IMPACTS Statewide Evaluation

GRANT CYCLE 1 REPORT

December 2024

Revised April 2025

Prepared for:
Oregon Criminal Justice Commission

OHSU

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Acknowledgments

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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

GRC   Grant Review Committee

FCJI   frequent criminal justice involvement

ICS   Integrated Client Services

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

NCQA   National Committee for Quality Assurance

OHA   Oregon Health Authority

OHSU   Oregon Health & Science University

OSH   Oregon State Hospital

PHE   Public Health Emergency

PSRB   Psychiatric Security Review Board

SPH   OHSU-PSU School of Public Health

SUD   substance use disorder

Executive Summary

Oregon continues to experience some of the highest rates of mental illness and substance use disorders in the country, while also lacking capacity to provide necessary treatment.[1,2] Individuals with behavioral health conditions are significantly more likely to end up in jail or seek care in emergency departments, placing immense strain on systems that were not designed to address their underlying needs.[3,4]

In 2019, the Oregon Legislature responded with the Improving People's Access to Community-based Treatment, Supports and Services (or IMPACTS) program. IMPACTS aims to increase community-based support and services for individuals with behavioral health needs and frequent criminal justice and emergency services involvement (the "target population"). Administered by the Oregon Criminal Justice Commission in consultation with the Oregon Health Authority, the program is funded through 2026 and open to counties and federally recognized Indian tribes in Oregon ("grantees"), each of which may design its own program structure.[5]

This report evaluates the program's first grant cycle (July 1, 2020 – June 30, 2022), during which only a subset of grantees had launched programs, and these were still in early stages of development.

We used robust statistical methods to assess the effects of IMPACTS on its legislatively mandated aims: reducing criminal justice involvement, emergency healthcare services utilization, and institutional placements. Our approach controlled for population demographics and concurrent policy shifts – such as other behavioral health initiatives and the COVID-19 pandemic – to help isolate the effects of IMPACTS.

The results indicate that early effects of IMPACTS include:

- Decreased convictions and associated recidivism

- Increased initiation and engagement in alcohol or other drug treatment

- Modestly increased civil admissions to the Oregon State Hospital, which coincided with dramatic shifts in the composition of patient admissions

These early results suggest enhancing community-based services may improve health and reduce criminal justice involvement for a targeted population with behavioral health needs and history of intensive service use.

Future evaluations will assess the effects of maturing Cycle 1 programs, alongside five additional grantee programs that launched during the second grant cycle (including the state's most populous county, Multnomah).

Introduction

About IMPACTS

IMPACTS (Improving People's Access to Community-based Treatment, Supports and Services) was created via Senate Bill 973 in 2019 with the intent to decrease intensive service use among individuals with behavioral health needs and frequent criminal justice or emergency services involvement (the "target population").[5]

The legislatively mandated objectives of the program are to:

- Reduce criminal justice system involvement
- Reduce emergency healthcare services utilization, and
- Reduce institutional placements

The program aims to achieve these goals by awarding grants to counties and federally recognized Indian tribes in Oregon ("grantees") that increase their capacity to deliver community supports and services to their respective target populations. Grantees have broad latitude to scope their program services according to locally identified needs and priorities.

Grants are awarded in a competitive process by a Grant Review Committee (GRC) composed of state agency directors, elected officials, a state supreme court judge, attorneys, chief of police, sheriff, behavioral health treatment facility representatives, a representative of a federally recognized tribal government, and members of the public.[6] IMPACTS is currently in its third biennial grant cycle.

The state has allocated $30 million to IMPACTS from 2020 through 2025. The program is administered by the Oregon Criminal Justice Commission (CJC) in consultation with the Oregon Health Authority (OHA).

About the evaluation

The legislation that created IMPACTS earmarked 3% of program funds for evaluation. The CJC engaged the Center for Health Systems Effectiveness at Oregon Health & Science University as an independent external evaluator to conduct an ongoing statewide evaluation of the program's progress toward its mandated objectives.

The current report presents statewide evaluation results for the first IMPACTS grant cycle only ("Cycle 1"). The findings offer an early look at outcomes among the subset of grantees that launched programs between July 1, 2020 – June 30, 2022. Future reports will provide increasingly robust evidence about the overall effectiveness of IMPACTS (Table 1).

Table 1. The IMPACTS statewide evaluation will be delivered as a series of reports

Report	Description	Delivery
Baseline Report[7]	Baseline population characteristics and service utilization pre-IMPACTS implementation (January 2018 – December 2019)	Fall 2023
Cycle 1 Report (current report)	Statewide evaluation from pre-period through IMPACTS Cycle 1 (Programs active July 2020 – June 2022)	Fall 2024
Cycle 2 Report	Statewide evaluation from pre-period through IMPACTS Cycle 2 (Programs active July 2020 – June 2024)	Fall 2026

The statewide evaluation uses linked administrative datasets from multiple state agencies to identify individuals in the IMPACTS target population and track their outcomes over time. Because the data do not indicate which individuals actually received IMPACTS-funded services, our evaluation compares changes in outcomes for target population individuals living in IMPACTS service areas to changes in outcomes for target population individuals living in parts of the state without IMPACTS programs ("comparison regions").

This quantitative statewide evaluation effort is complemented by local qualitative evaluation by the OHSU-PSU School of Public Health (SPH), providing additional context to inform the statewide evaluation design and interpretation of findings.[6]

About the grantees

IMPACTS funding has been distributed to grantees over three grant cycles:

- During **Cycle 1** (July 2020 – June 2022), the GRC awarded funds to six counties and five tribes.

- During **Cycle 2** (July 2022 – June 2024), four new grantee programs – including a two-county consortium – were funded, bringing the total number of grantees to 15.

- During **Cycle 3** (July 2024 – June 2025), the GRC opted to award funds to sustain existing grantees without opening the program to new applicants.[6]

Figure 1 presents a timeline of when IMPACTS grantees offered services, based on self-reported information provided to the CJC and SPH. This report evaluates changes in outcomes associated with the launch of ten grantee programs that offered services during Cycle 1.

Figure 1. Ten IMPACTS grantees delivered program services during the first grant cycle

Notes. Colored dots represent time periods when grantees actively offered services; light blue represents Cycle 1 grantees; dark blue represents Cycle 2 grantees. Grey box denotes Cycle 1 time frame – the focus of this report. Abbreviations. H1 = first half (January 1 to June 30) and H2 = second half (July 1 to December 31) of a calendar year.

Nearly half of Cycle 1 grantees experienced delays in launching their programs. Commonly reported barriers included workforce shortages and challenges in establishing data-sharing channels and collaboration across agencies and jurisdictions – issues that were further exacerbated by the COVID-19 Public Health Emergency (PHE).[8]

Figure 2 illustrates areas where grantees actively offered services during Cycle 1, spanning a mix of rural and urban regions across the state. Grantees had discretion to offer services across their entire region or within targeted areas.

Counties without active IMPACTS programs during Cycle 1 served as comparison regions for the current evaluation. This included one county where a grantee received funds but did not launch services during Cycle 1, five counties where grantees were awarded funding in Cycle 2, and areas with no grantees.

Figure 2. Grantees offered services across many geographic areas in Oregon during IMPACTS Cycle 1
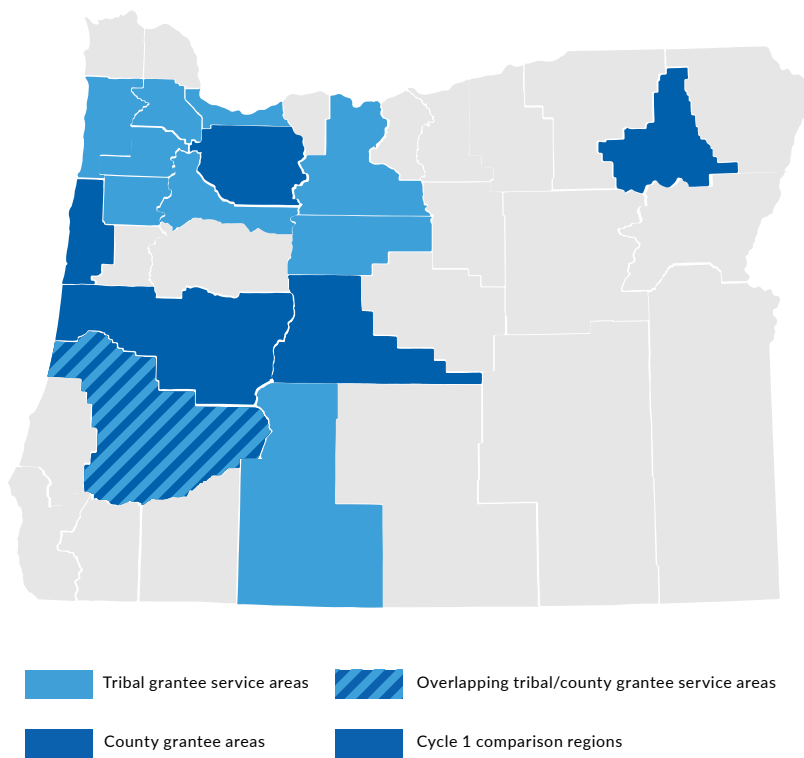
Notes. County borders are used to represent approximate service areas during the first IMPACTS grant cycle. These may be broader than actual areas served, because grantees have discretion to offer services throughout their entire region or within targeted areas. In addition, colonial-defined boundaries do not accurately reflect tribal boundaries. Due to the nature of the administrative data used in this evaluation, we rely on county and zip code boundaries identified by tribal grantees to approximate their service areas.

For this evaluation, grantees that did not launch services between July 2020 – June 2022 (one Cycle 1 grantee, all Cycle 2 grantees, and regions of the state that have not received IMPACTS grants) were included in the comparison group. See Figure 1 for more details.

Grantees were permitted to tailor their program services according to local needs. Tribal grantees, for example, tended to focus on case management, social supports in addition to medical supports, and care coordination with family and community services. Several county grantees injected diversion and case management teams into jails and emergency departments to link people with services at those crisis points.

This flexibility in local program design distinguishes IMPACTS from various other state initiatives that are more prescriptive in their approaches. (See Appendix A for examples.)

Table 2 offers a high-level description of grantee programs active during the Cycle 1 evaluation time frame.

