# IMPACTS Statewide Evaluation

## BASELINE REPORT

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CENTER FOR HEALTH SYSTEMS EFFECTIVENESS

**Prepared for:**
Oregon Criminal Justice Commission

OHSU

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# Table of Contents

## LIST OF ACRONYMS

**AI/AN** — American Indian or Alaska Native

**BH** — Behavioral health

**BHRN** — Behavioral Health Resource Network

**CHSE** — Center for Health Systems Effectiveness

**CJC** — Criminal Justice Commission

**ED** — Emergency department

**FCJI** — Frequent criminal justice involvement

**ICS** — Integrated Client Services

**IMPACTS** — Improving People's Access to Community-based Treatment, Supports and Services

**OHA** — Oregon Health Authority

**OHSU** — Oregon Health & Science University

**OSH** — Oregon State Hospital

**PSRB** — Psychiatric Security Review Board

**SUD** — Substance use disorder

# Executive Summary

## Introduction

Millions of people in the US live with untreated behavioral health disorders, with a disproportionate number interfacing with the criminal justice system. A 2017 study showed that in Oregon, people with frequent criminal justice involvement (FCJI) who were enrolled in Oregon's Medicaid program were 75% more likely to have a mental health diagnosis, 650% more likely to have a substance use disorder diagnosis, and 150% more likely to visit the emergency department (ED) than non-FCJI Medicaid enrollees.[1] This high level of need in the criminal justice system presents challenges in providing appropriate care and support to these individuals.

Following recommendations from Oregon's Behavioral Health Justice Reinvestment Steering Committee, Senate Bill 973 was passed in July 2019, which created the Improving People's Access to Community-based Treatment, Supports and Services (IMPACTS) program. The aim of IMPACTS is to address the shortage of comprehensive community supports and services for individuals with behavioral health needs, FCJI, high utilization of medical services, and institutional placements.[2] IMPACTS is a state-run grant program that provides funding to counties and federally recognized tribes in Oregon to address the needs at the community level for people at the intersection of behavioral health and criminal justice. $30 million was allocated for the program from 2020 through 2026, with a total of 15 grantees as of September 2022.

## Approach to Evaluation

The Center for Health Systems Effectiveness (CHSE) at Oregon Health & Science University (OHSU) was contracted by the Oregon Criminal Justice Commission (CJC) to conduct this Baseline Report. It is meant to serve as the basis for future statewide evaluations that will assess the effectiveness of interventions funded by IMPACTS.

This Baseline Report provides an overview of grantee programs, baseline characteristics of the IMPACTS target population and a preliminary description of service patterns and interactions with the health and criminal justice systems prior to the implementation of IMPACTS. We utilized administrative data from across Oregon's health and criminal justice sectors, as well as qualitative data from the Waddell Research Group's local grantee evaluations, feedback from grantees, policy review, and input from subject matter experts.

For evaluation purposes, the "target population" was calculated over successive six-month periods and included individuals who met any of the following criteria:

- 2 or more **ED visits** and/or **hospitalizations** for behavioral health
- 2 or more **circuit court filings** for a felony, misdemeanor, parole/probation violation, or civil commitment, and a behavioral health condition
- Released from **community supervision** or on **parole/probation**, and a behavioral health condition
- Discharged from the **Oregon State Hospital**

Future evaluations will assess whether investments in community supports and services for individuals with behavioral health needs and FCJI were sufficient to meet the program's stated goals of:

1. Reducing criminal justice system involvement
2. Reducing high-intensity healthcare utilization
3. Reducing institutional placements

## KEY FINDINGS

### *Target Population*

- *The IMPACTS target population is characterized by complex behavioral health needs coupled with frequent healthcare utilization and criminal justice involvement. Over half (52%) of the target population had two or more ED visits or hospitalizations with a primary behavioral health diagnosis and a third (33%) had two or more court filings within six months.*

### *Behavioral health conditions*

- *There is a high prevalence of multiple and severe behavioral health conditions among the IMPACTS target population compared to the general Oregon Medicaid population. Over half (55%) of the target population had five or more behavioral health conditions, and a quarter (26%) had eight or more.*
- *The most prominent mental health conditions included anxiety and fear-related disorders (55%), depressive disorders (50%), trauma- and stressor-related disorders (45%), and schizophrenia spectrum and other psychotic disorders (38%).*
- *Substance use disorders (SUDs) were five to nine times more prevalent within the target population.*

### *Criminal justice involvement*

- *Among individuals in the target population with criminal cases filed in 2018, 94% were convicted of at least one offense and 72% were convicted of two or more offenses. Most convictions consisted of higher level misdemeanors (class A) and lower level felonies (class C).*
- *70% of target population individuals with a circuit court conviction in 2018 had ongoing criminal justice involvement in 2019 through a further conviction, community supervision, or Oregon State Hospital commitment.*

### *Healthcare utilization*

- *Behavioral health treatment — including follow-up care after hospitalizations, antidepressant medication management and SUD treatment — was similar between the IMPACTS target population and the general Medicaid population.*
- *Healthcare utilization was much higher for the IMPACTS target population — for example, an average of six ED visits per year compared to 0.8 among the general Medicaid population, and 75 outpatient visits compared to 21. The majority of visits were behavioral health-related.*

### *Institutional placements*

- *Of the 812 individuals discharged from the Oregon State Hospital in 2018, 62% were committed for aid and assist, and one-third (35%) were civilly committed. Schizophrenia and acute psychosis were the most common admitting diagnosis.*
- *The majority (60%) of individuals resided in IMPACTS service areas, with the remaining residing in areas not served by IMPACTS programs.*
- *In the year following discharge, over half of individuals (57%) had an ED visit and 27% had a hospital stay. A quarter (24%) were readmitted to the Oregon State Hospital, and 14% entered community corrections supervision.*

# Introduction

## The intersection of criminal justice and behavioral health

In the US, millions of people live with untreated behavioral health disorders, with a disproportionate number interfacing with the criminal justice system. There are three times as many people with behavioral health conditions in the criminal justice system as in hospitals.[3]

Oregon also faces challenges in providing appropriate care and support to those involved in the justice system who may require mental health interventions. People with frequent criminal justice involvement (FCJI) who were enrolled in Oregon's Medicaid program were 75% more likely to have a mental health diagnosis, 650% more likely to have a substance use disorder diagnosis, and 150% more likely to visit the emergency department (ED) than non-FCJI Medicaid enrollees.[1] These individuals were also three times more likely than the general population to have been committed to the Oregon State Hospital. Individuals with FCJI accounted for 29% of all jail bookings, despite accounting for only 9% of the population.

Oregon created the Behavioral Health Justice Reinvestment Steering Committee in 2018 to provide recommendations to the Legislature with the aim of improving outcomes and reducing recidivism for people in the criminal justice system with behavioral health conditions.[4] Based on the Committee's recommendations, Senate Bill 973 was passed in July 2019. The bill created the Improving People's Access to Community-based Treatment, Supports and Services (IMPACTS) program to address the shortage of comprehensive community supports and services for individuals with behavioral health needs, FCJI, and high utilization of medical services and institutional placements.[2]

## Overview of IMPACTS

IMPACTS is a state-run grant program administered by Oregon's Criminal Justice Commission (CJC) with Oregon Health Authority (OHA) acting as a consulting agency. The program allows counties and federally recognized Tribes in Oregon to apply for grants to establish community programs that address needs the needs of people at the intersection of behavioral health and criminal justice. Grantees are required to prioritize the goals of reducing involvement with the legal and criminal justice systems, as well as reducing the utilization of high-intensity healthcare resources among individuals with FCJI and behavioral health needs.

With the passing of SB 973, an initial investment of $10 million was made to the IMPACTS grant program. The first round of grant funding (2020-2022) was awarded to six counties and five federally recognized Tribes. [Figure 1] The 2022 Oregon Legislative Session appropriated an additional $10 million. The second grant cycle (2022-2024) awarded funding to four new county and county consortium grantee programs and sustained funding for all 11 existing programs.[5] An additional $10 million was appropriated by the 2023 Oregon Legislative Session for continued support of IMPACTS programs through June 30, 2025.

**Figure 1. IMPACTS implementation and proposed evaluation timeline**


*Note: Grant Cycle 3 is pending Grant Review Committee review and approval*

## About the evaluation

As the administering agency for the IMPACTS program, the CJC is responsible for tracking, evaluating and measuring system data and outcomes to demonstrate the effectiveness of the programs funded by IMPACTS grants, with 3% of program funds earmarked for evaluation purposes. The Waddell Research Group at the OHSU-PSU School of Public Health was contracted to conduct a local qualitative evaluation of grantee programs and provide technical assistance with grantee data collection. The Center for Health Systems Effectiveness (CHSE) at Oregon Health & Science University (OHSU) was contracted to conduct this Baseline Report to serve as the basis for future statewide quantitative program evaluation.

The IMPACTS statewide evaluation will assess whether investments in community supports and services for individuals with behavioral health needs and FCJI were sufficient to meet the program's stated goals of:

1. Reducing criminal justice system involvement
2. Reducing high-intensity healthcare utilization
3. Reducing institutional placements

Findings will be presented in a series of reports described in Table 1.

