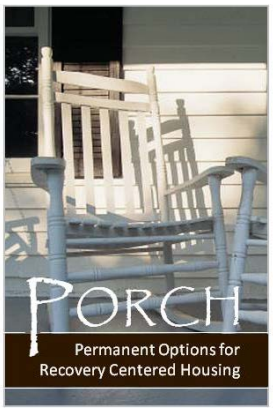

Impacts of Permanent Supportive Housing Services

An Evaluation of the Permanent Options for Recovery-Centered Housing (PORCH) Program

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THE PERMANENT OPTIONS FOR RECOVERY-CENTERED HOUSING (PORCH) program provides evidence-based Permanent Supportive Housing (PSH) services to adults with a history of mental illness and housing instability or homelessness. The program aims to increase housing stability and encourage independent living through support services that help participants find, secure and retain affordable housing. Two sites located in Pierce and Chelan-Douglas counties participated in the federally funded program and began providing support services in May 2011.

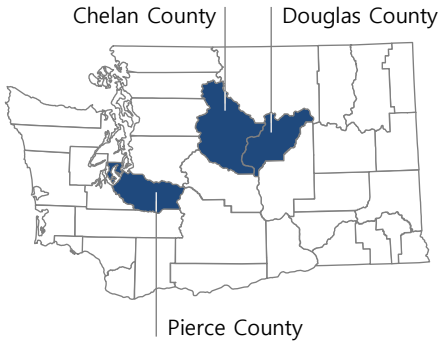
This report describes quality of life improvement one year after enrollment in PORCH and key outcomes associated with the program.

Changes in outcomes over a one-year follow-up period were examined for PORCH recipients in each site relative to statistically matched groups of similar clients of the Washington State Department of Social and Health Services (DSHS). This is the final report in a four part series about the program.

Key Findings

- Several key outcomes improved in a positive direction and approached statistical significance during the 12 month follow-up period.
  - Pierce County PORCH clients experienced fewer new homeless episodes and had fewer days in State Hospitals, relative to their non-enrolled peers.
  - Community psychiatric hospital stays and felony arrests decreased for Chelan-Douglas PORCH participants, relative to their peers.
- Employment rates and earnings remained low for PORCH and non-PORCH groups at both sites during follow-up.
- Most participants who remained in the program for 12 months were housed at some point after enrollment (94 percent) and reported improvement in quality of life indicators, like daily functioning and psychological distress.

FIGURE 1
PORCH Sites



Total Enrollment as of June 30, 2014 = 169
Pierce County = 72
Chelan-Douglas = 97

This report was funded by the Mental Health Transformation Grant, Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services, Grant Number 1H79SM060196-01.

PORCH | Permanent Options for Recovery-Centered Housing

The Washington State Department of Social and Health Services' (DSHS) Division of Behavioral Health and Recovery (DBHR) received $1.9 million in federal funding over a five year grant period from the U.S. Department of Health and Human Services' Substance Abuse and Mental Health Services Administration (SAMHSA) for the PORCH program.[1] These funds provided evidence-based Permanent Supportive Housing (PSH) services to mentally ill homeless or unstably housed individuals in Pierce and Chelan-Douglas counties. Several key elements distinguish PSH from other housing models, including client choice in housing and living arrangements, functional separation of housing and services, community integration, rights of tenancy and voluntary recovery-focused services (SAMHSA, 2010). Other research has demonstrated that PSH reduced homelessness, increased housing tenure, and resulted in fewer emergency department visits and hospitalizations (Rog et al., 2014).

Participants for this program were identified and screened by local community mental health providers and were required to have a mental illness and be homeless/unstably housed or living in an institutional setting at the time of intake. Pierce County targeted individuals leaving institutional settings and Chelan-Douglas served primarily homeless or unstably housed individuals. In both locations, PORCH services were provided by Certified Peer Counselors, who worked with participants to identify, secure and retain affordable housing. Adherence to the evidence-based practice of PSH was measured using SAMHSA's fidelity scale. The fidelity scale determined how the programs adhere to the PSH model. By year five, both sites had implemented PSH with a moderate degree of fidelity, scoring between 2.5 (partial implementation to fidelity) and 4 (meeting fidelity) across key elements.[2]

To allow for sufficient follow-up time only participants enrolled during the first three years (May 2011 to June 2014) of the five year grant program were included in the evaluation (n = 169). During this time, the two sites spent $1.3 million in PORCH funds. As of June 30, 2014 individual participants spent an average of 23 months in the program in Pierce County and 15 months in Chelan-Douglas (not shown). Most participants in Pierce County were enrolled at least 12 months (78 percent, Figure 2). Just under half (43 percent) of participants in Chelan-Douglas remained in the program for 12 months.

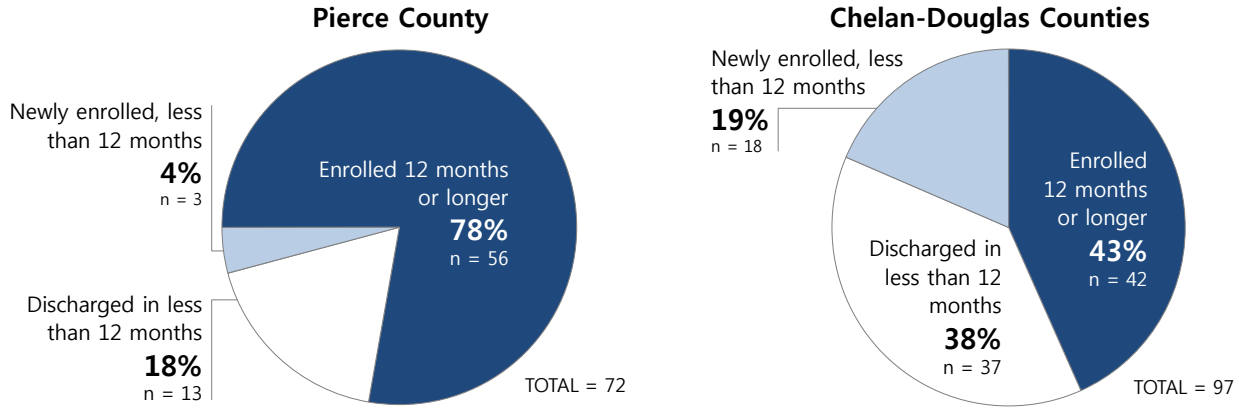
KEY ELEMENTS OF PERMANENT SUPPORTIVE HOUSING

- Choice in housing and living arrangements
- Functional separation of housing and services
- Community integration
- Rights of tenancy
- Voluntary recovery-focused services (SAMHSA, 2010)

FIGURE 2.

Status of PORCH Participants

As of June 30, 2014, Total = 169



[1] The original grant award totaled $3.6 million, but funding was reduced in year two and all subsequent years.