Table 2. Active Cycle 1 grantee programs varied in focus, design and funding[6]

Grantee	FOCUS AREAS				Program Description	Funding Cycle 1
	Criminal Justice	Medical	Housing	Stabilization		
Clackamas County		●	●	●	Dedicated staff for case management and stabilization in the County Jail and Adult Probation Office	$499,988
Confederated Tribes of Grand Ronde		●	●	●	Team to develop care plan and utilize family and community referrals	$290,000
Confederated Tribes of Warm Springs	●	●			Assistance with transition from custody to service in the community	$282,743
The Cow Creek Band of Umpqua Tribe of Indians		●	●		Intensive case management and medical and housing services	$490,841
Deschutes County	●	●			Increased funding for existing Deschutes County Stabilization Center	$2,403,520
Douglas County		●	●	●	Intensive Care Coordination team at the jail and the ED, increased community stabilization supports	$1,414,879
The Klamath Tribes	●	●	●	●	Provide basic needs, supports and behavioral health treatment	$691,580
Lane County	●	●	●		Forensic Intensive Treatment Team to provide wraparound services	$2,527,697
Lincoln County		●	●	●	Law Enforcement Assisted Diversion for jail diversion and referrals to community partners	$288,490
Union County		●	●	●	Increased funding for the Center for Human Development to support jail diversion and case management	$562,945

Notes. This table includes only IMPACTS grantees that offered services during Cycle 1 (July 2020 – June 2022). Subsequent evaluation cycles will include details on the full roster of grantee programs. See Figure 1 for more details.

About the target population

Grantees were required to define a specific "target population" under the umbrella of the broader IMPACTS focus of supporting individuals with behavioral health needs and frequent criminal justice or emergency services involvement. As a result, target population definitions varied across grantees.

In contrast, our statewide evaluation applied a consistent definition to identify individuals likely to benefit from IMPACTS services (Figure 3). Criteria were developed for application to administrative data, in consultation with IMPACTS program staff at the CJC and informed by grantee interviews by SPH.

Our evaluation included adults ages 18-64 with a history of enrollment in Oregon's Medicaid program. We assessed whether individuals met target population criteria during each half-year period during the evaluation time frame, allowing individuals to cycle in and out of the target population over time.

See Appendix B for more details.

Figure 3. Who is included in the IMPACTS target population for the statewide evaluation?

Over each half-year period (January-June and July-December), the IMPACTS target population included individuals* ages 18-64 years with a history of OHP enrollment who met any of the following criteria:

Two or more circuit court filings, released from community supervision, or started probation/parole, and a behavioral health condition

Three or more ED visits and/or hospitalizations for a behavioral health condition

Discharged from the Oregon State Hospital

Note. In tribal grantee service regions, individuals also must be identified as American Indian or Alaska Native (AI/AN) to meet target population criteria.

Approximately 1% of the study population met target population criteria in any given half-year (Figure 4). This rate decreased slightly over time – from 1.1% at the beginning of the evaluation period to 0.7% in the first half of 2022 – primarily due to a reduction in individuals who met the criminal justice qualifying criteria. This decline may reflect a variety of recent changes in the corrections system, including HB 2355 (2017), which reduced the crime classification for possession of a controlled substance (PCS) offenses, Measure 110, which decriminalized small amounts of drug possession and reclassified PCS offenses from felonies/misdemeanors to Class E violations, and the Covid-19 Public Health Emergency (PHE), which caused significant delays in court proceedings and reduced prison admissions.[9]

Cumulatively, 60,667 individuals (4.8% of the study population) qualified for the target population during any period between January 2018 and June 2022. About one third (32%) resided in areas with active Cycle 1 grantee programs, while two-thirds lived in regions without active programs.

Figure 4. Approximately 1% of people met the IMPACTS target population criteria
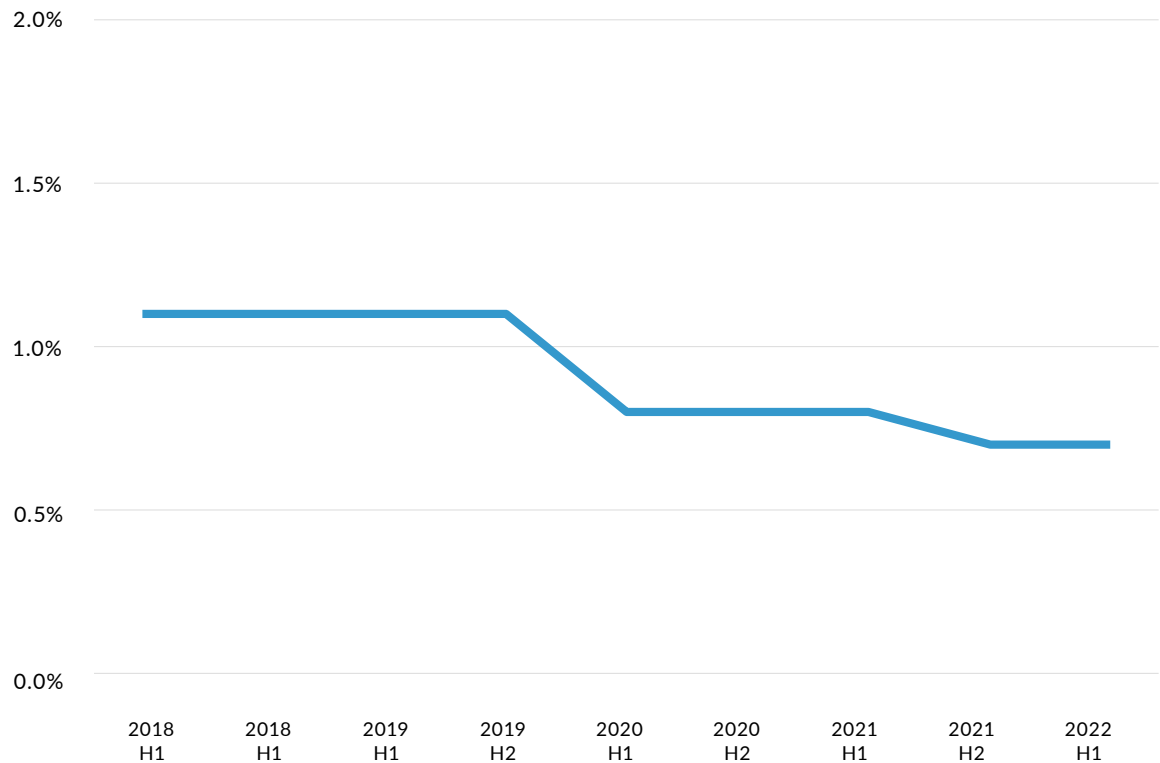
Notes. Line represents the percentage of the study population (adults ages 18-64 and enrolled in Medicaid at any point during the evaluation period) that meet statewide evaluation target population criteria. Includes individuals residing in IMPACTS service areas and comparison regions.

Most individuals (64%) met target population criteria only once during the evaluation time frame. An additional 20% met the criteria twice, while a small share was identified repeatedly across the 4.5 years (Figure 5).

This finding aligns with other studies of interventions targeting individuals with high service use, which suggest that those identified as exceptional utilizers in one period often trend toward average utilization in subsequent periods – a phenomenon known as "regression to the mean."[10,11]

In other words, it is uncommon for the same individuals to sustain consistently high utilization over time, even without targeted interventions. This underscores the importance of offering upstream preventive services to a broader population, in addition to targeted stabilization services for individuals after acute crises have already occurred.

Our inclusion of a comparison group in this evaluation helps to ensure that any estimated reductions in utilization can be attributed to IMPACTS itself, rather than regression to the mean. See "Methods" section for more discussion.

Figure 5. Most people who met target population criteria did so only once during the evaluation time frame
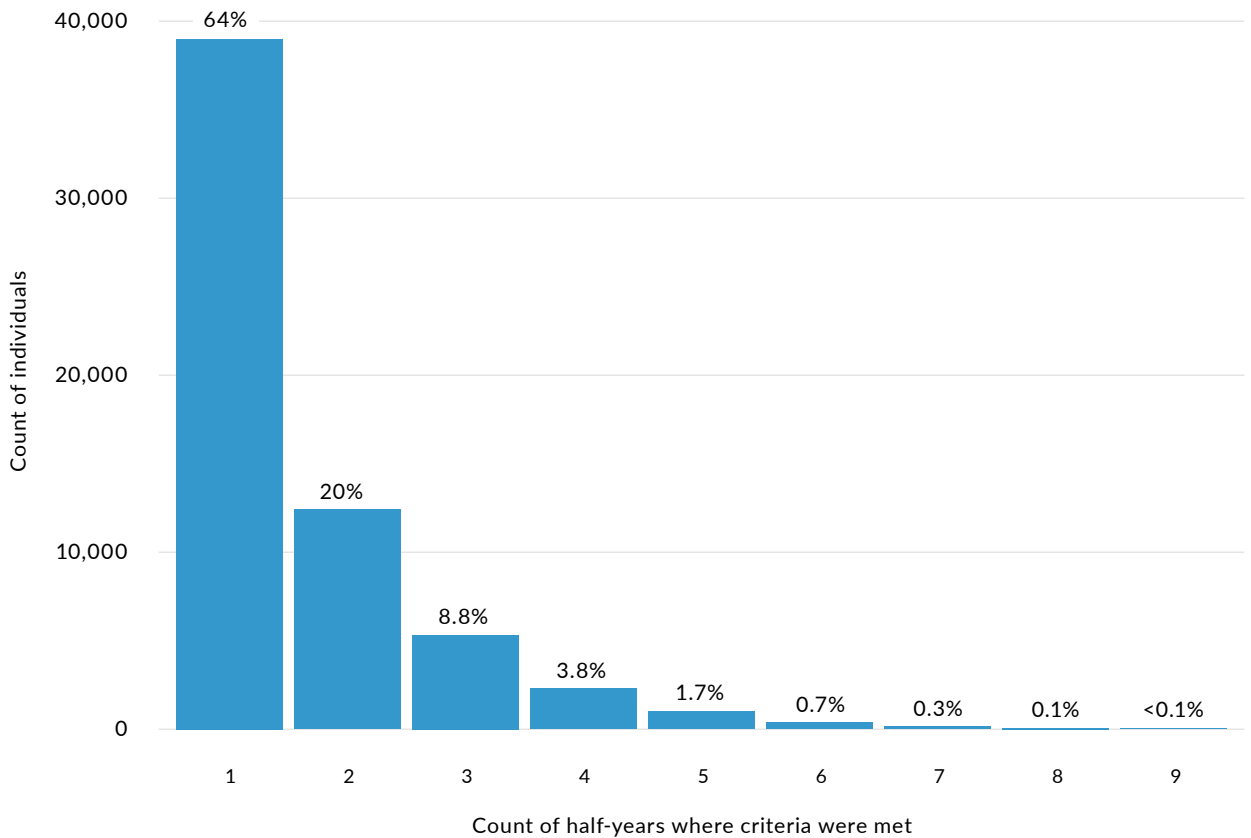
Notes. Cycle 1 evaluation time frame includes nine half-year periods from January 2018 to June 2022. Bars represent the number of individuals who met target population criteria a specified number of times. Includes individuals residing in IMPACTS service areas and comparison regions. Excludes individuals who never met target population criteria during the Cycle 1 evaluation time frame.

