | 18 (9.9%) | 52 (5.7%) |

Notes: Based on a unique person-level KCID. Mailing ZIP Codes were used to approximate distance.

Appendix C: Additional SDA Data Tables

Table 5A: HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Stratified by First Quarter Service Delivery Adherence Calculation and LOCUS level of care Assessment Level, July 2020-December 2022 (N=1,306)

| LOCUS level of care Dimension | N | Overall, N = 1,306 | Recovery Maintenance (Score 10-13), N = 93 | Low Intensity Community-Based Services (Score 14-16), N = 455 | High Intensity Community-Based Services (Score 17-19), N = 387 | Patient Need Outside of Community-Based Services Care Capacity (Score 19+), N = 371 |
|--|----------|---------------------------|---|--|---|--|
| SDA Percent – First LOC | 1,306 | | | | | |
| Did Not Meet SDA Hours | | 710 (54%) | 47 (51%) | 254 (56%) | 193 (50%) | 216 (58%) |
| 25%-49% of SDA Hours | | 232 (18%) | 10 (11%) | 67 (15%) | 83 (21%) | 72 (19%) |
| 50%-74% of SDA Hours | | 107 (8.2%) | 9 (9.7%) | 38 (8.4%) | 35 (9.0%) | 25 (6.7%) |
| 75%-99% of SDA Hours | | 71 (5.4%) | 3 (3.2%) | 23 (5.1%) | 27 (7.0%) | 18 (4.9%) |
| Met or Exceeded Required SDA Hours | | 186 (14%) | 24 (26%) | 73 (16%) | 49 (13%) | 40 (11%) |
| Notes: PHS level of care SDA hourly engagement hours are categorized as follows: Low = 1.5 service hours per month, Medium = 2.5 service hours per month, High = 7 service hours per month. | | | | | | |

Table 5B: HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Stratified by Last Quarter Service Delivery Adherence Calculation and LOCUS level of care Assessment Level, July 2020-December 2022 (N=1,306)

| LOCUS level of care Dimension | N | Overall, N = 1,306 | Recovery Maintenance (Score 10-13), N = 93 | Low Intensity Community-Based Services (Score 14-16), N = 455 | High Intensity Community-Based Services (Score 16-19), N = 387 | Patient Need Outside of Community-Based Services Care Capacity (Score 19+), N = 371 |
|--|----------|---------------------------|---|--|---|--|
| SDA Percent – Last LOC | 1,306 | | | | | |
| Did Not Meet SDA Hours | | 863 (66%) | 47 (51%) | 264 (58%) | 265 (68%) | 287 (77%) |
| 25%-49% of SDA Hours | | 208 (16%) | 16 (17%) | 74 (16%) | 73 (19%) | 45 (12%) |
| 50%-74% of SDA Hours | | 89 (6.8%) | 13 (14%) | 45 (9.9%) | 17 (4.4%) | 14 (3.8%) |
| 75%-99% of SDA Hours | | 41 (3.1%) | 5 (5.4%) | 23 (5.1%) | 8 (2.1%) | 5 (1.3%) |
| Met or Exceeded Required SDA Hours | | 105 (8.0%) | 12 (13%) | 49 (11%) | 24 (6.2%) | 20 (5.4%) |
| Notes: PHS level of care SDA hourly engagement hours are categorized as follows: Low = 1.5 service hours per month, Medium = 2.5 service hours per month, High = 7 service hours per month. | | | | | | |

Table 6A: HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Stratified by First Quarter Service Delivery Adherence and Population Health Stratification Model Levels of Care, July 2020-December 2022 (N=1,306)

| PHS level of care | N | Overall, N = 1,306 | Low, N = 183 | Medium, N = 499 | High, N = 624 |
|------------------------------------|----------|---------------------------|---------------------|------------------------|----------------------|
| SDA Percent – First LOC | 1,306 | | | | |
| Did Not Meet SDA Hours | | 710 (54%) | 83 (45%) | 219 (44%) | 408 (65%) |
| 25%-49% of SDA Hours | | 232 (18%) | 21 (11%) | 86 (17%) | 125 (20%) |
| 50%-74% of SDA Hours | | 107 (8.2%) | 17 (9.3%) | 46 (9.2%) | 44 (7.1%) |
| 75%-99% of SDA Hours | | 71 (5.4%) | 9 (4.9%) | 40 (8.0%) | 22 (3.5%) |
| Met or Exceeded Required SDA Hours | | 186 (14%) | 53 (29%) | 108 (22%) | 25 (4.0%) |

Notes: PHS level of care SDA hourly engagement hours are categorized as follows: Low = 1.5 service hours per month, Medium = 2.5 service hours per month, High = 7 service hours per month.

Table 6B: HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Stratified by Last Quarter Service Delivery Adherence and Population Health Stratification Model Levels of Care, July 2020-December 2022 (N=1,306)

| PHS level of care | N | Overall, N = 1,306 | Low, N = 196 | Medium, N = 516 | High, N = 594 |
|--|----------|---------------------------|---------------------|------------------------|----------------------|
| SDA Percent – Last LOC | 1,306 | | | | |
| Did Not Meet SDA Hours | | 863 (66%) | 96 (49%) | 304 (59%) | 463 (78%) |
| 25%-49% of SDA Hours | | 208 (16%) | 31 (16%) | 97 (19%) | 80 (13%) |
| 50%-74% of SDA Hours | | 89 (6.8%) | 20 (10%) | 43 (8.3%) | 26 (4.4%) |
| 75%-99% of SDA Hours | | 41 (3.1%) | 14 (7.1%) | 21 (4.1%) | 6 (1.0%) |
| Met or Exceeded Required SDA Hours | | 105 (8.0%) | 35 (18%) | 51 (9.9%) | 19 (3.2%) |
| Notes: PHS level of care SDA hourly engagement hours are categorized as follows: Low = 1.5 service hours per month, Medium = 2.5 service hours per month, High = 7 service hours per month. | | | | | |

Table 7: HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Stratified by Change of LOC from First and Last Quarter, July 2020-December 2022 (N=1,306)

| PHS level of care Changes from First Quarter to Last Quarter | N | Overall, N = 1,306 | Decreasing Risk, N = 213 | Increasing Risk, N = 181 | No Change, N = 912 |
|--|----------|---------------------------|---------------------------------|---------------------------------|---------------------------|
| SDA Percent for Last Quarter | 1,306 | | | | |
| Did Not Meet SDA Hours | | 863 (66%) | 127 (60%) | 117 (65%) | 619 (68%) |
| 25%-49% of SDA Hours | | 208 (16%) | 35 (16%) | 31 (17%) | 142 (16%) |
| 50%-74% of SDA Hours | | 89 (6.8%) | 15 (7.0%) | 18 (9.9%) | 56 (6.1%) |
| 75%-99% of SDA Hours | | 41 (3.1%) | 9 (4.2%) | 2 (1.1%) | 30 (3.3%) |
| Met or Exceeded Required SDA Hours | | 105 (8.0%) | 27 (13%) | 13 (7.2%) | 65 (7.1%) |
| Notes: PHS level of care SDA hourly engagement hours are categorized as follows: Low = 1.5 service hours per month, Medium = 2.5 service hours per month, High = 7 service hours per month. | | | | | |

Appendix D: Additional LOCUS Level of Care Data Tables

Table 8A.1: HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Stratified by First Quarter Population Health Stratification Model Levels of Care and LOCUS level of care Dimension Scores, July 2020-December 2022 (N=1,306)

| Levels of Care | N | Overall, N = 1,306 | Low, N = 183 | Medium, N = 499 | High, N = 624 |
|--|----------|---------------------------|---------------------|------------------------|----------------------|
| LOCUS level of care Dimensions | | | | | |
| Dimension I: Risk of Harm | 1,306 | | | | |
| Minimal Risk of Harm | | 257 (20%) | 58 (32%) | 107 (21%) | 92 (15%) |
| Low Risk of Harm | | 665 (51%) | 104 (57%) | 263 (53%) | 298 (48%) |
| Moderate Risk of Harm | | 240 (18%) | 16 (8.7%) | 82 (16%) | 142 (23%) |
| Serious Risk of Harm | | 130 (10.0%) | 5 (2.7%) | 40 (8.0%) | 85 (14%) |
| Extreme Risk of Harm | | 14 (1.1%) | 0 (0%) | 7 (1.4%) | 7 (1.1%) |
| Dimension II: Functional Status | 1,306 | | | | |
| Minimal Impairment | | 55 (4.2%) | 19 (10%) | 22 (4.4%) | 14 (2.2%) |
| Mild Impairment | | 477 (37%) | 106 (58%) | 200 (40%) | 171 (27%) |
| Moderate Impairment | | 589 (45%) | 53 (29%) | 227 (45%) | 309 (50%) |
| Serious Impairment | | 161 (12%) | 5 (2.7%) | 46 (9.2%) | 110 (18%) |
| Severe Impairment | | 24 (1.8%) | 0 (0%) | 4 (0.8%) | 20 (3.2%) |
| Dimension III: Medical, Addictive, and Psychiatric Co-Morbidity | 1,306 | | | | |
| No Comorbidity | | 185 (14%) | 51 (28%) | 77 (15%) | 57 (9.1%) |
| Minor Comorbidity | | 426 (33%) | 83 (45%) | 191 (38%) | 152 (24%) |
| Significant Comorbidity | | 467 (36%) | 43 (23%) | 180 (36%) | 244 (39%) |
| Major Comorbidity | | 173 (13%) | 6 (3.3%) | 42 (8.4%) | 125 (20%) |
| Severe Comorbidity | | 55 (4.2%) | 0 (0%) | 9 (1.8%) | 46 (7.4%) |
| Dimension IV A: Recovery Environment – Level of Stress | 1,306 | | | | |
| Low Stress Environment | | 80 (6.1%) | 27 (15%) | 31 (6.2%) | 22 (3.5%) |
| Mildly Stressful Environment | | 505 (39%) | 98 (54%) | 228 (46%) | 179 (29%) |
| Moderately Stressful Environment | | 482 (37%) | 52 (28%) | 184 (37%) | 246 (39%) |
| Highly Stressful Environment | | 214 (16%) | 6 (3.3%) | 54 (11%) | 154 (25%) |
| Extremely Stressful Environment | | 25 (1.9%) | 0 (0%) | 2 (0.4%) | 23 (3.7%) |

Appendix D: Additional LOCUS Level of Care Data Tables

| | | | | | |
|---|-------|------------|-----------|-----------|-----------|
| Dimension IV_B: Recovery Environment – Level of Support | 1,306 | | | | |
| Highly Supportive Environment | | 67 (5.1%) | 22 (12%) | 27 (5.4%) | 18 (2.9%) |
| Supportive Environment | | 635 (49%) | 115 (63%) | 265 (53%) | 255 (41%) |
| Limited Support in Environment | | 467 (36%) | 37 (20%) | 182 (36%) | 248 (40%) |
| Minimal Support in Environment | | 129 (9.9%) | 9 (4.9%) | 25 (5.0%) | 95 (15%) |
| No Support in Environment | | 8 (0.6%) | 0 (0%) | 0 (0%) | 8 (1.3%) |
| Dimension V: Treatment and Recovery History | 1,306 | | | | |
| Fully Responsive to Treatment and Recovery Management | | 102 (7.8%) | 32 (17%) | 30 (6.0%) | 40 (6.4%) |
| Significant Response to Treatment and Recovery Management | | 541 (41%) | 95 (52%) | 239 (48%) | 207 (33%) |
| Moderate or Equivocal Response to Treatment and Recovery Management | | 510 (39%) | 50 (27%) | 191 (38%) | 269 (43%) |
| Poor Response to Treatment and Recovery Management | | 138 (11%) | 5 (2.7%) | 37 (7.4%) | 96 (15%) |
| Negligible Response to Treatment | | 15 (1.1%) | 1 (0.5%) | 2 (0.4%) | 12 (1.9%) |
| Dimension VI: Engagement and Recovery Status | 1,306 | | | | |
| Optimal Engagement and Recovery | | 68 (5.2%) | 30 (16%) | 26 (5.2%) | 12 (1.9%) |
| Positive Engagement and Recovery | | 709 (54%) | 117 (64%) | 297 (60%) | 295 (47%) |
| Limited Engagement and Recovery | | 458 (35%) | 31 (17%) | 162 (32%) | 265 (42%) |
| Minimal Engagement and Recovery | | 63 (4.8%) | 5 (2.7%) | 12 (2.4%) | 46 (7.4%) |
| Unengaged and Stuck | | 8 (0.6%) | 0 (0%) | 2 (0.4%) | 6 (1.0%) |

Note: PHS level of care SDA hourly engagement hours are categorized as follows: Low = 1.5 service hours per month, Medium = 2.5 service hours per month, High = 7 service hours per month.

Appendix D: Additional LOCUS Level of Care Data Tables

Table 8A.2: HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Stratified by Last Quarter Population Health Stratification Model Levels of Care and LOCUS level of care Dimension Scores, July 2020-December 2022 (N=1,306)

| Levels of Care | N | Overall, N = 1,306 | Low, N = 196 | Medium, N = 516 | High, N = 594 |
|--|-------|--------------------|--------------|-----------------|---------------|
| LOCUS level of care Dimensions | | | | | |
| Dimension I: Risk of Harm | 1,306 | | | | |
| Minimal Risk of Harm | | 257 (20%) | 63 (32%) | 104 (20%) | 90 (15%) |
| Low Risk of Harm | | 665 (51%) | 112 (57%) | 281 (54%) | 272 (46%) |
| Moderate Risk of Harm | | 240 (18%) | 13 (6.6%) | 88 (17%) | 139 (23%) |
| Serious Risk of Harm | | 130 (10.0%) | 8 (4.1%) | 38 (7.4%) | 84 (14%) |
| Extreme Risk of Harm | | 14 (1.1%) | 0 (0%) | 5 (1.0%) | 9 (1.5%) |
| Dimension II: Functional Status | 1,306 | | | | |
| Minimal Impairment | | 55 (4.2%) | 25 (13%) | 21 (4.1%) | 9 (1.5%) |
| Mild Impairment | | 477 (37%) | 124 (63%) | 207 (40%) | 146 (25%) |
| Moderate Impairment | | 589 (45%) | 46 (23%) | 236 (46%) | 307 (52%) |
| Serious Impairment | | 161 (12%) | 1 (0.5%) | 46 (8.9%) | 114 (19%) |
| Severe Impairment | | 24 (1.8%) | 0 (0%) | 6 (1.2%) | 18 (3.0%) |
| Dimension III: Medical, Addictive, and Psychiatric Co-Morbidity | 1,306 | | | | |
| No Comorbidity | | 185 (14%) | 65 (33%) | 74 (14%) | 46 (7.7%) |
| Minor Comorbidity | | 426 (33%) | 92 (47%) | 199 (39%) | 135 (23%) |
| Significant Comorbidity | | 467 (36%) | 36 (18%) | 194 (38%) | 237 (40%) |
| Major Comorbidity | | 173 (13%) | 3 (1.5%) | 39 (7.6%) | 131 (22%) |
| Severe Comorbidity | | 55 (4.2%) | 0 (0%) | 10 (1.9%) | 45 (7.6%) |
| Dimension IV A: Recovery Environment – Level of Stress | 1,306 | | | | |
| Low Stress Environment | | 80 (6.1%) | 36 (18%) | 30 (5.8%) | 14 (2.4%) |
| Mildly Stressful Environment | | 505 (39%) | 113 (58%) | 224 (43%) | 168 (28%) |
| Moderately Stressful Environment | | 482 (37%) | 44 (22%) | 204 (40%) | 234 (39%) |
| Highly Stressful Environment | | 214 (16%) | 3 (1.5%) | 55 (11%) | 156 (26%) |
| Extremely Stressful Environment | | 25 (1.9%) | 0 (0%) | 3 (0.6%) | 22 (3.7%) |
| Dimension IV_B: Recovery Environment – Level of Support | 1,306 | | | | |
| Highly Supportive Environment | | 67 (5.1%) | 28 (14%) | 21 (4.1%) | 18 (3.0%) |

Appendix D: Additional LOCUS Level of Care Data Tables

| | | | | | |
|---|-------|------------|-----------|-----------|-----------|
| Supportive Environment | | 635 (49%) | 137 (70%) | 271 (53%) | 227 (38%) |
| Limited Support in Environment | | 467 (36%) | 27 (14%) | 192 (37%) | 248 (42%) |
| Minimal Support in Environment | | 129 (9.9%) | 4 (2.0%) | 32 (6.2%) | 93 (16%) |
| No Support in Environment | | 8 (0.6%) | 0 (0%) | 0 (0%) | 8 (1.3%) |
| Dimension V: Treatment and Recovery History | 1,306 | | | | |
| Fully Responsive to Treatment and Recovery Management | | 102 (7.8%) | 39 (20%) | 31 (6.0%) | 32 (5.4%) |
| Significant Response to Treatment and Recovery Management | | 541 (41%) | 118 (60%) | 242 (47%) | 181 (30%) |
| Moderate or Equivocal Response to Treatment and Recovery Management | | 510 (39%) | 35 (18%) | 197 (38%) | 278 (47%) |
| Poor Response to Treatment and Recovery Management | | 138 (11%) | 3 (1.5%) | 41 (7.9%) | 94 (16%) |
| Negligible Response to Treatment | | 15 (1.1%) | 1 (0.5%) | 5 (1.0%) | 9 (1.5%) |
| Dimension VI: Engagement and Recovery Status | 1,306 | | | | |
| Optimal Engagement and Recovery | | 68 (5.2%) | 34 (17%) | 25 (4.8%) | 9 (1.5%) |
| Positive Engagement and Recovery | | 709 (54%) | 140 (71%) | 309 (60%) | 260 (44%) |
| Limited Engagement and Recovery | | 458 (35%) | 20 (10%) | 163 (32%) | 275 (46%) |
| Minimal Engagement and Recovery | | 63 (4.8%) | 2 (1.0%) | 16 (3.1%) | 45 (7.6%) |
| Unengaged and Stuck | | 8 (0.6%) | 0 (0%) | 3 (0.6%) | 5 (0.8%) |

Note: LOC SDA hourly engagement hours are categorized as follows: Low = 1.5 service hours per month, Medium = 2.5 service hours per month, High = 7 service hours per month. LOCUS level of care dimension categorization is determined by the clinician during the patient's intake assessment.