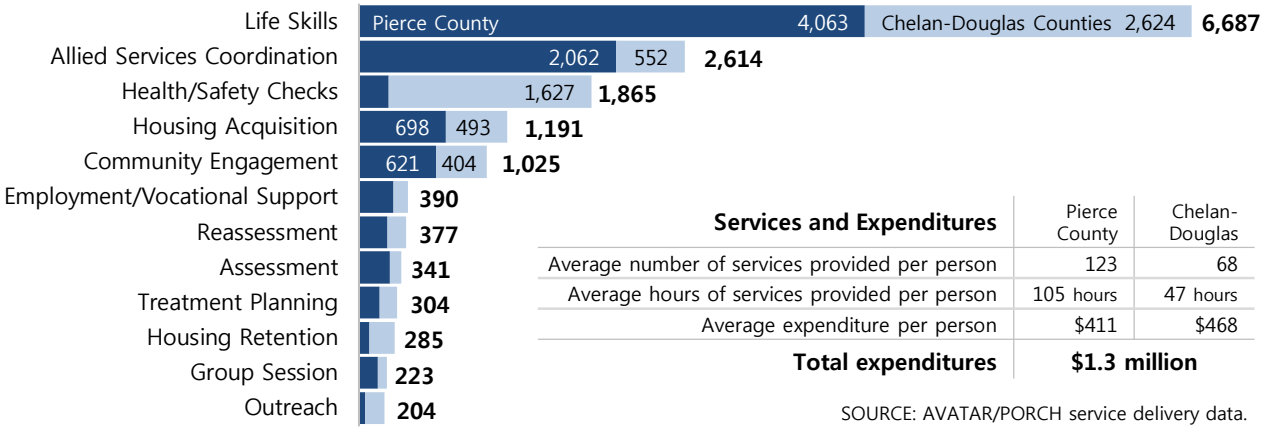
[2] http://store.samhsa.gov/shin/content/SMA10-4510/SMA10-4510-05-EvaluatingYourProgram-PSH.pdf. Fidelity during the study period is unknown. The year five fidelity review was conducted by Advocates for Human Potential.

The program sites reported over 15,000 service encounters during the study period. The majority involved services to assist clients with life skills or daily living activities like shopping, budgeting, cleaning, cooking and nutrition (Figure 3). Most clients (92 percent) received assistance with housing acquisition, and 78 percent received help with life skills and service coordination (Figure 4). Many participants also received treatment planning around housing support services (n = 121) and periodic home visits (health/safety checks) where staff observed housing conditions with respect to health and safety (n = 111). Clients received on average 105 hours of support services in Pierce County and 47 hours of services in Chelan-Douglas. The intensity of services varied considerably by client. In Pierce County total service hours ranged from 2.3 hours to 330 hours, and in Chelan-Douglas from less than one hour to 300 hours during the study period (not shown). The program cost an average of $411 per client per month in Pierce County and $468 per client per month in Chelan/Douglas.[3]

FIGURE 3.

PORCH Services

Total number of services provided to PORCH clients, May 2011 to June 2014 | Total clients = 169 | Total services = 15,506



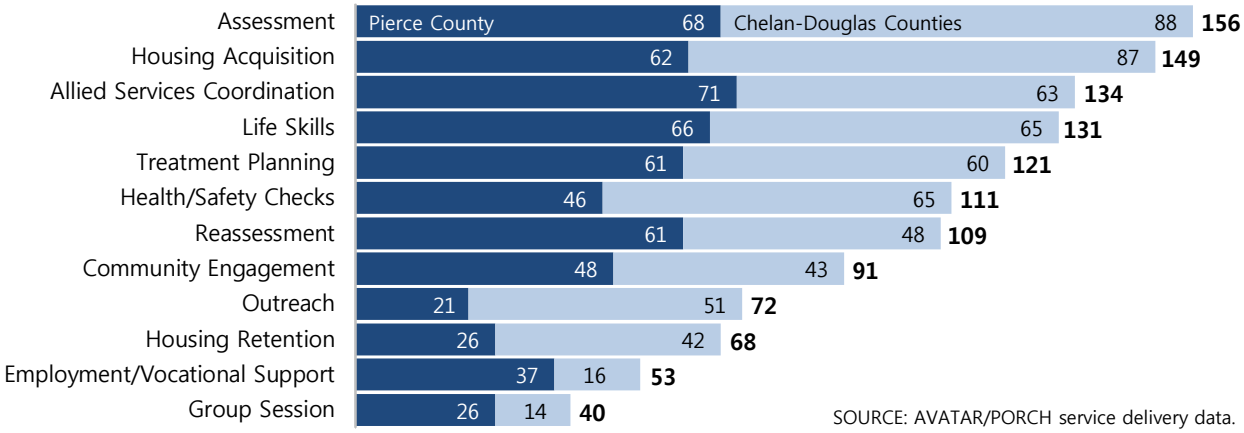
Services and Expenditures	Pierce County	Chelan-Douglas
Average number of services provided per person	123	68
Average hours of services provided per person	105 hours	47 hours
Average expenditure per person	$411	$468
Total expenditures	**$1.3 million**	

SOURCE: AVATAR/PORCH service delivery data.

FIGURE 4.

PORCH Clients

Number of clients in the study population by types of services received, May 2011 to June 2014 | Total clients = 169



SOURCE: AVATAR/PORCH service delivery data.

PORCH SERVICES

Assessment and Reassessment • Treatment Planning • Outreach • Health/Safety Checks • Housing Acquisition
Housing Retention • Life Skills • Allied Service Coordination • Employment/Vocational Support
Community Engagement • Group Session

See Appendix for full description of services provided, page 15.

[3] Cost per client per month is based on all clients who received PORCH services (n = 212) during the study period.

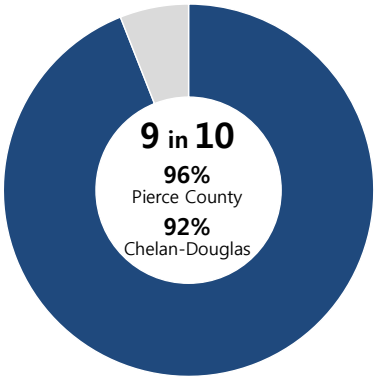
Part I. Self-Reported Housing Status and Quality of Life

Part one of this report includes housing and quality of life indicators for a subset of the study population who remained enrolled in the program for at least 12 months and completed baseline and follow up assessments (n = 88). These measures were not available for a comparison group and should not be interpreted as program net impacts. Part two of the report examines changes in outcomes for the full study population (n = 169) relative to a statistically matched group of peers.

FIGURE 5.

Stable Housing Post-Enrollment

Participants enrolled 12 or more months, Total = 88



The majority of participants (94 Percent) enrolled for at least 12 months reported they were stably housed at some **point after enrollment** (Figure 5). The average time from enrollment to stable housing was 94 days.

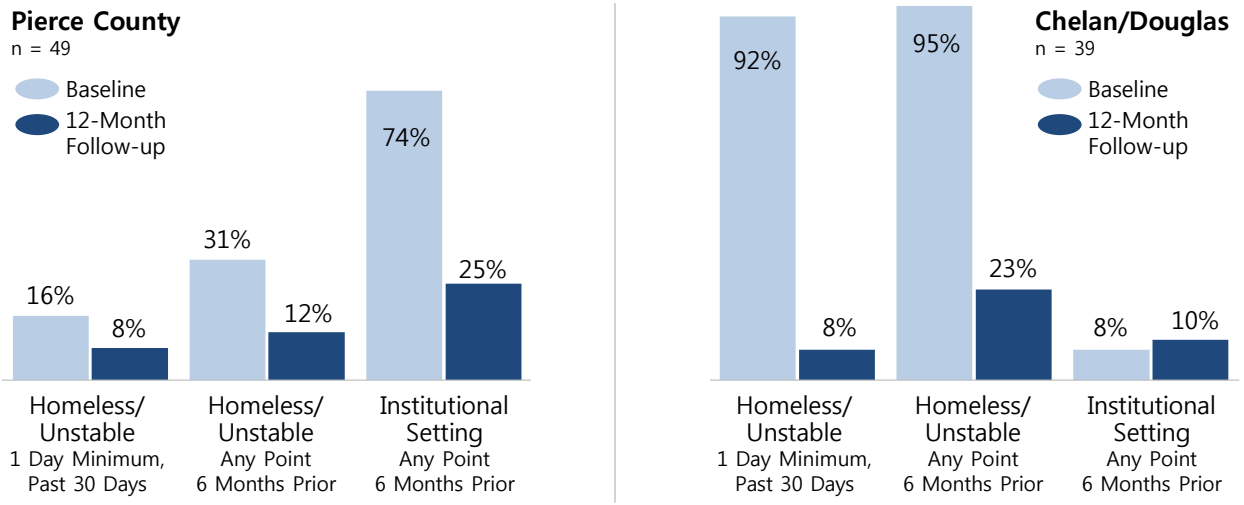
Acquisition of stable housing was more challenging for the full study population, particularly in Chelan-Douglas. Eighty-six percent of enrolled participants in Pierce County and 69 percent in Chelan-Douglas acquired stable housing (not shown). The programs struggled with limited availability of tenant-based housing assistance (vouchers) to help low income individuals pay for private market rent, and limited low income rental units willing to accept housing vouchers. In addition, some clients disengaged from the program before obtaining housing.