Nearly three quarters (72%) of individuals who qualified for the target population in administrative data during Cycle 1 met criteria based on interactions with the criminal justice system alone. Another 23% qualified based on emergency department visits and hospital admissions alone, and 3% qualified based on an Oregon State Hospital (OSH) stay alone. Fewer than 2% of individuals qualified under multiple criteria (see Figure 6).

These results indicate that the "high utilizers" targeted by Cycle 1 IMPACTS programs consisted of generally distinct groups.

Figure 6. Most people who qualified for the target population met a single criterion, most commonly criminal justice involvement

Criminal Justice = Two or more circuit court filings, released from community supervision, or started probation parole, and a behavioral health condition

ED/Hospital = Three or more ED visits and/or hospitalizations for a behavioral health condition

Oregon State Hospital = Discharged from the Oregon State Hospital
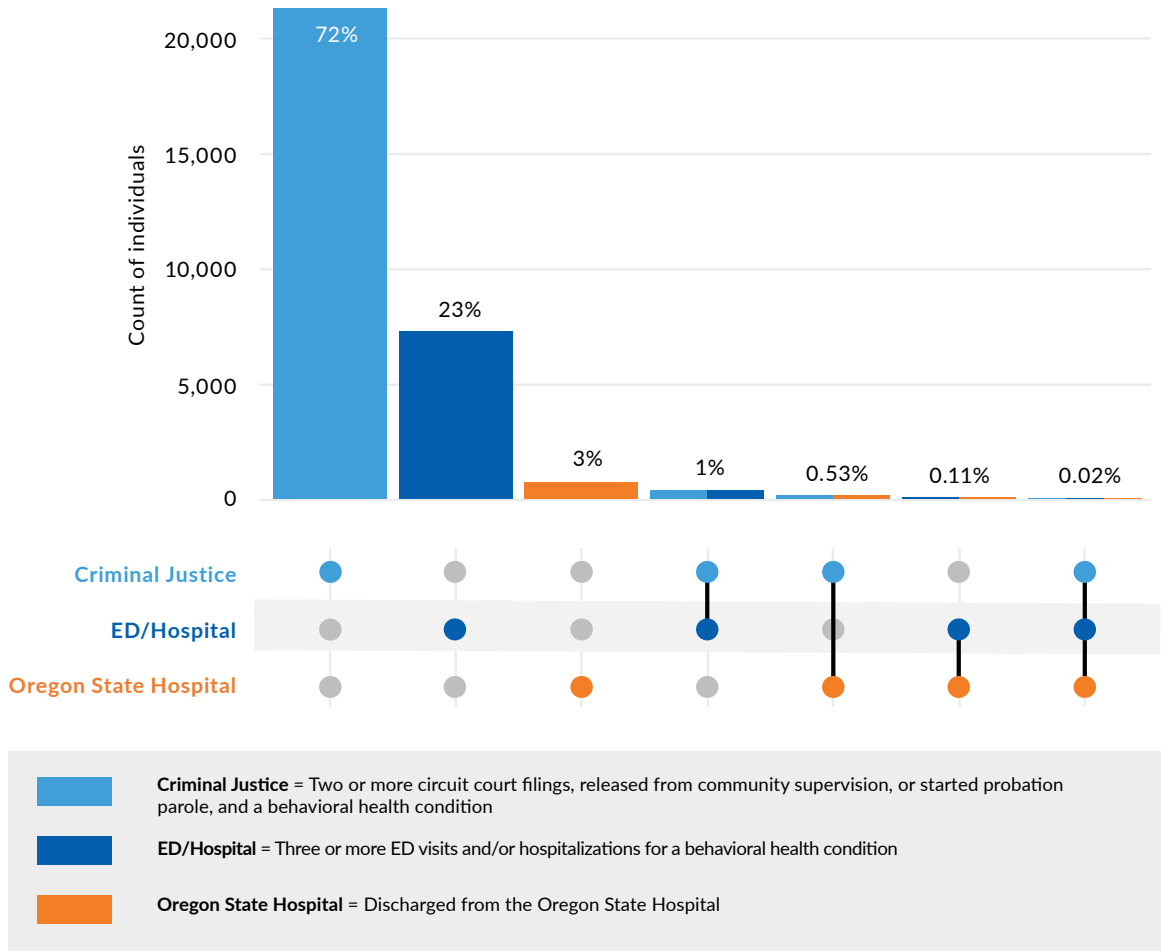
Notes. Bars represent the number of individuals who met specific combinations of target population criteria during Cycle 1 (July 2020 – June 2022). Includes individuals residing in both IMPACTS Cycle 1 service areas and comparison regions. For individuals who met target population criteria multiple times, we display criteria that were met the first time.

While this target population composition held generally consistent across Cycle 1 grantees, we observed some grantee-level variation in how individuals qualified (Figure 7). Qualification based on criminal justice involvement ranged from 69% to 87%, qualification based on emergency department visits and hospital admissions ranged from 13% to 28%, and qualification based on OSH stays varied from 0% to 5%.

Figure 7. How people qualified for the target population varied across grantees

Criminal Justice = Two or more circuit court filings, released from community supervision, or started probation/parole, and a behavioral health condition

ED/Hospital = Three or more ED visits and/or hospitalizations for a behavioral health condition

Oregon State Hospital = Discharged from the Oregon State Hospital
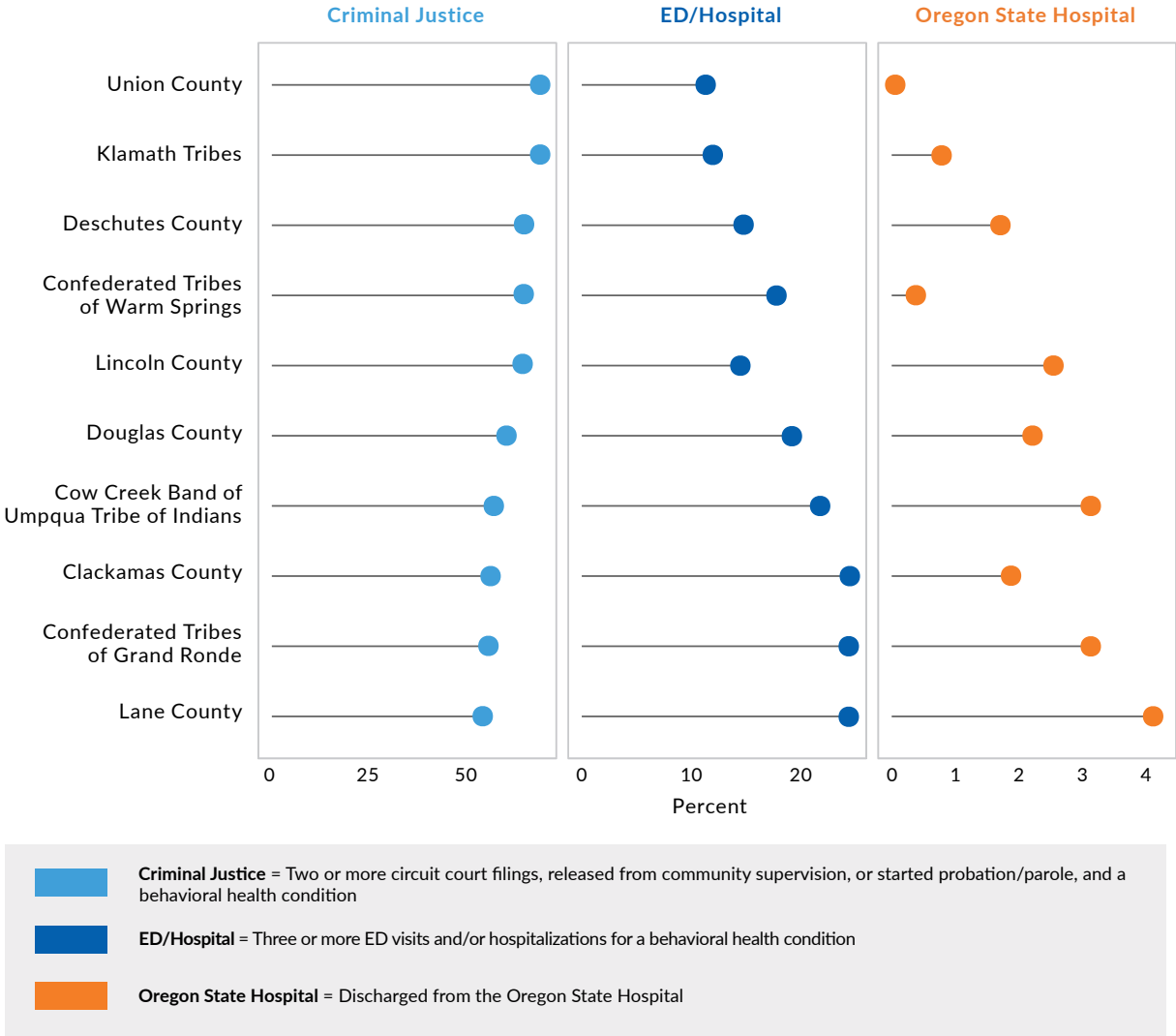
Notes. Dots represent the percentage of a grantee's target population that met a given criterion during Cycle 1 (July 2020 – June 2022). For each grantee, percents may sum to >100 since some individuals meet multiple criteria. Horizontal scales differ to highlight variation across grantees, particularly for criteria with small populations. Includes individuals residing in areas where grantees launched program services during Cycle 1; does not include individuals residing in comparison regions. For individuals who met target population criteria multiple times during Cycle 1, we display criteria that were met the first time.

Consistent with IMPACTS Baseline Report findings, the target population during Cycle 1 was more likely to be male compared to individuals who did not qualify for the target population (72% vs. 46.5%), as well as to speak English as their primary language (98.7% vs. 89.4%) (Table 3). Target population members were also slightly more likely to be dual-eligible for Medicaid and Medicare (7.4% vs. 6.1%) and to reside in frontier (3.2% vs. 2.7%) or rural (36.7% vs. 35.2%) regions of the state. Differential proportions of missing information on race and ethnicity make it difficult to make direct comparisons between target and non-target population individuals.