**Table 1. Proposed deliverables for IMPACTS Statewide Evaluation**

| REPORT | DESCRIPTION | ESTIMATED DELIVERY |
|---|---|---|
| Baseline Report | Baseline population characteristics and service utilization pre-IMPACTS implementation | Fall 2023 |
| Cycle 1 Report | Robust statistical analysis of program effects from pre-period through IMPACTS Cycle 1 | 2024 |
| Cycle 2 Report | Robust statistical analysis of program effects from pre-period through IMPACTS Cycle 2 | 2026 |

This Baseline Report creates context for subsequent IMPACTS grant cycle evaluations by providing an overview of grantee programs and baseline characteristics of the target population prior to the implementation of the IMPACTS program. It also showcases the range of datasets available for the statewide evaluation and provides a preliminary characterization of service patterns and interactions with the health and criminal justice systems. The Baseline Report does not include an evaluation of IMPACTS program effects.

# Grantees

IMPACTS grantees were chosen through a competitive process that funds evidence-based and tribal-based supports and services for individuals with behavioral health needs who have high utilization of healthcare resources and/or FCJI. The current IMPACTS grantees comprise 11 counties (one is a regional consortium of two counties) and five federally recognized Tribes in Oregon. Grantees are located across the state, spanning both urban and rural areas.

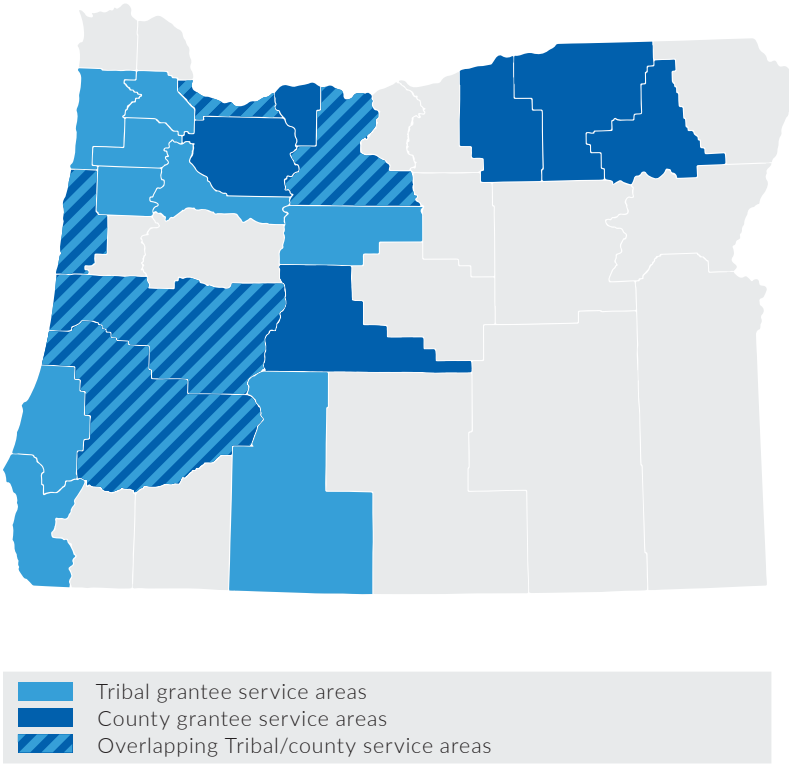
## IMPACTS grantees

- Clackamas County
- Confederated Tribes of Coos, Lower Umpqua and Siuslaw Indians
- Confederated Tribes of Grand Ronde
- Confederated Tribes of Warm Springs
- The Cow Creek Band of Umpqua Tribe of Indians
- Deschutes County
- Douglas County
- Hood River County
- The Klamath Tribes
- Lane County
- Lincoln County
- Multnomah County
- Umatilla & Morrow County Consortium
- Union County
- Wasco County

While some grantees offer IMPACTS services across their entire region, others have chosen to target specific areas. Figure 2 indicates the geographic areas, defined by county boundaries, across the state where grantees have indicated that IMPACTS services are available to qualifying individuals. Striped patterns in the figure indicate service areas where both county and Tribal grantee programs operate simultaneously.

**Figure 2. IMPACTS grantee service area map**

Highlighted areas represent counties where grantees have identified their targeted service areas




*Note: We acknowledge that the tribal service areas are delineated by colonial-defined boundaries that do not accurately represent tribal boundaries. Due to the nature of the administrative data utilized in this evaluation, we are limited to using county boundaries for service areas identified by Tribal grantees.*

## Program focus areas

The IMPACTS program offers grantees considerable flexibility to tailor their use of grant funding to meet the unique needs of their local communities and adapt to external factors such as COVID and changes in state policies. Table 2 summarizes grantee activities and funding across four focus areas:[6]

1. **Criminal justice**
   *Examples: Law enforcement assistance for high needs clients; intercept and liaison from jail; jail diversion*

2. **Medical**
   *Examples: Behavioral health assessment/referral; drug & alcohol counseling; detox services; group therapy*

3. **Housing**
   *Examples: Temporary stabilized/transitional housing; permanent housing; housing financial supports*

4. **Stabilization**
   *Examples: Assist in enrollment for public assistance programs; transportation; childcare; phones*

**Table 2. IMPACTS grantee focus areas, program descriptions and funding[5,6]**

IMPACTS programs continue to evolve. Table information is based on sources available at the time of publication.

| GRANTEE | FOCUS AREAS | | | | PROGRAM | FUNDING Cycle 1 | FUNDING Cycle 2 |
|---|---|---|---|---|---|---|---|
| | CRIMINAL JUSTICE | MEDICAL | HOUSING | STABILIZATION | | | |
| Clackamas County | X | X | X | X | Dedicated staff for case management and stabilization for those in the community on probation or parole | $499,988 | $208,412 |
| Confederated Tribes of Coos, Lower Umpqua and Siuslaw Indians | | X | X | X | Community service officer to connect with individuals across their five-county service area | $322,265 | --- |
| Confederated Tribes of Grand Ronde | | X | X | X | Team to develop care plan and utilize family and community referrals | $290,000 | $494,684 |
| Confederated Tribes of Warm Springs | X | X | | | Assistance with transition from custody to service in the community | $282,743 | $215,832 |

| GRANTEE | FOCUS AREAS | | | | PROGRAM | FUNDING Cycle 1 | FUNDING Cycle 2 |
|---|---|---|---|---|---|---|---|
| | CRIMINAL JUSTICE | MEDICAL | HOUSING | STABILIZATION | | | |
| The Cow Creek Band of Umpqua Tribe of Indians | | X | X | X | Intensive case management, and medical and housing services | $490,841 | $95,998 |
| Deschutes County | X | X | | X | Increased funding for existing Deschutes County Stabilization Center | $2,403,520 | $2,307,835 |
| Douglas County | | X | X | X | Intensive Care Coordination team at the jail and the ED, increased community stabilization supports | $1,414,879 | $1,837,714 |
| Hood River County | | | X | X | Supplement Parole and Probation Office's services with dedicated housing | --- | $137,260 |
| The Klamath Tribes | X | X | X | X | Provide basic needs, supports and behavioral health treatment | $691,580 | $376,485 |
| Lane County | X | X | X | | Forensic Intensive Treatment Team to provide wraparound services | $2,527,697 | $319,375 |
| Lincoln County | | X | X | X | Law Enforcement Assisted Diversion for jail diversion and referrals to community partners | $288,490 | $258,900 |
| Multnomah County | | X | X | X | Permanent supportive housing, case management and treatment | --- | $1,215,986 |
| Umatilla & Morrow County Consortium | | X | | X | Comprehensive wraparound services through care coordination, peer mentors and skills training | --- | $621,328 |
| Union County | | X | X | X | Increased funding for the Center for Human Development to support jail diversion and case management | $562,945 | $300,006 |
| Wasco County | | | X | | Provide transitional housing | --- | $178,156 |

# Approach to Evaluation

As a research team, we share the view that access to effective behavioral health services and supports is integral to achieving and maintaining whole-person health. We also understand that structural racism and discrimination are imbedded within our medical, behavioral health and criminal justice systems,[7] which directly impacts our outcomes of interest and creates inherent limitations in data collected in these domains.

We have made our best effort to be transparent about our planned approach, data sources, outcomes of interest, and limitations of our evaluation, and provided channels for input and questions. These efforts included engaging with the IMPACTS Quality Improvement Subcommittee, which includes grantees, Grant Review Committee members, and other interested parties. We have also met with state agency staff, including the Oregon Health Authority's Tribal Affairs Director, and other subject matter experts to improve our understanding of the data sources and their inherent limitations in the context of the IMPACTS evaluation.

The intent of the statewide evaluation is to assess the effectiveness of IMPACTS-funded programs at achieving their legislatively mandated objectives, which may not reflect the focus areas or outcomes that are important to individuals who receive IMPACTS services. We acknowledge that we have not engaged directly with the IMPACTS target population and that our lived experience is fundamentally different from many of the individuals included in the data used for this report.

## Quantitative data

We used administrative data from across Oregon's health and criminal justice sectors over 2018-2021. Data were linked at the person level to identify members of the target population, their outcomes, and their interaction with services over time.