Among those enrolled at least 12 months, most Pierce County clients (74 percent) reported living in an institutional setting during the six months before enrollment, which decreased to 25 percent one year later. Thirty-one percent of Pierce County clients were homeless in the six months before enrollment, which decreased to 12 percent after one year. In Chelan-Douglas nearly all participants (95 percent) were homeless in the six months before enrollment, which decreased to 23 percent one year later. A previous PORCH report found that participants at both sites were more satisfied with their living situation and felt safer where they lived after one year of services (Galvez et al., 2013).

FIGURE 6.

Self-reported Housing Status

Participants enrolled 12 or more months, Total = 88



SOURCE: PORCH Housing Calendar. Housing calendar data was missing for 7 clients in Pierce County and 3 clients in Chelan-Douglas.

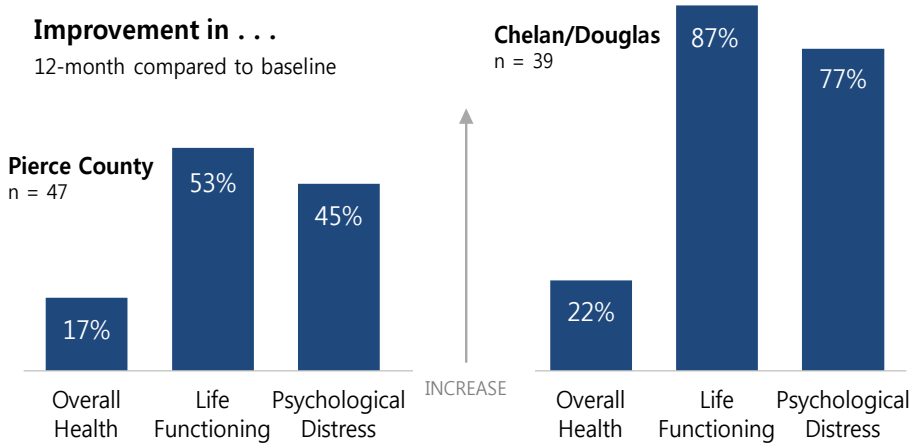
National Outcome Measures[4]

Self-reported Quality of Life improved for participants at both sites. Seventeen percent of Pierce County participants and 22 percent of Chelan-Douglas clients enrolled at least one year reported their overall health improved during the follow-up period (Figure 7). The majority (87 percent) of clients in the Chelan-Douglas program and half of Pierce County clients reported improvement in everyday functioning. Clients at both sites experienced a decrease in serious psychological distress (45 percent in Pierce County and 77 percent in Chelan-Douglas).

FIGURE 7.

Quality of Life

Participants enrolled 12 or more months, Total=86



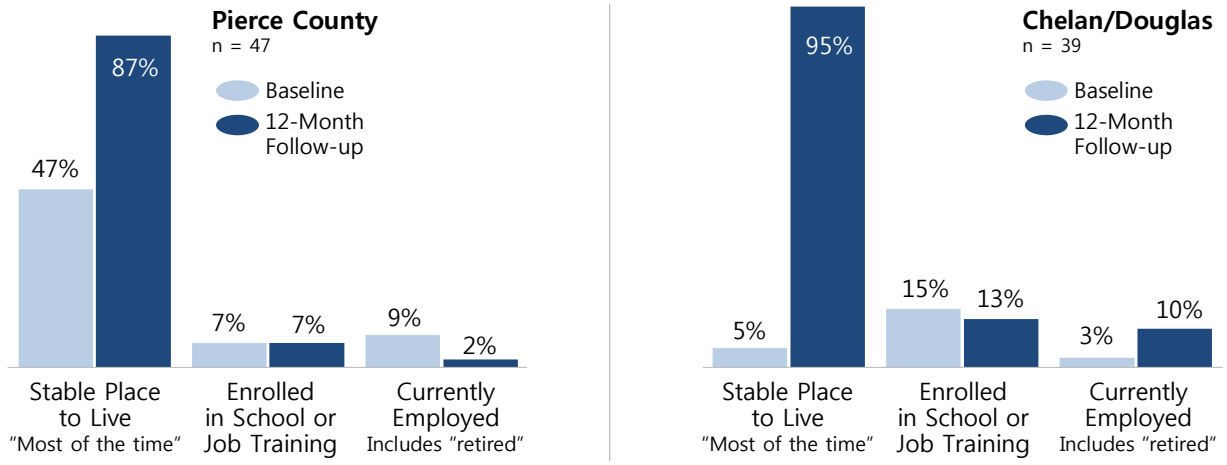
SOURCE: GPRA/TRACs. GPRA baseline and follow-up data were missing for 9 clients in Pierce County and 3 clients in Chelan-Douglas. Data on overall health was missing for one client in Pierce County and two clients in Chelan/Douglas.

Most clients (87 percent in Pierce and 95 percent in Chelan-Douglas) reported having a stable place to live "most of the time" after one year (up from 47 percent in Pierce and 5 percent in Chelan-Douglas). Pierce County clients reported a decrease in employment, from 9 percent at baseline to 2 percent at follow-up. Chelan Douglas clients reported an increase, from 3 percent to 10 percent (Figure 8).

FIGURE 8.

Measures of Stability

Participants enrolled 12 or more months, Total=86



SOURCE: GPRA/TRACs. Data was missing on school enrollment for one client in Pierce County.

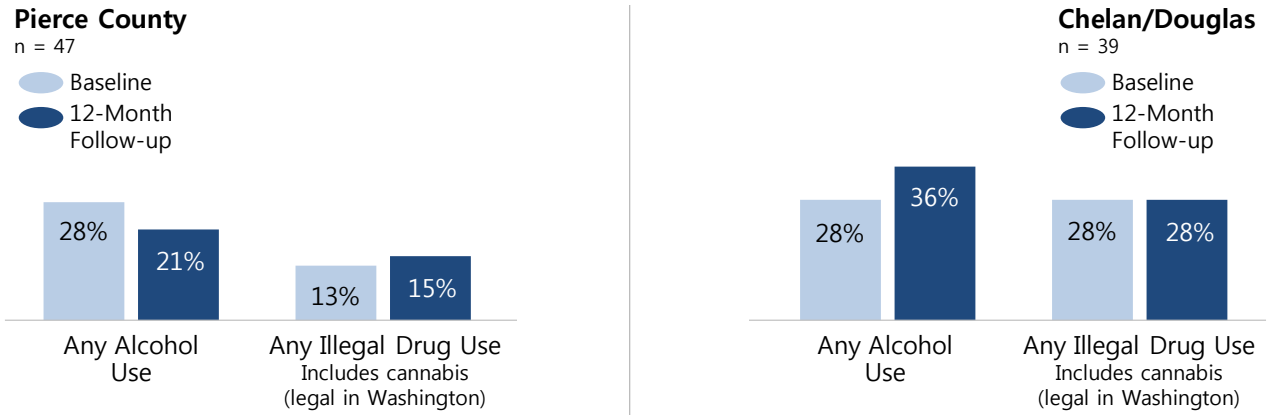
[4] See technical notes for additional details on SAMHSA's National Outcome Measures.