Table 3. The IMPACTS target population was more likely to be male and speak English

	IMPACTS Target Population N = 29,135	Non-Target Population N = 1,208,288
Age – mean (SD)	36.8 (10.9)	37.2 (13.5)
Sex: Male – N (%)	20,968 (72.0)	561,419 (46.5)
Race and ethnicity – N (%)		
American Indian/Alaska Native	1,398 (4.8)	28,653 (2.4)
Asian	233 (0.8)	34,274 (2.8)
Black/African American	1,510 (5.2)	37,773 (3.1)
Latino/a/x	2,213 (7.6)	134,523 (11.1)
Middle Eastern/North African	44 (0.2)	3,377 (0.3)
Native Hawaiian/Pacific Islander	165 (0.6)	9,249 (0.8)
Other/Multiple Races	430 (1.5)	20,615 (1.7)
Unknown/Missing/Decline	4,008 (13.8)	305,222 (25.3)
White	19,134 (65.7)	634,602 (52.5)
Primary Spoken Language – N (%)		
English	28,769 (98.7)	1,080,199 (89.4)
Spanish	305 (1.0)	100,754 (8.3)
Other/Unknown	61 (0.2)	27,335 (2.3)
Geography – N (%)		
Frontier	925 (3.2)	32,569 (2.7)
Rural	10,704 (36.7)	425,330 (35.2)
Urban	17,506 (60.1)	750,389 (62.1)
Dual eligible (Medicaid & Medicare) – N (%)	2,150 (7.4)	73,470 (6.1)

Note. Table includes all individuals from the study population (adults ages 18-64 and enrolled in Medicaid at any point during the evaluation period), differentiating between those who met target population criteria anytime during Cycle 1 (July 2020 – June 2022) and those who did not.

Per IMPACTS qualifying criteria, all members of the target population had a behavioral health diagnosis, in contrast with fewer than half (48.2%) of non-target population individuals.

Notably, the IMPACTS target population was much more likely to have a substance use disorder, either alone (20.3% target population vs. 4.9% non-target population) or co-occurring with a mental health disorder (65.1% vs. 13%) (Figure 8).

Figure 8. Nearly two-thirds of IMPACTS target population members had co-occurring mental health and substance use disorders
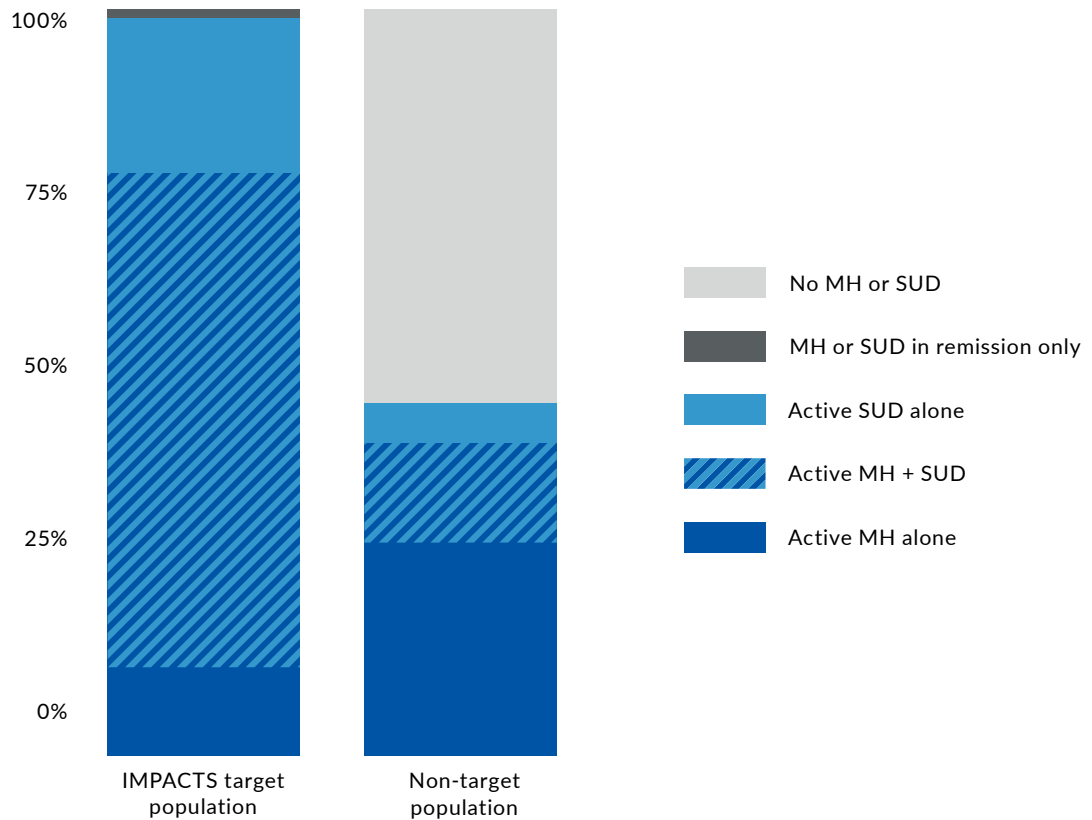
Note. Table includes all individuals from the study population (adults ages 18-64 and enrolled in Medicaid at any point during the evaluation period), differentiating between those who met target population criteria anytime during Cycle 1 (July 2020 – June 2022) and those who did not.
Abbreviations. MH = mental health; SUD = substance use disorder.

Stimulant-related disorders - including amphetamine, methamphetamine, and cocaine - were the most commonly diagnosed behavioral health condition among members of the target population (56.6%), followed by anxiety disorders (51.8%), alcohol disorders (46.2%), depressive disorders (43.5%) and trauma- and stressor-related disorders (43.3%).

While all behavioral health conditions assessed in this evaluation were more prevalent among the IMPACTS target population, some conditions showed particularly large gaps compared to the non-target population; for example, stimulant-related and schizophrenia and other psychotic disorders were both over nine times as prevalent in the target versus non-target population (Figure 9).

Figure 9. Prevalence of specific behavioral health conditions was higher among IMPACTS target population than non-target population
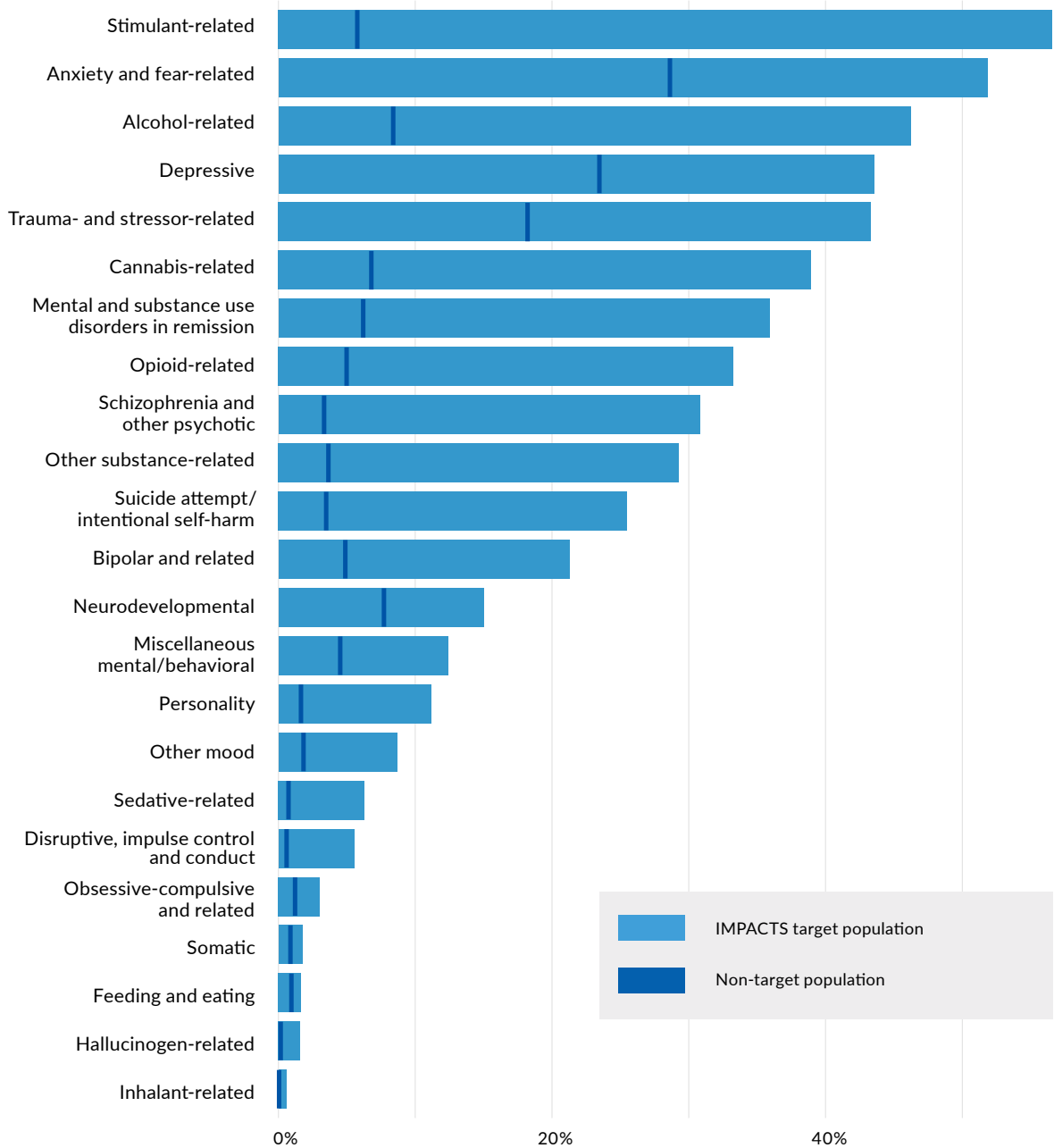
Evaluation of program effects

How to interpret the findings

Ten grantees offered IMPACTS services during Grant Cycle 1. Our evaluation compares changes in outcomes among the target population living in those grantee service areas, to concurrent changes in comparison regions without IMPACTS services.

We report changes associated with the IMPACTS program overall, along with a summary of anonymized grantee-level changes.