Table 8B: HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Stratified by LOCUS level of care Composite Scores, July 2020-December 2022 (N=1,306)

| LOCUS level of care Dimensions | N | Overall, N = 1,306 | Recovery Maintenance, N = 93 | Low Intensity Community-Based Services, N = 455 | High Intensity Community-Based Services, N = 387 | Patient Need Outside of Community-Based Services Care Capacity, N = 371 |
|--|----------|---------------------------|-------------------------------------|--|---|--|
| Dimension I: Risk of Harm | 1,306 | | | | | |
| Minimal Risk of Harm | | 257 (20%) | 43 (46%) | 116 (25%) | 58 (15%) | 40 (11%) |
| Low Risk of Harm | | 665 (51%) | 49 (53%) | 280 (62%) | 217 (56%) | 119 (32%) |
| Moderate Risk of Harm | | 240 (18%) | 0 (0%) | 39 (8.6%) | 83 (21%) | 118 (32%) |
| Serious Risk of Harm | | 130 (10.0%) | 1 (1.1%) | 20 (4.4%) | 27 (7.0%) | 82 (22%) |
| Extreme Risk of Harm | | 14 (1.1%) | 0 (0%) | 0 (0%) | 2 (0.5%) | 12 (3.2%) |
| Dimension II: Functional Status | 1,306 | | | | | |
| Minimal Impairment | | 55 (4.2%) | 26 (28%) | 24 (5.3%) | 4 (1.0%) | 1 (0.3%) |
| Mild Impairment | | 477 (37%) | 59 (63%) | 292 (64%) | 111 (29%) | 15 (4.0%) |
| Moderate Impairment | | 589 (45%) | 8 (8.6%) | 135 (30%) | 234 (60%) | 212 (57%) |
| Serious Impairment | | 161 (12%) | 0 (0%) | 4 (0.9%) | 36 (9.3%) | 121 (33%) |
| Severe Impairment | | 24 (1.8%) | 0 (0%) | 0 (0%) | 2 (0.5%) | 22 (5.9%) |
| Dimension III: Medical, Addictive, and Psychiatric Co-Morbidity | 1,306 | | | | | |
| No Comorbidity | | 185 (14%) | 39 (42%) | 74 (16%) | 57 (15%) | 15 (4.0%) |
| Minor Comorbidity | | 426 (33%) | 40 (43%) | 214 (47%) | 114 (29%) | 58 (16%) |
| Significant Comorbidity | | 467 (36%) | 14 (15%) | 153 (34%) | 168 (43%) | 132 (36%) |
| Major Comorbidity | | 173 (13%) | 0 (0%) | 14 (3.1%) | 41 (11%) | 118 (32%) |
| Severe Comorbidity | | 55 (4.2%) | 0 (0%) | 0 (0%) | 7 (1.8%) | 48 (13%) |

Appendix D: Additional LOCUS Level of Care Data Tables

| | | | | | | |
|--|-------|------------|----------|-----------|-----------|-----------|
| Dimension IV A: Recovery Environment – Level of Stress | 1,306 | | | | | |
| Low Stress Environment | | 80 (6.1%) | 36 (39%) | 28 (6.2%) | 13 (3.4%) | 3 (0.8%) |
| Mildly Stressful Environment | | 505 (39%) | 49 (53%) | 296 (65%) | 142 (37%) | 18 (4.9%) |
| Moderately Stressful Environment | | 482 (37%) | 8 (8.6%) | 124 (27%) | 184 (48%) | 166 (45%) |
| Highly Stressful Environment | | 214 (16%) | 0 (0%) | 7 (1.5%) | 44 (11%) | 163 (44%) |
| Extremely Stressful Environment | | 25 (1.9%) | 0 (0%) | 0 (0%) | 4 (1.0%) | 21 (5.7%) |
| Dimension IV_B: Recovery Environment – Level of Support | 1,306 | | | | | |
| Highly Supportive Environment | | 67 (5.1%) | 23 (25%) | 31 (6.8%) | 7 (1.8%) | 6 (1.6%) |
| Supportive Environment | | 635 (49%) | 65 (70%) | 319 (70%) | 191 (49%) | 60 (16%) |
| Limited Support in Environment | | 467 (36%) | 5 (5.4%) | 98 (22%) | 167 (43%) | 197 (53%) |
| Minimal Support in Environment | | 129 (9.9%) | 0 (0%) | 7 (1.5%) | 21 (5.4%) | 101 (27%) |
| No Support in Environment | | 8 (0.6%) | 0 (0%) | 0 (0%) | 1 (0.3%) | 7 (1.9%) |
| Dimension V: Treatment and Recovery History | 1,306 | | | | | |
| Fully Responsive to Treatment and Recovery | | 102 (7.8%) | 31 (33%) | 45 (9.9%) | 18 (4.7%) | 8 (2.2%) |

Appendix D: Additional LOCUS Level of Care Data Tables

| | | | | | | |
|---|-------|-----------|----------|-----------|-----------|-----------|
| Management | | | | | | |
| Significant Response to Treatment and Recovery Management | | 541 (41%) | 57 (61%) | 315 (69%) | 136 (35%) | 33 (8.9%) |
| Moderate or Equivocal Response to Treatment and Recovery Management | | 510 (39%) | 5 (5.4%) | 90 (20%) | 207 (53%) | 208 (56%) |
| Poor Response to Treatment and Recovery Management | | 138 (11%) | 0 (0%) | 5 (1.1%) | 26 (6.7%) | 107 (29%) |
| Negligible Response to Treatment | | 15 (1.1%) | 0 (0%) | 0 (0%) | 0 (0%) | 15 (4.0%) |
| Dimension VI: Engagement and Recovery Status | 1,306 | | | | | |
| Optimal Engagement and Recovery | | 68 (5.2%) | 30 (32%) | 33 (7.3%) | 3 (0.8%) | 2 (0.5%) |
| Positive Engagement and Recovery | | 709 (54%) | 61 (66%) | 358 (79%) | 206 (53%) | 84 (23%) |
| Limited Engagement and Recovery | | 458 (35%) | 2 (2.2%) | 61 (13%) | 165 (43%) | 230 (62%) |
| Minimal Engagement and Recovery | | 63 (4.8%) | 0 (0%) | 3 (0.7%) | 11 (2.8%) | 49 (13%) |
| Unengaged and Stuck | | 8 (0.6%) | 0 (0%) | 0 (0%) | 2 (0.5%) | 6 (1.6%) |
| Note: PHS level of care SDA hourly engagement hours are categorized as follows: Low = 1.5 service hours per month, Medium = 2.5 service hours per month, High = 7 service hours per month. | | | | | | |

Appendix E: Additional PHS LOC Data Tables

Table 9A: HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Stratified by First Quarter Population Health Stratification Model Levels of Care and Subscore Events, July 2020-December 2022 (N=1,306)

| PHS Subscore Categories for First Quarter of Data | N | *Overall, N = 1,306 | *Low, N = 183 | *Medium, N = 499 | *High, N = 624 |
|--|----------|----------------------------|----------------------|-------------------------|-----------------------|
| PHS Category A: High Risk Utilization | 1,306 | | | | |
| No events | | 534 (41%) | 172 (94%) | 287 (58%) | 75 (12%) |
| 1-2 Events | | 310 (24%) | 11 (6.0%) | 180 (36%) | 119 (19%) |
| 3-5 Events | | 231 (18%) | 0 (0%) | 32 (6.4%) | 199 (32%) |
| 6+ Events | | 231 (18%) | 0 (0%) | 0 (0%) | 231 (37%) |
| PHS Category B: Housing Stability | 1,306 | | | | |
| Not Homeless | | 1,129 (86%) | 183 (100%) | 496 (99%) | 450 (72%) |
| Homeless | | 177 (14%) | 0 (0%) | 3 (0.6%) | 174 (28%) |
| PHS Category B: Criminal Justice Events, Past 6 Months | 1,306 | | | | |
| No Events | | 1,244 (95%) | 181 (99%) | 492 (99%) | 571 (92%) |
| 1-2 Events | | 60 (4.6%) | 2 (1.1%) | 7 (1.4%) | 51 (8.2%) |
| 3+ Events | | 2 (0.2%) | 0 (0%) | 0 (0%) | 2 (0.3%) |
| PHS Category B: Criminal Justice Event Greater Than 2 Years Within the Past 5 Years | 1,306 | | | | |
| No | | 1,305 (100%) | 183 (100%) | 498 (100%) | 624 (100%) |
| Yes | | 1 (<0.1%) | 0 (0%) | 1 (0.2%) | 0 (0%) |
| PHS Category C: Chronic Conditions** | 1,306 | | | | |
| Missing / Unknown | | 1,306 (100%) | 183 (100%) | 499 (100%) | 624 (100%) |
| PHS Category D: Assessments | 1,306 | | | | |
| LOCUS level of care Score <14 | | 97 (7.4%) | 76 (42%) | 13 (2.6%) | 8 (1.3%) |

Appendix E: Additional PHS LOC Data Tables

| | | | | | |
|---------------------------------|--|-----------|-----------|-----------|-----------|
| LOCUS level of care Score 14-16 | | 404 (31%) | 107 (58%) | 220 (44%) | 77 (12%) |
| LOCUS level of care Score 17+ | | 805 (62%) | 0 (0%) | 266 (53%) | 539 (86%) |

Note: *LOC SDA hourly engagement hours are categorized as follows: Low = 1.5 service hours per month, Medium = 2.5 service hours per month, High = 7 service hours per month. **Chronic conditions unavailable because King County is not allowed to save in their database. It is used in the stratification calculation, then not stored.

Table 9B: HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Stratified by Last Quarter Population Health Stratification Model Levels of Care and Patterns of Service Hours, July 2020-December 2022 (N=1,306)

| PHS Subscore Categories for Last Quarter of Data | N | *Overall, N = 1,306 | *Low, N = 196 | *Medium, N = 516 | *High, N = 594 |
|--|----------|----------------------------|----------------------|-------------------------|-----------------------|
| PHS Category A: High Risk Utilization | 1,306 | | | | |
| No events | | 589 (45%) | 181 (92%) | 332 (64%) | 76 (13%) |
| 1-2 Events | | 304 (23%) | 15 (7.7%) | 165 (32%) | 124 (21%) |
| 3-5 Events | | 189 (14%) | 0 (0%) | 19 (3.7%) | 170 (29%) |
| 6+ Events | | 224 (17%) | 0 (0%) | 0 (0%) | 224 (38%) |
| PHS Category B: Housing Stability | 1,306 | | | | |
| Not Homeless | | 1,191 (91%) | 196 (100%) | 515 (100%) | 480 (81%) |
| Homeless | | 115 (8.8%) | 0 (0%) | 1 (0.2%) | 114 (19%) |
| PHS Category B: Criminal Justice Events, Past 6 Months | 1,306 | | | | |
| No Events | | 1,260 (96%) | 195 (99%) | 511 (99%) | 554 (93%) |
| 1-2 Events | | 44 (3.4%) | 1 (0.5%) | 5 (1.0%) | 38 (6.4%) |
| 3+ Events | | 2 (0.2%) | 0 (0%) | 0 (0%) | 2 (0.3%) |
| PHS Category B: Criminal Justice Event - Greater Than 2 Years Within the Past 5 Years | 1,306 | | | | |
| No | | 1,305 (100%) | 196 (100%) | 515 (100%) | 594 (100%) |
| Yes | | 1 (<0.1%) | 0 (0%) | 1 (0.2%) | 0 (0%) |
| PHS Category C: Chronic Conditions** | 1,306 | | | | |
| Missing / Unknown | | 1,306 (100%) | 196 (100%) | 516 (100%) | 594 (100%) |
| PHS Category D: Assessments | 1,306 | | | | |
| LOCUS level of care Score <14 | | 90 (6.9%) | 77 (39%) | 9 (1.7%) | 4 (0.7%) |
| LOCUS level of care Score 14-16 | | 449 (34%) | 119 (61%) | 247 (48%) | 83 (14%) |
| LOCUS level of care Score 17+ | | 767 (59%) | 0 (0%) | 260 (50%) | 507 (85%) |
| Note: *PHS level of care SDA hourly engagement hours are categorized as follows: Low = 1.5 service hours per month, Medium = 2.5 service hours per month, High = 7 service hours per month. **Chronic conditions unavailable because King County is not allowed to save in their database. It is used in the stratification calculation, then not stored. | | | | | |

Appendix F: Additional Patient Engagement Data Tables

Table 10: Mean Number of Hours by Overall Engagement Service Type (N = 41,798)

| Engagement Service Type* | Mean Hours in Engagement Services |
|---|--|
| Crisis services | 0.5542453 |
| Day Support | 1.0000000 |
| Family Treatment | 1.0000000 |
| Group Treatment Services | 1.4356747 |
| High Intensity Treatment | 0.5000000 |
| Individual Treatment Services | 0.6281810 |
| Intake Evaluation** | 1.0837709 |
| Medication Management | 0.4625575 |
| Medication Monitoring | 0.2649528 |
| Offender Reentry Community Safety Program | 0.2500000 |
| Other Telehealth Behavioral Health Services | 0.4057264 |
| Rehabilitation Case Management | 0.3701538 |
| Respite Care Services | 0.4444444 |
| Self-Help / Peer Services | 0.9326784 |
| Supported Employment | 0.7105263 |
| Supported Housing | 0.1666667 |
| Therapeutic Psychoeducation | 0.7500000 |

Notes: *These represent mean event level data overall from July 2020 - December 2022. **IBIS conducted Recovery Services assessments up until 2022, so this is not representative for our sample.

Appendix F: Additional Patient Engagement Data Tables

Table 11A: HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Engagement Type Stratified by LOCUS level of care Category, July 2020-December 2022 (N=1,306)

| LOCUS level of care Category | Recovery Maintenance (Score 10-13), N = 93 | Low Intensity Community-Based Services (Score 14-16), N = 455 | High Intensity Community-Based Services (Score 16-19), N = 387 | Patient Need Outside of Community-Based Services Care Capacity (Score 19+), N = 371 |
|--------------------------------------|---|--|---|--|
| Engagement Type* | | | | |
| Crisis Services | 91 (98%) | 436 (96%) | 347 (90%) | 331 (89%) |
| None | 2 (2.2%) | 10 (2.2%) | 32 (8.3%) | 37 (10.0%) |
| Occurrence | 0 (0%) | 9 (2.0%) | 8 (2.1%) | 3 (0.8%) |
| Day Support | | | | |
| None | 90 (97%) | 451 (99%) | 378 (98%) | 367 (99%) |
| Occurrence | 3 (3.2%) | 4 (0.9%) | 9 (2.3%) | 4 (1.1%) |
| Family Treatment | | | | |
| None | 93 (100%) | 455 (100%) | 386 (100%) | 371 (100%) |
| Occurrence | 0 (0%) | 0 (0%) | 1 (0.3%) | 0 (0%) |
| Group Treatment Services | | | | |
| None | 81 (87%) | 424 (93%) | 351 (91%) | 339 (91%) |
| Occurrence | 12 (13%) | 31 (6.8%) | 36 (9.3%) | 32 (8.6%) |
| High Intensity Treatment | | | | |
| None | 93 (100%) | 454 (100%) | 385 (99%) | 369 (99%) |
| Occurrence | 0 (0%) | 1 (0.2%) | 2 (0.5%) | 2 (0.5%) |
| Individual Treatment Services | | | | |
| None | 3 (3.2%) | 30 (6.6%) | 24 (6.2%) | 40 (11%) |
| Occurrence | 90 (97%) | 425 (93%) | 363 (94%) | 331 (89%) |
| Intake Evaluation** | | | | |
| None | 64 (69%) | 291 (64%) | 223 (58%) | 145 (39%) |
| Occurrence | 29 (31%) | 164 (36%) | 164 (42%) | 226 (61%) |
| Medication Management | | | | |

Appendix F: Additional Patient Engagement Data Tables

| | | | | |
|--|-----------|------------|------------|------------|
| None | 21 (23%) | 92 (20%) | 96 (25%) | 142 (38%) |
| Occurrence | 72 (77%) | 363 (80%) | 291 (75%) | 229 (62%) |
| Medication Monitoring | | | | |
| None | 84 (90%) | 410 (90%) | 342 (88%) | 342 (92%) |
| Occurrence | 9 (9.7%) | 45 (9.9%) | 45 (12%) | 29 (7.8%) |
| Offender Reentry Community Safety Program | | | | |
| None | 93 (100%) | 455 (100%) | 387 (100%) | 370 (100%) |
| Occurrence | 0 (0%) | 0 (0%) | 0 (0%) | 1 (0.3%) |
| Other Telehealth Behavioral Health Services | | | | |
| None | 49 (53%) | 211 (46%) | 205 (53%) | 270 (73%) |
| Occurrence | 44 (47%) | 244 (54%) | 182 (47%) | 101 (27%) |
| Rehabilitation Case Management | | | | |
| None | 84 (90%) | 368 (81%) | 290 (75%) | 277 (75%) |
| Occurrence | 9 (9.7%) | 87 (19%) | 97 (25%) | 94 (25%) |
| Respite Care Services | | | | |
| None | 93 (100%) | 454 (100%) | 385 (99%) | 371 (100%) |
| Occurrence | 0 (0%) | 1 (0.2%) | 2 (0.5%) | 0 (0%) |
| Self-Help Peer Services | | | | |
| None | 77 (83%) | 363 (80%) | 290 (75%) | 303 (82%) |
| Occurrence | 16 (17%) | 92 (20%) | 97 (25%) | 68 (18%) |
| Supported Employment | | | | |
| None | 91 (98%) | 446 (98%) | 381 (98%) | 366 (99%) |
| Occurrence | 2 (2.2%) | 9 (2.0%) | 6 (1.6%) | 5 (1.3%) |
| Supported Housing | | | | |
| None | 93 (100%) | 455 (100%) | 387 (100%) | 370 (100%) |
| Occurrence | 0 (0%) | 0 (0%) | 0 (0%) | 1 (0.3%) |
| Therapeutic Psychoeducation | | | | |
| None | 93 (100%) | 455 (100%) | 385 (99%) | 371 (100%) |
| Occurrence | 0 (0%) | 0 (0%) | 2 (0.5%) | 0 (0%) |

Notes: *These represent an event occurring at least once per patient during enrollment. **IBIS conducted Recovery Services assessments up until 2022, so this is not representative for our sample.