The PORCH program did not require abstinence from alcohol and drug use as a condition of participation, and instead focused on harm reduction through a housing first model. We found mixed results between the sites in self-reported alcohol and drug use. Alcohol use decreased in Pierce County, from 28 percent at baseline to 21 percent at follow-up (Figure 9). Alcohol use increased in Chelan-Douglas counties, from 28 percent at baseline to 36 percent at follow-up. Rates of self-reported drug use increased slightly in Pierce County, from 13 percent at baseline to 15 percent at follow-up. Drug use among Chelan-Douglas clients remained unchanged from baseline to follow-up at 28 percent.

FIGURE 9.

Self-reported Alcohol and Drug Use

Participants enrolled 12 or more months, Total=86



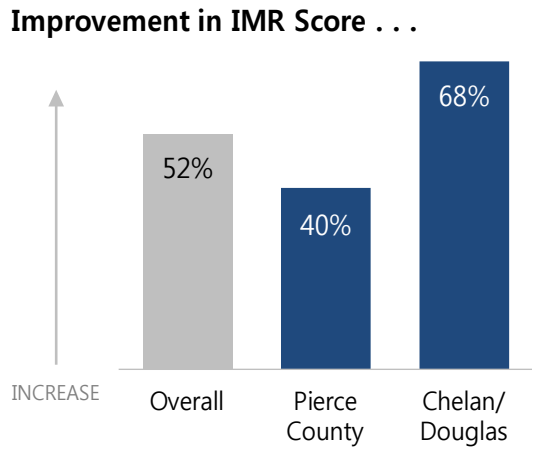
SOURCE: GPRA/TRACs.

We measured recovery with the Illness Management and Recovery Scale (IMR), a 15-item index that assesses the extent that mental illness and alcohol or drug use impact consumers' lives. IMR scores can range from 15 to 75. Higher scores indicate more success in managing mental illness symptoms and pursuing recovery goals.

FIGURE 10.

Illness Management and Recovery Scale

Participants enrolled 12 or more months, Total=90



There is no target IMR score, but an effective program will increase scores over time. For this report, improvement is defined as an increase in IMR score from baseline to 12 month follow-up. In Pierce County 40 percent of clients' IMR scores improved and in Chelan-Douglas 68 percent improved (Figure 10). Half (52 percent) of participant IMR scores in Pierce County and 28 percent in Chelan-Douglas worsened (not shown). Overall, average IMR scores remained the same in Pierce County at baseline and follow-up (52). Average IMR scores improved slightly in Chelan-Douglas counties (from 47 at baseline to 52 at follow-up).

SOURCE: PORCH assessment. IMR data was missing for 6 clients in Pierce County and 2 clients in Chelan-Douglas.

Part II. Impact Evaluation

To evaluate the impact of PORCH on a range of measures we used a statistically matched sample to compare outcomes for PORCH participants with similar mental health consumers who did not receive PORCH services. Analyses were based on PORCH program data and administrative data from the DSHS Research and Data Analysis Division's (RDA) Integrated Client Databases (Mancuso, 2014).

We compared outcomes over a 12 month follow-up period for PORCH participants with a statistically matched group of mental health consumers who received treatment as usual. The study sample included all participants enrolled between May 2011 and June 2014 in the PORCH program (n = 169), regardless of whether they were housed or remained enrolled in the program for a specified duration of time.

Propensity score matching was used to select two statistically matched comparison groups (one for each site) of individuals who were similar to PORCH participants in terms of baseline demographics, diagnoses, behavioral and health risk indicators, social service use, substance use disorder treatment needs, prior employment and arrests. Chelan-Douglas participant outcomes were compared with those of 485 mentally ill DSHS clients with a homeless indicator in administrative data. Pierce County client outcomes were compared to those of 360 mentally ill DSHS clients with the same type of treatment modality (outpatient, psychiatric inpatient or mental health services delivered in residential settings) in the index month.

The matched samples were used for analysis of several outcomes including: new homeless spells, outpatient emergency department use, hospitalizations, new inpatient psychiatric stays, employment and arrests. To test whether the receipt of PORCH services was associated with positive outcomes, we used the difference-in-difference approach, also known as an untreated control group design with pre-test and post-test (Shadish et al., 2002). This approach compares the change in outcomes between the pre- and post-periods for persons who receive treatment enhancements, like PORCH support services, relative to the change for the "treatment as usual" or comparison group. We then conducted robustness tests in which we re-ran outcome analyses, controlling for demographics and pre-treatment measures of key variables for which the propensity score matching did not achieve sufficient balance. The adjusted difference-in-differences (Adj DID) are reported. See technical notes for additional details.

What is a Difference-in-Difference?

Calculating the difference-in-difference between Chelan-Douglas PORCH and non-PORCH clients' change in felony arrest rates between the 12 month pre-period and the 12 month post-period.

- Change in felony arrest rates for PORCH clients:
  3.1% in post-period and 7.2% in pre-period = – 4.1%
- Change in felony arrest rates for non-PORCH clients:
  8.7% in post-period and 10.5% in pre-period = – 1.8%
- Difference-in-difference (unadjusted):
  (–4.1%) – (–1.8%) = –2.3%

The unadjusted decrease in felony arrest rates was 2.3 percentage points larger for Chelan-Douglas PORCH clients compared to that of non-PORCH clients. The adjusted difference-in-differences for felony arrest rates reported on page 11 are the result of the secondary regression analysis which controlled for demographics and other key variables and show slightly different results.

Homelessness

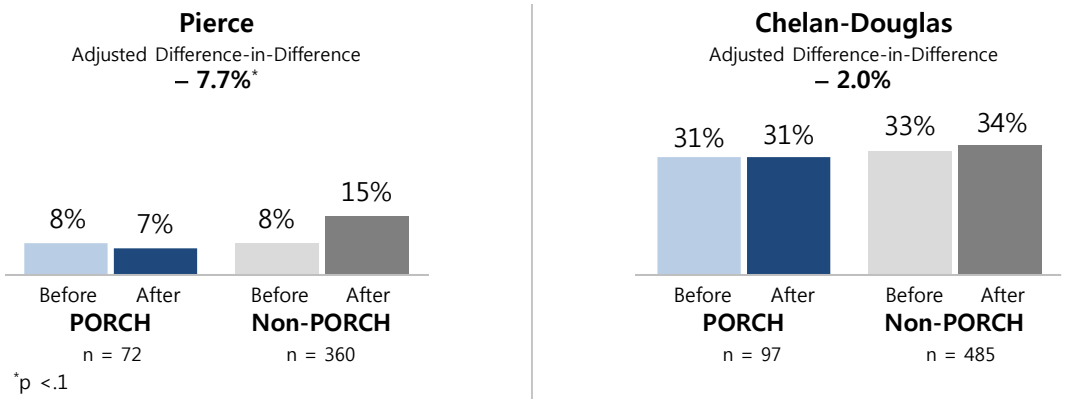
We measured new homeless episodes as a month in the 12-month follow-up period in which a client was not identified as homeless in administrative data followed by a month in which they were.

PORCH clients in Pierce County were less likely to experience a new homeless episode than their matched peers.