Results are presented in table format as illustrated in Figure 10, with blue indicating outcomes that improved and orange indicating outcomes that worsened. The magnitude of change compared to baseline is indicated by shading, as follows:

Worsened ◀ ▶ Improved

25%   10%   0%   10%   25%
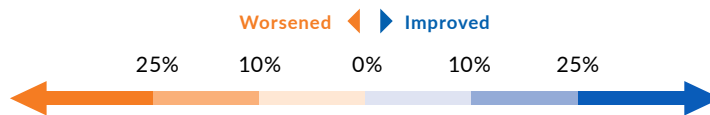
Figure 10. Example presentation of program effects

Adjusted change represents population-weighted average treatment effect across Cycle 1 grantees. Changes that are not statistically significant are white.

Dots represent adjusted change at the grantee-level.

		Baseline rate	Adjusted change	Grantees with sig't change	Grantees with no change
Outcome 1	↓	202.1	15.6		
Outcome 2	↓	138.4	-14.3		
Outcome 3	↓	13.5	1.8		
Outcome 4	↓	6.4	-0.1		
Outcome 5	↓	18.9	-2.3		
Outcome 6	↓	20.2	-1.9		
Outcome 7	↑	84.8	-1.6		
Outcome 8	↓	70.6	-0.9		

Bolded text indicates primary outcomes that tie directly to the mandated goals of IMPACTS.

Arrows indicate the preferred direction of change for the outcome.

Baseline rate is reported for target population members in IMPACTS Cycle 1 service areas.

Criminal Justice

Table 4. Change in criminal justice outcomes associated with IMPACTS Cycle 1

		Baseline rate	Adjusted change	Grantees with sig't change	Grantees with no change
Convictions – All (per 1,000 people)	↓	547.3	-47.3		
Convictions – Felonies (per 1,000 people)	↓	199.6	-20.1		
Convictions – Misdemeanors (per 1,000 people)	↓	394.0	-28.7		
Incarceration (per 1,000 people)	↓	82.3	1.6		
Recidivism within 1 Year – Conviction (%)	↓	25.1	-1.7		
Recidivism within 1 Year – Incarceration (%)	↓	6.6	-0.4		
Release from Incarceration – Medicaid Enrollment within 2 Months (%)	↑	79.3	1.1		
Release from Incarceration – Overdose within 2 Months (%)	↓	1.7	0.2		
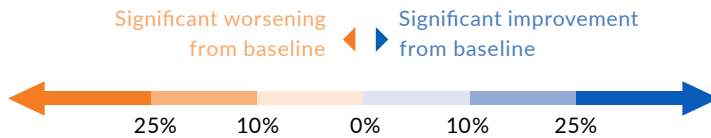
Significant worsening from baseline ◄ ► Significant improvement from baseline

25%   10%   0%   10%   25%

↑ Higher is better

↓ Lower is better

Bolded text = Primary outcome

Notes. Results based on analysis of statewide administrative data comparing changes in outcomes among target population individuals living in IMPACTS Cycle 1 service areas, to concurrent changes in comparison regions. Evaluation time frame is January 1, 2018 – June 30, 2022. For more guidance on interpretation, see Figure 10. Abbreviation. Sig't = significant.

Annual convictions decreased by 47.3 per 1,000 people among target population members in IMPACTS service areas versus comparison regions (Table 4). Unadjusted trends suggest the gap between IMPACTS and comparison regions was growing at the end of study period – a pattern we will continue to track in future evaluation cycles (Figure 11).

These reductions were driven by decreases in both felony and misdemeanor convictions.

At the grantee level, five of the ten Cycle 1 grantees experienced statistically significant decreases in felony convictions, two experienced increases, and three experienced no change, with an average reduction of 20.1 felony convictions per 1,000 individuals. Six grantees had reductions in misdemeanor convictions and four experienced no change, with an average reduction of 28.7 misdemeanor convictions per 1,000 individuals. No grantee had an increase in misdemeanor convictions.

Recidivism rates associated with new convictions also decreased by 1.7 percentage points in IMPACTS service areas, compared to a baseline of 25.1%.

Three grantees demonstrated improvement in enrolling individuals in Medicaid after their release from incarceration; however, this effect was not statistically significant at the program level.

Incarcerations, recidivism associated with subsequent incarcerations, and overdose after release from incarceration showed no statistically significant changes overall, and mixed grantee-level effects.

Many grantees had a particular focus on diversion and recruiting individuals from jail settings. Qualitative interviews by SPH may help to identify whether these and other interventions can explain the improvements observed in this domain.

Figure 11. Unadjusted conviction rates suggest a widening gap between IMPACTS target and non-target populations at the end of Cycle 1
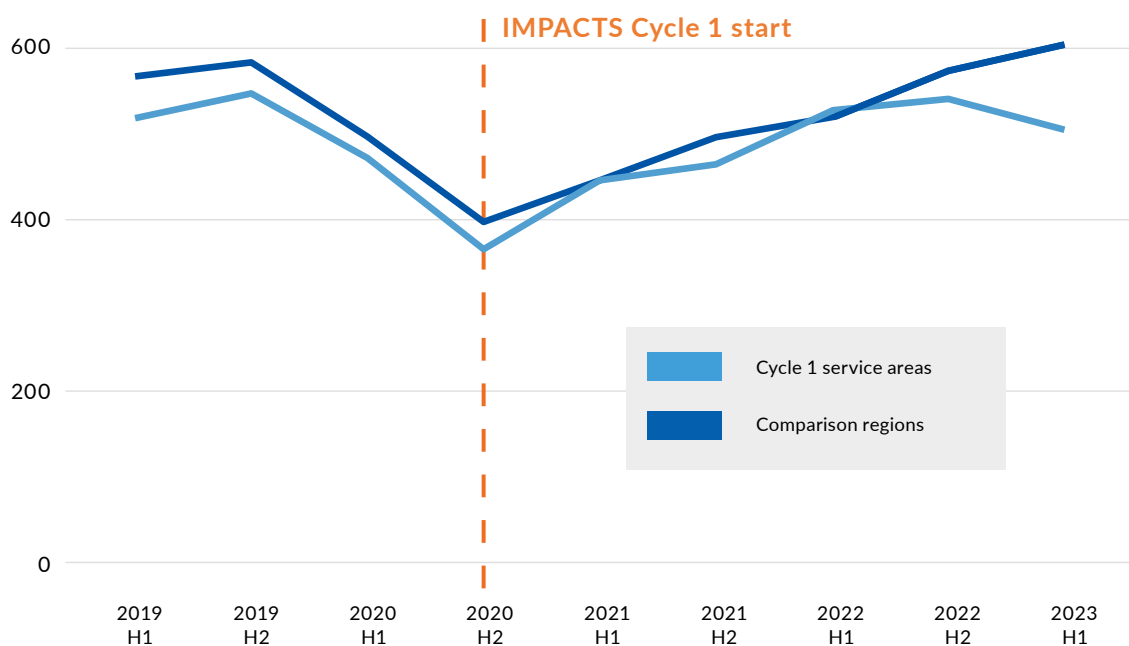
Note. Lines represent unadjusted rates of convictions per 1,000 individuals in the IMPACTS target population, differentiating between those who reside in Cycle 1 service areas (light blue line) versus those who reside in comparison regions (grey line).

Health Care

Table 5. Change in health care outcomes associated with IMPACTS Cycle 1

		Baseline rate	Adjusted change	Grantees with sig't change	Grantees with no change
Alcohol or Other Drug Treatment – Engagement (%)	↑	28.3	2.2		
Alcohol or Other Drug Treatment – Initiation (%)	↑	40.3	4.4		
ED Visits – All (per year)	↓	3.3	-0.2		
ED Visits – Behavioral Health-related (per year)	↓	2.2	-0.1		
Inpatient Days – All (per year)	↓	3.0	0.1		
Inpatient Days – Behavioral Health-related (per year)	↓	2.0	0.0		
Medication-Assisted Treatment for Members with OUD (%)	↑	30.7	-0.3		
Outpatient Visits – Behavioral Health Specialist (per year)	↑	15.4	-0.2		
Primary Care Physician Visits (per year)	↑	3.2	0.2		

Significant worsening from baseline ◄ ► Significant improvement from baseline

25%   10%   0%   10%   25%

↑ Higher is better

↓ Lower is better

Bolded text = Primary outcome

Notes. Results based on analysis of statewide administrative data comparing changes in outcomes among target population individuals living in IMPACTS Cycle 1 service areas, to concurrent changes in comparison regions. Evaluation time frame is January 1, 2018 – June 30, 2022. For more guidance on interpretation, see Figure 10. Abbreviations. ED = emergency department; OUD = opioid use disorder; sig't = significant.

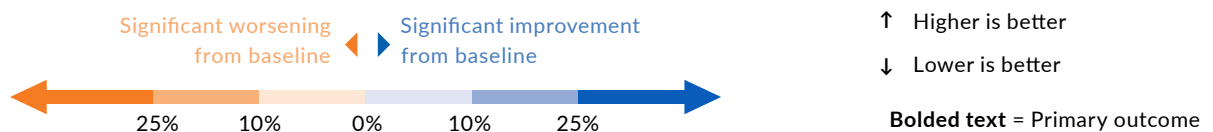Initiation of alcohol or other drug treatment increased by 4.4 percentage points among the target population in IMPACTS service areas versus comparison regions, over a baseline rate of 40.3% (Table 5). Engagement also increased, by 2.2 percentage points over a baseline of 28.3%. These findings are noteworthy, given the high rate of substance use disorders in Oregon and the historic difficulty in increasing engagement among members of the Oregon Health Plan, Oregon's Medicaid program, despite ongoing focus by Coordinated Care Organizations.[12,13]

Primary care visits also increased by 0.2 visit per person per year, compared to a baseline of 3.2 visits. This may be an indicator of increased engagement in preventive care, which has been shown to be associated with fewer emergency department visits and hospitalizations, along with reduced healthcare spending.[14,15]

Although changes in the remaining health care outcomes were not statistically significant at the program level, there was some notable variation in grantee-level results. For example, six grantees showed decreases in ED visits relative to comparison regions, while three grantees saw relative increases. Similarly, behavioral health-related inpatient days, receipt of medication-assisted treatment for members with opioid use disorder, and outpatient visits with behavioral health specialists all showed mixed results at the grantee level.

This suggests that for some measures, a subset of grantees is experiencing successes while other grantees are not, and that this variation is masked when evaluating outcomes for the IMPACTS program overall.