Appendix F: Additional Patient Engagement Data Tables

Table 11B: HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Stratified by Engagement and First and Last Quarter Population Health Stratification PHS level of care, July 2020-December 2022 (N=1,306)

| Change from First and Last LOC Score | Decreasing Risk, N = 213 | Increasing Risk, N = 181 | No Change, N = 912 |
|---|-------------------------------------|-------------------------------------|-------------------------------|
| Engagement Type* | | | |
| Crisis Services | | | |
| None | 202 (95%) | 164 (91%) | 859 (94%) |
| Occurrence | 11 (5.2%) | 17 (9.4%) | 53 (5.8%) |
| Day Support | | | |
| None | 209 (98%) | 178 (98%) | 899 (99%) |
| Occurrence | 4 (1.9%) | 3 (1.7%) | 13 (1.4%) |
| Family Treatment | | | |
| None | 213 (100%) | 180 (99%) | 912 (100%) |
| Occurrence | 0 (0%) | 1 (0.6%) | 0 (0%) |
| Group Treatment Services | | | |
| None | 195 (92%) | 166 (92%) | 834 (91%) |
| Occurrence | 18 (8.5%) | 15 (8.3%) | 78 (8.6%) |
| High Intensity Treatment | | | |
| None | 213 (100%) | 180 (99%) | 908 (100%) |
| Occurrence | 0 (0%) | 1 (0.6%) | 4 (0.4%) |
| Individual Treatment Services | | | |
| None | 8 (3.8%) | 8 (4.4%) | 81 (8.9%) |
| Occurrence | 205 (96%) | 173 (96%) | 831 (91%) |
| Intake Evaluation** | | | |
| None | 133 (62%) | 126 (70%) | 464 (51%) |
| Occurrence | 80 (38%) | 55 (30%) | 448 (49%) |
| Medication Management | | | |
| None | 40 (19%) | 37 (20%) | 274 (30%) |
| Occurrence | 173 (81%) | 144 (80%) | 638 (70%) |
| Medication Monitoring | | | |
| None | 187 (88%) | 166 (92%) | 825 (90%) |
| Occurrence | 26 (12%) | 15 (8.3%) | 87 (9.5%) |

Appendix F: Additional Patient Engagement Data Tables

| | | | |
|--|------------|------------|------------|
| Offender Reentry Community Safety Program | | | |
| None | 213 (100%) | 181 (100%) | 911 (100%) |
| Occurrence | 0 (0%) | 0 (0%) | 1 (0.1%) |
| Other Telehealth Behavioral Health Services | | | |
| None | 93 (44%) | 85 (47%) | 557 (61%) |
| Occurrence | 120 (56%) | 96 (53%) | 355 (39%) |
| Rehabilitation Case Management | | | |
| None | 162 (76%) | 133 (73%) | 724 (79%) |
| Occurrence | 51 (24%) | 48 (27%) | 188 (21%) |
| Respite Care Services | | | |
| None | 212 (100%) | 179 (99%) | 912 (100%) |
| Occurrence | 1 (0.5%) | 2 (1.1%) | 0 (0%) |
| Self-Help Peer Services | | | |
| None | 163 (77%) | 135 (75%) | 735 (81%) |
| Occurrence | 50 (23%) | 46 (25%) | 177 (19%) |
| Supported Employment | | | |
| None | 209 (98%) | 176 (97%) | 899 (99%) |
| Occurrence | 4 (1.9%) | 5 (2.8%) | 13 (1.4%) |
| Supported Housing | | | |
| None | 213 (100%) | 181 (100%) | 911 (100%) |
| Occurrence | 0 (0%) | 0 (0%) | 1 (0.1%) |
| Therapeutic Psychoeducation | | | |
| None | 213 (100%) | 181 (100%) | 910 (100%) |
| Occurrence | 0 (0%) | 0 (0%) | 2 (0.2%) |
| Notes: *These represent an event occurring at least once per patient during enrollment. **IBIS conducted Recovery Services assessments up until 2022, so this is not representative for our sample. | | | |

Table 12A: HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Location Type Stratified by LOCUS level of care Category, July 2020-December 2022 (N=1,306)

| LOCUS level of care Category | Recovery Maintenance (Score 10-13), | Low Intensity Community-Based Services | High Intensity Community-Based Services | Patient Need Outside of Community- |
|-------------------------------------|--|---|--|---|
| | | | | |

Appendix F: Additional Patient Engagement Data Tables

| | N = 93 | (Score 14-16), N = 455 | (Score 17-19), N = 387 | Based Services Care Capacity (Score 19+), N = 371 |
|--|---------------|-----------------------------------|-----------------------------------|--|
| Location and Form of Services | | | | |
| Assisted Living Facility | | | | |
| None | 93 (100%) | 452 (99%) | 386 (100%) | 369 (99%) |
| Occurrence | 0 (0%) | 3 (0.7%) | 1 (0.3%) | 2 (0.5%) |
| Assisted Living Facility Group Home Setting | | | | |
| None | 93 (100%) | 453 (100%) | 387 (100%) | 369 (99%) |
| Occurrence | 0 (0%) | 2 (0.4%) | 0 (0%) | 2 (0.5%) |
| Community Mental Health Center | | | | |
| None | 14 (15%) | 74 (16%) | 55 (14%) | 48 (13%) |
| Occurrence | 79 (85%) | 381 (84%) | 332 (86%) | 323 (87%) |
| Emergency Room | | | | |
| None | 92 (99%) | 446 (98%) | 367 (95%) | 331 (89%) |
| Occurrence | 1 (1.1%) | 9 (2.0%) | 20 (5.2%) | 40 (11%) |
| Homeless Shelter | | | | |
| None | 93 (100%) | 453 (100%) | 384 (99%) | 353 (95%) |
| Occurrence | 0 (0%) | 2 (0.4%) | 3 (0.8%) | 18 (4.9%) |
| In-person Visit at Patient's Residence | | | | |
| None | 26 (28%) | 107 (24%) | 99 (26%) | 145 (39%) |
| Occurrence | 67 (72%) | 348 (76%) | 288 (74%) | 226 (61%) |
| Inpatient Psychiatric Facility | | | | |
| None | 93 (100%) | 447 (98%) | 373 (96%) | 357 (96%) |
| Occurrence | 0 (0%) | 8 (1.8%) | 14 (3.6%) | 14 (3.8%) |
| Inpatient Hospital (Medical Not Psychiatric) | | | | |
| None | 91 (98%) | 438 (96%) | 360 (93%) | 337 (91%) |
| Occurrence | 2 (2.2%) | 17 (3.7%) | 27 (7.0%) | 34 (9.2%) |
| Mass Immunization Center | | | | |
| None | 93 (100%) | 455 (100%) | 384 (99%) | 371 (100%) |

Appendix F: Additional Patient Engagement Data Tables

| | | | | |
|---|-----------|------------|------------|------------|
| Occurrence | 0 (0%) | 0 (0%) | 3 (0.8%) | 0 (0%) |
| Non-residential Substance Abuse Treatment Facility | | | | |
| None | 93 (100%) | 453 (100%) | 379 (98%) | 370 (100%) |
| Occurrence | 0 (0%) | 2 (0.4%) | 8 (2.1%) | 1 (0.3%) |
| Nursing Facility | | | | |
| None | 93 (100%) | 454 (100%) | 385 (99%) | 370 (100%) |
| Occurrence | 0 (0%) | 1 (0.2%) | 2 (0.5%) | 1 (0.3%) |
| Office | | | | |
| None | 90 (97%) | 446 (98%) | 377 (97%) | 360 (97%) |
| Occurrence | 3 (3.2%) | 9 (2.0%) | 10 (2.6%) | 11 (3.0%) |
| Other | | | | |
| None | 79 (85%) | 369 (81%) | 289 (75%) | 292 (79%) |
| Occurrence | 14 (15%) | 86 (19%) | 98 (25%) | 79 (21%) |
| Outpatient Hospital | | | | |
| None | 88 (95%) | 449 (99%) | 378 (98%) | 360 (97%) |
| Occurrence | 5 (5.4%) | 6 (1.3%) | 9 (2.3%) | 11 (3.0%) |
| Pharmacy | | | | |
| None | 93 (100%) | 455 (100%) | 386 (100%) | 371 (100%) |
| Occurrence | 0 (0%) | 0 (0%) | 1 (0.3%) | 0 (0%) |
| Prison Correctional Facility | | | | |
| None | 93 (100%) | 455 (100%) | 385 (99%) | 365 (98%) |
| Occurrence | 0 (0%) | 0 (0%) | 2 (0.5%) | 6 (1.6%) |
| Psychiatric Facility Partial Hospitalization | | | | |
| None | 93 (100%) | 455 (100%) | 385 (99%) | 370 (100%) |
| Occurrence | 0 (0%) | 0 (0%) | 2 (0.5%) | 1 (0.3%) |
| Public Health Clinic | | | | |
| None | 93 (10%) | 453 (100%) | 387 (100%) | 370 (100%) |
| Occurrence | 0 (0%) | 2 (0.4%) | 0 (0%) | 1 (0.3%) |
| Residential Substance Abuse Treatment Facility | | | | |
| None | 93 (100%) | 455 (100%) | 386 (100%) | 370 (100%) |

Appendix F: Additional Patient Engagement Data Tables

| | | | | |
|---|-----------|------------|------------|------------|
| Occurrence | 0 (0%) | 0 (0%) | 1 (0.3%) | 1 (0.3%) |
| School | | | | |
| None | 93 (100%) | 455 (100%) | 387 (100%) | 370 (100%) |
| Occurrence | 0 (0%) | 0 (0%) | 0 (0%) | 1 (0.3%) |
| Skilled Nursing Facility | | | | |
| None | 93 (100%) | 450 (99%) | 384 (99%) | 368 (99%) |
| Occurrence | 0 (0%) | 5 (1.1%) | 3 (0.8%) | 3 (0.8%) |
| Telemedicine or Phone Visit (Patient at Home) | | | | |
| None | 42 (45%) | 183 (40%) | 174 (45%) | 251 (68%) |
| Occurrence | 51 (55%) | 272 (60%) | 213 (55%) | 120 (32%) |
| Telemedicine Visit Phone Visit (Patient Not at Home) | | | | |
| None | 43 (46%) | 246 (54%) | 204 (53%) | 213 (57%) |
| Occurrence | 50 (54%) | 209 (46%) | 183 (47%) | 158 (43%) |
| Temporary Lodging | | | | |
| None | 93 (100%) | 453 (100%) | 385 (99%) | 367 (99%) |
| Occurrence | 0 (0%) | 2 (0.4%) | 2 (0.5%) | 4 (1.1%) |
| Multidisciplinary Team (i.e., New Journeys) | | | | |
| None | 93 (100%) | 454 (100%) | 387 (100%) | 371 (100%) |
| Occurrence | 0 (0%) | 1 (0.2%) | 0 (0%) | 0 (0%) |
| Outreach and Engagement | | | | |
| None | 87 (94%) | 394 (87%) | 329 (85%) | 301 (81%) |
| Occurrence | 6 (6.5%) | 61 (13%) | 58 (15%) | 70 (19%) |
| Outreach for Legal Entities | | | | |
| None | 93 (100%) | 455 (100%) | 386 (100%) | 371 (100%) |
| Occurrence | 0 (0%) | 0 (0%) | 1 (0.3%) | 0 (0%) |
| Services Provided on Behalf of Patient | | | | |
| None | 93 (100%) | 455 (100%) | 384 (99%) | 371 (100%) |
| Occurrence | 0 (0%) | 0 (0%) | 3 (0.8%) | 0 (0%) |
| Telemedicine Audio and Visual | | | | |
| None | 54 (58%) | 277 (61%) | 236 (61%) | 257 (69%) |

Appendix F: Additional Patient Engagement Data Tables

| | | | | |
|---|----------|-----------|-----------|-----------|
| Occurrence | 39 (42%) | 178 (39%) | 151 (39%) | 114 (31%) |
| Telephone Call for Case Management | | | | |
| None | 64 (69%) | 286 (63%) | 238 (61%) | 273 (74%) |
| Occurrence | 29 (31%) | 169 (37%) | 149 (39%) | 98 (26%) |
| Telephone Call for Medical | | | | |
| None | 33 (35%) | 117 (26%) | 121 (31%) | 167 (45%) |
| Occurrence | 60 (65%) | 338 (74%) | 266 (69%) | 204 (55%) |
| Notes: These represent an event occurring at least once per patient during enrollment. | | | | |

Appendix F: Additional Patient Engagement Data Tables

Table 12B: HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Location and Format of Services Stratified by First and Last Quarter Population Health Stratification PHS level of care, July 2020-December 2022 (N=1,306)

| Change from First and Last LOC Score | Decreasing Risk, N = 213 | Increasing Risk, N = 181 | No Change, N = 912 |
|--|-------------------------------------|-------------------------------------|-------------------------------|
| Location and Form of Services | | | |
| Assisted Living Facility | | | |
| None | 213 (100%) | 179 (99%) | 908 (100%) |
| Occurrence | 0 (0%) | 2 (1.1%) | 4 (0.4%) |
| Assisted Living Facility Group Home Setting | | | |
| None | 213 (100%) | 180 (99%) | 909 (100%) |
| Occurrence | 0 (0%) | 1 (0.6%) | 3 (0.3%) |
| Community Mental Health Center | | | |
| None | 29 (14%) | 29 (16%) | 133 (15%) |
| Occurrence | 184 (86%) | 152 (84%) | 779 (85%) |
| Emergency Room | | | |
| None | 209 (98%) | 173 (96%) | 854 (94%) |
| Occurrence | 4 (1.9%) | 8 (4.4%) | 58 (6.4%) |
| Homeless Shelter | | | |
| None | 207 (97%) | 181 (100%) | 895 (98%) |
| Occurrence | 6 (2.8%) | 0 (0%) | 17 (1.9%) |
| In-person Visit at Patient's Residence | | | |
| None | 45 (21%) | 32 (18%) | 300 (33%) |
| Occurrence | 168 (79%) | 149 (82%) | 612 (67%) |
| Inpatient Psychiatric Facility | | | |
| None | 211 (99%) | 173 (96%) | 886 (97%) |
| Occurrence | 2 (0.9%) | 8 (4.4%) | 26 (2.9%) |
| Inpatient Hospital Medical Not Psychiatric | | | |
| None | 202 (95%) | 170 (94%) | 854 (94%) |
| Occurrence | 11 (5.2%) | 11 (6.1%) | 58 (6.4%) |
| Mass Immunization Center | | | |
| None | 213 (100%) | 181 (100%) | 909 (100%) |

Appendix F: Additional Patient Engagement Data Tables

| | | | |
|---|------------|------------|------------|
| Occurrence | 0 (0%) | 0 (0%) | 3 (0.3%) |
| Non-Residential Substance Abuse Treatment Facility | | | |
| None | 212 (100%) | 180 (99%) | 903 (99%) |
| Occurrence | 1 (0.5%) | 1 (0.6%) | 9 (1.0%) |
| Nursing Facility | | | |
| None | 213 (100%) | 180 (99%) | 909 (100%) |
| Occurrence | 0 (0%) | 1 (0.6%) | 3 (0.3%) |
| Office | | | |
| None | 206 (97%) | 176 (97%) | 891 (98%) |
| Occurrence | 7 (3.3%) | 5 (2.8%) | 21 (2.3%) |
| Other | | | |
| None | 164 (77%) | 138 (76%) | 727 (80%) |
| Occurrence | 49 (23%) | 43 (24%) | 185 (20%) |
| Outpatient Hospital | | | |
| None | 205 (96%) | 179 (99%) | 891 (98%) |
| Occurrence | 8 (3.8%) | 2 (1.1%) | 21 (2.3%) |
| Pharmacy | | | |
| None | 213 (100%) | 181 (100%) | 911 (100%) |
| Occurrence | 0 (0%) | 0 (0%) | 1 (0.1%) |
| Prison Correctional Facility | | | |
| None | 213 (100%) | 179 (99%) | 906 (99%) |
| Occurrence | 0 (0%) | 2 (1.1%) | 6 (0.7%) |
| Psychiatric Facility Partial Hospitalization | | | |
| None | 213 (100%) | 181 (100%) | 909 (100%) |
| Occurrence | 0 (0%) | 0 (0%) | 3 (0.3%) |
| Public Health Clinic | | | |
| None | 212 (100%) | 180 (99%) | 911 (100%) |
| Occurrence | 1 (0.5%) | 1 (0.6%) | 1 (0.1%) |
| Residential Substance Abuse Treatment Facility | | | |
| None | 213 (100%) | 181 (100%) | 910 (100%) |
| Occurrence | 0 (0%) | 0 (0%) | 2 (0.2%) |
| School | | | |

Appendix F: Additional Patient Engagement Data Tables

| | | | |
|---|------------|------------|------------|
| None | 213 (100%) | 181 (100%) | 911 (100%) |
| Occurrence | 0 (0%) | 0 (0%) | 1 (0.1%) |
| Skilled Nursing Facility | | | |
| None | 211 (99%) | 180 (99%) | 904 (99%) |
| Occurrence | 2 (0.9%) | 1 (0.6%) | 8 (0.9%) |
| Telemedicine or Phone Visit Patient at Home | | | |
| None | 76 (36%) | 71 (39%) | 503 (55%) |
| Occurrence | 137 (64%) | 110 (61%) | 409 (45%) |
| Telemedicine Visit Phone Visit Patient Not at Home | | | |
| None | 100 (47%) | 96 (53%) | 510 (56%) |
| Occurrence | 113 (53%) | 85 (47%) | 402 (44%) |
| Temporary Lodging | | | |
| None | 212 (100%) | 181 (100%) | 905 (99%) |
| Occurrence | 1 (0.5%) | 0 (0%) | 7 (0.8%) |
| Multidisciplinary Team (i.e., New Journeys) | | | |
| None | 213 (100%) | 181 (100%) | 911 (100%) |
| Occurrence | 0 (0%) | 0 (0%) | 1 (0.1%) |
| Outreach and Engagement | | | |
| None | 180 (85%) | 147 (81%) | 784 (86%) |
| Occurrence | 33 (15%) | 34 (19%) | 128 (14%) |
| Outreach for Legal Entities | | | |
| None | 213 (100%) | 180 (99%) | 912 (100%) |
| Occurrence | 0 (0%) | 1 (0.6%) | 0 (0%) |
| Services Provided on Behalf of Patient | | | |
| None | 212 (100%) | 180 (99%) | 911 (100%) |
| Occurrence | 1 (0.5%) | 1 (0.6%) | 1 (0.1%) |
| Telemedicine Audio and Visual | | | |
| None | 122 (57%) | 101 (56%) | 601 (66%) |
| Occurrence | 91 (43%) | 80 (44%) | 311 (34%) |
| Telephone Call for Case Management | | | |
| None | 135 (63%) | 107 (59%) | 619 (68%) |
| Occurrence | 78 (37%) | 74 (41%) | 293 (32%) |

Appendix F: Additional Patient Engagement Data Tables

| Telephone Call for Medical | | | |
|---|-----------|-----------|-----------|
| None | 51 (24%) | 40 (22%) | 347 (38%) |
| Occurrence | 162 (76%) | 141 (78%) | 565 (62%) |
| Notes: These represent an event occurring at least once per patient during enrollment. | | | |

Appendix F: Additional Patient Engagement Data Tables

Table 13A.1: HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Stratified by Engagement and First Quarter Population Health Stratification PHS level of care, July 2020-December 2022 (N=1,306)

| Engagement Type* | Low, N = 183 | Medium, N = 499 | High, N = 624 |
|--|---------------------|------------------------|----------------------|
| Crisis Services | | | |
| None | 176 (96%) | 481 (96%) | 568 (91%) |
| Occurrence | 7 (3.8%) | 18 (3.6%) | 56 (9.0%) |
| Day Support | | | |
| None | 182 (99%) | 494 (99%) | 610 (98%) |
| Occurrence | 1 (0.5%) | 5 (1.0%) | 14 (2.2%) |
| Family Treatment | | | |
| None | 183 (100%) | 498 (100%) | 624 (100%) |
| Occurrence | 0 (0%) | 1 (0.2%) | 0 (0%) |
| Group Treatment Services | | | |
| None | 163 (89%) | 445 (89%) | 587 (94%) |
| Occurrence | 20 (11%) | 54 (11%) | 37 (5.9%) |
| High Intensity Treatment | | | |
| None | 183 (100%) | 498 (100%) | 620 (99%) |
| Occurrence | 0 (0%) | 1 (0.2%) | 4 (0.6%) |
| Individual Treatment Services | | | |
| None | 11 (6.0%) | 28 (5.6%) | 58 (9.3%) |
| Occurrence | 172 (94%) | 471 (94%) | 566 (91%) |
| Intake Evaluation** | | | |
| None | 122 (67%) | 301 (60%) | 300 (48%) |
| Occurrence | 61 (33%) | 198 (40%) | 324 (52%) |
| Medication Management | | | |
| None | 41 (22%) | 114 (23%) | 196 (31%) |
| Occurrence | 142 (78%) | 385 (77%) | 428 (69%) |
| Medication Monitoring | | | |
| None | 174 (95%) | 461 (92%) | 543 (87%) |
| Occurrence | 9 (4.9%) | 38 (7.6%) | 81 (13%) |
| Offender Reentry Community Safety Program | | | |

Appendix F: Additional Patient Engagement Data Tables

| | | | |
|--|------------|------------|------------|
| None | 183 (100%) | 499 (100%) | 623 (100%) |
| Occurrence | 0 (0%) | 0 (0%) | 1 (0.2%) |
| Other Telehealth Behavioral Health Services | | | |
| None | 97 (53%) | 255 (51%) | 383 (61%) |
| Occurrence | 86 (47%) | 244 (49%) | 241 (39%) |
| Rehabilitation Case Management | | | |
| None | 157 (86%) | 393 (79%) | 469 (75%) |
| Occurrence | 26 (14%) | 106 (21%) | 155 (25%) |
| Respite Care Services | | | |
| None | 182 (99%) | 498 (100%) | 623 (100%) |
| Occurrence | 1 (0.5%) | 1 (0.2%) | 1 (0.2%) |
| Self-Help Peer Services | | | |
| None | 157 (86%) | 411 (82%) | 465 (75%) |
| Occurrence | 26 (14%) | 88 (18%) | 159 (25%) |
| Supported Employment | | | |
| None | 180 (98%) | 490 (98%) | 614 (98%) |
| Occurrence | 3 (1.6%) | 9 (1.8%) | 10 (1.6%) |
| Supported Housing | | | |
| None | 183 (100%) | 499 (100%) | 623 (100%) |
| Occurrence | 0 (0%) | 0 (0%) | 1 (0.2%) |
| Therapeutic Psychoeducation | | | |
| None | 183 (100%) | 498 (100%) | 623 (100%) |
| Occurrence | 0 (0%) | 1 (0.2%) | 1 (0.2%) |

Notes: *These represent an event occurring at least once per patient during enrollment. **IBIS conducted Recovery Services assessments up until 2022, so this is not representative for our sample.