Quantitative data sources in this report are listed in Table 3. Use of these sources required cooperative data use agreements between multiple state agencies and OHSU.

**Table 3. Overview of data sources for IMPACTS statewide evaluation**

| DATA SOURCE | AGENCY |
|---|---|
| Oregon Health Plan eligibility records and claims[8] | Oregon Health Authority |
| Oregon State Hospital admission and discharge records[9] | Oregon Health Authority |
| Heritage Native American (HNA) roster[10] | Oregon Health Authority |
| Oregon circuit court filings[11] | Oregon Judicial Department |
| Community supervision administrative records[12] | Oregon Department of Corrections |

Data linkage was performed by Integrated Client Services (ICS), a shared service between the Oregon Department of Human Services and the Oregon Health Authority.[13] Agencies sent their data with identifiable information (e.g., name, social security number, street address) to ICS. After matching records, ICS created a unique Study ID for each individual. The datasets received by the evaluation team at CHSE included this Study ID field but were stripped of the original identifiers in the interest of privacy and security. This project was determined to be Not Human Subjects Research by the OHSU Institutional Review Board (IDB #25334).

For more detailed information about the quantitative data sources included in this work, including data sources that were of interest but not ultimately included, please see Appendix A.

## Qualitative data

The Waddell Research Group at the OHSU-PSU School of Public Health was contracted by the CJC to develop and implement technical assistance with data reporting and local evaluation for IMPACTS grantees. To date, they have completed surveys and qualitative interviews of all grantees, provided on-site technical assistance, and launched a Research Electronic Data Capture (REDCap) database for grantee use in tracking individuals enrolled in their programs. The REDCap database captures program information such as eligibility criteria, client demographics, diagnoses, services rendered, and client disposition.[14] CHSE has worked closely with the Waddell Research Group to align evaluation efforts. The data collected from the local evaluation activities has informed the development of the statewide evaluation target population definitions and relevant outcome measures.

Additional qualitative work conducted by CHSE included attendance at IMPACTS Grant Review Committee and Quality Improvement Subcommittee meetings to better understand the perspectives of each unique community and solicit direct feedback on evaluation planning and development. Document review of associated state policies provided additional context for possible interactions with IMPACTS activities and outcomes. These policy interactions, along with the qualitative findings listed above, helped inform the interpretation of our quantitative results.

## Study universe

Our "study universe" included adults ages 18-64 who were enrolled in the Oregon Health Plan ("Medicaid") for any length of time during 2018-2021. Although the Baseline Report analyses focused on 2018 and 2019, we included the following three years (the most current data available at the time of request) to have a broader period over which to identify individuals with behavioral health conditions, a key target population criterion.

The IMPACTS statewide evaluation, therefore, does not represent Oregon's full population. However, the ICS linking process demonstrated that we account for the majority of individuals with community corrections records (78%), circuit court filings (65%), and Oregon State Hospital admissions (76%) during the study timeframe. Individuals missing from the study universe may have had private health insurance or no insurance, and only a subset would have met IMPACTS target population criteria (see next section).

For the analysis of health outcomes only, we excluded individuals who were dually eligible for Medicaid and Medicare, because we did not have Medicare data and therefore lacked a complete view of their healthcare services.

## Target population

Each IMPACTS grantee was required to define a specific "target population" for program services. Target population individuals must have a behavioral health diagnosis and also be identified as a high utilizer of criminal justice and/or healthcare resources. Grantees had flexibility to determine what constitutes a "high utilizer" and across which resources. Specific examples from grantee programs include:[15]

- Four or more jail bookings in one year
- Accessing the ED for substance use disorder-related issues
- High utilizer of criminal justice, inpatient and/or ED or hospital services, and/or other institutional placements

In practice, the identification of program target populations varied substantially by grantee. The majority of IMPACTS grantees reported difficulty identifying their intended target populations due to limited access to requisite data sources (e.g., not receiving comprehensive jail booking data to identify individuals with four or more bookings in a year). Some grantees reported identifying individuals for services via alternate means, such as screening assessments performed by IMPACTS program staff or referrals by parole officers. Focusing more on prevention was also reported by grantees as a priority area in an effort to decrease contacts with the criminal justice system. To facilitate this approach, some grantees established less stringent eligibility criteria. Thus, grantees adapted their target population criteria to suit their circumstances and expressed the need for continued flexibility to maximize service delivery.[16]

Additionally, the concept of a discrete "treated" population is not applicable to all IMPACTS grantees. While funded jurisdictions are required to report program contacts with their target populations, formal enrollment into a program is not necessarily required to receive IMPACTS services. While some program services are directly provided to individuals (e.g., supportive housing or cell phones), other uses of grant funding are geared towards broader community capacity-building (e.g., criminal justice system coordinator or detox center expansion).

In light of the practical and methodological constraints above, statewide evaluation efforts use a common target population definition to approximate a subpopulation likely to benefit from IMPACTS-related supports and services. The target population is identified for successive six-month increments, allowing individuals to cycle in and out over time.

## Definition of target population for the evaluation

For a given period (Jan–June or July–Dec), the IMPACTS target population includes individuals ages 18–64 years who meet any of the following criteria:

- 2 or more **ED visits** and/or **hospitalizations** for behavioral health
- 2 or more **circuit court filings** for a felony, misdemeanor, parole/probation violation, or civil commitment, and a behavioral health condition
- Released from **community supervision** or on **parole/probation**, and a behavioral health condition
- Discharged from the **Oregon State Hospital**

For the first criterion, we identified ED visits and hospitalizations as being for behavioral health care if the primary diagnosis indicated a behavioral health condition. For the second and third criteria, we identified individuals with behavioral health conditions from the Medicaid data, based on any recorded behavioral health diagnosis across the available years of data (2018-2021). Given that the Oregon State Hospital is a psychiatric hospital, we did not impose an additional behavioral health diagnosis requirement for individuals meeting the last criterion.

We used county of residence from the Oregon Medicaid enrollment data and grantee-reported targeted service areas (see Figure 2) to distinguish between target population individuals residing in IMPACTS service areas versus non-service areas. For tribal grantee service areas, individuals also had to be identified as American Indian or Alaska Native (AI/AN) at any point during the study timeframe (2018-2021).

Our definitions of the IMPACTS target population and targeted service areas were developed in consultation with IMPACTS program staff at the CJC and informed by the Waddell Research Group based on their conversations with grantees. See Appendix B for more details on how we identified the target population.

# Baseline Findings

Our baseline analysis focuses on 2018 to 2019, the years just before the establishment of IMPACTS. We describe characteristics of the target population before the availability of IMPACTS services and supports, including a broad look at target population service patterns across the health and criminal justice systems, and provide context for these findings. We also include hypotheses about what changes might be observed if IMPACTS were successful in meeting its program goals of reducing criminal justice system involvement, high-intensity healthcare utilization, and institutional placements.

## Overview of the target population

In the first year of our baseline period (2018), 10,483 individuals met IMPACTS target population criteria and resided in IMPACTS service areas (Table 4). Just over half (52%) of the target population had two or more ED visits or hospitalizations with a primary behavioral health diagnosis. A third (33%) had two or more court filings concurrent with a behavioral health diagnosis during the study period, 21% had a behavioral health diagnosis and were released from community supervision or on parole or probation, and 5% were discharged from the Oregon State Hospital.

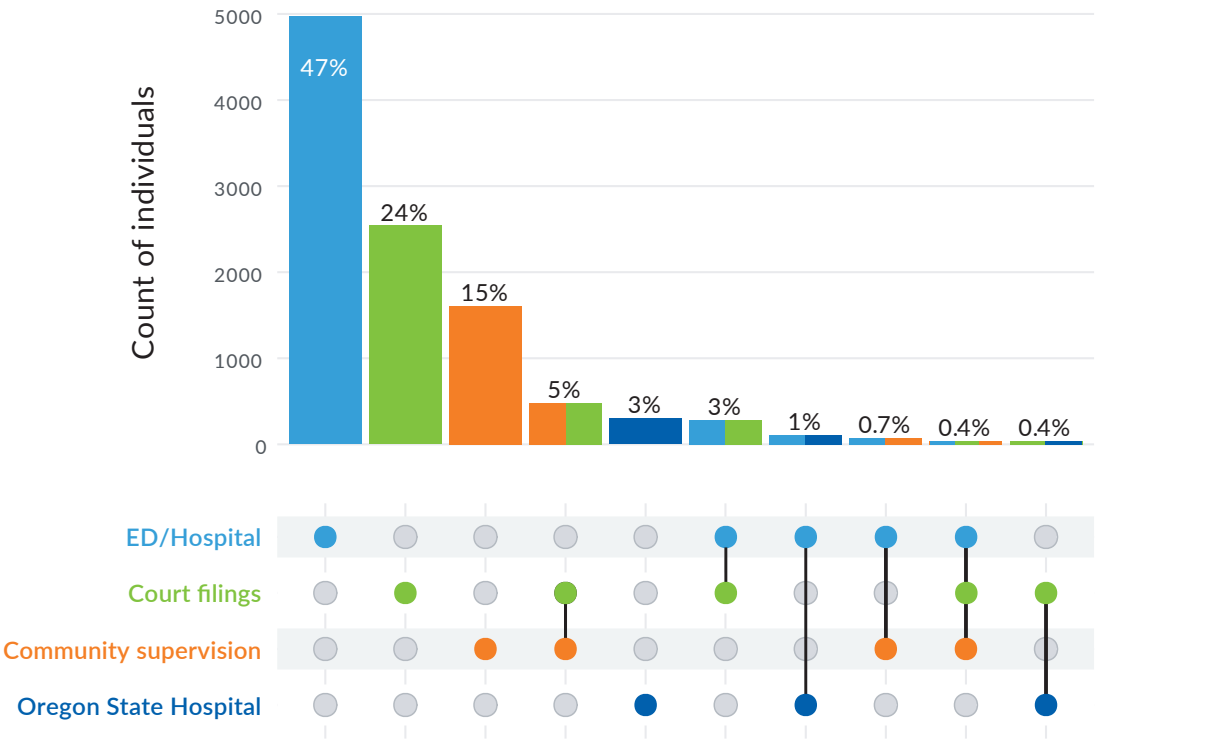
Some individuals met more than one criterion (Figure 3). For example, 5% of the 2018 target population had two or more court filings and were under community corrections supervision in 2018. Another 3% had two or more ED visits or hospitalizations for a behavioral health condition and two or more circuit court filings.