Institutional placements at Oregon State Hospital

Table 6. Change in institutional placements associated with IMPACTS Cycle 1

		Baseline rate	Adjusted change	Grantees with sig't change	Grantees with no change
OSH Admissions – All (per 1,000 people)	↓	17.5	1.3	●●●● ●●	●●●●
OSH Admissions – Aid & Assist (per 1,000 people)	↓	11.3	0.1	●●●● ●●●	●●●
OSH Admissions – Civil (per 1,000 people)	↓	4.3	0.5	●● ●●●	●●●●●
OSH Admissions – PSRB (per 1,000 people)	↓	1.9	0.5	●●● ●●●	●●●●
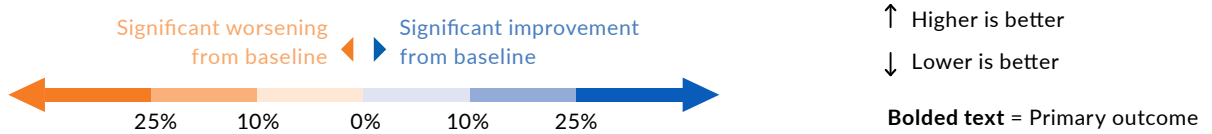
Significant worsening from baseline ◄ ► Significant improvement from baseline

25%   10%   0%   10%   25%

↑ Higher is better

↓ Lower is better

Bolded text = Primary outcome

Notes. Results based on analysis of statewide administrative data comparing changes in outcomes among target population individuals living in IMPACTS Cycle 1 service areas, to concurrent changes in comparison regions. Evaluation time frame is January 1, 2018 – June 30, 2022. For more guidance on interpretation, see Figure 10. Abbreviations. OSH = Oregon State Hospital; PSRB = Psychiatric Security Review Board; sig't = significant.

Our evaluation revealed a small but statistically significant increase in civil commitments (0.5 annual admissions per 1,000 people) among the target population in IMPACTS service areas versus comparison regions (Table 6). This translates to 2.7 additional civil commitments per year, based on an annual average of 5,300 people in Cycle 1 service areas who met target population criteria.

The effect was driven by three grantees who had increases in civil commitments, whereas two showed declines. Five grantees had no change in this outcome.

This result should be interpreted with caution because civil commitments were scarce during the latter portion of the evaluation time frame, leading to some instability in modeling estimates for this outcome (see Appendix E for more discussion).

Figure 12. The evaluation time frame coincided with dramatic shifts in the composition of Oregon State Hospital admissions
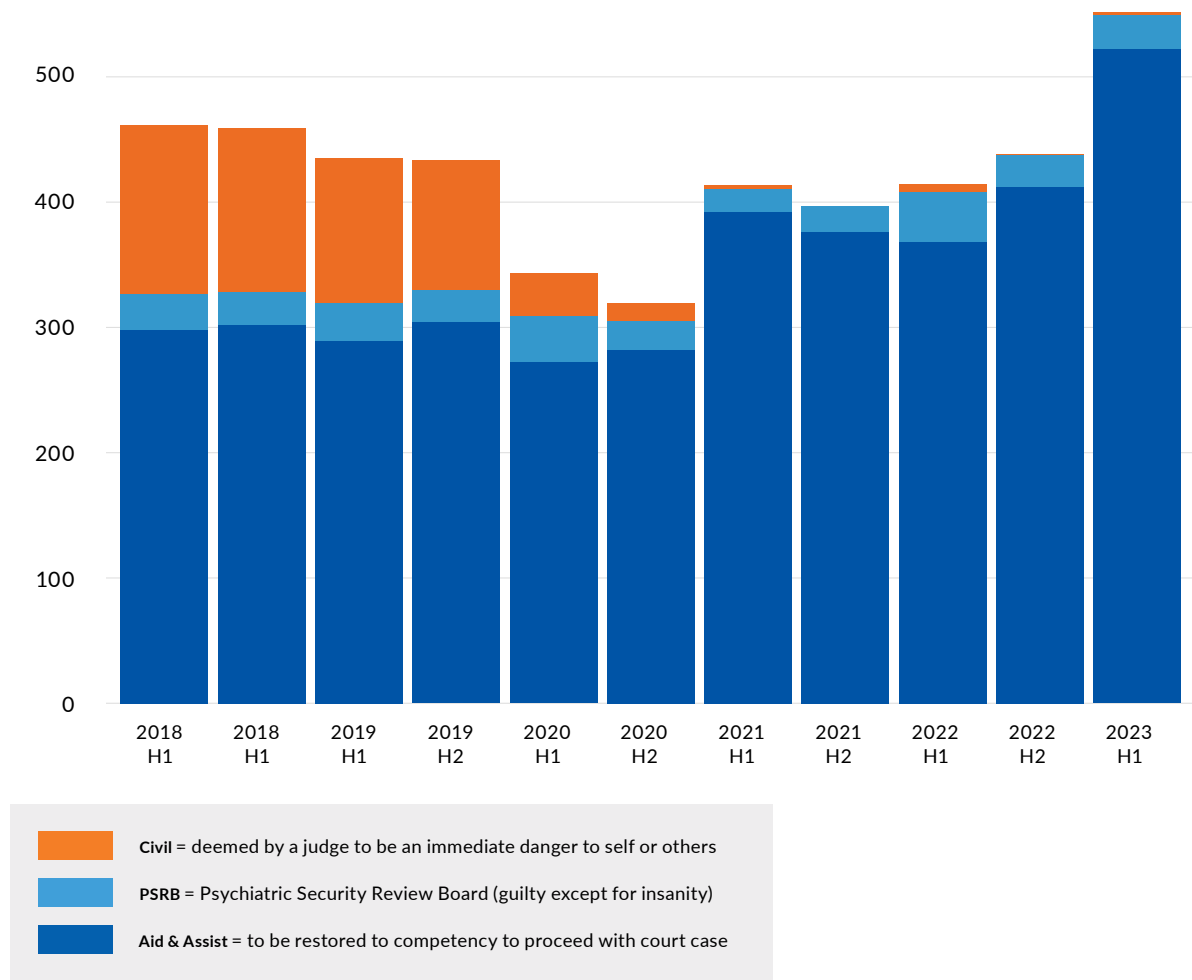
Note. Bars represent the number of individuals in the study population (adults ages 18-64 and enrolled in Medicaid at any point during the evaluation time frame) admitted to the Oregon State Hospital during the Cycle 1 evaluation time frame. Abbreviations. PSRB = Psychiatric Security Review Board. H1 = first half (January 1 to June 30) and H2 = second half (July 1 to December 31) of a given calendar year.

Scarcity of civil commitments is part of a larger picture of changing patterns in OSH admissions in recent years. Figure 12 illustrates fluctuating trends in OSH admissions and dramatic shifts in the composition of admitted patients during the time frame of this evaluation:

- In early 2018, almost one-third of patients admitted to OSH were civilly committed, which aligned with historical norms.[16]

- Near the end of 2018, OSH began to receive more admission requests than it had the capacity to meet. Because legislative mandates require prioritization of forensic cases (Aid & Assist and Psychiatric Security Review Board), civil commitments were crowded out and began to decline. Between 2021 and 2023, Aid & Assist admissions largely displaced civil commitments, with civil commitments accounting for less than 1.5% of total admissions.

- Drops in total admissions during 2020 correspond to the COVID-19 PHE. In early 2020, OSH paused admissions until quarantine procedures were established. In late 2020, a second admissions pause occurred following a COVID-19 outbreak at the hospital.[17]

- An uptick in total admissions beginning late in 2022 reflects a September 2022 court ruling (the "Mosman Order") that established length of stay limits for patients admitted under Aid & Assist orders. This resulted in greater numbers of patients cycling through the hospital.

While IMPACTS aims to reduce institutional placements, significant concerns have been raised about the crowding out of civil commitments, which has effectively restricted access to OSH-level care for patients who have not committed a crime. In this context, an increase in civil commitments could suggest a system of community supports effective at identifying individuals who need intensive treatment at the state hospital and subsequently securing an admission. If this is the case, it may become more apparent in future IMPACTS statewide evaluation cycles, because a May 2023 amendment to the Mosman Order created more opportunities for civil admissions through an exception process.[18] Future evaluation efforts will also aim to parse OSH admission orders and identify the proportion of orders that result in an admission.

Methods

Development of the evaluation design

The statewide evaluation assesses the effectiveness of IMPACTS-funded programs at achieving their legislatively mandated goals to reduce criminal justice system involvement, emergency healthcare services utilization, and institutional placements.

The evaluation design was informed by conversations with:

- The IMPACTS Quality Improvement Subcommittee, which includes grantees, Grant Review Committee members, and other interested stakeholders

- State agency staff, including IMPACTS program staff at the Criminal Justice Commission, the Oregon Health Authority's Tribal Affairs Director, and other subject matter experts to improve our understanding of the data sources used in this report and their inherent limitations in the context of the IMPACTS evaluation

Data sources

We used 2018-2023 administrative data from Oregon's health and criminal justice sectors (Table 7). This provided 2.5 years of pre-program data (January 2018 – June 2020), two years of data covering Grant Cycle 1 (July 2020 – June 2022), and an additional year of data for the calculation of outcomes following the end of the Cycle 1 time frame (July 2022 – June 2023). (See "Outcomes" section for more detail on the timing of outcome measurements.)

Records were linked at the person level to allow identification of members of the IMPACTS target population, their outcomes, and their interactions with different service sectors over time.

Table 7. Data sources used for the IMPACTS statewide evaluation

Data Source	Agency
Oregon Health Plan eligibility records and claims[19]	Oregon Health Authority
Oregon State Hospital admission and discharge records[20]	Oregon Health Authority
Heritage Native American (HNA) roster[21]	Oregon Health Authority
Oregon Circuit Court filings[22]	Oregon Judicial Department
Community supervision administrative records[23]	Oregon Department of Corrections

Data access was permitted under data use agreements between multiple state agencies and OHSU. Data linkage was performed by Integrated Client Services (ICS),[24] a shared service between the Oregon Department of Human Services and the Oregon Health Authority.

For more details about data sources used in this evaluation and the linkage process, see Appendix C.

Study population

Our study population included adults ages 18-64 who were enrolled in the Oregon Health Plan (OHP or "Medicaid") for any length of time during the evaluation time frame. Requiring enrollment in OHP allowed us to use health records to assess whether individuals met a key criterion for inclusion in the target population: having a behavioral health condition.

Excluded from our analysis were individuals with private or no health insurance. However, our data aggregation process indicates that the OHP-enrolled study population accounts for the majority of individuals with recent community corrections records (79%), circuit court filings (70%), and Oregon State Hospital admissions (76%).[7]

For the analysis of health care outcomes, we excluded individuals with dual eligibility for Medicaid and Medicare, since Medicare claims were not available for this study, leaving an incomplete view of their health care services and diagnosis history.

Outcomes

We assessed a variety of criminal justice and health-related measures, listed in Table 8. Bolded names indicate primary outcomes that tie directly to the program's stated goals. Additional outcomes – for example, recidivism and outpatient behavioral health visits – were included to provide a more complete and nuanced understanding of program effects.