Appendix F: Additional Patient Engagement Data Tables

Table 13A.2: HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Stratified by Location of Engagement and First Quarter Population Health Stratification PHS level of care, July 2020-December 2022 (N=1,306)

| Location and Form of Services | Low, N = 183 | Medium, N = 499 | High, N = 624 |
|---|-------------------------|----------------------------|--------------------------|
| Assisted Living Facility | | | |
| None | 183 (100%) | 496 (99%) | 621 (100%) |
| Occurrence | 0 (0%) | 3 (0.6%) | 3 (0.5%) |
| Assisted Living Facility Group Home Setting | | | |
| None | 183 (100%) | 497 (100%) | 622 (100%) |
| Occurrence | 0 (0%) | 2 (0.4%) | 2 (0.3%) |
| Community Mental Health Center | | | |
| None | 35 (19%) | 89 (18%) | 67 (11%) |
| Occurrence | 148 (81%) | 410 (82%) | 557 (89%) |
| Emergency Room | | | |
| None | 181 (99%) | 490 (98%) | 565 (91%) |
| Occurrence | 2 (1.1%) | 9 (1.8%) | 59 (9.5%) |
| Homeless Shelter | | | |
| None | 183 (100%) | 499 (100%) | 601 (96%) |
| Occurrence | 0 (0%) | 0 (0%) | 23 (3.7%) |
| In-person Visit at Patient's Residence | | | |
| None | 52 (28%) | 130 (26%) | 195 (31%) |
| Occurrence | 131 (72%) | 369 (74%) | 429 (69%) |
| Inpatient Psychiatric Facility | | | |
| None | 182 (99%) | 490 (98%) | 598 (96%) |
| Occurrence | 1 (0.5%) | 9 (1.8%) | 26 (4.2%) |
| Inpatient Hospital Medical Not Psychiatric | | | |
| None | 181 (99%) | 482 (97%) | 563 (90%) |
| Occurrence | 2 (1.1%) | 17 (3.4%) | 61 (9.8%) |
| Mass Immunization Center | | | |
| None | 183 (100%) | 498 (100%) | 622 (100%) |
| Occurrence | 0 (0%) | 1 (0.2%) | 2 (0.3%) |
| Non-residential Substance Abuse Treatment Facility | | | |

Appendix F: Additional Patient Engagement Data Tables

| | | | |
|---|------------|------------|------------|
| None | 183 (100%) | 495 (99%) | 617 (99%) |
| Occurrence | 0 (0%) | 4 (0.8%) | 7 (1.1%) |
| Nursing Facility | | | |
| None | 183 (100%) | 498 (100%) | 621 (100%) |
| Occurrence | 0 (0%) | 1 (0.2%) | 3 (0.5%) |
| Office | | | |
| None | 180 (98%) | 486 (97%) | 607 (97%) |
| Occurrence | 3 (1.6%) | 13 (2.6%) | 17 (2.7%) |
| Other | | | |
| None | 157 (86%) | 393 (79%) | 479 (77%) |
| Occurrence | 26 (14%) | 106 (21%) | 145 (23%) |
| Outpatient Hospital | | | |
| None | 180 (98%) | 489 (98%) | 606 (97%) |
| Occurrence | 3 (1.6%) | 10 (2.0%) | 18 (2.9%) |
| Pharmacy | | | |
| None | 183 (100%) | 498 (100%) | 624 (100%) |
| Occurrence | 0 (0%) | 1 (0.2%) | 0 (0%) |
| Prison Correctional Facility | | | |
| None | 183 (100%) | 497 (100%) | 618 (99%) |
| Occurrence | 0 (0%) | 2 (0.4%) | 6 (1.0%) |
| Psychiatric Facility Partial Hospitalization | | | |
| None | 183 (100%) | 498 (100%) | 622 (100%) |
| Occurrence | 0 (0%) | 1 (0.2%) | 2 (0.3%) |
| Public Health Clinic | | | |
| None | 183 (100%) | 497 (100%) | 623 (100%) |
| Occurrence | 0 (0%) | 2 (0.4%) | 1 (0.2%) |
| Residential Substance Abuse Treatment Facility | | | |
| None | 183 (100%) | 499 (100%) | 622 (100%) |
| Occurrence | 0 (0%) | 0 (0%) | 2 (0.3%) |
| School | | | |
| None | 183 (100%) | 499 (100%) | 623 (100%) |
| Occurrence | 0 (0%) | 0 (0%) | 1 (0.2%) |

Appendix F: Additional Patient Engagement Data Tables

| | | | |
|---|------------|------------|------------|
| Skilled Nursing Facility | | | |
| None | 183 (100%) | 497 (100%) | 615 (99%) |
| Occurrence | 0 (0%) | 2 (0.4%) | 9 (1.4%) |
| Telemedicine or Phone Visit (Patient at Home) | | | |
| None | 81 (44%) | 219 (44%) | 350 (56%) |
| Occurrence | 102 (56%) | 280 (56%) | 274 (44%) |
| Telemedicine Visit Phone Visit (Patient Not at Home) | | | |
| None | 92 (50%) | 237 (47%) | 377 (60%) |
| Occurrence | 91 (50%) | 262 (53%) | 247 (40%) |
| Temporary Lodging | | | |
| None | 183 (100%) | 499 (100%) | 616 (99%) |
| Occurrence | 0 (0%) | 0 (0%) | 8 (1.3%) |
| Multidisciplinary Team (i.e., New Journeys) | | | |
| None | 183 (100%) | 499 (100%) | 623 (100%) |
| Occurrence | 0 (0%) | 0 (0%) | 1 (0.2%) |
| Outreach and Engagement | | | |
| None | 165 (90%) | 428 (86%) | 518 (83%) |
| Occurrence | 18 (9.8%) | 71 (14%) | 106 (17%) |
| Outreach for Legal Entities | | | |
| None | 183 (100%) | 498 (100%) | 624 (100%) |
| Occurrence | 0 (0%) | 1 (0.2%) | 0 (0%) |
| Services Provided on Behalf of Patient | | | |
| None | 183 (100%) | 498 (100%) | 622 (100%) |
| Occurrence | 0 (0%) | 1 (0.2%) | 2 (0.3%) |
| Telemedicine Audio and Visual. | | | |
| None | 99 (54%) | 279 (56%) | 446 (71%) |
| Occurrence | 84 (46%) | 220 (44%) | 178 (29%) |
| Telephone Call for Case Management | | | |
| None | 134 (73%) | 310 (62%) | 417 (67%) |
| Occurrence | 49 (27%) | 189 (38%) | 207 (33%) |
| Telephone Call for Medical | | | |
| None | 61 (33%) | 157 (31%) | 220 (35%) |

Appendix F: Additional Patient Engagement Data Tables

| | | | |
|---|-----------|-----------|-----------|
| Occurrence | 122 (67%) | 342 (69%) | 404 (65%) |
| Notes: These represent an event occurring at least once per patient during enrollment. | | | |

Appendix F: Additional Patient Engagement Data Tables

Table 13B.1: HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Stratified by Engagement and Last Quarter Population Health Stratification PHS level of care, July 2020-December 2022 (N=1,306)

| Engagement Type* | Low, N = 196 | Medium, N = 516 | High, N = 594 |
|--|---------------------|------------------------|----------------------|
| Crisis Services | | | |
| None | 194 (99%) | 498 (97%) | 533 (90%) |
| Occurrence | 2 (1.0%) | 18 (3.5%) | 61 (10%) |
| Day Support | | | |
| None | 193 (98%) | 511 (99%) | 582 (98%) |
| Occurrence | 3 (1.5%) | 5 (1.0%) | 12 (2.0%) |
| Family Treatment | | | |
| None | 196 (100%) | 516 (100%) | 593 (100%) |
| Occurrence | 0 (0%) | 0 (0%) | 1 (0.2%) |
| Group Treatment Services | | | |
| None | 173 (88%) | 464 (90%) | 558 (94%) |
| Occurrence | 23 (12%) | 52 (10%) | 36 (6.1%) |
| High Intensity Treatment | | | |
| None | 196 (100%) | 516 (100%) | 589 (99%) |
| Occurrence | 0 (0%) | 0 (0%) | 5 (0.8%) |
| Individual Treatment Services | | | |
| None | 9 (4.6%) | 32 (6.2%) | 56 (9.4%) |
| Occurrence | 187 (95%) | 484 (94%) | 538 (91%) |
| Intake Evaluation** | | | |
| None | 116 (59%) | 324 (63%) | 283 (48%) |
| Occurrence | 80 (41%) | 192 (37%) | 311 (52%) |
| Medication Management | | | |
| None | 38 (19%) | 121 (23%) | 192 (32%) |
| Occurrence | 158 (81%) | 395 (77%) | 402 (68%) |
| Medication Monitoring | | | |
| None | 182 (93%) | 472 (91%) | 524 (88%) |
| Occurrence | 14 (7.1%) | 44 (8.5%) | 70 (12%) |
| Offender Reentry Community Safety Program | | | |
| None | 196 (100%) | 516 (100%) | 593 (100%) |

Appendix F: Additional Patient Engagement Data Tables

| | | | |
|--|------------|------------|------------|
| Occurrence | 0 (0%) | 0 (0%) | 1 (0.2%) |
| Other Telehealth Behavioral Health Services | | | |
| None | 105 (54%) | 248 (48%) | 382 (64%) |
| Occurrence | 91 (46%) | 268 (52%) | 212 (36%) |
| Rehabilitation Case Management | | | |
| None | 167 (85%) | 412 (80%) | 440 (74%) |
| Occurrence | 29 (15%) | 104 (20%) | 154 (26%) |
| Respite Care Services | | | |
| None | 196 (100%) | 514 (100%) | 593 (100%) |
| Occurrence | 0 (0%) | 2 (0.4%) | 1 (0.2%) |
| Self Help Peer Services | | | |
| None | 168 (86%) | 421 (82%) | 444 (75%) |
| Occurrence | 28 (14%) | 95 (18%) | 150 (25%) |
| Supported Employment | | | |
| None | 192 (98%) | 508 (98%) | 584 (98%) |
| Occurrence | 4 (2.0%) | 8 (1.6%) | 10 (1.7%) |
| Supported Housing | | | |
| None | 196 (100%) | 516 (100%) | 593 (100%) |
| Occurrence | 0 (0%) | 0 (0%) | 1 (0.2%) |
| Therapeutic Psychoeducation | | | |
| None | 196 (100%) | 515 (100%) | 593 (100%) |
| Occurrence | 0 (0%) | 1 (0.2%) | 1 (0.2%) |
| Notes: *These represent an event occurring at least once per patient during enrollment. **IBIS conducted Recovery Services assessments up until 2022, so this is not representative for our sample. | | | |

Appendix F: Additional Patient Engagement Data Tables

Table 13B.2: HMHAS Mental Health Adult Patients with Current Outpatient Authorization (19+), Stratified by Location of Engagement and Last Quarter Population Health Stratification PHS level of care, July 2020-December 2022 (N=1,306)

| Location and Form of Services | Low, N = 196 | Medium, N = 516 | High, N = 594 |
|---|---------------------|------------------------|----------------------|
| Assisted Living Facility | | | |
| None | 196 (100%) | 515 (100%) | 589 (99%) |
| Occurrence | 0 (0%) | 1 (0.2%) | 5 (0.8%) |
| Assisted Living Facility Group Home Setting | | | |
| None | 196 (100%) | 515 (100%) | 591 (99%) |
| Occurrence | 0 (0%) | 1 (0.2%) | 3 (0.5%) |
| Community Mental Health Center | | | |
| None | 32 (16%) | 95 (18%) | 64 (11%) |
| Occurrence | 164 (84%) | 421 (82%) | 530 (89%) |
| Emergency Room | | | |
| None | 195 (99%) | 511 (99%) | 530 (89%) |
| Occurrence | 1 (0.5%) | 5 (1.0%) | 64 (11%) |
| Homeless Shelter | | | |
| None | 196 (100%) | 510 (99%) | 577 (97%) |
| Occurrence | 0 (0%) | 6 (1.2%) | 17 (2.9%) |
| In-person Visit at Patient's Residence | | | |
| None | 63 (32%) | 124 (24%) | 190 (32%) |
| Occurrence | 133 (68%) | 392 (76%) | 404 (68%) |
| Inpatient Psychiatric Facility | | | |
| None | 195 (99%) | 513 (99%) | 562 (95%) |
| Occurrence | 1 (0.5%) | 3 (0.6%) | 32 (5.4%) |
| Inpatient Hospital Medical Not Psychiatric. | | | |
| None | 192 (98%) | 502 (97%) | 532 (90%) |
| Occurrence | 4 (2.0%) | 14 (2.7%) | 62 (10%) |
| Mass Immunization Center | | | |
| None | 196 (100%) | 515 (100%) | 592 (100%) |
| Occurrence | 0 (0%) | 1 (0.2%) | 2 (0.3%) |
| Non-Residential Substance Abuse Treatment Facility | | | |
| None | 196 (100%) | 512 (99%) | 587 (99%) |

Appendix F: Additional Patient Engagement Data Tables

| | | | |
|---|------------|------------|------------|
| Occurrence | 0 (0%) | 4 (0.8%) | 7 (1.2%) |
| Nursing Facility | | | |
| None | 196 (100%) | 516 (100%) | 590 (99%) |
| Occurrence | 0 (0%) | 0 (0%) | 4 (0.7%) |
| Office | | | |
| None | 191 (97%) | 504 (98%) | 578 (97%) |
| Occurrence | 5 (2.6%) | 12 (2.3%) | 16 (2.7%) |
| Other | | | |
| None | 164 (84%) | 412 (80%) | 453 (76%) |
| Occurrence | 32 (16%) | 104 (20%) | 141 (24%) |
| Outpatient Hospital | | | |
| None | 188 (96%) | 507 (98%) | 580 (98%) |
| Occurrence | 8 (4.1%) | 9 (1.7%) | 14 (2.4%) |
| Pharmacy | | | |
| None | 196 (100%) | 515 (100%) | 594 (100%) |
| Occurrence | 0 (0%) | 1 (0.2%) | 0 (0%) |
| Prison Correctional Facility | | | |
| None | 196 (100%) | 516 (100%) | 586 (99%) |
| Occurrence | 0 (0%) | 0 (0%) | 8 (1.3%) |
| Psychiatric Facility Partial Hospitalization | | | |
| None | 196 (100%) | 515 (100%) | 592 (100%) |
| Occurrence | 0 (0%) | 1 (0.2%) | 2 (0.3%) |
| Public Health Clinic | | | |
| None | 196 (100%) | 514 (100%) | 593 (100%) |
| Occurrence | 0 (0%) | 2 (0.4%) | 1 (0.2%) |
| Residential Substance Abuse Treatment Facility | | | |
| None | 196 (100%) | 516 (100%) | 592 (100%) |
| Occurrence | 0 (0%) | 0 (0%) | 2 (0.3%) |
| School | | | |
| None | 196 (100%) | 516 (100%) | 593 (100%) |
| Occurrence | 0 (0%) | 0 (0%) | 1 (0.2%) |
| Skilled Nursing Facility | | | |

Appendix F: Additional Patient Engagement Data Tables

| | | | |
|---|------------|------------|------------|
| None | 196 (100%) | 513 (99%) | 586 (99%) |
| Occurrence | 0 (0%) | 3 (0.6%) | 8 (1.3%) |
| Telemedicine or Phone Visit (Patient at Home) | | | |
| None | 83 (42%) | 218 (42%) | 349 (59%) |
| Occurrence | 113 (58%) | 298 (58%) | 245 (41%) |
| Telemedicine Visit Phone Visit (Patient Not at Home) | | | |
| None | 93 (47%) | 244 (47%) | 369 (62%) |
| Occurrence | 103 (53%) | 272 (53%) | 225 (38%) |
| Temporary Lodging | | | |
| None | 195 (99%) | 516 (100%) | 587 (99%) |
| Occurrence | 1 (0.5%) | 0 (0%) | 7 (1.2%) |
| Multidisciplinary Team (i.e., New Journeys) | | | |
| None | 196 (100%) | 516 (100%) | 593 (100%) |
| Occurrence | 0 (0%) | 0 (0%) | 1 (0.2%) |
| Outreach and Engagement | | | |
| None | 175 (89%) | 450 (87%) | 486 (82%) |
| Occurrence | 21 (11%) | 66 (13%) | 108 (18%) |
| Outreach for Legal Entities | | | |
| None | 196 (100%) | 516 (100%) | 593 (100%) |
| Occurrence | 0 (0%) | 0 (0%) | 1 (0.2%) |
| Services Provided on Behalf of Client | | | |
| None | 195 (99%) | 516 (100%) | 592 (100%) |
| Occurrence | 1 (0.5%) | 0 (0%) | 2 (0.3%) |
| Telemedicine Audio and Visual. | | | |
| None | 109 (56%) | 288 (56%) | 427 (72%) |
| Occurrence | 87 (44%) | 228 (44%) | 167 (28%) |
| Telephone Call for Case Management | | | |
| None | 145 (74%) | 322 (62%) | 394 (66%) |
| Occurrence | 51 (26%) | 194 (38%) | 200 (34%) |
| Telephone Call for Medical | | | |
| None | 73 (37%) | 146 (28%) | 219 (37%) |
| Occurrence | 123 (63%) | 370 (72%) | 375 (63%) |

Notes: These represent an event occurring at least once per patient during enrollment.