**Table 4. Percent of 2018 target population that met each criterion**

| NUMBER OF INDIVIDUALS | 10,483 |
|---|---|
| 2 or more ED visits and/or hospitalizations for behavioral health | 52% |
| 2 or more circuit court filings and a behavioral health condition | 33% |
| Released from community supervision or on parole/probation, and a behavioral health condition | 21% |
| Discharged from the Oregon State Hospital | 5% |

*Notes. Percentages sum to >100 because individuals can meet multiple criteria. See Appendix B for more details on how the target population was defined.*
*ED = emergency department*

**Figure 3. Ten most common ways individuals qualified for the target population in 2018**




**ED/Hospital** = 2 or more ED visits and/or hospitalizations for behavioral health

**Court filings** = 2 or more circuit court filings and a behavioral health condition

**Community supervision** = Released from community supervision or on parole/probation, and a behavioral health condition

**Oregon State Hospital** = Discharged from the Oregon State Hospital.

Table 5 includes demographic characteristics and the prevalence of behavioral health conditions among the 2018 target population. For comparison, we also calculated these metrics for (a) all adult Medicaid enrollees who resided in IMPACTS service areas (555,320) and (b) all adult Medicaid enrollees in Oregon (1,043,642).

The average age of the IMPACTS target population was 37 years, one year younger than the Oregon Medicaid average. Higher proportions of the target population identified as American Indian/Alaska Native, Black/African American, and White, whereas lower proportions identified as Asian and Latino/a/x. IMPACTS service areas represented a larger urban population than Oregon at large.

**Table 5. 2018 population characteristics**

| | IMPACTS TARGET POPULATION (IMPACTS service areas) | OREGON MEDICAID (IMPACTS service areas) | OREGON MEDICAID (Statewide) |
|---|---|---|---|
| **Number of individuals** | 10,483 | 555,320 | 1,043,642 |
| **Mean age (years)** | 37 | 38 | 38 |
| **Dually eligible for Medicaid & Medicare (%)** | 11 | 7 | 7 |
| **Race/Ethnicity (%)** | | | |
| American Indian/Alaska Native | 5 | 3 | 2 |
| Asian | 0.7 | 2 | 2 |
| Black/African American | 5 | 3 | 2 |
| Latino/a/x | 2 | 5 | 7 |
| Middle Eastern/North African | —[a] | 0.1 | 0.1 |
| Native Hawaiian/Pacific Islander | 0.3 | 0.4 | 0.5 |
| Other/Multiple Races | 0.4 | 1 | 1 |
| White | 49 | 41 | 42 |
| Unknown/Missing/Decline | 37 | 44 | 44 |
| **Geography [b] (%)** | | | |
| Urban | 79 | 78 | 69 |
| Rural | 17 | 16 | 24 |
| Isolated | 3 | 3 | 4 |
| Missing | 1 | 3 | 2 |
| **Behavioral health condition [c] (%)** | | | |
| Alcohol-related disorders | 46 | 9 | 9 |
| Anxiety and fear-related disorders | 55 | 26 | 26 |
| Bipolar and related disorders | 26 | 5 | 5 |
| Cannabis-related disorders | 37 | 7 | 7 |
| Depressive disorders | 50 | 23 | 22 |
| Disruptive, impulse-control and conduct disorders | 6 | 0.5 | 0.5 |
| Hallucinogen-related disorders | 1 | 0.2 | 0.1 |
| Mental and substance use disorders in remission [d] | 32 | 7 | 6 |
| Neurodevelopmental disorders | 14 | 6 | 6 |
| Obsessive-compulsive and related disorders | 3 | 1 | 1 |

| | IMPACTS TARGET POPULATION (IMPACTS service areas) | OREGON MEDICAID (IMPACTS service areas) | OREGON MEDICAID (Statewide) |
|---|---|---|---|
| Opioid-related disorders | 35 | 6 | 5 |
| Personality disorders | 13 | 2 | 2 |
| Schizophrenia spectrum and other psychotic disorders | 38 | 4 | 4 |
| Sedative-related disorders | 9 | 0.9 | 0.8 |
| Stimulant-related disorders | 56 | 7 | 7 |
| Suicide attempt/intentional self-harm | 35 | 5 | 5 |
| Trauma- and stressor-related disorders | 45 | 17 | 16 |
| Other specified and unspecified mood disorders | 11 | 2 | 2 |
| Other specified substance-related disorders | 33 | 4 | 4 |

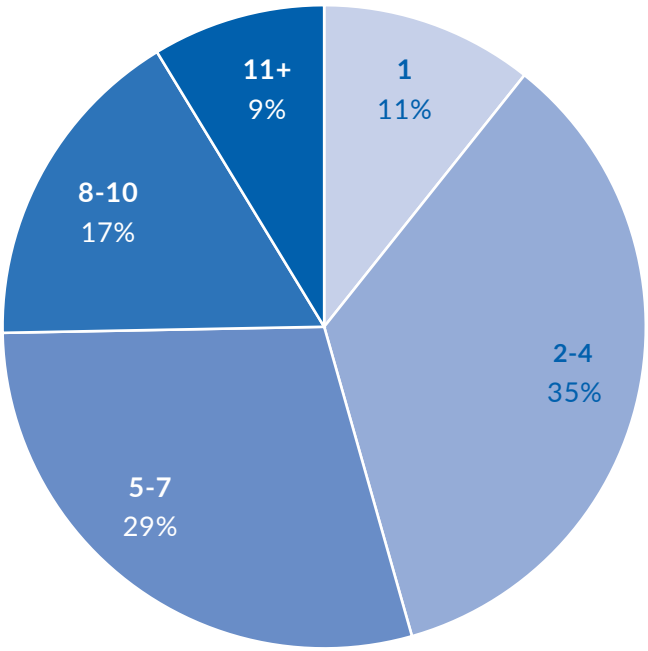
[a] *Result suppressed due to small cell size (<11 individuals).*
[b] *Geography characterizations based on definitions from the Oregon Office of Rural Health; we mapped the urban/rural/isolated designations to the individual's zip code of residence.*[17]
[c] *Behavioral health conditions are identified based on diagnosis codes in Oregon Health Plan claims. See Appendix B for more information.*
[d] *Individuals in remission may still require supportive services/treatment. Only 0.6% of the target population had this as their only behavioral health condition.*

The prevalence of behavioral health conditions was much higher among the IMPACTS target population compared to the general Medicaid population (Table 5). This is not surprising; inclusion in the IMPACTS target population necessitates individuals to have a behavioral health condition.

- Some conditions were present for half or more of the target population, including anxiety and fear-related disorders (55%), depressive disorders (50%), and stimulant disorders (56%).
- Over a third of the target population had diagnoses for suicide attempts or intentional self-harm (35%).
- Substance use disorders were five to nine times more prevalent within the target population than the full Medicaid population.

Figure 4 displays the prevalence of co-occurring behavioral health conditions in the IMPACTS target population. Most (89%) individuals were diagnosed with more than one behavioral health condition over the study timeframe. Over half (55%) had five or more behavioral health conditions, and a quarter (26%) had eight or more.