Table 8: IMPACTS program goals mapped to statewide evaluation outcomes

IMPACTS goal	Outcome measure
Reduce criminal justice system involvement	**Convictions – All (↓)** Convictions – Felonies (↓) Convictions – Misdemeanors (↓) **Incarcerations (↓)** Recidivism – Conviction (↓) Recidivism – Incarceration (↓) Release from Incarceration – Medicaid Enrollment within 2 Months (↑) Release from Incarceration – Overdose within 2 Months (↓)
Reduce emergency healthcare services utilization	Alcohol or Other Drug Treatment – Engagement (↑) Alcohol or Other Drug Treatment – Initiation (↑) **ED visits – All (↓)** ED visits – Behavioral Health-related (↓) **Inpatient days – All (↓)** Inpatient days – Behavioral Health-related (↓) Medication-Assisted Treatment for Opioid Use Disorder (↑) Outpatient Visits with a Behavioral Health Specialist (↑) Primary Care Physician Visits (↑)
Reduce institutional placements	**OSH Admissions – All (↓)** OSH Admissions – Aid & Assist (↓) OSH Admissions – Civil (↓) OSH Admissions – PSRB (↓)

Notes. Bolded measure names indicate primary outcomes that tie directly to the state goals of IMPACTS. Arrows indicate the preferred direction of change. Abbreviations. ED = emergency department; OSH = Oregon State Hospital; PSRB = Psychiatric Security Review Board.

This Cycle 1 evaluation excluded offenses for low-level drug possession, which were categorized as Class E violations under Oregon's Measure 110, but recriminalized in 2024 with the passage of House Bill 4002. Future evaluation cycles will reconsider that exclusion.

Most outcomes were measured during the year after an individual was identified for the IMPACTS target population to assess whether program supports offered sufficient stabilization to influence future outcomes.

For example, Figure 13 demonstrates that for an individual identified for the target population during January – June 2021, our evaluation assessed ED visits over the subsequent 12 months, running July 2021 – June 2022.

Figure 13. Example of outcome measurement relative to target population identification
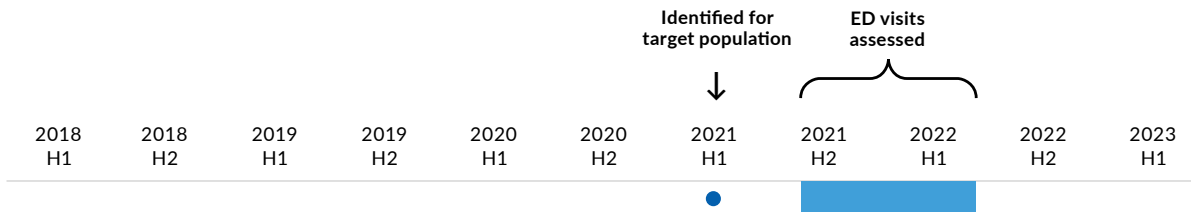
Exceptions to this approach include a selection of outcomes where the measurement period is intrinsically tied to a particular event date:

- Recidivism

- Medicaid enrollment after release from incarceration

- Overdose after release from incarceration

For these outcomes, measurement began concurrent with the period during which the individual was identified for the target population. For example, among individuals released from incarceration, we assessed whether they experienced an overdose event during the two months following their specific release date.

See Appendix D for more details on the outcomes included in the statewide evaluation.

Statistical approach

Our evaluation used a "staggered difference-in-differences" study design. We compared changes in outcomes for target population individuals living in IMPACTS service areas to changes in outcomes for a comparison group of target population individuals living in parts of the state without IMPACTS programs (Figure 2).

Our approach accounted for the staggered implementation of IMPACTS grantee programs. That is, the "pre-period" and "post-period" were defined on a grantee-by-grantee basis, according to the timing of their respective program launches (Figure 1).

Our models also controlled for demographic characteristics (age, sex, and race and ethnicity) and how individuals qualified for the target population. We clustered standard errors at the county level to adjust for correlation in outcomes among people living in the same regions of the state, given that behavioral health funding and provision of services are routinely distributed through counties. This clustering also accounted for repeat observations among individuals cycling in and out of the target population over time.

We assessed the robustness of our estimates to a variety of model specifications; for details, see Appendix E.

Challenges and limitations

Dynamic policy landscape

IMPACTS represents one of many efforts amid a rapidly evolving landscape as the state focuses on combatting the SUD crisis, improving behavioral health system delivery, and redirecting individuals with behavioral health needs away from the criminal justice system and toward treatment and rehabilitation. See Appendix A for specific examples.

In addition, the COVID-19 pandemic and corresponding Public Health Emergency introduced an unprecedented shock to the system – delaying court proceedings, crowding hospitals, pausing admissions, and creating barriers for newly funded IMPACTS grantees to stand up their programs.

Having a comparison group greatly bolstered our study design, as it allowed us to control for external factors that affected IMPACTS and non-IMPACTS regions alike. Still, COVID-19 and the wide variety of reforms taking place during our evaluation time frame make it difficult to directly attribute changes in outcomes to IMPACTS alone.

Variation in local program design and implementation

A key feature of IMPACTS is the flexibility it offers grantees to define the focus and scope of their respective programs. The statewide evaluation assesses the overall effects of these programs collectively, without identifying which specific program elements – such as target population focus, outreach strategies, or specific services – contribute most to observed grantee-level variation.

In addition, the statewide evaluation does not distinguish between grantee programs based on their level of maturity or robustness of implementation. Instead, all programs are considered "active" starting from the first observation period in which services were offered (Figure 1).

Qualitative data collection conducted by SPH aims to complement the statewide evaluation effort and provide more information about differences between grantee programs, as well as how these differences may lead to varying program results.

Intent-to-treat approach

Our analysis assessed outcomes for all individuals who met the criteria for the statewide evaluation target population. We utilized member zip code and county data from Medicaid enrollment records to differentiate between individuals residing in IMPACTS Cycle 1 service areas versus other parts of the state.

This approach likely captured outcomes for more individuals than those who actually received IMPACTS services, for several reasons:

- Some grantees defined their target populations more narrowly – for example, focusing on individuals transitioning from carceral settings rather than those with frequent emergency department visits or stays at the Oregon State Hospital.

- Some grantees focused their outreach efforts and services in specific areas rather than implementing county-wide. Additionally, colonial-defined boundaries (like county) do not accurately represent tribal service boundaries.

- We used race data from Medicaid enrollment records and the Heritage Native American indicator to identify individuals eligible for tribal grantee services (see Appendices B and C for more details). However, these sources do not specify an individual's specific tribe, which means our analysis may include members of tribes that did not receive IMPACTS funding.

- Lastly, the administrative data did not allow for the identification of individuals who actually received IMPACTS-funded services.

As a result, our "intent-to-treat" approach assessed outcomes for a broadly-defined target population of individuals who would likely benefit from the program, regardless of their actual participation. Consequently, the measured effects may underestimate the program's impact on those who were served.

Rare outcomes

Several of the outcomes included in this statewide evaluation represent rare events, even among the target population of high utilizers with complex behavioral health needs. Examples include overdoses and institutional placements.

The resulting "noisy" trends make it challenging to draw definitive conclusions, particularly with the limited post-implementation observations available. However, as our evaluation extends over additional grant cycles in the future, the strength and clarity of the evidence will become more robust.

Unmeasured outcomes

The statewide evaluation uses administrative data sources (see Table 7) to assess outcomes that tie directly to the legislatively mandated program aims of reducing criminal justice involvement, emergency healthcare services utilization, and institutional placements.

It also includes a limited number of secondary outcomes that provide more context for our interpretation of changes in the primary outcomes.

Local qualitative evaluation by SPH will offer complementary information about a broader set of outcomes including provision of peer supports, housing services, and other quality of life indicators that provide a more holistic picture of how the IMPACTS program may influence the lives of individuals who receive services.

Conclusion

IMPACTS represents a significant effort by the state to reduce strain on criminal justice and health care systems, through investment in locally designed programs that enhance community support for a targeted group of individuals with behavioral health conditions and a history of intensive service use.

This early evaluation of IMPACTS during its first grant cycle (July 2020 – June 2022) showed evidence of:

- Decreased convictions and associated recidivism

- Increased initiation and engagement in alcohol or other drug treatment

- Modestly increased civil admissions to the Oregon State Hospital, which coincided with dramatic shifts in the composition of patient admissions

These findings highlight early effects of IMPACTS, when grantee programs were in nascent stages of development. Our next evaluation will be delivered in 2026 and will include a longer time frame to assess the impact of maturing Cycle 1 grantee programs, plus five additional grantees that implemented programs during the second grant cycle (including the state's most populous county, Multnomah).

Future evaluations by the OHSU Center for Health Systems Effectiveness will continue to be informed by the program's evolution and other policy developments affecting the IMPACTS target population and outcomes of interest. These include the reinstatement of Medicaid coverage prior to release from correctional facilities under Oregon's 2022 – 2027 Medicaid 1115 waiver, as well as the passage of HB 4002, which unwound many provisions of Measure 110 and established behavioral health deflection programs that may interact with IMPACTS program services and outcomes.

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Appendix A. Oregon's changing behavioral health landscape

IMPACTS was one of several state efforts in recent years aimed at breaking the behavioral health/criminal justice involvement cycle and improving community supports for individuals with behavioral health needs. Figure A offers an overview of particularly relevant policies rolled out during the same time frame as this evaluation.

The inclusion of a comparison group in our evaluation helps to control for these external factors. For more information about the study design, see "Methods."