Appendix G: Codebook

| Variable Name | Description | Data Type | Values | Modified Values | Notes / Rationale |
|---------------|-------------------------------------|-----------|-------------------------|--|---|
| DOB | Patient Date of birth (MM/DD/YY YY) | Date | | Calculating age using date of LOCUS level of care assessment: 1= 19 - 24 2 = 25 - 34 3 = 35 - 44 4 = 45 - 54 5 = 55 - 64 6 = 65+ 9 = Missing (NA) | Developed age ranges considering health outcomes that may occur during various stages of development as well as knowing many persons receiving care in Recovery services are older adults (55+). Seventy-five percent of mental health symptoms are established by age 24. Also, initial eligibility for retirement is 62, but phases into 67 which is why I have the 65+ categorization for retired folks. Medicaid will cover all low-income Americans under age 65, after this they are eligible for Medicare. Youngest patients eligible in the data set are 19 years of age. Created ten year increments for consistency purposes. |
| Age_cat | Age of patient | | | | |
| Race | Patient race | Numeric | 010 = White / Caucasian | Categories: 1 = White / Caucasian (010, 801) | Developed categories from OMB recommendations and kept patient subgroups that |

Appendix F: Additional Patient Engagement Data Tables

| | | | | | |
|--|--|--|--|--|---|
| | | | | <p>2 = Native Hawaiian or Other Pacific Islander (032, 033) 3 = Hispanic or Latino 4 = Black or African American (040, 604) 5 = Asian (031, 034, 605, 608, 611, 612, 613, 618, 619) 6 = American Indian or Alaska Native (021) 7 = African Ethnic (871) 8 = Some Other Race (050) 9 = Missing (999, NA)</p> | <p>were most important to the clinic, like African Ethnic, that we know were served and clinicians are interested in seeing their outcomes.</p> |
| | | | 021 = American Indian or Alaska Native | | |
| | | | 031 = Asian Indian | | |
| | | | 032 = Native Hawaiian | | |
| | | | 033 = Other Pacific Islanders | | |
| | | | 034 = Other Asian | | |
| | | | 040 = Black, African American | | |
| | | | 050 = Some Other Race | | |
| | | | 604 = Cambodian | | |
| | | | 605 = Chinese | | |
| | | | 608 = Filipino | | |
| | | | 611 = Japanese | | |
| | | | 612 = Korean | | |
| | | | 613 = Laotian | | |
| | | | 618 = Thai | | |
| | | | 619 = Vietnamese | | |
| | | | 801 = Middle Eastern | | |

Appendix F: Additional Patient Engagement Data Tables

| | | | | | |
|-----------|----------------------------|---------|--|---|--|
| | | | 871 = African Ethnic | | |
| | | | 999 = Not Reported / Unknown | | |
| Ethnicity | Patient Ethnicity | Numeric | 000 = General Hispanic (only used for crisis services) 709 = Cuban 722 = Mexican / Mexican - American / Chicano 727 = Puerto Rican 799 = Other Spanish / Hispanic 998 = Not Spanish / Hispanic 999 = Unknown | Categories (to be applied above in ethnicity): 1 = Not Hispanic (998) 2 = Hispanic (000, 709, 722, 727, 799) 9 = Missing (999, NA) | Organized to separate those with Hispanic origin and not for categories above. |
| Sexuality | Patient sexual orientation | Numeric | 1 = Heterosexual | Categories: 1 = Heterosexual 2 = LGBTQ (2, 4, 5) 9 = Missing (6, 8, 9, NA) | Organized cases that are forms of missing data and chose not to disclose information |
| | | | 2 = Gay / Lesbian / Queer / Homosexual | | |
| | | | 4 = Bisexual | | |
| | | | 5 = Questioning | | |
| | | | 6 = Choosing not to disclose | | |
| | | | 8 = Not asked | | |
| | | | 9 = Unknown | | |
| Sex | Patient sexual identity | Numeric | 1 = Female | 1 = Female 2 = Male 3 = Transgender / Intersex 9 = Missing (NA) | |
| | | | 2 = Male | | |

Appendix F: Additional Patient Engagement Data Tables

| | | | | | |
|--------------|-------------------------|----------------|--|---|---|
| | | | 5 = Transgender | | |
| | | | 6 = Intersex: Person born with characteristics of both | | |
| Income_cat | Patient annual income | Text (numeric) | | Categories: 1 = \$1-\$5000 2 = \$5001-\$10000 3 = 10001-\$40000 4 = 40001 - \$75000 5 = \$75001-\$100000 9 = Missing / Unknown (NA) | |
| Military | Patient military status | Numeric | 01 = The person served in the U.S. military | Categories: 1 = Served in US Military 2 = Never Served in US Military 9 = Missing / unknown (08, 09, NA) | Organized cases that are forms of missing data and chose not to disclose information |
| | | | 02 = The person has never served in the U.S. military | | |
| | | | 08 = Not asked | | |
| | | | 09 = Unknown | | |
| Relationship | Patient marital status | Numeric | 1 = Single or Never married | Categories: 1 = Single or Never Married 2 = Married or Committed Relationship 3 = Separated / Divorced / Widowed 9 = Missing / Unknown (97, 99, NA) | We grouped this way due to understanding the shift of social support networks and close relationships and how it can be influential regarding someone's mental health recovery. |
| | | | 2 = Now married or Committed Relationship | | |
| | | | 3 = Separated | | |
| | | | 4 = Divorced | | |

Appendix F: Additional Patient Engagement Data Tables

| | | | | | |
|-------------------------------|------------------------|---------|--------------------------|--|---|
| | | | 5 = Widowed | | |
| | | | 97 / 99 = Unknown | | |
| DSM5_categories / DSM5_labels | Patient diagnosis type | Text | | <p>Categories:</p> <ul style="list-style-type: none"> 1 = Neurodevelopmental Disorder 2 = Bipolar and Related Disorder 3 = Anxiety Disorder 4 = Trauma and Stressor Related Disorder 5 = Dissociative Disorder 6 = Somatic Symptom Disorder 7 = Feeding and Eating Disorder 8 = Sleep Wake Disorder 9 = Disruptive, Impulse Control, and Conduct Disorder 10 = Depressive Disorder 11 = Substance Use and Addictive Disorder 12 = Neurocognitive Disorder 13 = Schizophrenia Spectrum and Other Psychotic Disorder 14 = Obsessive-Compulsive and Related Disorder (OCD) 15 = Personality Disorder 16 = Other Mental Disorder | Organized and grouped by DSM-V categories within the diagnostic manual knowing that certain categories are more indicative of serious mental illness categorization than other forms of mental health issues. |
| Current | Patient | Numeric | 21 = Full-time education | 1 = Full-time education | |

Appendix F: Additional Patient Engagement Data Tables

| | | | | | |
|-----------|------------------------------------|---------|------------------------------------|--|---|
| _ed | current education status | | | 2 = Part-time education 3 = Not in education activities 9 = Missing / Unknown (NA) | |
| | | | 41 = Part-time education | | |
| | | | 97 = Not in educational activities | | |
| Education | Patient highest level of education | Numeric | 04 = Grade 4 | Categories: 1 = Less than High School Diploma or GED (04-11, 32, 90) 2 = High School Diploma or GED (12) 3 = 2 years of college or Associate's degree / Vocational (14, 23) 4 = Bachelor's degree (16) 5 = Post-graduate education (18) 6 = Some college (17) 7 = 3-4 years of college (19, 20) 9 = Missing / Unknown (NULL, 99) | Organized to categorize folks who mostly fell below Grade 12 for years of education to inform our understanding of those who experience higher risk and PHS level of care needs in this subgroup. Also retained years of college to see how this informs PHS level of care changes and demographic characteristics for HMHAS. |
| | | | 05 = Grade 5 | | |
| | | | 06 = Grade 6 | | |
| | | | 07 = Grade 7 | | |
| | | | 08 = Grade 8 | | |
| | | | 09 = Grade 9 | | |
| | | | 10 = Grade 10 | | |
| | | | 11 = Grade 11 | | |

Appendix F: Additional Patient Engagement Data Tables

| | | | | | |
|-----|--|---------|---|---|--|
| | | | 12 = High School Diploma or GED | | |
| | | | 14 = 2 years of college or Associate Degree | | |
| | | | 16 = Bachelor's Degree | | |
| | | | 17 = 1 year of college | | |
| | | | 18 = Postgraduate education | | |
| | | | 19 = 3 years of college | | |
| | | | 20 = 4 years of college | | |
| | | | 23 = Vocational | | |
| | | | 32 = Grade 12 (no diploma or GED) | | |
| | | | 90 = Never attended or below preschool | | |
| | | | 99 = Unknown | | |
| CSO | This attribute identifies the location of the Community Service Office (CSO) where the patient is Medicaid-enrolled and eligible under federal | Numeric | 91 = Medicaid and KCICN Eligible - Enrolled into Managed Care | 1= Medicaid and KCICN Eligible 2 = Not Medicaid and KCICN Eligible 9 = Missing / Unknown (NULL) | |

Appendix F: Additional Patient Engagement Data Tables

| | | | | | |
|---------|--|---------|--|--|--|
| | Medicaid (Title XIX) for Mental Health benefits in King County MHP. | | | | |
| | | | 91 = TXIX enrolled - King County CSO, Eligible under Medicaid | | |
| | | | 99 = Not enrolled in TXIX, Not eligible under Medicaid | | |
| | | | 99 = Not KCICN Eligible - May or may not be Medicaid eligible - NOT enrolled into Managed Care | | |
| KCID | King County identification number | Text | | | |
| Program | Program enrollment number, i.e., corresponding mental health benefit associated with PHS level of care | Numeric | 400 = Medicaid Eligible Mental Health Services (tier) | | |
| | | | 401 = Non-Medicaid tier (MIDD funding to provide services) (more for case | | |

Appendix F: Additional Patient Engagement Data Tables

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|---------------|--|---------|---|--|--|
| | | | management services which Medicaid does not pay for) Patients who do not have Medicaid | | |
| | | | 2X1 = LEVEL ONE – Recovery Maintenance and Health Management | | |
| | | | 3A1 = LEVEL TWO – Low Intensity Community Based Services | | |
| | | | 3B1 = LEVEL THREE – High Intensity Community Based Services | | |
| cl_recor d | Patient record number | Text | | | |
| case_id | Case ID | Text | | | |
| LOCUSd ate | Event date (YearMonth Day / YYYYMMDD) | Text | | | |
| dim_i | LOCUS level of care Dimension Number 1 Risk of Harm: This dimension of the assessment considers a person's | Numeric | 1 = Minimal Risk of Harm 2 = Low Risk of Harm 3 = Moderate Risk of Harm 4 = Serious Risk of Harm 5 = Extreme Risk of Harm | | |

Appendix F: Additional Patient Engagement Data Tables

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|--------|--|---------|---|--|--|
| | potential to cause significant harm to self or others. | | | | |
| dim_ii | LOCUS level of care Dimension Number 2 Functional Status: This dimension of the assessment measures the degree to which a person can fulfill social responsibilities, to interact with others, maintain their physical functioning (such as sleep, appetite, energy, etc.), as well as a | Numeric | 1 = Minimal Impairment 2 = Mild Impairment 3 = Moderate Impairment 4 = Serious Impairment 5 = Severe Impairment | | |

Appendix F: Additional Patient Engagement Data Tables

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|---------|---|---------|--|--|--|
| | person's capacity for self-care. | | | | |
| dim_iii | <p>LOCUS level of care Dimension Number 3 Substance Use History and Medical Score: This dimension measures potential complications in the course of illness related to co-existing medical illness, substance use disorder, or psychiatric disorder in addition to the condition first identified or most</p> | Numeric | <p>1 = No Comorbidity 2 = Minor Comorbidity 3 = Significant Comorbidity 4 = Major Comorbidity 5 = Severe Comorbidity</p> | | |

Appendix F: Additional Patient Engagement Data Tables

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|----------|---|---------|--|--|--|
| | readily apparent. | | | | |
| dim_iv_a | <p>LOCUS level of care Dimension 4A Recovery Environment : This dimension considers factors in the environment that may contribute to the onset or maintenance of addiction or mental illness, and factors that may support a person's efforts to achieve or maintain mental health and/or abstinence. Stressful circumstance</p> | Numeric | <p>1 = Low Stress Environment 2 = Mildly Stressful Environment 3 = Moderately Stressful Environment 4 = Highly Stressful Environment 5 = Extremely Stressful Environment</p> | | |

Appendix F: Additional Patient Engagement Data Tables

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|----------|---|---------|---|--|--|
| | <p>s may originate from multiple sources and include interpersonal conflict or torment, life transitions, losses, worries relating to health and safety, and ability to maintain role responsibilities.</p> | | | | |
| dim_iv_b | <p>LOCUS level of care Dimension 4B Support System: This dimension considers factors in the environment that may contribute to the onset or maintenance</p> | Numeric | <p>1 = Highly Supportive Environment 2 = Supportive Environment 3 = Limited Support in Environment 4 = Minimal Support in Environment 5 = No Support in Environment</p> | | |

Appendix F: Additional Patient Engagement Data Tables

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|--|---|--|--|--|--|
| | <p>of addiction or mental illness, and factors that may support a person's efforts to achieve or maintain mental health and/or abstinence. Supportive elements in the environment are resources which enable persons to maintain health and role functioning in the face of stressful circumstances, such as availability of adequate</p> | | | | |
|--|---|--|--|--|--|

Appendix F: Additional Patient Engagement Data Tables

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|--------|---|---------|---|--|--|
| | material resources and relationships with family members. | | | | |
| dim_v | LOCUS level of care Dimension 5 Treatment and Recovery History: This dimension of the assessment recognizes that a person's experience indicates how they are likely to respond to similar circumstances in the future. | Numeric | 1 = Fully Responsive to Treatment and Recovery Management 2 = Significant Response to Treatment and Recovery Management 3 = Moderate or Equivocal Response to Treatment and Recovery Management 4 = Poor Response to Treatment and Recovery Management 5 = Negligible Response to Treatment | | |
| dim_vi | LOCUS level of care Dimension 6 Engagement | Numeric | 1 = Optimal Engagement and Recovery 2 = Positive Engagement and Recovery | | |

Appendix F: Additional Patient Engagement Data Tables

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|--------------------|---|------|--|---|--|
| | and Recovery Status: This dimension of the assessment considers a person's understanding of illness and treatment and ability or willingness to engage in the treatment and recovery process. | | 3 = Limited Engagement and Recovery 4 = Minimal Engagement and Recovery 5 = Unengaged and Stuck | | |
| composite_LOCUScat | Indicates the composite score as defined by the LOCUS level of care instrument. | Text | 10-13 = I. Recovery Maintenance and Health Maintenance. (2X) 14-16 = II. Low Intensity Community Based Services (3A) 17-19 = III. High Intensity Community Based Services (3B) 20-22 = IV. Medically Monitored Non-Residential Services (PACT, SSH) | Categories: 1 = (10-13) I. Recovery Maintenance and Health Maintenance. (2X) 2 = (14-16) II. Low Intensity Community Based Services (3A) 3 = (17-19) III. High Intensity Community Based Services (3B) 4 = Patient Need Outside of Community-Based Services | Assigned variables for category ranges due to this being a numeric variable for which levels patients fall into for the LOCUS level of care score. |

Appendix F: Additional Patient Engagement Data Tables

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|----------------|--|---------|---|--|--|
| | | | 23-27 = V. Medically Monitored Residential Services (ECS, SL, LTR) 28 or more = VI. Medically Managed Residential Services (INPATIENT) | Care Capacity (Score 19+) (9 = Missing (NA)) | |
| flag | Variable created to determine duplicate LOCUS level of care scores, and identify most recent by date | Numeric | | | |
| loc_req_uested | PHS level of care Requested (Internal) (Context: Request low intensity community based services for someone who has higher composite | Text | 0 = LEVEL ZERO: Does not meet access to care or completed treatment | | |

Appendix F: Additional Patient Engagement Data Tables

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|---------------------------|---|--|---|--|--|
| | score for care, KCICN would recommend differently / designation). See above categories for composite score / total ratings. | | | | |
| Composite_phsc categories | | | <p>1 = Recovery Maintenance and Health Management This PHS level of care provides treatment to patients who are living either independently or with minimal support in the community, and who have achieved significant recovery from past episodes of illness. Treatment and service needs do not require supervision or frequent contact.</p> | | |
| | | | <p>2 = Low Intensity Community Based Services This PHS level of care provides treatment to</p> | | |

Appendix F: Additional Patient Engagement Data Tables

| | | | | | |
|------|----------------|------|--|--|--|
| | | | <p>patients who need ongoing treatment, but who are living either independently or with minimal support in the community. Treatment and service needs do not require intense supervision or very frequent contact. Programs of this types have traditionally been clinic-based programs.</p> | | |
| | | | <p>3 = High Intensity Community Based Services This PHS level of care provides treatment to patients who need intensive support and treatment, but who are living either independently or with minimal support in the community. Service needs do not require daily supervision, but treatment needs require contact several times per week. Programs of this type have traditionally been clinic-based programs.</p> | | |
| KCID | King County ID | Text | | | |

Appendix F: Additional Patient Engagement Data Tables

| | | | | | |
|-------------------------------|--|--------------------|--|--|---|
| post_stamp | Assessment posted date and time | Text (date / time) | | | |
| KCID | King county identifier number (KCID) | Text | | | |
| Program | Benefit type or program requested | Text | 400 = Medicaid Eligible Mental Health Services (tier) | | |
| | | | 401 = Non-Medicaid tier (MIDD funding to provide services) (more for case management services which Medicaid does not pay for) Patients who do not have Medicaid | | |
| Strat_level.x / Strat_level.y | Stratification level score for PHS level of care (.x = First PHS score, .y = Last PHS score) | Text | H = High | Categories: 0 = None 1 = Low 2 = Medium 3 = High | Assigned numerical values for letter abbreviations, no recoding |
| | | | M = Medium | | |
| | | | L = Low | | |
| Risk_score.x / Risk_score.y | Numerical value assigned for stratification level score | Numeric | | | |

Appendix F: Additional Patient Engagement Data Tables

| | | | | | |
|-------------------------------|--|------|-----------------------------|-------------|------------------------------|
| | (.x = First PHS score, .y = Last PHS score) | | | | |
| Calc_dat e.x / Calc_dat e.y | Date SDA calculated (MM/DD/YY) (.x = First PHS score, .y = Last PHS score) | Text | | | |
| CatA_in put.x / CatA_in put.y | Category A: High Risk Utilization for number of events in inpatient, ED visits, SUD withdrawal management, ITA events, SUD residential services, all causes last 12 months (.x = First PHS score, .y = Last PHS score) | Text | Range in points (0+) | | |
| CatA_sc | Category A: | Text | Range in points (0-11) (0 = | Categories: | Categorized based off of the |