Over the 12 month follow-up period, participants in the Pierce County PORCH program experienced lower rates of new homeless episodes during the 12-month follow-up period than their matched peers (7 percent compared to 15 percent), resulting in a difference-in-difference between the two groups that approached statistical significance (Adj. DID = –7.7, p<.1). Among Chelan-Douglas PORCH clients we found much higher rates of new homeless episodes (31 percent). We did not find a significant difference in new homeless episodes between the Chelan-Douglas PORCH group and the matched comparison group.

FIGURE 11.

New Episode of Homelessness

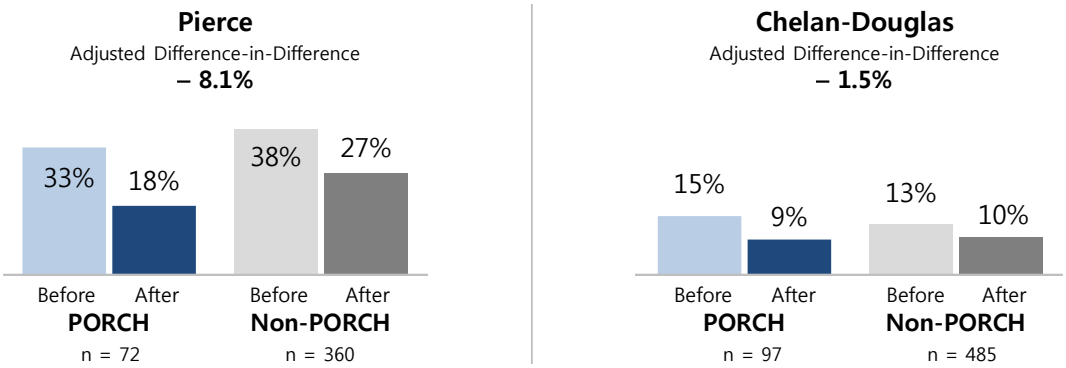


Psychiatric Hospitalizations

In Pierce County psychiatric hospitalizations declined for both PORCH participants and the matched comparison group during the outcome period (Figure 12). After controlling for key variables in a secondary logistic regression analysis, the decrease in psychiatric hospitalization rates among Pierce County PORCH clients was 8.1 percent greater than the decrease for non-PORCH clients. The decrease was not statistically significant, although it approached statistical significance (p = .120).

FIGURE 12.

Any Inpatient Psychiatric Stay



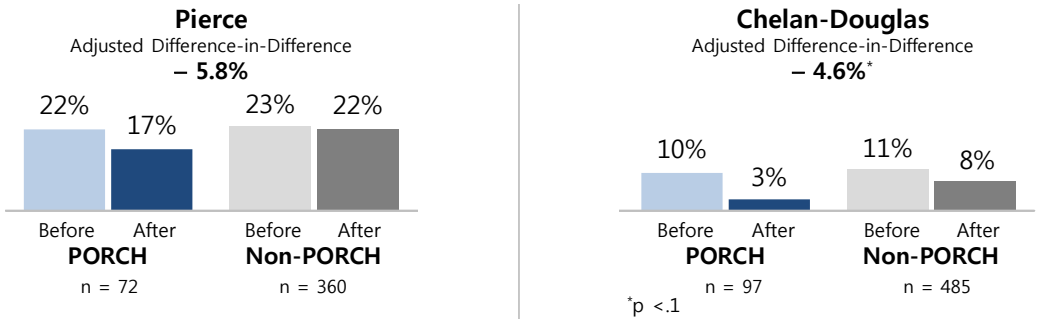
Inpatient psychiatric stays include both community psychiatric hospitalizations and state hospital admissions. Community psychiatric hospitalizations are generally short inpatient stays in a specialized psychiatric unit of a community hospital or a residential evaluation and treatment (E&T) facility. State hospital admissions are generally longer inpatient stays.

Relative to their peers, PORCH clients in Chelan-Douglas are less likely to be admitted to a community psychiatric hospital.

In Chelan-Douglas the decrease in community psychiatric hospital admissions was 4.6 percent greater for PORCH clients than the decrease for non-PORCH clients and approached statistical significance (Adj. DID = –4.6, p<.10). In Pierce County community psychiatric hospitalizations decreased for PORCH clients and remained unchanged for non-PORCH clients (Adj. DID = –5.8, n.s.). The decline was not statistically significant.

FIGURE 13.

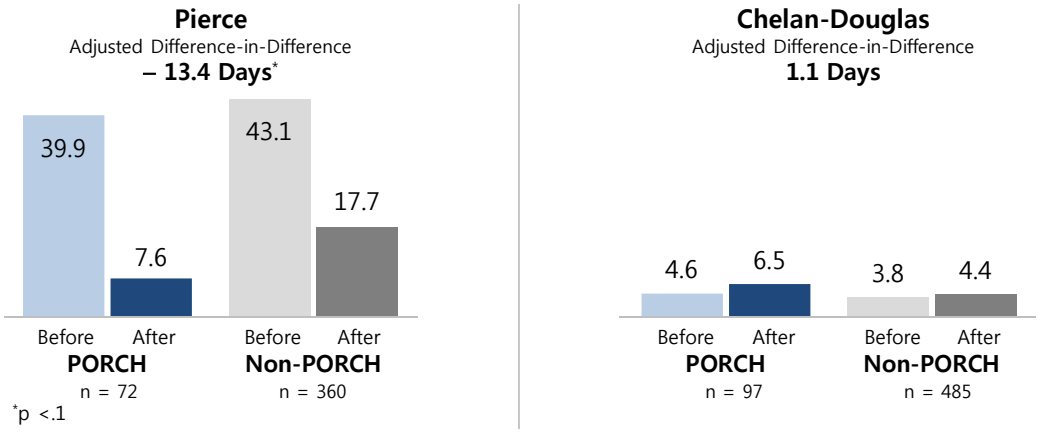
Community Psychiatric Hospitalization



We did not find a significant decrease in state hospital admissions at either site. However, in Pierce County the number of days spent in a State hospital decreased for PORCH clients relative to their matched peers (Figure 14). State hospital days decreased for both PORCH and non-PORCH clients in Pierce County, but the decrease was greater among PORCH clients and approached statistical significance (Adj. DID = –13.4 days, p<.10). The Pierce County PORCH program served primarily individuals discharging from an inpatient or residential setting, with more severe mental illness diagnoses associated with state hospital stays. In Chelan-Douglas State hospital stays were rare and the number of days clients spent in State hospitals remained relatively unchanged between both PORCH and non-PORCH groups.

FIGURE 14.

Days in State Hospital



Emergency Department Use and Hospitalizations

We examined two measures of health care use, outpatient Emergency Department (ED) use and hospitalizations. Utilization measures were calculated as the number of visits or admissions per 1,000 member months to standardize for differences in the number of months of enrollment in Medicaid. For example, in the 12-month post-period, PORCH clients in Pierce County had 317 outpatient emergency department visits per 1,000 months of medical coverage, compared to 189 in the pre-period (Figure 15).

Rates of outpatient Emergency Department visits significantly increased in the outcome year for the Pierce County PORCH group, compared to the non-PORCH group.

In Chelan-Douglas we found a decrease in ED use, but the decrease was not statistically significant. We found no significant differences between the groups at either site in "any ED use" (not shown) or the rate of hospitalization in the outcome period (Figure 16).

FIGURE 15.