**Figure 4. Proportion of 2018 target population with co-occurring behavioral health conditions**



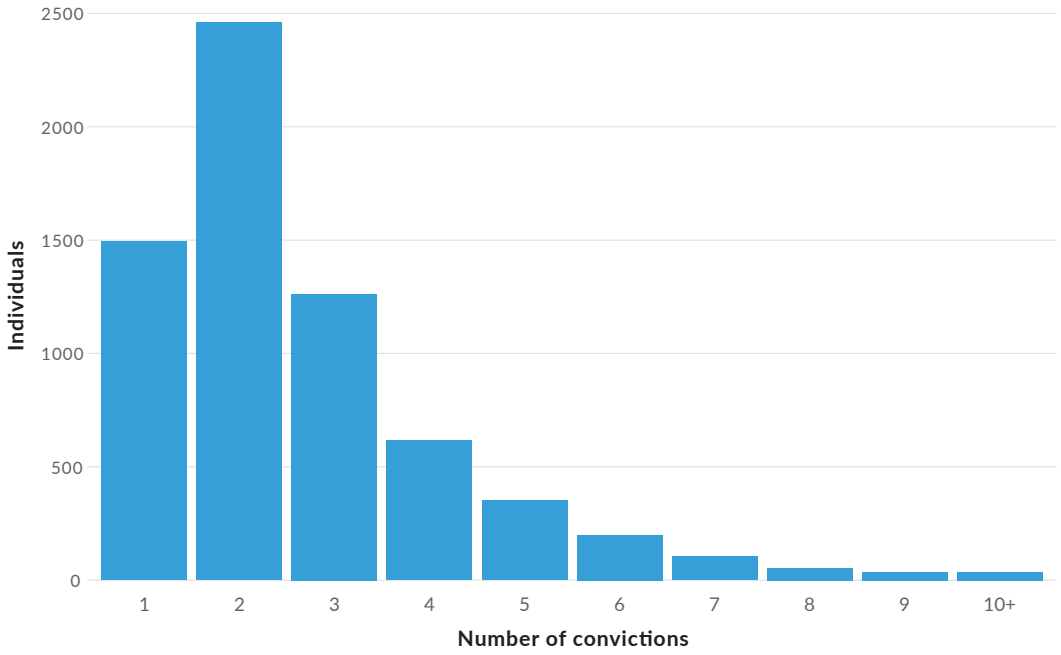
## Criminal justice involvement

### Hypothesis: Implementation of IMPACTS will reduce involvement with the criminal justice system

#### Convictions among the target population

Of the 10,483 individuals in the target population in 2018, 7,076 (68%) had at least one criminal case filed. Among those, 94% were convicted of at least one offense, and 72% were convicted of two or more offenses.

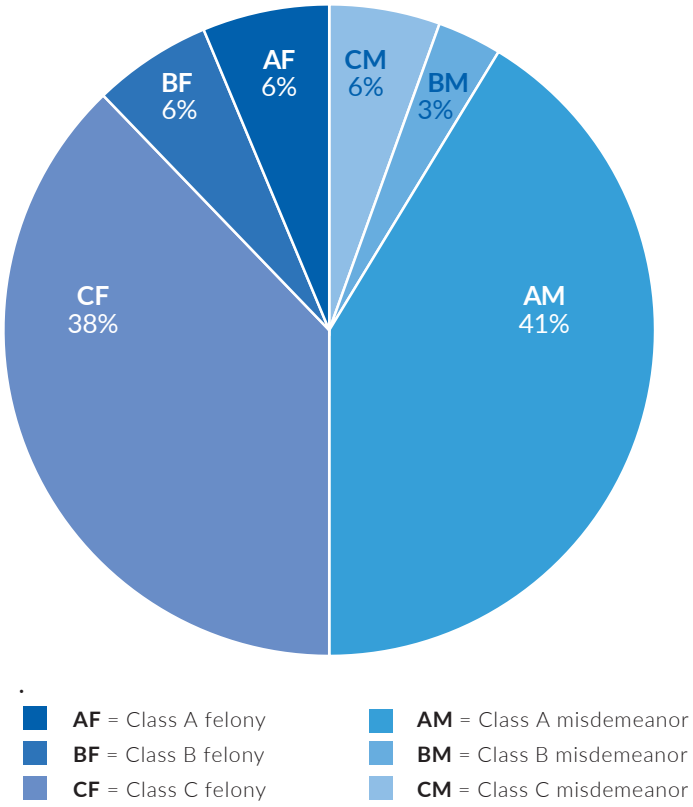
**Figure 5. Number of convictions among individuals in the 2018 target population**




The statewide evaluation of Grant Cycles 1 and 2 will assess the extent to which IMPACTS is associated with changes in the rate of convictions per capita, as well as the average number of convictions among individuals with at least one.

Figure 6 shows the crime class distribution for the most serious offense of each individual convicted in 2018. Convictions were almost evenly split between misdemeanors and felonies, with a majority of the convictions at the Class A Misdemeanor and Class C Felony levels. Many IMPACTS grantee programs emphasize prevention and aim to reduce the escalation of criminal justice involvement. To the extent that these efforts are successful, the count and distribution of these offenses may change, resulting in fewer overall offenses and a shift away from felonies towards misdemeanors. These effects could be additionally mitigated by Oregon's Ballot Measure 110 (see callout box below), which went into effect on February 1, 2021, and decriminalized certain drug charges, reducing them to class E violations.[18] Future analyses will need to incorporate this policy change in the interpretation of findings.

**Figure 6. Crime class distribution for individuals' most serious convicted offenses in 2018**




## Ballot Measure 110 — Drug Addiction Treatment and Recovery Act

In response to the substance use disorder (SUD) crisis in Oregon, voters passed Ballot Measure 110 in November of 2020, decriminalizing possession of controlled substances (PCS) and expanding access to SUD treatment.

Specific provisions include:[18]

- Reducing PCS offenses to a new Class E violation with a $100 fine
- Not allowing most PCS offenses to be punishable by jail or supervision
- Dismissing charges for individuals who obtain a needs screening or SUD treatment
- Establishing Behavioral Health Resource Networks (BHRNs) in each county to provide comprehensive and wraparound services for all Oregon residents (via Senate Bill 755)

**Nov 2020** Passage of Measure 110 → **Feb 2021** Decriminalization is implemented → **June 2021** Senate Bill 755 creates BHRNs → **July 2022** Funding of BHRNs begins

The passage of Ballot Measure 110 closely coincides with implementation of IMPACTS program activities.[19] Decreasing incarceration rates and increased funding for SUD prevention and treatment could affect outcomes related to IMPACTS.

## Interactions with the criminal justice system

We also assessed patterns of interaction with the criminal justice system over the IMPACTS baseline period. (Figure 7) Starting with individuals in the target population who were convicted of one or more offenses in 2018, we observed any subsequent system contacts during each quarter of 2019. Individuals were categorized by their most extreme form of criminal justice contact within a given quarter, according to the following hierarchy:

No criminal justice involvement

↓

Convicted of an offense

↓

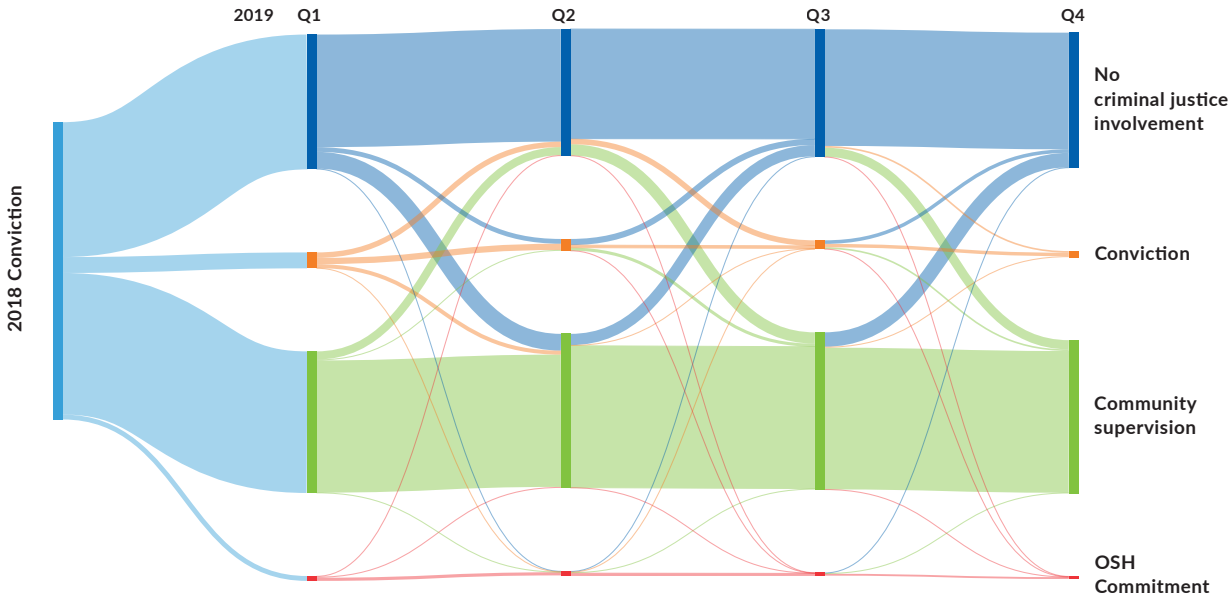
Community supervision
(Includes prison, jail, parole and probation)

↓

Oregon State Hospital commitment

Of the 6,611 target population individuals with a 2018 conviction, half (53%) were under community supervision by the end of 2019 and on average 86 individuals were in the Oregon State Hospital in any given quarter. Nearly one third (30%) had no criminal justice contact in 2019.

**Figure 7. Flow through the criminal justice system**




Two of IMPACTS's primary aims are to reduce (1) recidivism and (2) institutional placements. Success in these areas could change how individuals "flow" through the system. For example, fewer people may have initial contact with more severe levels of criminal justice involvement, or individuals may move to lower levels and remain there instead of cycling back. Future analyses will assess changes in how individuals move through the criminal justice and state hospital systems.