Appendix F: Additional Patient Engagement Data Tables

| | | | | | |
|--|---|-------------|--|---|---|
| <p>ore.x / CatA_sc ore.y</p> | <p>High Risk Utilization for number of events in inpatient, ED visits, SUD withdrawal management, ITA events, SUD residential services, all causes last 12 months (score) (.x = First PHS score, .y = Last PHS score)</p> | | <p>No events, 1 = 1-2 events, Low, 5 = 3-5 events, Medium, 11 = 6+ events, High)</p> | <p>0 = No events, 1 = 1-2 events, 2 = 6+ events</p> | <p>PHS subscore categorization model and assigned numerical value based off of the low, medium, high PHS level of care structure.</p> |
| <p>CatC_in put.x / CatC_in put.y</p> | <p>Category C: Chronic Conditions points for presence of chronic conditions - diabetes, CD, asthma, COPD (.x = First PHS score, .y = Last PHS</p> | <p>Text</p> | <p>Range in points (0+)</p> | | |

Appendix F: Additional Patient Engagement Data Tables

| | | | | | |
|--------------------------------|---|------|--|---|---|
| | score) | | | | |
| CatC_score.x / CatC_score.y | Category C: Chronic Conditions score for presence of chronic conditions - diabetes, CD, asthma, COPD (.x = First PHS score, .y = Last PHS score) | Text | Range in points (0-3) (0 = None of these, 2 = Medium, 1 condition, 3+ = High, 2+ conditions) | Categories: 0 = None of these, 2 = 1 condition, 3 = 2+ conditions, 4 = 3+ conditions, etc. | Categorized based off of the PHS subscore categorization model and assigned numerical value based off of the low, medium, high PHS level of care structure. Chronic conditions unavailable because King County is not allowed to save in their database. It is used in the stratification calculation, then not stored. |
| CatC_missing.x / Cat_missing.y | Category C: Chronic Conditions missing data for presence of chronic conditions - diabetes, CD, asthma, COPD (.x = First PHS score, .y = Last PHS score) | Text | N = No, Y = Yes | Categories: 0 = No 1 = Yes | Categorized based off of the PHS subscore categorization model and assigned numerical value based off of the low, medium, high PHS level of care structure. |
| CatB_Homeless_input.x | Category B: Social Determinant | Text | Range in points (0 or 7) | | |

Appendix F: Additional Patient Engagement Data Tables

| | | | | | |
|---|---|------|--------------------------------------|--|---|
| / CatB_Homeless_input.y | s of Health Housing stability points (.x = First PHS score, .y = Last PHS score) | | | | |
| CatB_Homeless_score.x / CatB_Homeless_score.y | Category B: Social Determinants of Health Housing stability score (.x = First PHS score, .y = Last PHS score) | Text | 0 = Not homeless, 7 = Homeless, High | Categories: 0 = Not homeless, 1 = Homeless | Categorized based off of the PHS subscore categorization model and assigned numerical value based off of the low, medium, high PHS level of care structure. |
| CatB_CriminalJustice_input.x / CatB_CriminalJustice_input.y | Category B: Social Determinants of Health Criminal Justice Events, past 6 months points (.x = First PHS score, .y = Last PHS score) | Text | Range in points (0-3) | | |

Appendix F: Additional Patient Engagement Data Tables

| | | | | | |
|---|--|------|--|---|---|
| CatB_CrimJus_score.x / CatB_CrimJus_score.y | Category B: Social Determinants of Health Criminal Justice Events, past 6 months score (.x = First PHS score, y = Last PHS score) | Text | Range in points (0-3) (0 = No events, 2 = 1-2 events, Medium, 3 = 3+ events, High) | Categories: 0 = No events, 1 = 1-2 events, 2 = 3+ events | Categorized based off of the PHS subscore categorization model and assigned numerical value based off of the low, medium, high PHS level of care structure. |
| CatB_CrimJus2_input.x / CatB_CrimJus2_input.y | Category B: Social Determinants of Health Criminal Justice Event >2 years, past 5 years points (.x = First PHS score, .y = Last PHS score) | Text | Range in points (0 or 1) | | |
| CatB_CrimJus2_score.x / CatB_CrimJus2_score.y | Category B: Social Determinants of Health Criminal Justice Event | Text | Range in points (0 or 1) (0 = No events, , 1 = Yes, High) | Categories: 0 = No events 1 = Yes | Categorized based off of the PHS subscore categorization model and assigned numerical value based off of the low, medium, high PHS level of care structure. |

Appendix F: Additional Patient Engagement Data Tables

| | | | | | |
|---|--|------|--|---|---|
| score.y | >2 years, past 5 years score (.x = First PHS score, .y = Last PHS score) | | | | |
| Input: Foster care | Category B: Social Determinants of Health foster care points | Text | Range in points (0 = No, or 3 = Yes, High) | | |
| Score: Foster care | Category B: Social Determinants of Health foster care score | Text | 0 = None, 3 = Foster care, High | Categories: 0 = None 1 = Foster care | Categorized based off of the PHS subscore categorization model and assigned numerical value based off of the low, medium, high PHS level of care structure. |
| CatD_input.x / CatD_input.y | Category D: Assessments points (.x = First PHS score, .y = Last PHS score) | Text | Range in points (0-17+) | | |
| CatD_L OCUS_score.x / CatD_L OCUS_score.y | Category D: Assessments score (.x = First PHS score, .y = Last PHS score) | Text | Range in points (0-17+) (0 = No score, 1 = Low, <14, 4 = Medium, 14-16, 8 = High, 17+) | Categories: 0 = None, 1 = Low <14, 2 = Medium 14-16, 3 = High 17+ | Categorized based off of the PHS subscore categorization model and assigned numerical value based off of the low, medium, high PHS level of care structure. |

Appendix F: Additional Patient Engagement Data Tables

| | | | | | |
|--|---|------|--|--|---|
| | score) | | | | |
| Input: CALOC US | Category D: Assessments points | Text | Range in points (0-17+) | | |
| Score: CALCO US | Category D: Assessments score | Text | Range in points (0-17+) (0 = No score, 1 = Low, <14, 4 = Medium, 14-16, 8 = High, 17+) | Categories: 0 = None, 1 = Low <14, 2 = Medium 14-16, 3 = High 17+ | Categorized based off of the PHS subscore categorization model and assigned numerical value based off of the low, medium, high PHS level of care structure. |
| Strat_le vel_peri od.x / Strat_le vel_peri od.y | Patient stratification score during SDA period (.x = First PHS score, .y = Last PHS score) | Text | H = High | Categories: 0 = None 1 = Low 1.5 = Low, Medium 2 = Medium 2.5 = Medium, High 3 = High 3.5 = Low, High | Categorized based off of the PHS subscore categorization model and assigned numerical value based off of the low, medium, high PHS level of care structure. |
| | | | M = Medium | | |
| | | | L = Low | | |
| | | | L, H = Low, High | | |
| | | | L, M = Low, Medium | | |
| | | | M, H = Medium, High | | |
| SDA_sta rt.x / SDA_sta rt.y | Date of quarter start (MM/DD/YY YY) (.x = First PHS score, .y = Last PHS score) | Text | | | |
| SDA_en | Date of | Text | | | |

Appendix F: Additional Patient Engagement Data Tables

| | | | | | |
|---------------------------|---|---------|--|--|--|
| d.x / SDA_en d.y | quarter end (MM/DD/YY) (.x = First PHS score, .y = Last PHS score) | | | | |
| Rn.x / Rn.y | Determination for first and last PHS score | Numeric | | | |
| SDA_days.x / SDA_days.y | Number of days patient was enrolled in services during SDA period (.x = First PHS score, .y = Last PHS score) | Numeric | | | |
| SDA_hours.x / SDA_hours.y | Number of service hours patient engaged in during SDA period (.x = First PHS score, .y = Last PHS score) | Numeric | | | |
| SDA_pr | Number of | Numeric | | | |

Appendix F: Additional Patient Engagement Data Tables

| | | | | | |
|---|---|---------|--|-------------|---|
| prorated.x / SDA_prorated.y | service hours patient engaged that were prorated (.x = First PHS score, .y = Last PHS score) | | | | |
| SDA_expectedhours.x / SDA_expectedhours.y | Number of expected service hours patient engaged in during SDA period (.x = First PHS score, .y = Last PHS score) | Numeric | | | |
| case_id | Case ID | Text | | | |
| service_id | Service ID | Text | | | |
| event_date | Event date (YearMonth Day / YYYYMMDD) | Text | | | |
| cpt_code | Program internal service offered, engagement | Text | 90791 = MHP, Psych Diagnosis Evaluation (intake) | Categories: | Categorization rationale follows the service encounter reporting codes and modified codes for unique circumstances (COVID |

Appendix F: Additional Patient Engagement Data Tables

| | type | | | | pandemic) |
|--|------|--|--|---|-----------|
| | | | 90792 = MD / ARNP, Psych Diagnosis Evaluation with medical services (intake) | 1 = Crisis services (H2011) | |
| | | | 90832 = MHP, psychotherapy with patient and/or family member (30 min) | 2 = Day Support (H2012) | |
| | | | 90834 = MHP, Psych other with patient and/or family members (45 min) | 3 = Family Treatment (90846, 90847) | |
| | | | 90837 = MHP, Psych other with patient and/or family members (60 min) | 4 = Group Treatment Services (90849, 90853) | |
| | | | 90846 = MHP/FEP, Family psychotherapy without patient | 5 = High Intensity Treatment (H0040, H2022) | |
| | | | 90847 = MHP/FEP, Family psychotherapy with patient | 6 = Individual Treatment Services (90832, 90834, 90837, H0004, H0036, H0046, H2014, H2015, H2017) | |
| | | | 90849 = MHP, Multi family group psychotherapy (w/ or w/out patient) | 7 = Intake Evaluation (90791, 90792, 99202, 99203, 99204, 99205, 99342, H0031) | |
| | | | 90853 = MHP, Group psychotherapy (other than multiple-family group) | 8 = Medication Management (96372, 99211, 99212, 99213, 99214, 99215, 99347, T1001) | |
| | | | 96372 = Injection for ther/proph/diag purposes | 9 = Medication Monitoring (H0033, H0034) | |

Appendix F: Additional Patient Engagement Data Tables

| | | | SQ or IM | | |
|--|--|--|---|---|--|
| | | | 99202 = Office / OP visit, new patient, straightforward MDM (15-29 total time of encounter) | 10 = Rehabilitation Case Management (H0023) | |
| | | | 99203 = Office / OP visit, new patient low MDM (30-44 total time of encounter) | 11 = Therapeutic Psychoeducation (H0025, H2027) | |
| | | | 99204 = Office / OP visit, new patient moderate MDM (45-59 total time of encounter) | 12 = Respite Care Services (T1005) | |
| | | | 99205 = Office / OP visit, new patient, high MDM (60-74 total time of encounter) | 13 = Supported Employment (H2023, H2025) | |
| | | | 99211 = Office / OP visit, established patient, may not require presence of physician/QHP, minimal presenting problem | 14 = Offender Reentry Community Safety Program (T1016) | |
| | | | 99212 = MD / ARNP, Office / OP visit, established patient, straightforward MDM (10-19 minutes total of time of encounter) | 15 = Other Telehealth Behavioral Health Services (99441, 99442, 99443, G2012) | |
| | | | 99213 = MD / ARNP, Office / OP visit, established patient, low MDM (20-29 minutes total time of encounter) | | |
| | | | 99214 = MD / ARNP, Office / OP visit, established | | |

Appendix F: Additional Patient Engagement Data Tables

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|--|--|--|---|--|--|
| | | | patient, moderate MDM (30-39 minutes total time of encounter) | | |
| | | | 99215 = MD / ARNP, Office / OP visit, established patient, high MDM (40-54 minutes total time of encounter) | | |
| | | | 99342 = Home or residence visits for new patient E&M (problem(s) of moderate severity; approximately 30 mins spent face-face with the patient and/or family) | | |
| | | | 99347 = Home or residence visit for established patient E&M (problem(s) are self-limited or minor, approximately 20 minutes are spent face-face with the patient and/or family) | | |
| | | | 99441 = Telemedicine / Telehealth PHONE E/M PHYS/QHP 5-10 MIN | | |
| | | | 99442 = Telemedicine / Telehealth PHONE E/M PHYS/QHP 11-20 MIN | | |
| | | | 99443 = Telemedicine / Telehealth PHONE E/M PHYS/QHP 21-30 MIN | | |
| | | | G2012 = E/M PHYS/QHP Text / Email: Brief | | |

Appendix F: Additional Patient Engagement Data Tables

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|--|--|--|--|--|--|
| | | | communication technology-based service, e.g. virtual check-in, by a physician or other qualified health care professional who can report evaluation and management services, provided to an established patient, not originating from a related e/m service provided within the previous 7 days nor leading to an e/m service or procedure within the next 24 hours or soonest available appointment; 5-10 minutes of medical discussion | | |
| | | | H0004 = MHP, Behavioral Health Counseling and Therapy (per 15 min) | | |
| | | | H0023 = MHP, Behavioral Health Outreach Services | | |
| | | | H0025 = Behavioral Health Prevention Education | | |
| | | | H0031 = Mental Health assessment by non-MD | | |
| | | | H0033 = RN, oral medication administration, direct observation | | |
| | | | H0034 = RN, medication training and support (per 15 minutes) | | |

Appendix F: Additional Patient Engagement Data Tables

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|--|--|--|---|--|--|
| | | | H0036 = MHP, community psych supportive treatment face-face (per 15 min) | | |
| | | | H0040 = Assert. community treatment program, per diem | | |
| | | | H0046 = MHP, mental health services, NOS | | |
| | | | H2011 = MHP, Crisis Intervention Services (15 min) | | |
| | | | H2012 = Peer Support, Behavioral Health Day Treatment | | |
| | | | H2014 =Skills training and development (per 15 min) | | |
| | | | H2015 = MHP, Comp. community supportive services (per 15 min) | | |
| | | | H2017 = MHP, Psychosocial rehab services (per 15 min) | | |
| | | | H2022 = Community wrap-around service, per diem | | |
| | | | H2023 = MHP/Supported Employment, supported employment (per 15 min) | | |
| | | | H2025 = MHP/Supported Employment, supportive maintain employment (15 min) | | |
| | | | H2027 = Psycho-education services, (per 15 min), | | |

Appendix F: Additional Patient Engagement Data Tables

| | | | | | |
|-----------|--|------|---|--|--|
| | | | psychoeducation services (per 15 min) | | |
| | | | T1001 = RN, Nursing assessment / evaluation | | |
| | | | T1005 = Respite care services (15 min) | | |
| | | | T1016 = MHP/SUDP, case management (each 15 min) | | |
| modifiers | A code that indicates a service provided was changed or clarified by some specific circumstance · Modifiers are used with Current Procedural Terminology (CPT) and Healthcare Common Procedures Code Set (HCPCS) codes. | Text | 53 = Discontinued procedure - used in combination with a CPT code for intake and identifies when an intake has not been completed during a scheduled session (assessments, intake evals, case management) | Categories: 1 = Discontinued procedure - used in combination with a CPT code for intake and identifies when an intake has not been completed during a scheduled session (assessments, intake evals, case management) (53) | |
| | | | CR = Telephone call (this is only for medical folks MD) | 2 = Telephone call (this is only for medical folks MD) | |

Appendix F: Additional Patient Engagement Data Tables

| | | | | | |
|-------------|-----------------------------------|------|--|--|---|
| | | | etc., case managers used to use this too) | etc., case managers used to use this too) (CR) | |
| | | | FQ = Telephone visit (changed for case managers) | 3 = Telephone visit (changed for case managers) (FQ) | |
| | | | GT = Telemedicine (audio and visual) | 4 = Telemedicine (audio and visual) (GT) | |
| | | | HT = Multidisciplinary team, used to identify all services provided using the New Journeys Coordinated Specialty Care (NJ CSC) delivery model by a qualified provider (HT) | 5 = Multidisciplinary team, used to identify all services provided using the New Journeys Coordinated Specialty Care (NJ CSC) delivery model by a qualified provider (| |
| | | | HX = Outreach and Engagement (not billable hours in Medicaid) | 6 = Outreach and Engagement (not billable hours in Medicaid) (HX) | |
| | | | UK = Services provided on behalf of the patient to someone other than the patient (collateral relationship) | 7 = Services provided on behalf of the patient to someone other than the patient (collateral relationship) (UK) | |
| | | | XE = Adding additional service (add-on service) | 8 = Adding additional service (add-on service) (XE) | |
| service_loc | Service location at provider site | Text | 01 = Pharmacy | Relabeled: Other 01 = Pharmacy 03 = School | Due to small N, relabeled sites under 'Other' category if they were below 30 observations |

Appendix F: Additional Patient Engagement Data Tables

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|--|--|--|---|--|--|
| | | | | <p>13 = Assisted Living Facility 16 Temporary Lodging 60 = Mass Immunization Center 30 = Nursing Facility 71 = Public Health Clinic 52 = Psychiatric Facility / Partial Hospitalization, 55 = Residential Substance Abuse Treatment Facility, 99 = Other</p> | |
| | | | 02 = Telemedicine visit / Phone Visit (patient not at home) | | |
| | | | 03 = School | | |
| | | | 04 = Homeless Shelter | | |
| | | | 05 = Indian Health Service (free standing) | | |
| | | | 09 = Prison / Correctional Facility | | |
| | | | 10 = Telemedicine or Phone Visit (patient at home) | | |
| | | | 11 = Office (would never use this here at MH center, we use 53) | | |
| | | | 12 = In-person visit at patient's residence | | |
| | | | 13 = Assisted living facility | | |
| | | | 14 = Assisted living facility / group home setting | | |
| | | | 16 = Temporary lodging | | |
| | | | 21 = Inpatient hospital / | | |

Appendix F: Additional Patient Engagement Data Tables

| | | | | | |
|---------------|---|------|---|--|--|
| | | | Medical (not psychiatric) | | |
| | | | 22 = Outpatient hospital | | |
| | | | 23 = Emergency room | | |
| | | | 31 = Skilled nursing facility | | |
| | | | 32 = Nursing facility | | |
| | | | 51 = Inpatient Psychiatric facility | | |
| | | | 52 = Psychiatric Facility / Partial Hospitalization | | |
| | | | 53 = Community Mental Health Center | | |
| | | | 55 = Residential Substance Abuse Tx Facility | | |
| | | | 57 = Non-residential Substance Abuse Treatment Facility | | |
| | | | 60 = Mass Immunization Center | | |
| | | | 71 = Public Health Clinic | | |
| | | | 99 = Other | | |
| KCID | King County identification number | Text | | | |
| measure_basis | This is the number of units per service used for conversion | Text | UN = Units | | |
| quantity | This is the number or | Text | Range (1-28) | | |