Emergency Department Use

Per 1,000 member months

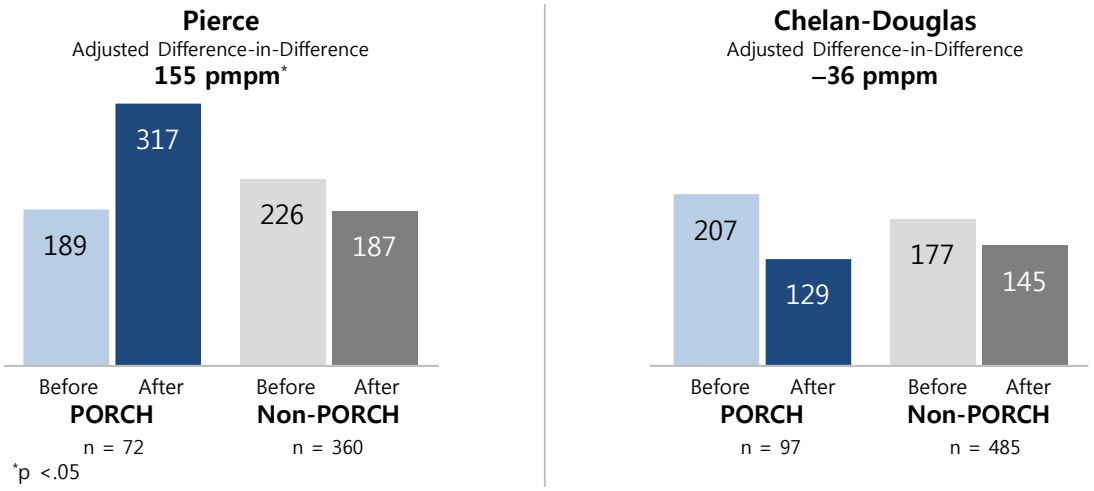
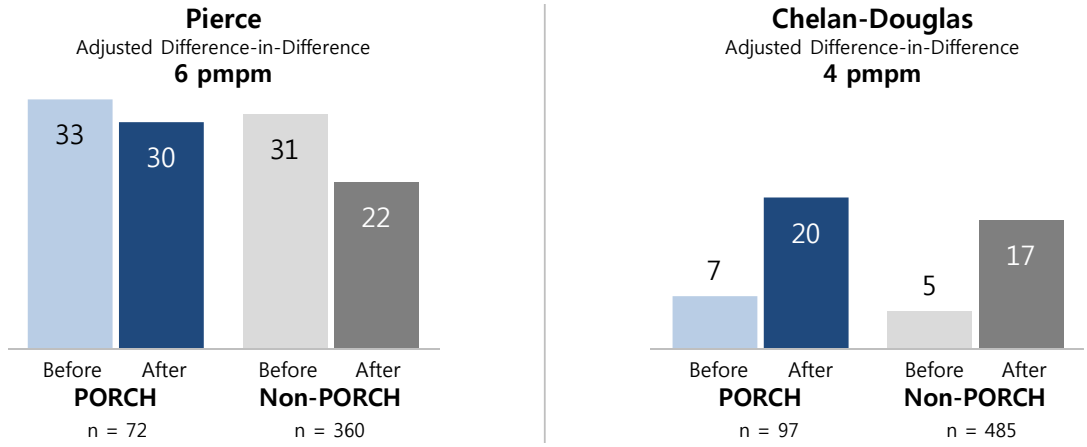


FIGURE 16.

Hospitalizations

Per 1,000 member months



Arrests

We did not find a significant change in the overall arrest rate among PORCH and non-PORCH participants at either site (Figure 17). In Pierce County the overall arrest rate remained about the same (14 percent). In Chelan-Douglas the overall arrest rate increased slightly, from 23 percent to 26 percent. In Chelan-Douglas felony arrests decreased among both PORCH and non-PORCH groups, but the decrease was greater among the PORCH group resulting in statistically significant differences between the two groups (Figure 17). The decrease in the felony arrest rate among Chelan-Douglas PORCH participants was 5 percentage points greater than the decrease in the felony arrest rate among non-PORCH clients ($p < .05$).

PORCH clients in Chelan-Douglas were significantly less likely to be arrested for a felony offense than their matched peers.

Arrest rates are based on arrests in the Washington State Patrol database, which include felonies, gross misdemeanors and warrants for probation violations but do not include arrests for less serious misdemeanors or non-criminal infractions handled by local law enforcement agencies.

FIGURE 17.

Arrest Rates—Any Arrest

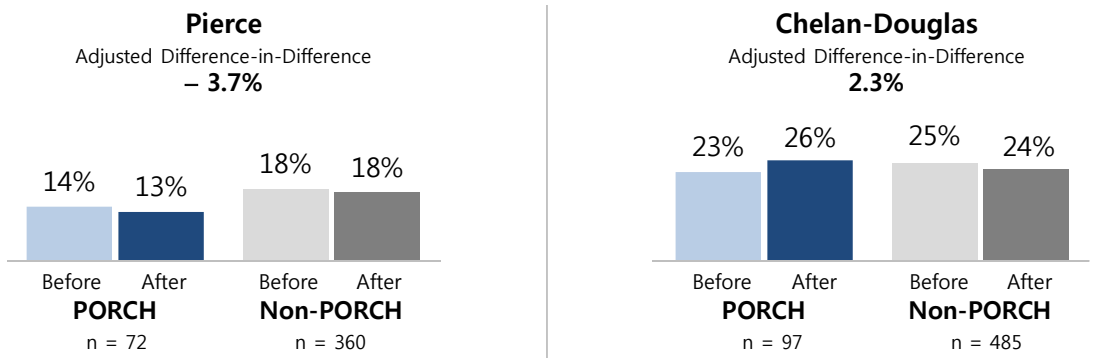
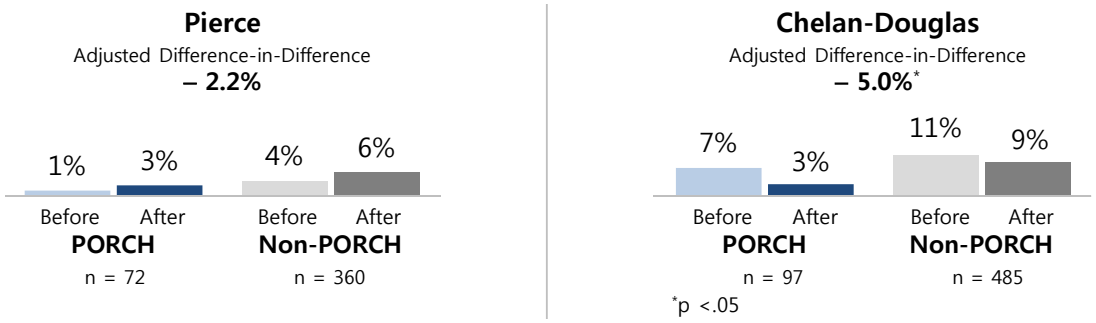


FIGURE 18.

Arrest Rates—Felony Arrests



Employment

Employment rates decreased for the PORCH and non-PORCH comparison groups at each site (Figure 19). Because the decrease in the Chelan-Douglas non-PORCH comparison group was greater than the decrease in the PORCH group the adjusted difference-in-difference is positive, showing a 5.1 percent increase in employment for the PORCH group, but the increase was not statistically significant.

Employment rates remained low for both PORCH participants and their matched peers.

In Pierce County average annual earnings from employment decreased for PORCH clients compared to the non-PORCH group (–$240, p<.10, Figure 20). Employment rates and earnings are based on employer-reported earnings in the Washington State Employment Security Department's Unemployment Insurance system.

FIGURE 19.