Figure A. Timeline of IMPACTS and related policies

Reduced crime classification for PCS offenses:
Through HB 2355, reduced the crime classification for possession of a controlled substance (PCS) offenses. Resulted in fewer felony convictions and fewer people incarcerated. *Effective 8/2017.*

2017

Measure 110 (Drug Addiction Treatment and Recovery Act) :
Decriminalized possession of small amounts of drugs for personal use and reduced possession of a controlled substance offences from a felony or misdemeanor to a new Class E violation. Intended to divert people from jail and provide access to SUD treatment. *Effective 2/2021.*

1115 SUD Waiver:
Agreement with the Centers for Medicaid and Medicare Services (CMS) to allow Oregon to receive federal funding for Medicaid services for individuals with SUD treated in a residential facility with more than 16 beds. Increases the service array for Medicaid beneficiaries with SUD by reimbursing housing and employment supports as covered services. *Covers 4/2021 – 3/2026.*

2021

Mobile Crisis Units:
Through HB 2417 and HB 2757, established and maintains expanded crisis stabilization services, including Community Mental Health Program mobile crisis intervention teams and a coordinated 988 suicide prevention and behavioral health crisis hotline. *Effective 7/2021.*

2022

Behavioral Health Resource Networks (BHRNs):
Established by SB 755 and funded by marijuana tax revenue to provide comprehensive, community-based services and supports such as low-barrier SUD treatment, harm reduction services, and housing supports. Each Oregon county or tribal area has at least one BHRN. *Effective 6/2022.*

Removal of X Waiver:
Provision in Section 1262 of the Federal Consolidated Appropriations Act which removes federal requirement for practitioners to have a waiver to prescribe MAT medications, like buprenorphine. Lowers barrier of entry to becoming a buprenorphine prescriber, thereby potentially increasing access to MAT for vulnerable populations. *Effective 12/2022.*

2023

HB 4002 (Oregon Behavioral Health Deflection Program):
Rolls back many aspects of M110, recriminalizing possession of illicit drugs in some circumstances. New deflection grant programs in some counties allow people who encounter law enforcement to "deflect" from the justice system into treatment programs. Directs additional resources towards the recovery continuum of care, including increasing funding for community-based treatment. *Effective 9/2024.*

Mosman Order:
Limits treatment stays at the Oregon State Hospital (up to one year) for "aid and assist" patients who are deemed incompetent to participate in their own trial. Intended to bring OSH into compliance with a 2002 injunction requiring the hospital to admit aid and assist defendants within seven days. *Effective 9/2022; amended 7/2023.*

2024

Appendix B. Identifying the target population

> ***Update from Baseline Report:*** *The statewide evaluation uses a threshold of "3 or more" emergency department (ED) visits or hospitalizations as one of the target population qualifying criteria. This update revises the previous threshold of "2 or more" used in the Baseline Report, based on draft data from the OHSU-PSU School of Public Health, prepared for the Criminal Justice Commission. The self-reported data from grantees indicate that IMPACTS target populations have a higher number of ED visits and hospitalizations than previously estimated (ED visits: median 3, mean 5.7; hospital admissions: median 1.5, mean 2.5).*

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.[25] 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 or 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 (see Figure 2). 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 services are limited to specific cities/regions within the county, our approach overestimates individuals residing in that grantee's IMPACTS service area.

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 (see Appendix C). 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 while uninsured or insured by another payer type (e.g., commercial insurance plan) during the study period, we would not observe it in our dataset.

We identified ED visits and hospitalizations as being behavioral health-related if the primary diagnosis indicated a behavioral health condition. For the court filings and community supervision target population criteria, we identified individuals with behavioral health conditions from the Medicaid data based on any recorded diagnosis across the available years of data (2018-2023). 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 behavioral health condition diagnosis codes from the Clinical Classifications Software Refined (CCSR)[26] 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"

Category	Description
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

Appendix C. Data sources and linkage

Table C 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 C. Overview of data sources for the IMPACTS statewide evaluation

Data Source	Description
Oregon Health Plan (OHP) eligibility records and claims[19]	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. Oregon Health Plan data are stewarded by the Oregon Health Authority.
Oregon State Hospital admission and discharge records[20]	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. Oregon State Hospital data are stewarded by the Oregon Health Authority.
Heritage Native American (HNA) roster[21]	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). The HNA roster is stewarded by the Oregon Health Authority.
Oregon Circuit Court filings[22]	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. Oregon eCourt data are stewarded by the Oregon Judicial Department and stored in the person-based Odyssey data management system.

Community supervision administrative records[23]	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.
	Administrative records are maintained by the Oregon Department of Corrections, Research and Evaluation unit.

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.[27] 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.[24] 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)**[28] 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)**[29] 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 (HIS)**[30] 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)**[31] 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 PHE, 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.

Appendix D. Outcome specifications

Domain: Criminal Justice

Convictions – All
Description: Number of convicted cases, reported per 1,000 individuals
Source: Oregon Circuit eCourt filings; Medicaid enrollment records
Steward: CHSE

Convictions – Felonies
Description: Number of convicted felony cases, reported per 1,000 individuals
Source: Oregon Circuit eCourt filings; Medicaid enrollment records
Steward: CHSE

Convictions – Misdemeanors
Description: Number of convicted misdemeanor cases, reported per 1,000 individuals
Source: Oregon Circuit eCourt filings; Medicaid enrollment records
Steward: CHSE

Incarceration
Description: Number of prison admissions, reported per 1,000 individuals
Source: Oregon Department of Corrections (DOC) administrative data; Medicaid enrollment records
Steward: CHSE

Recidivism within 1 Year – Conviction
Description: Percentage of individuals convicted of a misdemeanor or felony charge within 1 year of
release from a prison/felony jail sentence or start of probation
Source: Oregon Department of Corrections (DOC) administrative data; Oregon Circuit eCourt filings
Steward: CHSE

Recidivism within 1 Year – Incarceration
Description: Percentage of individuals reincarcerated within 1 year of release from a prison/felony jail
sentence or start of probation
Source: Oregon Department of Corrections (DOC) administrative data; Oregon Circuit eCourt filings
Steward: CHSE

Release from Incarceration - Overdose within 2 Months
Description: Percentage of individuals who experience an overdose event within 2 months of release
from a prison/felony jail sentence
Source: Oregon Department of Corrections (DOC) administrative data; Medicaid enrollment and claims records
Steward: CHSE

Release from Incarceration – Medicaid Enrollment within 2 Months
Description: Percentage of individuals who enroll in the Oregon Health Plan within 2 months of release
from a prison/felony jail sentence
Source: Oregon Department of Corrections (DOC) administrative data; Medicaid enrollment records
Steward: CHSE

Domain: Health outcomes

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Alcohol or Other Drug Dependence Treatment – Engagement
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 (see Alcohol or Other Drug Dependence Treatment – Initiation) and had two or more additional services with a diagnosis of alcohol or other drug abuse within 30 days of the initiation visit
Source: Medicaid claims
Steward: HEDIS® Technical Specifications for Health Plans, NCQA

Alcohol or Other Drug Dependence Treatment – Initiation
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
Source: Medicaid claims
Steward: HEDIS® Technical Specifications for Health Plans, NCQA

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: HEDIS® Technical Specifications for Health Plans, NCQA

ED Visits – Behavioral Health-related
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 HEDIS® Technical Specifications for Health Plans, NCQA 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 – Behavioral Health-related
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

Medication-Assisted Treatment for Members with an Opioid Use Disorder
Description: The percentage of members with an opioid use disorder (OUD) diagnosis who received medication-assisted treatment
Source: Medicaid claims
Steward: CHSE

Outpatient Visits – Behavioral Health Specialist
Description: Number of outpatient visits with a behavioral health specialist, reported per member year; includes psychotherapy, counseling, evaluation and management, skills training, peer services, and assertive community treatment32
Source: Medicaid claims, National Plan and Provider Enumeration System (NPPES)
Steward: CHSE

Primary Care Physician Visits
Description: Number of visits with a primary care physician,32 reported per member year
Source: Medicaid claims, National Plan and Provider Enumeration System (NPPES)
Steward: CHSE
Domain: Oregon State Hospital

OSH Admissions – All
Description: Number of admissions to the Oregon State Hospital, reported per 1,000 individuals
Source: Oregon State Hospital records; Medicaid enrollment records
Steward: CHSE

OSH Admissions – Aid & Assist
Description: Number of admissions to the Oregon State Hospital under Aid & Assist orders, reported per 1,000 individuals
Source: Oregon State Hospital records; Medicaid enrollment records
Steward: CHSE

OSH Admissions – Civil
Description: Number of admissions to the Oregon State Hospital under civil orders, reported per 1,000 individuals
Source: Oregon State Hospital records; Medicaid enrollment records
Steward: CHSE

OSH Admissions – PSRB
Description: Number of admissions to the Oregon State Hospital under the jurisdiction of the Psychiatric Security Review Board, reported per 1,000 individuals
Source: Oregon State Hospital records; Medicaid enrollment records
Steward: CHSE

Appendix E. Robustness to alternative model specifications

The estimates produced by our models are based on traditional assumptions of the difference-in-differences approach, including that trends in the pre-period are similar between individuals in the target population who resided in Cycle 1 service areas versus comparison regions.

We visually and empirically investigated alternative model specifications to test the importance of this assumption and other model features. Specifically, we tested models that excluded information on how individuals qualified for the target population, and models that adjusted for differences in pre-period trends between target populations in Cycle 1 service areas and comparison regions ("de-trending"), at both a program-wide and individual grantee levels.

Below, we provide examples of several measures that exhibited sensitivity to model specifications:

- **Convictions (All; Misdemeanors; Felonies)** – Nearly all model specifications demonstrated statistically significant reductions in convictions; however, the size of the estimated effects varied depending on the model. The changes we report in Table 4 generally represent the midrange of estimated effects. For example, we report a program-level decrease of 47.3 convictions per 1,000 target population individuals; this estimate ranged from 29.2 to 52.6 depending on the model.

- **Alcohol or Drug Treatment (Initiation; Engagement)** – All model specifications demonstrated statistically significant increases in initiation of alcohol or drug treatment; all but one demonstrated statistically significant increases in engagement. The changes we report in Table 5 represent conservative effect estimates (closer to zero). For example, we report a program-level increase of 4.4 percentage points in initiation of treatment; this estimate ranged from 4.0 to 8.6 depending on the model.

- **Oregon State Hospital Admissions (All; Aid & Assist; Civil; PSRB)** – Only one model specification detected a statistically significant change in overall OSH admissions; this model did not include covariates and we believe these to be an important model attribute, given the variation in how individuals qualified for the target population. Under no model specifications did we identify a statistically significant change in Aid & Assist admissions. Two models that applied de-trending methods detected increases in PSRB admissions; however, the rates of PSRB admissions fluctuated greatly during the evaluation period, which reduced our confidence in the calculated trends. Some models that incorporated de-trending identified a decrease in civil admissions (in contrast to our reported finding of an increase in Table 5); once again, we opted not use the de-trended rates given the scarcity of civil commitments and corresponding fluctuations in admissions rates over the evaluation period.

We ultimately decided to report the results of models that a) included covariates, and b) did not adjust for pre-trend differences. We made this decision because not all outcomes required de-trending, based on visual and empirical testing; many outcomes were rare and we preferred not to adjust the raw data to potentially spurious trends; and given the number of outcomes in our evaluation, we preferred a consistent statistical approach over using varied model specifications, which could reduce clarity and interpretability.