Appendix F: Additional Patient Engagement Data Tables

| | | | | | |
|---------|---|------|---|--|--|
| | quantity of units used for conversion | | | | |
| Program | Program enrollment number, i.e. corresponding mental health benefit associated with PHS level of care | Text | 400 = Medicaid Eligible Mental Health Services (tier) | | |

Appendix H: DSM-V Primary Diagnosis Listing

| ICD-10 Codes | Primary Diagnosis Categories | Variable Names |
|---------------------|--|------------------------------|
| F90.9 | Attention-deficit hyperactivity disorder, unspecified type | Neurodevelopmental Disorder |
| F90.2 | Attention-deficit hyperactivity disorder, combined type | Neurodevelopmental Disorder |
| F90.0 | Attention-deficit hyperactivity disorder | Neurodevelopmental Disorder |
| F84.0 | Autistic disorder | Neurodevelopmental Disorder |
| F31.9 | Bipolar affective disorder, unspecified | Bipolar and Related Disorder |
| F31.81 | Bipolar II disorder | Bipolar and Related Disorder |
| F31.77 | Bipolar disorder, in partial remission, most recent episode mixed | Bipolar and Related Disorder |
| F31.76 | Bipolar disorder, in full remission, most recent episode depressed | Bipolar and Related Disorder |
| F31.75 | Bipolar disorder, in partial remission, most recent episode depressed | Bipolar and Related Disorder |
| F31.74 | Bipolar disorder, in full remission, most recent episode manic | Bipolar and Related Disorder |
| F31.73 | Bipolar disorder, in partial remission, most recent episode manic | Bipolar and Related Disorder |
| F31.71 | Bipolar disorder, in partial remission, most recent episode hypomanic | Bipolar and Related Disorder |
| F31.64 | Bipolar disorder, current episode mixed, severe, with psychotic features | Bipolar and Related Disorder |
| F31.62 | Bipolar disorder, current episode mixed, moderate | Bipolar and Related Disorder |
| F31.60 | Bipolar disorder, current episode mixed, unspecified | Bipolar and Related Disorder |
| F31.5 | Bipolar affective disorder, current episode severe depression with psychotic symptoms | Bipolar and Related Disorder |
| F31.4 | Bipolar affective disorder, current episode severe depression without psychotic symptoms | Bipolar and Related Disorder |
| F31.32 | Bipolar disorder, current episode depressed, moderate | Bipolar and Related Disorder |
| F31.31 | Bipolar disorder, current episode depressed, mild | Bipolar and Related Disorder |
| F31.30 | Bipolar disorder, current episode depressed, mild or moderate severity, unspecified | Bipolar and Related Disorder |
| F31.2 | Bipolar affective disorder, current episode manic with psychotic symptoms | Bipolar and Related Disorder |

Appendix H: DSM-V Primary Diagnosis Listing

| | | |
|--------|---|---|
| F31.13 | Bipolar disorder, current episode manic without psychotic features, severe | Bipolar and Related Disorder |
| F31.12 | Bipolar disorder, current episode manic without psychotic features, moderate | Bipolar and Related Disorder |
| F31.11 | Bipolar disorder, current episode manic without psychotic features, mild | Bipolar and Related Disorder |
| F31.10 | Bipolar disorder, current episode manic without psychotic features, unspecified | Bipolar and Related Disorder |
| F31.0 | Bipolar affective disorder, current episode hypomanic | Bipolar and Related Disorder |
| F30.9 | Manic episode, unspecified | Bipolar and Related Disorder |
| F41.9 | Anxiety disorder, unspecified | Anxiety Disorder |
| F41.8 | Other specified anxiety disorders | Anxiety Disorder |
| F41.1 | Generalized Anxiety Disorder | Anxiety Disorder |
| F41.0 | Panic disorder [episodic paroxysmal anxiety] | Anxiety Disorder |
| F40.9 | Phobic anxiety disorder, unspecified. | Anxiety Disorder |
| F40.10 | Social Phobia, Unspecified | Anxiety Disorder |
| F43.23 | Adjustment Disorder with Mixed Anxiety & Depressed Mood | Trauma and Stressor Related Disorder |
| F43.21 | Adjustment Disorder with Depressed Mood | Trauma and Stressor Related Disorder |
| F43.20 | Adjustment disorder, unspecified | Trauma and Stressor Related Disorder |
| F43.12 | Post-Traumatic Stress Disorder, Chronic (PTSD) | Trauma and Stressor Related Disorder |
| F43.10 | Post-Traumatic Stress Disorder, Unspecified | Trauma and Stressor Related Disorder |
| F44.81 | Dissociative identity disorder | Dissociative Disorder |
| F63.2 | Pathological stealing [kleptomania] | Disruptive, Impulse Control, and Conduct Disorder |
| F39 | Unspecified mood [affective] disorder | Depressive Disorder |
| F34.89 | Other specified persistent mood disorders | Depressive Disorder |
| F34.81 | Disruptive mood dysregulation disorder | Depressive Disorder |
| F33.9 | Recurrent depressive disorder, unspecified | Depressive Disorder |
| F33.42 | Major depressive disorder, recurrent, in full remission | Depressive Disorder |
| F33.41 | Major depressive disorder, recurrent, in partial remission | Depressive Disorder |
| F33.40 | Major depressive disorder, recurrent, in remission, unspecified | Depressive Disorder |
| F33.3 | Recurrent depressive disorder, current episode severe with psychotic symptoms | Depressive Disorder |
| F33.2 | Recurrent depressive disorder, current | Depressive Disorder |

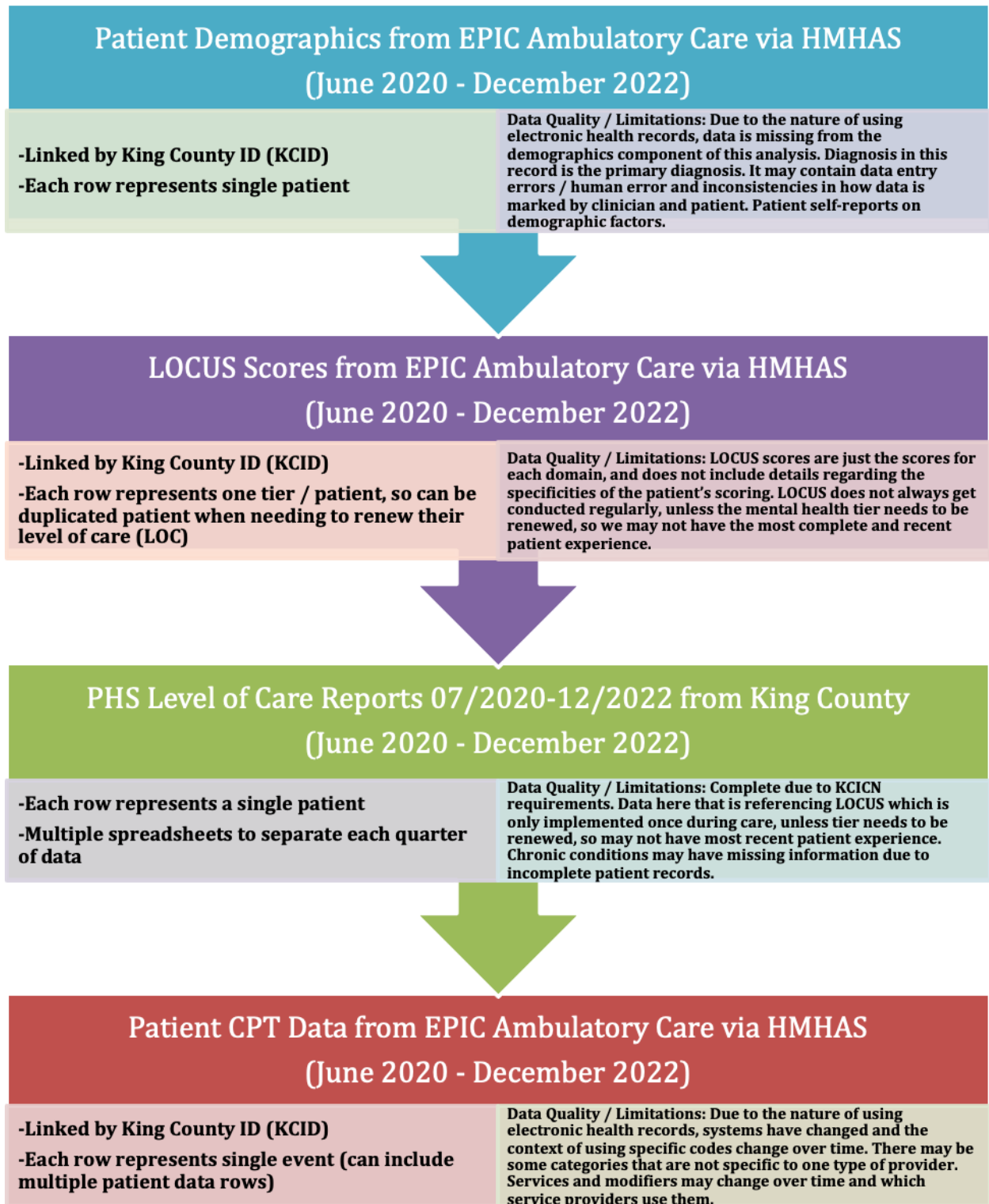
Appendix H: DSM-V Primary Diagnosis Listing

| | | |
|--------|--|--|
| | episode severe without psychotic symptoms | |
| F33.1 | Major Depressive Disorder (MDD), Recurrent, Moderate | Depressive Disorder |
| F33.0 | Recurrent depressive disorder, current episode mild | Depressive Disorder |
| F32.A | Depression, unspecified | Depressive Disorder |
| F32.9 | Major depressive disorder, single episode, unspecified | Depressive Disorder |
| F32.81 | Premenstrual dysphoric disorder | Depressive Disorder |
| F32.8 | Other depressive episodes | Depressive Disorder |
| F32.5 | Major depressive disorder, single episode, in full remission | Depressive Disorder |
| F32.4 | Major depressive disorder, single episode, in partial remission | Depressive Disorder |
| F32.3 | Severe depressive episode with psychotic symptoms | Depressive Disorder |
| F32.2 | Severe depressive episode without psychotic symptoms | Depressive Disorder |
| F32.1 | Major Depressive Disorder, Single Episode, Moderate | Depressive Disorder |
| F32.0 | Major depressive disorder, single episode | Depressive Disorder |
| G30.1 | Alzheimer Disease with Late Onset | Neurocognitive Disorder |
| F98.8 | Other specified behavioral and emotional disorders with onset usually occurring in childhood and adolescence. | Neurocognitive Disorder |
| F02.80 | Dementia in other diseases classified elsewhere, unspecified severity, without behavioral disturbance, psychotic disturbance, mood disturbance, and anxiety | Neurocognitive Disorder |
| F29 | Unspecified psychosis not due to a substance or known physiological condition | Schizophrenia Spectrum and Other Psychotic Disorder |
| F28 | Other psychotic disorder not due to a substance or known physiological condition | Schizophrenia Spectrum and Other Psychotic Disorder |
| F25.9 | Schizoaffective disorder, unspecified | Schizophrenia Spectrum and Other Psychotic Disorder |
| F25.8 | Other schizoaffective disorders | Schizophrenia Spectrum and Other Psychotic Disorder |
| F25.1 | Schizoaffective disorder, depressive type | Schizophrenia Spectrum and Other Psychotic Disorder |
| F25.0 | Schizoaffective disorder, bipolar type | Schizophrenia Spectrum and Other Psychotic Disorder |
| F23 | Brief psychotic disorder | Schizophrenia Spectrum and Other Psychotic Disorder |
| F22 | Delusional disorders | Schizophrenia Spectrum and |

Appendix H: DSM-V Primary Diagnosis Listing

| | | |
|--------|--|---|
| | | Other Psychotic Disorder |
| F21 | Schizotypal disorder | Schizophrenia Spectrum and Other Psychotic Disorder |
| F20.9 | Schizophrenia, unspecified | Schizophrenia Spectrum and Other Psychotic Disorder |
| F20.89 | Other schizophrenia | Schizophrenia Spectrum and Other Psychotic Disorder |
| F20.81 | Schizophreniform disorder | Schizophrenia Spectrum and Other Psychotic Disorder |
| F20.5 | Residual schizophrenia | Schizophrenia Spectrum and Other Psychotic Disorder |
| F20.3 | Undifferentiated schizophrenia | Schizophrenia Spectrum and Other Psychotic Disorder |
| F20.1 | Disorganized schizophrenia | Schizophrenia Spectrum and Other Psychotic Disorder |
| F20.0 | Paranoid schizophrenia | Schizophrenia Spectrum and Other Psychotic Disorder |
| F43.9 | Reaction to severe stress, unspecified | Obsessive-Compulsive and Related Disorder (OCD) |
| F42.9 | Obsessive-compulsive disorder, unspecified | Obsessive-Compulsive and Related Disorder (OCD) |
| F42.3 | Hoarding disorder | Obsessive-Compulsive and Related Disorder (OCD) |
| F42.2 | Mixed obsessional thoughts and acts | Obsessive-Compulsive and Related Disorder (OCD) |
| F60.9 | Personality disorder, unspecified | Personality Disorder |
| F60.3 | Borderline Personality Disorder | Personality Disorder |
| F09 | Unspecified mental disorder due to known physiological condition | Other Mental Disorder |

Appendix I: HMHAS Datasets Collected from July 2020 – December 2022



Appendix J: KCICN Population Health Stratification Model

Population Health Stratification Model and Level of Care Framework

The KCICN’s Population Health Stratification (PHS) model based on multiple data sources including the Level of Care Utilization System (LOCUS level of care) scores assessed during mental health outpatient authorizations. The combined score utilizes data sources across categories 1) Risk Utilization, 2) Social Determinants of Health, 3) Chronic Conditions, and 4) Assessments. The model uses these data to develop a risk stratification score which assigns a level of risk between low, medium, and high based on the need for services for each patient. Hourly requirements associated with each category are 1.5, 2.5, and 7 hours per month, respectively. To improve the quality of care and outcomes for patients in recovery, the risk stratification score is then used to measure the level of service hours health organizations should provide to patients and their type of care. The goal of this payment system organized through the BHRD with King County is to ensure high-quality services promoting behavioral health recovery and resiliency. This was implemented in King County after July 1, 2020 (25). The PHS sub-score categories are evaluated quarterly to reassess the need for the next quarter of treatment with patients and determine PHS level of care (23) (see Figure below). This system was previously developed to streamline care and determine long-term clinical outcomes (24) similar to other value-based healthcare modalities for Medicaid patients. A patient’s assigned LOC is automatically reassessed quarterly using the PHS, meaning the patient’s PHS level of care can change throughout the year.

Figure 21: Population Health Stratification by Sub-score (23)

| | Outcome score levels: Range of values (points assigned) | | | |
|--|---|---------------------------|----------------------------|-----------------------------|
| Sub-score Categories | No score | Low | Medium | High |
| Category A: High Risk Utilization | | | | |
| Inpatient Hospitalizations, ED Visits, SUD withdrawal management, ITA events SUD residential services, all causes last 12 months | 0 events (0 points) | 1 - 2 events (1 point) | 3 - 5 events (5 points) | 6+ events (11 points) |
| Category B: Social Determinants of Health | | | | |
| Housing Stability | Not homeless (0 points) | - | - | Homeless (7 points) |
| Criminal Justice Events, past 6 months | No events (0 points) | - | 1 - 2 events (2 points) | 3+ events (3 points) |
| Criminal Justice Event >2 years, past 5 years | No (0 points) | - | - | Yes (1 point) |
| Category C: Chronic Conditions | | | | |
| Presence of Chronic Conditions - Diabetes, Cardiovascular Disease, Asthma, Chronic Obstructive Pulmonary Disorder | None of these (0 points) | - | 1 condition (2 points) | 2+ conditions (3 points) |
| Category D: Assessments | | | | |
| Level of Care Utilization System (LOCUS) score | - | < 14 (1 point) | 14 - 16 (4 points) | 17+ (8 points) |
| Tier of Care (based on total score) | | | | |
| MH Benefit Level of Care | - | 0 - 4 points | 5 - 10 points | 11+ points |

Service Delivery Adherence (SDA)

The expected utilization hours (SDA) are determined by the county assigning population health stratification PHS level of care scores per patient for each quarter using the point ranges below (25) (see Figure 17). The intention behind this design is to enable

providers to identify the right PHS level of care and services for distinct subgroups of patients (18). The goal is to improve overall health outcomes at a population scale. At the individual level, it supports both clinic and clinician planning, development, and implementation of a personalized care plan with their patient. Not meeting SDA based on these PHS level of care scores results in a penalty in payment for services for providers. This penalty is built to incentivize providers to increase their level of services and improve their quality of care. Ultimately, SDA is the number of service hours a patient is expected to receive per month in a variety of services at the clinic identified by the clinician, integrative care team, and patient.

Figure 22: PHS Level of Care Point Scale (25)

| LOC | PHS Point Range | SDA per Month |
|--------------------------------------|---|---------------|
| Mental Health Assessment Only | Mental Health Assessment completed but individual did not meet medical necessity standards. | N/A |
| Adult: Low | 0 – 4 total points | 1.5 hours |
| Adult: Medium | 5 – 10 total points | 2.5 hours |
| Adult: High | 11 + total points | 7.0 hours |

Calculations for adherence to recommendations from KCICN are conducted during a loopback period where KCICN examines previous quarter data for the current LOC expectations and service hour recommendations. Whether these recommendations are met is calculated using the SDA recommended hours and number of monthly service hours a patient received during the previous period relative to the LOC service hour expectations. If patients received less than 85% of the expected service hours, a certain percentage of payment is deducted from the case rate and withheld from the participating healthcare facility (25). Calculations are applied as follows:

SDA % =

Prorated monthly service hours / Number of monthly hours expected.

Prorated monthly service hours =

30 * Total billable service hours / Total days the benefit was active

This formula is what determines the payment for services for the healthcare facility and whether they are meeting service delivery adherence requirements or not.

Appendix K: Level of Utilization System Assessment (LOCUS level of care)

This study includes the Level of Care Utilization System (LOCUS level of care) assessment that clinicians at HMHAS complete with their patient upon entry into recovery services. This is also part of the renewal process to determine their level of care. Previously, this was primarily used to determine the level of care a patient should receive within the clinic. The pilot assessment is listed on the following pages alongside the LOCUS level of care Adult Level of Care Characteristics table which determines the level of care a patient is expected to receive based on their composite score. This was modified in July 2020 to only be a part of the determination for a patient's level of care. Now this is a part of the Population Health Stratification model level of care score (Category D: Assessment).

The LOCUS level of care includes six evaluation parameters: 1) Risk of Harm, 2) Functional Status, 3) Medical Addictive and Psychiatric Co-Morbidity, 4) Recovery Environment, 5) Treatment and Recovery History; and 6) Engagement which result in recommendations for services and helps to create a story about the patient's experience so the clinician may properly develop a treatment plan. The categories for recovery include: 1) Recovery Maintenance and Health Maintenance, 2) Low Intensity Community Based Services, 3) High Intensity Community Based Services, 4) Medically Monitored Non-Residential Services (PACT, SSH), 5) Medically Monitored Residential Services (ECS, SL, LTR), and 6) Medically Managed Residential Services (Inpatient). HMHAS primarily provides services to support patients who fall in Recovery Maintenance and Health Maintenance (score 10-13), Low Intensity Community Based Services (score 14-16), and High Intensity Community Based Services (score 17-19). Other categories including Medically Monitored Non-Residential Services, Medically Monitored Residential Services and Medically Managed Residential Services require a score of 19 or higher for a patient and are considered services outside of the scope and capacity of community-based mental health.