Employment

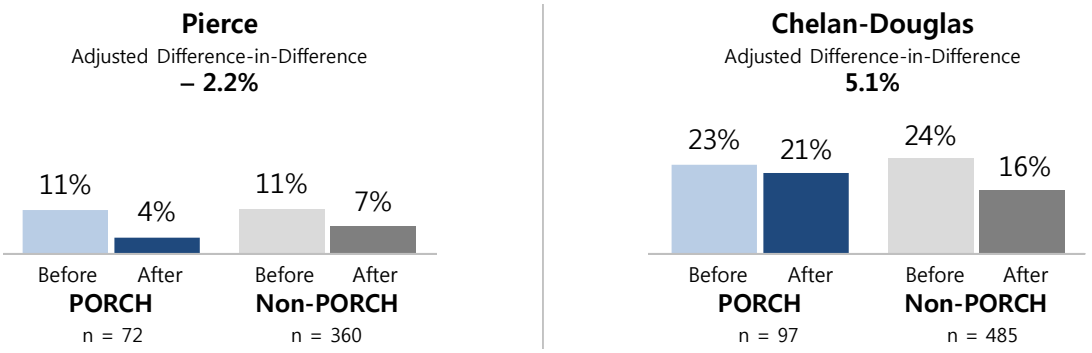
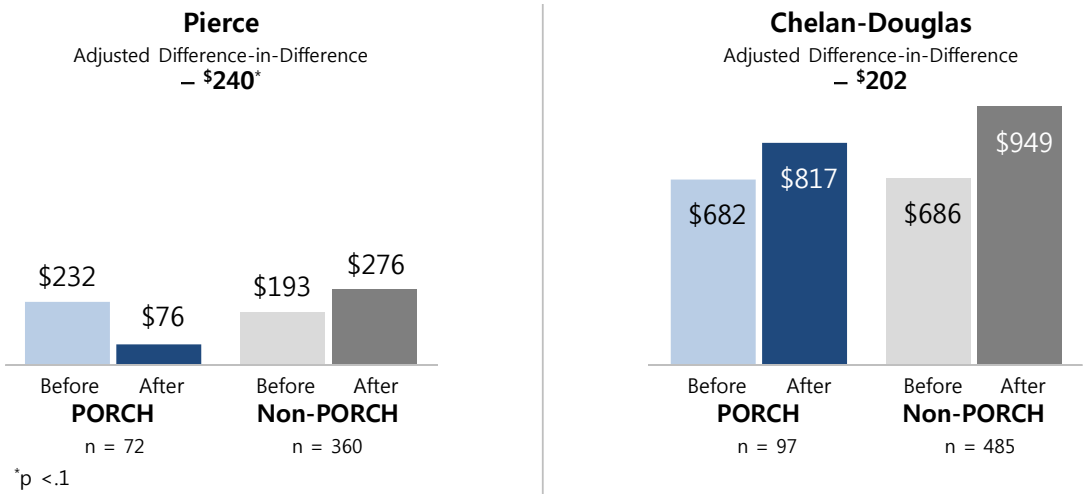


FIGURE 20.

Wages



Discussion

Several outcomes appear to have been favorably impacted by the receipt of PORCH services. Key study findings include the following:

- PORCH participants experienced better outcomes relative to a group of matched peers who received treatment as usual:
  - New homeless episodes and the number of days spent in a State hospital were reduced in Pierce County; and
  - Community psychiatric hospital stays and felony arrests were reduced in Chelan-Douglas.

  Although we do not attain statistical significance for other outcome measures, several of these outcomes including inpatient psychiatric stays in Pierce County and emergency department use in Chelan-Douglas, did improve in a positive direction. The small number of study participants resulted in low statistical power.
- Outcomes differed by site, reflecting the nature of the differing populations served by the two sites. Pierce County served individuals with more severe mental illnesses associated with state hospital stays and residential mental health treatment. Employment support and emergency department diversion may be more challenging for this population. Clients served in Chelan-Douglas were more likely to have substance use disorder treatment needs, which may be reflected in non-felony (misdemeanor) arrests. Differences in outcomes between the two sites may also be related to the types of services provided and the intensity of services.
- We found improvement in housing status and several other quality of life measures for participants at both sites. The majority of clients in the Chelan-Douglas program and half of Pierce County clients were enrolled in the program for at least one year. These clients reported improvement in everyday functioning and a decrease in serious psychological distress. We found substantial improvements in housing status among those enrolled at least 12 months. These findings are descriptive only as they are not based on a comparison with matched peers.
- For individuals leaving institutional settings, it is possible that PORCH transitioned them to independent living sooner than they would have without the support services provided by the program.
- Grant funding was significantly reduced during the second year of the program leading to reductions in services, particularly evidence-based supportive employment services and program oversight. Chelan-Douglas also experienced major organizational changes and a reduction in Tenant-Based Rental Assistance (TBRA) vouchers during the study period, which likely adversely impacted implementation.
- Rates of emergency department use remained high in the outcome period. Twelve participants visited the emergency department more than three times in the one year follow-up period. In Pierce County three participants utilized the emergency department over 30 times each in the one year outcome period. We recommend program staff explore ways to address high utilizers of emergency departments and connect clients with health care providers in the community.
- Although the matching process controls for differences in observed characteristics, selection bias may remain due to unmeasured factors such as readiness and motivation. Baseline characteristics of PORCH participants indicate that the programs targeted hard to serve individuals, or those with significant needs who may have been less likely to succeed.
- Data on receipt of housing assistance were unavailable for the outcome period, as such we were unable to control for this important factor which may have influenced outcomes.

- Outcomes were observed over a short follow-up period (12 months, due to availability of administrative data) and for a small number of participants (n = 169). A longer follow-up period and larger sample size may produce more precise measures of outcomes between treatment and comparison groups.
- The PORCH grant funded support services to find housing, but did not pay for housing or rent. In order to test the impact of the services, we included all participants, regardless of whether they were housed. A number of participants fell out of contact with program staff or remained homeless/unstably housed during the outcome period, which may have attenuated findings for the group as a whole. While providing PSH services may not impact emergency department and hospital use, research indicates that PSH services coupled with housing may improve these key outcomes (Rog et al., 2014). It is possible that PORCH combined with housing would have had more of an impact than PORCH support services alone.

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APPENDIX

Baseline Measures

Baseline characteristics of the 169 PORCH clients in the study population, and the matched sample of non-PORCH clients for each site are shown in the following Appendix Table. We examined these key characteristics to determine if the PORCH and non-PORCH samples were well matched. Some differences remained between the treatment and comparison groups post-matching on observed baseline measures, but the absolute standard mean difference (ASMD) for all observed variables was below the .2 threshold indicating a good match.

TABLE 1.

Baseline Measures for PORCH Recipients and Non-PORCH Comparison Groups

	Pierce		Chelan-Douglas	
	PORCH n = 72	**Non-PORCH** n = 360	**PORCH** n = 97	**Non-PORCH** n = 485
Demographics				
Average Age	39.4	39.3	40.8	40.4
Gender				
Male	51%	51%	48%	48%
Female	49%	49%	52%	52%
Race/Ethnicity				
White only	50%	50%	72%	72%
Any minority	50%	50%	28%	28%
Minority Group, Categories not mutually exclusive				
Black	21%	21%	6%	5%
Asian	13%	12%	1%	1%
Native Hawaiian Pacific Islander	7%	6%	1%	1%
Asian Pacific Islander	15%	14%	0%	0%
Native American, Alaskan Native, Aleut	13%	13%	19%	19%
Hispanic	6%	5%	8%	8%
Year of Index Month				
2011	53%	46%	67%	67%
2012	29%	31%	9%	9%
2013	13%	16%	9%	9%
2014	6%	7%	14%	14%
Housing, 12 months before index month				
Any HMIS	11%	10%	26%	20%
Emergency shelter	3%	3%	16%	13%
Permanent Supportive Housing	8%	4%	1%	1%
New homeless episode	8%	8%	31%	33%
Behavioral Health Indicators, 12-24 months before index month				
Number of months of mental health outpatient services	9.0	8.0	5.9	6.1
Mental health crisis services	49%	55%	41%	41%
Number of months of mental health crisis services	1.4	1.6	1.2	1.0
Inpatient psychiatric stay	33%	38%	15%	13%
State hospital stay	21%	24%	6%	6%
Community psychiatric hospitalization	7%	11%	10%	8%
Number of days inpatient psychiatric facility	46.7	52.7	6.0	5.4