## Health care

### Hypothesis: Implementation of IMPACTS will reduce hospital and ED visits, and increase mental health and SUD treatment rates.

#### Utilization of physical and behavioral health services

We examined healthcare utilization and select outcome measures during 2019, the year before the implementation of IMPACTS. Utilization rates are scaled per year of member enrollment, while service and treatment outcomes are reported as the percentage of individuals who received care. (Table 6)

The IMPACTS target population had more outpatient and ED visits and spent more days in an inpatient setting than Oregon's general Medicaid population, with even starker differences observed for behavioral health services. Target population individuals averaged four behavioral health-related ED visits per year, compared to 0.3 among all Medicaid enrollees. Similarly, target population individuals experienced an average of five inpatient days related to behavioral health, compared to 0.2 for all of Medicaid.

Mental health and substance use disorder treatment rates were similar between the IMPACTS target population and full Medicaid population, with two exceptions: target population individuals had slightly poorer antidepressant medication management, but slightly higher use of pharmacotherapy for schizophrenia and bipolar disorder. Initiation of alcohol and drug treatment was also similar between populations, though engagement was slightly lower for target population members (17% versus 20%). Conversely, medication-assisted therapy for individuals with opioid use disorder was slightly higher among target population members (36% versus 31%).

Even where rates between populations were similar, many of the rates are low, indicating ongoing statewide challenges to meet the healthcare needs of individuals with behavioral health conditions. IMPACTS grantee services – including intensive medical and behavioral health case management, behavioral health treatment, and comprehensive wraparound services – may increase the use of outpatient mental health and substance use treatment and decrease ED utilization and hospital stays for behavioral health. Some measures – such as continued engagement in SUD treatment – suggest opportunities for improved supports for the target population. As noted above, Ballot Measure 110 may also affect the use of SUD services during the study period.

**Table 6. Healthcare utilization prior to the start of IMPACTS (2019)**

| | IMPACTS TARGET POPULATION (IMPACTS service areas) | OREGON MEDICAID (IMPACTS service areas) | OREGON MEDICAID (Statewide) |
|---|---|---|---|
| **Number of individuals** | 8,537 | 355,378 | 672,263 |
| **Healthcare utilization (per member year)** | | | |
| Outpatient Visits | | | |
| All | 75 | 23 | 21 |
| BH Services | 48 | 10 | 9 |
| ED Visits | | | |
| All | 6 | 0.8 | 0.8 |
| BH Services | 4 | 0.3 | 0.3 |
| Inpatient Days | | | |
| All | 7 | 0.7 | 0.6 |
| BH Services | 5 | 0.2 | 0.2 |
| **Mental health services (%)** | | | |
| Follow-up After Hospitalization for Mental Illness | | | |
| Within 7 Days | 68 | 68 | 69 |
| Within 30 Days | 83 | 82 | 83 |
| Antidepressant Medication Management | | | |
| Acute Phase Treatment | 43 | 46 | 47 |
| Continuation Phase Treatment | 25 | 30 | 31 |
| Pharmacotherapy Use for Members with | | | |
| Schizophrenia | 84 | 81 | 81 |
| Bipolar Disorder | 83 | 70 | 70 |
| **Substance abuse treatment (%)** | | | |
| Alcohol or Other Drug Dependence Treatment | | | |
| Initiation | 31 | 31 | 32 |
| Engagement | 17 | 20 | 20 |
| Medication-Assisted Therapy for Members with Opioid Use Disorder | 36 | 33 | 31 |

*Notes. See Appendix C for information for how outcomes were defined.*

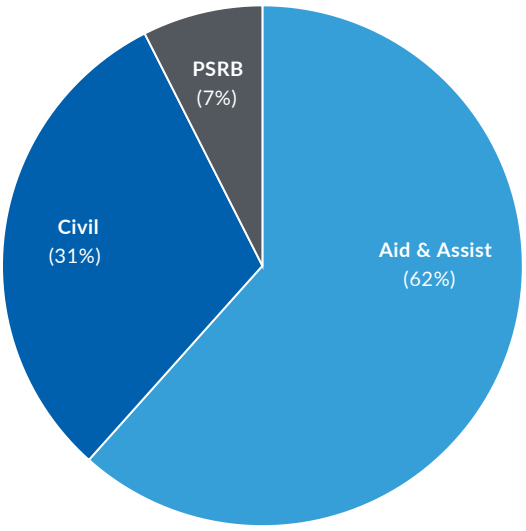
## Institutional placements

### Hypothesis: Implementation of IMPACTS will reduce institutional placements.

### Oregon State Hospital commitment characterization

In 2018, 812 individuals were discharged from the Oregon State Hospital (OSH), 60% of whom resided in IMPACTS service areas. The majority (62%) were admitted under aid and assist, and nearly one-third (31%) were civilly committed. The remaining 7% were admitted under the jurisdiction of the Psychiatric Security Review Board (PSRB). Four of the five most common admitting diagnoses were related to schizophrenia. The second most common admitting diagnosis was acute psychosis (24%).

**Figure 8. Legal status for individuals discharged from OSH in 2018**




**Definitions of legal status:**

***Aid & assist*** *— to be restored to competency to proceed with court case*

***PSRB*** *— Psychiatric Security Review Board (guilty except for insanity)*

***Civil commitment*** *— deemed by a judge to be an immediate danger to themselves or others*

**Table 7. Five most common admitting diagnoses for individuals discharged from OSH in 2018**

| | |
|---|---|
| Catatonic schizophrenia | 24% |
| Acute psychosis | 24% |
| Schizoaffective disorder bipolar type | 16% |
| Other schizophrenia | 3% |
| Schizoaffective disorder | 3% |

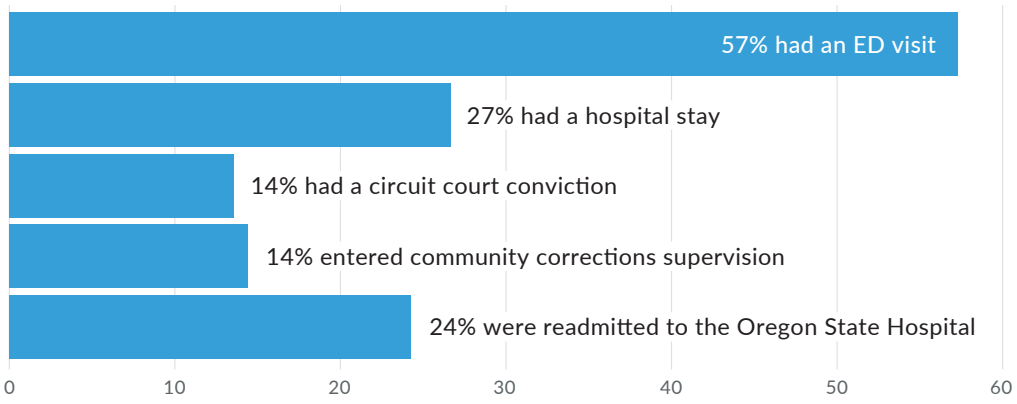
OSH has a long history of being overburdened and lacking the requisite bed capacity for timely admission of patients in need of services. Priority has been given to aid and assist patients over civil commitments in an effort to comply with court mandated seven-day admission requirements. As a result, some civil commitment patients waiting for a bed to become available have experienced boarding at a non-psychiatric hospital for a month or longer, delaying needed treatment.[20] A recent federal court order mandated that OSH, previously out of compliance, adhere to the seven-day wait limit and also limit length of stay based on the severity of an individual's crime, effectively opening beds up earlier. OSH has been able to reduce aid and assist wait times as of July 2023, however these are still prioritized over civil commitments and the ability to maintain long-term compliance and meet the needs of the full population remains to be seen.[21]

IMPACTS interventions could affect OSH in two dimensions. First, it could reduce the need for civil commitments by providing effective behavioral health services and supports upstream and in the community. Second, it could reduce the number of aid and assist commitments through reductions in charges, opening up room for more civil commitments. Both of these outcomes would reduce the overall burden on the Oregon State Hospital and help address the needs of the community.

## Outcomes after discharge

In the year following discharge, over half of individuals (57%) had an ED visit and 27% had a hospital stay. (Figure 9) Nearly a quarter (24%) were readmitted to the OSH and 14% entered community supervision. These high rates of utilization highlight the need for services to support successful community integration.

**Figure 9. Select outcomes in the year following discharge from the Oregon State Hospital (2019)**




The statewide evaluation will assess the rate of admissions and readmissions to OSH for individuals in the target population. By providing the necessary level of services and supports, IMPACTS programs could reduce OSH admissions, or affect the composition of those admitted (e.g., lower proportion of civil commitments). Assessing OSH records in combination with data from other sectors will provide a broader picture of an individual's involvement with the system and where opportunities exist to provide additional supports.