HMHAS Mental Health Practitioner Intake Assessment Form

Location of Service: ***

IDENTIFYING INFORMATION

@PH@

@ADD@

Demographics: @AGE@ @CUIPATOTHERGENDERID@

Sexual orientation/ Identity (confirm with patient):

Patient's sexual orientation: @RISDBLINK(EPT,132,,1,1,not entered,,)@

@CUIPATUNLISTEDSEXUALORIENTATION@

Patient's gender identity: @RISDBLINK(EPT,131,,1,1,not entered,,)@

@CUIPATOTHERGENDERID@

Patient's sex assigned at birth: @RISDBLINK(EPT,133,,1,1,not entered,,)@

@CUIPATPATIENTPRONOUNS@

Referral source: ***

Reason for Referral: ***

Verified Client is not tiered with another agency: {y/n:108561}

If client tiered with another agency, client's former CM notified: ***

Income and Insurance coverage: @payor@ / Income \$***

PATIENT'S STATED REASON FOR REQUESTING SERVICES (use quotes when possible): ***

PSYCHOSOCIAL HISTORY:

Social History (Relationships, SUD history, family dynamics, etc.): ***

Education (Last grade completed): ***

Employment History: ***

Marital/Relationship History: ***

Legal History (Jail/prison, currently supervised, Community Corrections Officer, Mental Health, or Drug court, LR and LR expiration date): ***

I. RISK OF HARM

History of suicidal/self-injurious behavior

1. **Narrative description of presenting/recent suicidal crisis:** ***
2. **Client-specific historical drivers of suicidality:** ***
3. **Client-specific historical deterrents for suicide:** ***

4. **Suicide attempts** (dates, number of times, methods): ***
5. **Suicidal crises** (preparing for suicide, etc.): ***
6. **Non suicidal self-injury**: ***
7. **Physical violence toward others**: ***

Suicide risk assessment (current status):

1. **Level of suicidal ideation**: {Suicide Ideation Severity:500154600}
2. **Relevant risk factors for suicide**: {Risk factors include:500154601}
 - a. Drivers (client-specific factors) that are currently present: ***
3. **Current access to lethal means** (consider gun, medications/drugs, sharps, ligatures): ***
4. **Relevant protective factors for suicide**: {Suicide Protective factors:500154602}
 - a. Client-specific deterrents for suicide that are currently present: ***
5. **Overall level of acute risk, based on above information**:
{Low/Moderate/High:500210051}
 - a. Explanation of assigned risk level, based on above information: ***
6. **Immediate steps taken to mitigate risk of suicide** (e.g., crisis line provided, safety planning, limiting access to means): ***
 - a. Rationale for why a higher level of care to manage risk is not indicated (e.g., why an emergency response is not indicated): ***
7. **Long-term steps to be taken to mitigate risk of suicide** (e.g., referral to suicide-focused treatment): ***

Other sources of imminent risk of harm (non-suicidal accidental drug overdose, domestic violence, human trafficking, stalking, etc.): ***

Level of Risk of Harm Score/Rationale (SCORE 1-5):

| | |
|--------------------------|--|
| <input type="checkbox"/> | 1.No suicidal or homicidal thoughts or history of suicidal or homicidal ideation |
| <input type="checkbox"/> | 2. No current suicidal or homicidal thoughts but had passive thoughts in the past. |
| <input type="checkbox"/> | 3. Current suicidal or homicidal ideation without intent or plan |
| <input type="checkbox"/> | 4. Suicidal or homicidal ideation with intent or history of suicidal or homicidal attempts |
| <input type="checkbox"/> | 5. Current suicidal or homicidal behavior and intent with a plan |

II. FUNCTIONAL STATUS

Presenting mental health symptoms: ***

Sleep: ***

Appetite: ***

Energy: ***

Mood: ***

Mania: ***

Psychosis: ***

Other mental health symptoms (i.e. ADHD, phobia, obsessions, compulsions, anger, etc.): ***

PHQ9: _@PHQ9@

GAD7: _@GAD7@

GAIN: _***

Family Psychiatric History (including suicide): ***

Child or Adult Abuse History, other trauma history: ***

Level of Functional Status Score/Rationale (SCORE 1-5):

| | |
|--------------------------|--|
| <input type="checkbox"/> | 1.No more than transient impairment when exposed to stress. |
| <input type="checkbox"/> | 2. Increased irritability, problem in interpersonal interaction, but some meaningful relationships, difficulty in roles (work, school, parenting) but able to fulfill obligations. |
| <input type="checkbox"/> | 3. Significant deterioration in ability to fulfill role responsibilities, deficits in interpersonal relationships. |
| <input type="checkbox"/> | 4. Withdrawal from social interaction, failure to maintain personal hygiene, decrease in ADL's. |
| <input type="checkbox"/> | 5. Complete neglect of ADL's, hostile or no interactions with others. |

III. SUBSTANCE USE HISTORY:

Alcohol: ***

Drugs (Meth, Cocaine, Hallucinogenic, MDMA, Barbiturates, Marijuana, Benzodiazepines, Opioid, Fentanyl, Inhalations (e.g., whip its, poppers, duster): ***

Tobacco Use: *** packs per day *** years

Interest in quitting: ***

Referrals given for smoking cessation support: ***. Pt is invited to discuss smoking cessation plans with the case manager and psychiatric provider.

Gambling issues: ***

Other addictive behaviors: ***

Current SUD symptoms (Intoxicated/withdrawal): ***

Inpatient SUD Treatment: ***

Outpatient SUD Treatment (including MAT): ***

Family History of use: ***

The patient was screened for naloxone distribution and the following steps were taken in collaboration with the client:

Patient refused

Patient already has naloxone

Not clinically indicated

Meets criteria and is clinically appropriate for naloxone distribution

Client received naloxone kit in hand today

[] Client will receive naloxone kit by mail

Patient received the following required naloxone education:

- [] HCA Overdose Prevention and Directions for Naloxone Use
- [] HCA Harm Reduction Strategies and MOUD brochure
- [] Additional resources or referrals _____

MEDICAL:

Primary Care Provider (referral needed?): @PCP@ ***

Last date seen by PCP (have they been seen in the past year?): ***

Medical concerns (Pt's assessment of current pain, chronic or acute physical conditions): @DIAG@

Pain level 1-10: ***

Who is addressing pain issues? (or is a referral needed): ***

Traumatic Brain Injuries (open/closed/CVA): ***

Patient Active Problem List: @PROBL@

Allergies: @ALG@

Medications (remind clients to bring medication bottles to provider meeting):

Current: @CMED@

This list may not include all medications being prescribed by providers outside of UW Medicine.

Past: ***

Level of Substance and Medical Score/Rationale (SCORE 1-5):

| | |
|--------------------------|---|
| <input type="checkbox"/> | 1.No evidence of substance use disorders or medical illness. |
| <input type="checkbox"/> | 2. Medical issues that are not immediately threatening or debilitating, occasional episodes of substance misuse. |
| <input type="checkbox"/> | 3. Medical conditions exist that require medical monitoring and adversely affect Mental Health. Episodic substance use with negative consequences. |
| <input type="checkbox"/> | 4. Medical conditions exist that clearly make mental health worse, uncontrolled substance use occurs at a level that poses a threat to health if unchanged. |
| <input type="checkbox"/> | 5. Significant medical issues that could be life threatening, severe substance dependence with intense withdrawal symptoms. |

IV. RECOVERY ENVIRONMENT

A) STRESSORS (e.g., interpersonal relationships, legal issues, employment, family, living environment, income, etc.)

Housing: ***

Employment: ***

Food: ***

Financial: ***

Family/Support: ***

Medical/Dental: ***
Transportation: ***
Other: ***

Level of Stress Score/Rationale (SCORE 1-5):

| | |
|--------------------------|--|
| <input type="checkbox"/> | 1.No significant or enduring difficulties with interpersonal interactions, no recent transitions of consequence. |
| <input type="checkbox"/> | 2. Intermittent interpersonal conflict, transition that requires adjustment. |
| <input type="checkbox"/> | 3. Significant discord in relationships, significant life transitions. |
| <input type="checkbox"/> | 4. Serious disruption of family or social milieu, severe disruption in life circumstances, housing, etc. |
| <input type="checkbox"/> | 5. Traumatic level of stress, in jail, lack of shelter, chaotic threatening environment. |

B) SUPPORT SYSTEM

Professional (e.g., peer specialist, case managers, doctors): ***
Family/friend support: ***
Leisure activities: ***

Level of Support/Rationale (SCORE 1-5):

| | |
|--------------------------|---|
| <input type="checkbox"/> | 1.Plentiful sources of support or involvement in ACT. |
| <input type="checkbox"/> | 2. Capable of participating in treatment and has some supportive resources. |
| <input type="checkbox"/> | 3. A few supportive resources exist; usual sources of support may be ambivalent. |
| <input type="checkbox"/> | 4. Few actual sources of support or support unable to provide sufficient resources. |
| <input type="checkbox"/> | 5. No sources of assistance in environment |

V. TREATMENT AND RECOVERY HISTORY

Inpatient history(facilities, dates, outcomes experienced): ***
Outpatient history (agencies, dates, services, outcomes experienced): ***

Level of Treatment and Recovery Score/Rationale (SCORE 1-5):

| | |
|--------------------------|--|
| <input type="checkbox"/> | 1.No prior experience in treatment or recovery or all prior experiences have been helpful. |
| <input type="checkbox"/> | 2. Previous treatment has been successful but not extensive or moderate success in recovery. |
| <input type="checkbox"/> | 3. Previous treatment did not achieve complete remission, or minimal response. |

| | |
|--------------------------|--|
| | 4. Previous treatment has not achieved success, limited success. |
| <input type="checkbox"/> | 5. Past treatment response minimal, no significant improvement. |

VI: ENGAGEMENT AND RECOVERY STATUS

Client perception of current behavioral health problems: ***

Client perception of treatment: ***

Level of Engagement and Recovery Score/Rationale (SCORE 1-5):

| | |
|--------------------------|--|
| <input type="checkbox"/> | 1. Complete understanding of acceptance of illness and in Maintenance stage. |
| <input type="checkbox"/> | 2. Significant understanding of illness, in the Action stage. |
| <input type="checkbox"/> | 3. Some uncertainty around acceptance of illness Preparation stage. |
| <input type="checkbox"/> | 4. Rarely accept illness, Contemplation stage. |
| <input type="checkbox"/> | 5. No awareness of illness, Precontemplation stage. |

DIAGNOSTIC IMPRESSION:

@name@ is a @AGE@ @race@ @CUIPATOTHERGENDERID@ with a history of (diagnosis) referred to HMHAS for mental health and/or addiction treatment services by (referent). They meet criteria for @diagcode@ warranted by ***. Level of functioning can be described as ***. Patient is interested in *** services and could benefit from the following recommendations listed below.

Summary of needs and Strengths to assist in individual service plans: ***

ICD-10 Diagnosis:

@DIAGCODE@

Severe Mental Illness Functional Criteria Justification:

- 1: Self Care: *****
- 2: Risk of Harm: *****
- 3: School and Work: *****
- 4: Risk of Deterioration: *****

LOCUS level of care TOTAL SCORE and corresponding level of service: ***

| | |
|--------------------------|--|
| <input type="checkbox"/> | (10-13) Recovery Maintenance Health Services |
| <input type="checkbox"/> | (14-16) Low Intensity Community Based Services |
| <input type="checkbox"/> | (17-19) High Intensity Community Based Services |
| <input type="checkbox"/> | (20-22) Medically Monitored Non-Residential Services |

| | |
|--------------------------|--|
| | (23-27) Medically Monitored Residential Services |
| <input type="checkbox"/> | (28-More) Medically Managed Residential Services |

Recommended Level of Service based on client needs/willingness: ***
Reason for difference in scoring if there is one: ***

XI. PLAN

Pt will enroll in HMHAS Rehab & Recovery Services for long term behavioral healthcare.

Pt will visit new CM *** on *** to develop and refine care plans.

Pt will visit psychiatric provider *** for an initial assessment and med review.

Pt will enroll in HMHAS IBIS Clinic for assessment and brief treatment.

Pt will visit psychiatric provider *** for an initial assessment and med review.

Pt will return to visit IBIS care coordinator *** to review the psych provider's care plan and to initiate brief therapy and case management services.

Pt will enroll in *.**

Pt will visit new CM *** on *** to develop and refine care plans.

Pt will visit psychiatric provider *** for an initial assessment and med review.

***This is an interim treatment plan pt has agreed to.**

SAFETY PLAN:

1. ***
2. Call the Crisis Line at (206) 461-3222
3. Call your Mental Health Practitioner *** (206) 744-9696.
4. Go to the nearest ER if symptoms or SI worsens.
5. Call 9-1-1.

*Safety Plan discussed with client during session

RECOMMENDATION FOR TREATMENT SERVICES:

| | | | |
|--------------------------|---|--------------------------|---|
| <input type="checkbox"/> | Case Management Services: Includes psychotherapy and assistance with entitlements, protective payee ship, GED and post-secondary education support, etc. | <input type="checkbox"/> | Housing |
| <input type="checkbox"/> | Groups:*** | <input type="checkbox"/> | SUD Services |
| <input type="checkbox"/> | Individual Therapy: CETA: <input type="checkbox"/> CAMS: <input type="checkbox"/> CBT-P: <input type="checkbox"/> | | <input type="checkbox"/> Suboxone <input type="checkbox"/> Vivitrol <input type="checkbox"/> Naltrexone |

Appendix K: Level of Utilization System Assessment
(LOCUS level of care)

| | | | |
|--------------------------|---|--------------------------|---|
| | SBIRT: Other _____ | | Other _____ _____ |
| <input type="checkbox"/> | Medication Management | <input type="checkbox"/> | PRCC |
| <input type="checkbox"/> | Medication Monitoring (e.g., Club Med) | <input type="checkbox"/> | 5E Therapy |
| <input type="checkbox"/> | Peer Support Services | <input type="checkbox"/> | Day Services |
| <input type="checkbox"/> | Supportive Employment | <input type="checkbox"/> | Special Population Evaluation Specify: _____ |
| <input type="checkbox"/> | Benefits/Entitlement Support | <input type="checkbox"/> | Family Support |
| <input type="checkbox"/> | Other: _____ | | |

Duration of the session: * minutes.**
@ME@

LOCUS ADULT LEVEL OF CARE CHARACTERISTICS

| LOCUS Characteristics | I. Recovery Maintenance and Health Maintenance. (2X) | II. Low Intensity Community Based Services (3A) | III. High Intensity Community Based Services (3B) | IV. Medically Monitored Non-Residential Services (PACT, SSH) | V. Medically Monitored Residential Services (ECS, SL, LTR) | VI. Medically Managed Residential Services (INPATIENT) |
|---------------------------------------|---|--|--|---|--|---|
| LOCUS level of care Composite | 10-13 | 14-16 | 17-19 | 20-22 | 23-27 | 28 or more |
| Client Living situation | Independent with minimal support | Independent with minimal support | Independent OR with support | Independent or with support | Residential setting, community-based. Some Board and Care and LT Residential also. | Traditionally hospitals but could be in free-standing facilities. |
| Recovery History | Achieved significant recovery from past episodes | Clients need on-going support. | Intensive support and treatment needed. | Intensive support and treatment needed. | Acute and chronic situations depending on the client. | Acute situations primarily. |
| Supervision and Contact Needed | Minimal for both | Do not require intensive management | Daily not required but usually several times per week | At least several times per week by a multidisciplinary team. | 24 supervision | 24 hour monitoring and supervision. |
| Other | Some community or home-based services. | Traditionally clinics but can be community – based. | Traditionally clinics but can be community – based. | Facility or community: services are partial hospital or ACT | In some cases, intensive supportive housing may meet criteria | |
| | | | | | Adequate and | Secure care; |

Appendix K: Level of Utilization System Assessment (LOCUS level of care)

| | Access can | Access can | Access can | Services may | | |
|------------------------------|--|---|---|---|---|--|
| I Care Environment | be monitored; egress not controlled. | be monitored; egress not controlled. | be monitored; egress not controlled. | need to be mobile depending on client needs. | safe living space. Usually no seclusion/ restraint but may manage egress. Food services/food prep avail. | locked environment avail.; seclusion/restraint avail; Can do involuntary care. |
| II. Clinical Services | Up to 2 hrs./mo. and not < 1 hr./3 months Med manage at least q 1-4 months Med use can be managed Ind or Grp supportive therapy | Up to 3 hours/wk. and not < 1 hr. q 2 wks. Med manage about 1 x q 8 weeks (about 2 months) Med use can be managed Ind, grp and family (I,G,F) therapies. | Tx (Ind, Grp, fam)available at least 3 days/wk. and 2-3 hrs./day. Med manage about q 2 wks. Med use monitored/not administered. No skilled nursing needed. I,G, F and rehabilitative services and therapies | Services available most of the day, 7 days/wk. Med manage avail. daily/ contacts usually at designated intervals. 24 hr. by remote. Nursing available > 40 hr./wk. Physical access avail and accessed. Intensive Tx (I,G,F) 5 days/wk. Rehab services integrated. Meds monitored are usually not administered. | Access to care: psych = 24 hours/day; psych contacts daily avail but s/be wily; on-site nursing if doing med administration; on-site Tx (I,G, F) plus rehab and educational services either on or off-site. | Treatment available 24/7 on site or in close proximity. Psychiatric or medical contact daily. TX daily and pharmacological management. |
| III. Supportive | Yes | CM not usually required, may | CM and outreach available and integrated. | CM integrated with mobile or on-site teams. ADL maintenance | Supervision of ADL or maybe custodial care. | Total care available; client encouraged to do what they |

Appendix K: Level of Utilization System Assessment (LOCUS level of care)

| | | need help | | | Staff facilitate | |
|--|-------------|---|--|--|--|---|
| Services | | accessing certain services. Assist w/ coordination with support services. | Assist w/ coordination with supports. Ed and voc coordination. Facilitation of social, recreational. | along with other coordination and support, transport, systems management. Ed and voc coordination. Facilitation of social, recreational. | social and recreational; staff coordinate interface w/ rehab and educational services if provided off-site | can. |
| IV. Crisis Stabilization and Prevention * | Basic see * | Basic see * | Mobile services, day care and child enrichment programs added to basic. | Mobile services, day care and child enrichment programs added to basic. | Services s/be directed to return to lower LOC in the community. Develop transition plan, coordination w/ community resources and family. | Designed to reduce stress related to resuming normal community place. Develop transition plan |

*** Includes at least access to 24/7 availability of crisis evals, brief interventions, and respite; vocational and educational and empowerment services. And all basic services must be available as well: prevention programs that are population based and crisis management and evaluation services.**

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