CHAPTER 5

# Conclusion

## KEY FINDINGS

### *Target Population*

- *The IMPACTS target population is characterized by complex behavioral health needs coupled with frequent healthcare utilization and criminal justice involvement. Over half (52%) of the target population had two or more ED visits or hospitalizations with a primary behavioral health diagnosis and a third (33%) had two or more court filings within six months.*

### *Behavioral health conditions*

- *There is a high prevalence of multiple and severe behavioral health conditions among the IMPACTS target population compared to the general Oregon Medicaid population. Over half (55%) of the target population had five or more behavioral health conditions, and a quarter (26%) had eight or more.*
- *The most prominent mental health conditions included anxiety and fear-related disorders (55%), depressive disorders (50%), trauma- and stressor-related disorders (45%), and schizophrenia spectrum and other psychotic disorders (38%).*
- *Substance use disorders (SUDs) were five to nine times more prevalent within the target population.*

### *Criminal justice involvement*

- *Among individuals in the target population with criminal cases filed in 2018, 94% were convicted of at least one offense and 72% were convicted of two or more offenses. Most convictions consisted of higher level misdemeanors (class A) and lower level felonies (class C).*
- *70% of target population individuals with a circuit court conviction in 2018 had ongoing criminal justice involvement in 2019 through a further conviction, community supervision, or Oregon State Hospital commitment.*

### *Healthcare utilization*

- *Behavioral health treatment — including follow-up care after hospitalizations, antidepressant medication management and SUD treatment — was similar between the IMPACTS target population and the general Medicaid population.*
- *Healthcare utilization was much higher for the IMPACTS target population — for example, an average of six ED visits per year compared to 0.8 among the general Medicaid population, and 75 outpatient visits compared to 21. The majority of visits were behavioral health-related.*

### *Institutional placements*

- *Of the 812 individuals discharged from the Oregon State Hospital in 2018, 62% were committed for aid and assist, and one-third (35%) were civilly committed. Schizophrenia and acute psychosis were the most common admitting diagnosis.*
- *The majority (60%) of individuals resided in IMPACTS service areas, with the remaining residing in areas not served by IMPACTS programs.*
- *In the year following discharge, over half of individuals (57%) had an ED visit and 27% had a hospital stay. A quarter (24%) were readmitted to the Oregon State Hospital, and 14% entered community corrections supervision.*

## Program evaluation

The IMPACTS target population is typified by severe, co-occurring behavioral health conditions as well as frequent, high-intensity interactions with the health and criminal justice systems. This complexity underscores the need for additional supports and services to support individual wellbeing that was the impetus for the creation of IMPACTS. This Baseline Report demonstrates our ability to aggregate cross-sector data sources to identify the IMPACTS target population and track individual outcomes, highlighting opportunities for future evaluations to assess program success.

## Policy implications

Over the past several years, the behavioral health policy landscape in Oregon has been rapidly evolving. The state has prioritized improving access and quality of care for behavioral health through various means, including funding for local governments to support crisis intervention, supporting the use of peer support workers, providing low barrier solutions to increase access to SUD treatment, and expanding culturally specific services. IMPACTS is just one of the many programs aimed at addressing the needs of Oregon residents with mental health or substance use disorders.[22]

These existing or new policies have the capacity to interact with and support IMPACTS program goals and outcomes. For example, Ballot Measure 110 aims to reduce serious interactions with the criminal justice system while simultaneously supporting access to SUD resources, which is in direct alignment with IMPACTS goals. Behavioral Health Resource Network grant funding through Measure 110 supports community SUD-related programs, with the potential to improve outcomes by providing prevention and outreach activities at a local level. In addition, Oregon's Medicaid 1115 and SUD waivers with CMS have provisions for enhancing support for social needs and access to community integration services for Oregon Health Plan members.

The true long-term impacts of these policies remain to be seen, and may be hard to attribute to a single program given the amount of overlap between program timing and focus areas. However, incorporating the broader policy context in relation to the implementation of IMPACTS will provide a more complete picture of how these interactions might support or hinder program goals.

## Measuring success

Subsequent IMPACTS statewide evaluations will assess a broad variety of criminal justice and healthcare outcomes which, taken collectively, will serve as indicators of the program's success. Outcomes will include target population and community-wide rates of court filings, prison admissions, hospital and ED visits, outpatient services, state hospital admissions, and engagement in mental health and SUD treatment. Assessed outcomes will map to the program's stated goals of reducing involvement with the legal and criminal justice systems, and reducing the utilization of high-intensity healthcare resources and institutional placements.

Measuring program effects goes beyond the analysis of administrative data. Grantee perspectives provided by the Waddell Research Group will provide valuable insight into how grantees view the success of their programs. Ongoing quantitative and qualitative evaluation will occur with each successive IMPACTS grant cycle.

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## Quantitative Data Sources and Linking

Table A provides an overview of the data sources that were selected for IMPACTS statewide evaluation. These were chosen after a thorough review of datasets maintained by IMPACTS grantees and a variety of government entities. Ultimately, datasets were selected based on a combination of their utility to identify the IMPACTS target population and outcomes of interest, their suitability for linking at the person-level, and their availability for research requests.

**Table A. Overview of data sources for statewide IMPACTS evaluation**

| DATA SOURCE | DESCRIPTION |
|---|---|
| Oregon Circuit eCourt filings [11] | Oregon eCourt data contain person-based case information for the state's 36 circuit courts and the Oregon Tax Court. Data fields used to assess law enforcement contact/criminal-legal involvement include state ID number (SID), filing date, charge penal code, charge severity, and defendant name and demographic characteristics. In the context of the IMPACTS statewide evaluation, eCourt filings serve as an indicator of criminal justice involvement, given that comprehensive jail booking data are not available from a single statewide source.<br><br>Oregon eCourt data are stewarded by the Oregon Judicial Department and stored in the person-based Odyssey data management system. |
| Oregon Department of Corrections (DOC) administrative data[12] | Administrative data from the Oregon Department of Corrections include information on individuals with any felony and some misdemeanor convictions, along with corresponding sentences. Only misdemeanor convictions where the individual was supervised by County Community Corrections are included, for example, misdemeanor drug possession and some domestic violence offenses. The data do not include information for individuals who were only convicted of less serious misdemeanor offenses, or those who were arrested and not convicted.<br><br>Administrative records are maintained by the Oregon Department of Corrections, Research and Evaluation unit. |
| Oregon Health Plan (OHP) eligibility records and claims[8] | Eligibility and claims data from the Oregon Health Plan (Oregon's Medicaid program) include basic demographic and coverage information as well as details about health care services and diagnoses received by covered members.<br><br>Oregon Health Plan data are stewarded by the Oregon Health Authority. |
| Oregon State Hospital (OSH)[9] | The Oregon State Hospital dataset includes information on admissions and discharges (Salem and Junction City campuses), as well as basic demographics, referral sources, commitment typology, and circumstances of discharge.<br><br>Oregon State Hospital data are stewarded by the Oregon Health Authority. |
| Heritage Native American (HNA) roster[10] | The HNA roster includes a list of documented and verified tribal affiliations maintained by the Oregon Health Authority in collaboration with the Indian Health Board to identify members who are American Indian/Alaska Native (AI/AN).<br><br>The HNA roster is stewarded by the Oregon Health Authority. |

These data sources, while helpful for assessing interactions with the health and criminal justice systems, also reflect inherent problems such as structural racism. For instance, police disproportionally arrest people of color, resulting in their overrepresentation in criminal justice datasets.[23] We recognize that the systems that produce these data are also direct and indirect drivers of the outcomes we seek to measure.

Person-level linkage across these data sources was performed by Integrated Client Services (ICS), a unit within the Office of Forecasting, Research and Analysis (OFRA), and a shared service between the Oregon Department of Human Services and the Oregon Health Authority.[13] ICS uses a combination of deterministic, probabilistic and manual matching to link records at the person-level across administrative data sources. The ultimate success of the match is dependent upon the quality and completeness of the source data.

Additional data sources that were of interest but not included in the statewide evaluation dataset include:

1. ***Jail bookings*** data identify individuals booked into county and municipal jails pre-trial, sanctioned for violations of Community Corrections supervision, or sentenced to less than one year of incarceration. Data are maintained locally on closed, secure data systems. Data are not standardized across counties or municipalities, and are not aggregated for analysis at the state level. Local IMPACTS evaluations will assess jail bookings among IMPACTS participants.

2. ***The Law Enforcement Data System (LEDS)***[24] is a database created for law enforcement records such as warrants, protection orders, stolen property, criminal histories, and other vital investigative files. LEDS is organized within the Department of Oregon State Police, and is the control point for access to similar programs operated by other states and the Federal Government. LEDS is designed to facilitate exchange of law enforcement information between criminal justice agencies, and data sharing criteria are written into Oregon Administrative Rules. The Oregon Criminal Justice Commission has limited access to LEDS to track arrests and convictions for evaluation and planning purposes, but does not have rights to re-disclose data to other institutions or to link these data to individual level health records.

3. ***Oregon's All-Payer All-Claims (APAC)***[25] reporting program contains medical, dental and pharmacy claims, payment amounts, member demographics, billed premiums, and provider information for the majority of Oregon residents. APAC includes information for individuals who have healthcare coverage through commercial insurance (including PEBB and OEBB), Medicaid and Medicare Parts A-D. APAC does not include data on individuals who are uninsured or who receive insurance through certain federal programs such as Tricare, the Federal Employees Health Benefits Program, the Department of Veterans Affairs, or (notably, for IMPACTS) the Indian Health Service. The APAC program masks claims related to alcohol and drug treatment services, limiting its utility for evaluations of behavioral health services.

4. ***The Indian Health Service (IHS)***[26] is an agency within the U.S. Department of Health and Human Services that provides federal health services to American Indians and Alaska Natives. Many Oregon tribes provide healthcare services to their members through IHS facilities. Since these facilities can bill the Oregon Health Plan (Medicaid) for services similar to non-IHS facilities, access to IHS data as a separate source for data on healthcare utilization was not deemed necessary.

5 *Measures and Outcomes Tracking System (MOTS)*[27] data are maintained by OHA and capture select behavioral health services; they may also serve as a source to identify referrals to the Oregon State Hospital that did not result in an admission (e.g., due to Covid-19 over-crowding). However, individual identifiers in the MOTS data are unreliable, which would prevent us from accurately linking records across individuals. Additionally, providers were allowed reprieves from reporting services to MOTS during the COVID-19 pandemic, and retroactive service capture may be incomplete. Finally, as of this writing the Business Interface object by which MOTS data may be queried is unavailable, due to the expiration of a software contract.

## Target Population

**Identifying ED visits and hospitalizations:** We used the Healthcare Effectiveness Data and Information Set (HEDIS) definition to identify Emergency Department (ED) visits in the Medicaid claims data. This definition uses a combination of place of service, hospital revenue, and Current Procedural Terminology (CPT) codes.[28] We excluded ED visits that resulted in a hospitalization, to avoid double-counting episodes. We defined hospitalizations as services with a type of bill of 11 or 12, place of service code of 21 or 51, or inpatient (I) or inpatient crossover (A) claim type. We used the first date of service as the temporal point of reference.

**Identifying circuit court filings:** Our analysis included court filings that were dispositioned as convicted, dismissed, or deferred. We excluded cases for pending bankruptcies. We used the offense date as the temporal point of reference.

**Identifying community supervision and parole/probation:** To identify individuals released from community supervision we included custody types of incarceration, local control, parole and probation. We used release date as the temporal point of reference. We identified individuals currently on parole/probation via records with a historical admission date, an unpopulated release date, and custody type of parole or probation. We used the admission date as the temporal point of reference.

**Identifying discharges from the Oregon State Hospital:** Identifying individuals who discharged from the Oregon State Hospital required us first to link records associated with a unique stay. We did this by matching records where the admission date from one record matched the discharge data of another record, for the same individual. Multiple records can be generated when, for example, an individual transfers between the Salem and Junction City campuses. Once unique stays were identified, we included individuals with a populated discharge date, using that date as the temporal point of reference.

**Identifying individuals who reside in IMPACTS service areas:** We used Medicaid enrollment information to identify individuals who reside in counties where IMPACTS services are available to qualifying individuals (see Figure 2 Grantee Service Area Map). A notable limitation to this approach is that colonially-defined boundaries (such as "county") do not map cleanly onto tribal jurisdictions; hence, this approach only approximates service areas for the IMPACTS tribal grantees. Furthermore, if a grantee's service provisions are limited to specific cities/regions within the county, our approach overestimates individuals residing in IMPACTS service areas.

We used the Heritage Native American ("HNA") list of documented and verified tribal affiliations maintained by OHA in collaboration with the Indian Health Board to identify AI/AN members. Since not all AI/AN individuals register with a tribe, we also included individuals who self-reported as AI/AN in the Medicaid enrollment records.

**Identifying individuals with a behavioral health (BH) condition:** We used diagnosis codes in Medicaid claims data as the basis for identifying individuals with a BH condition. If an individual had an undiagnosed BH condition, or received a diagnosis will uninsured or insured by another payer type (e.g., commercial insurance plan) during the study period, we would not observe it in our dataset. Unless otherwise indicated, diagnoses in any position on the claim record were included to identify members with a behavioral health condition.

Our definition of BH condition diagnosis codes came from the Clinical Classifications Software Refined (CCSR)[29] from the Healthcare Cost and Utilization Project (HCUP). This tool maps ICD-10 diagnosis codes into clinically meaningful categories. We included all categories under Mental, behavioral, and neurodevelopmental disorders (MBD) except for tobacco-related disorders (see Table B).

**Table B. CCSR categories included in the IMPACTS statewide evaluation definition of "behavioral health condition"**

| | |
|---|---|
| MBD001 | Schizophrenia spectrum and other psychotic disorders |
| MBD002 | Depressive disorders |
| MBD003 | Bipolar and related disorders |
| MBD004 | Other specified and unspecified mood disorders |
| MBD005 | Anxiety and fear-related disorders |
| MBD006 | Obsessive-compulsive and related disorders |
| MBD007 | Trauma- and stressor-related disorders |
| MBD008 | Disruptive, impulse-control and conduct disorders |
| MBD009 | Personality disorders |
| MBD010 | Feeding and eating disorders |
| MBD011 | Somatic disorders |
| MBD012 | Suicidal ideation/attempt/ intentional self-harm |
| MBD013 | Miscellaneous mental and behavioral disorders/conditions |
| MBD014 | Neurodevelopmental disorders |
| MBD017 | Alcohol-related disorders |
| MBD018 | Opioid-related disorders |
| MBD019 | Cannabis-related disorders |
| MBD020 | Sedative-related disorders |
| MBD021 | Stimulant-related disorders |
| MBD022 | Hallucinogen-related disorders |
| MBD023 | Inhalant-related disorders |
| MBD025 | Other specified substance-related disorders |
| MBD026 | Mental and substance use disorders in remission |
| MBD027 | Suicide attempt/intentional self-harm; subsequent encounter |

## Health Outcomes

**Outpatient Visits – All**

Formal Name: Ambulatory Care: Outpatient Utilization per MY

Description: Number of ambulatory outpatient visits, reported per member year

Source: Medicaid claims

Steward: NCQA (HEDIS 2016)

**Outpatient Visits – BH Services**

Formal Name: Ambulatory Care: Outpatient Utilization for Behavioral Health Services per MY

Description: Number of ambulatory outpatient visits for behavioral health services, reported per member year

Source: Medicaid claims

Steward: CHSE (stratified from NCQA (HEDIS 2016) measure for all visits)

**ED Visits – All**

Formal Name: Ambulatory Care: ED Utilization per MY

Description: Number of emergency department visits, reported per member year

Source: Medicaid claims

Steward: NCQA (HEDIS 2016)

**ED Visits – BH Services**

Formal Name: Ambulatory Care: ED Utilization for Behavioral Health Services per MY

Description: Number of emergency department visits for behavioral health services, reported per member year

Source: Medicaid claims

Steward: CHSE (stratified from NCQA (HEDIS 2016) measure for all visits)

**Inpatient Days – All**

Formal Name: Inpatient Days per MY

Description: Number of inpatient days, reported per member year

Source: Medicaid claims

Steward: CHSE

**Inpatient Days – BH Services**

Formal Name: Inpatient Days for Behavioral Health Services per MY

Description: Number of inpatient days for behavioral health services, reported per member year

Source: Medicaid claims

Steward: CHSE

**Follow-up After Hospitalization for Mental Illness**

Formal Name: Follow-up After Hospitalization for Mental Illness

Description: The percentage of inpatient discharges for a diagnosis of mental illness or intentional self-harm that resulted in follow-up care within 7 and 30 days

Source: Medicaid claims
Steward: NCQA (HEDIS 2016)

**Antidepressant Medication Management**

Formal Name: Antidepressant Medication Management

Description: The percentage of adults with a diagnosis of major depression who were newly treated with antidepressant medication and remained on their antidepressants for at least 84 days (12 weeks) and 180 days (6 months)

Source: Medicaid claims
Steward: NCQA (HEDIS 2016)

**Pharmacotherapy Use for Members with Schizophrenia**

Formal Name: Any Antipsychotic Drug Use Among Members with Schizophrenia

Description: The percentage of adults with a diagnosis of schizophrenia who were dispensed at least one antipsychotic medication

Source: Medicaid claims
Steward: RAND[30]

**Pharmacotherapy Use for Members with Bipolar Disorder**

Formal Name: Any Antipsychotic Drug or Mood Stabilizer Use Among Members with Bipolar Disorder

Description: The percentage of adults with a diagnosis of bipolar disorder who were dispensed at least one antipsychotic or mood stabilizer medication

Source: Medicaid claims
Steward: RAND

**Alcohol or Other Drug Dependence Treatment**

Formal Name: Initiation and Engagement of Alcohol or Other Drug Abuse or Dependence Treatment

Description: The percentage of members with a new episode of alcohol or other drug dependence who initiated treatment through an inpatient alcohol or other drug admission, outpatient visit, intensive outpatient encounter or partial hospitalization within 14 days of the diagnosis (Initiation); and initiated treatment and had two or more additional services with a diagnosis of alcohol or other drug abuse within 30 days of the initiation visit (Engagement)

Source: Medicaid claims
Steward: NCQA (HEDIS 2016)

**Medication-Assisted Therapy for Members with an Opioid Use Disorder**

Formal Name: Medication-Assisted Therapy for Members with an Opioid Use Disorder

Description: The percentage of members with an opioid use disorder (OUD) diagnosis who received medication-assisted therapy

Source: Medicaid claims
Steward: CHSE