	Pierce		Chelan-Douglas	
	PORCH n = 72	Non-PORCH n = 360	PORCH n = 97	Non-PORCH n = 485
Residential mental health services	56%	62%	0%	2%
Number of days of residential mental health services	155.0	135.8	0.0	1.7
Mental Health Diagnosis				
Psychotic	94%	94%	46%	44%
Substance Use Disorder Treatment Need and Services				
Substance use disorder treatment need	42%	42%	55%	55%
Health Care Indicators, 12 months before index month				
Medical assistance enrollment months	10.8	10.8	10.5	10.2
Dual medical eligibility	40%	40%	20%	20%
Chronic disease indicator percent with score ≥ 1	54%	58%	54%	47%
Outpatient emergency department visits per 1,000 MM	188.9	226.2	206.6	177.1
Hospitalizations per 1,000 MM	32.6	30.6	6.5	4.9
Other Baseline Indicators, 12 months before index month				
Social Service Use				
Basic Food percent	76%	78%	98%	98%
Criminal Justice Involvement				
Arrest any type	14%	18%	23%	25%
Number of arrests	0.2	0.3	0.5	0.5
Employment and Earnings				
Employment part-time or full-time	11%	11%	23%	24%
Earnings of all persons	$232	$360	$682	$686
Earnings, prior 5 years	$4,074	$4,280	$12,576	$13,803

MORE ABOUT PORCH

Permanent Options for Recovery-Centered Housing

Year 1 Annual Report
Baseline Characteristics and Services

JUNE 2012

Second Annual Report
Preliminary Findings

OCTOBER 2013

Third Annual Report
Preliminary Findings

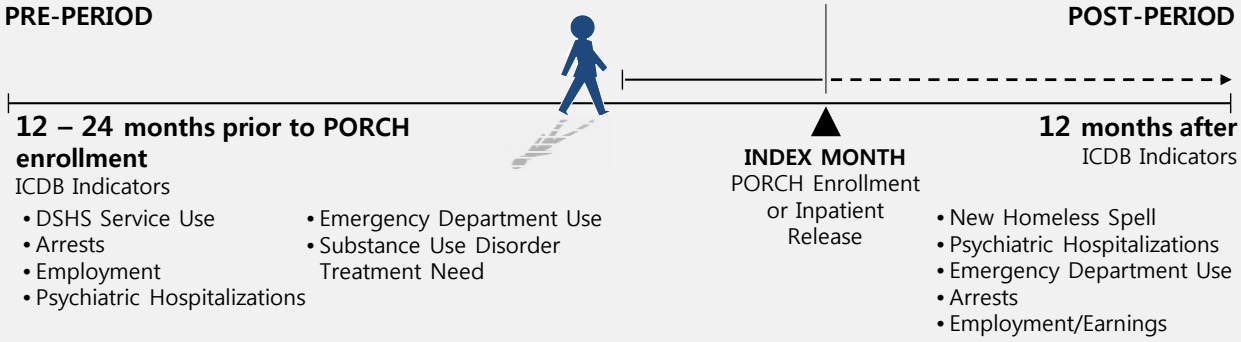
MAY 2015

https://www.dshs.wa.gov/sesa/rda/research-reports

This report presents findings from an evaluation of the Permanent Options for Recovery-Centered Housing (PORCH) program implemented in Pierce and Chelan-Douglas counties. The study population includes 169 adults (ages 18 to 64) who enrolled in the PORCH program during the first three years of services (May 2011 to June 2014). Part one of the report includes descriptive housing and quality of life indicators for participants who remained in the program for at least 12 months. In part two of the report we evaluate the impact of PORCH on participant outcomes using statistically matched comparison groups of mental health consumers who were not enrolled in the program. We include all participants enrolled during the first three years of the program, regardless of how long they remained active in the program. Eight PORCH participants were excluded from the analyses, including two participants who died, two participants who remained in an inpatient setting during the entire post-period, three participants who were not enrolled in Medicaid or similar medical coverage for at least one month during the pre- and post-period, and one client over the age of 64. Part two evaluation methods are described in detail below.

STUDY POPULATION AND TIME PERIOD

The study population was comprised of individuals who received publically funded mental health treatment between May 2011 and June 2014 and who were homeless/unstably housed or discharged from a psychiatric inpatient facility or residential mental health treatment. Each client was assigned an index month within the May 2011 to June 2014 time period and outcomes were measured over a 12 month follow-up period. All study participants were required to have at least one month of Medicaid eligibility during the pre- and post-period.



- **Chelan-Douglas PORCH treatment group** (n = 97): Enrolled in the Chelan-Douglas PORCH program between May 2011 and June 2014. The index month was assigned as the month of PORCH enrollment.
- **Chelan-Douglas comparison group sampling frame** (n = 164,523 person months[5]): Adults (18-64) who received outpatient mental health services between May 2011 and June 2014 and were identified as homeless or unstably housed in administrative data (see Homelessness definition below). Index months were assigned as any month in the May 2011 to June 2014 time period in which the client received mental health outpatient services and was identified as homeless/unstably housed in administrative data.
- **Pierce County treatment group** (n = 72): Enrolled in the Pierce County PORCH program between May 2011 and June 2014. For clients in a psychiatric inpatient facility (n = 8) and those receiving residential mental health treatment (n = 36) at the time of enrollment, the index month was assigned as the month of discharge from the in-patient facility or residential mental health treatment. For clients receiving outpatient mental health services only (n = 28) the index month was assigned as the month of PORCH enrollment.
- **Pierce comparison group sampling frame** (n = 179,512 person months): Includes the individuals described above in the Chelan-Douglas comparison group sampling frame along with individuals discharged from an inpatient psychiatric facility or residential mental health treatment between May 2011 and June 2014. For clients with outpatient mental health services, index months were assigned as the month in the May 2011 to June 2014 time period in which the client received mental health outpatient services and were identified as homeless/unstably housed in administrative data. For clients in a psychiatric inpatient facility or residential mental health treatment, the index month was assigned as the month of discharge from the inpatient facility or residential mental health treatment.

[5] The comparison group sampling frames include multiple records for each person. Each index month meeting study criteria for inclusion was treated as a single record.

COMPARISON GROUP SELECTION

To form the comparison groups we identified adult mental health consumers from the sampling frames described above who were similar to PORCH participants with respect to baseline characteristics, but who did not participate in the PORCH program. We used a statistical technique known as propensity score matching to estimate the probability of PORCH enrollment using logistic regression models. The propensity scores obtained from these models were used to create matched comparison groups using nearest neighbor matching.

- **Baseline measures**. The propensity score regression models included all of the measures listed in Appendix Table 1.
- **Exact matching**. Exact matching is a way to ensure balance among critical baseline attributes of treatment and comparison group members. The matching process for Chelan-Douglas required exact matches on age category, gender, race/ethnicity, calendar year of the index month, alcohol and drug treatment need, and dual medical eligibility. For Pierce County exact matches were required for gender, minority status, alcohol and drug treatment need, dual medical eligibility, and treatment modality (mental health outpatient, inpatient or mental health residential treatment). To preserve sample size, exact matching was limited to this small set of characteristics.
- **Urbanicity**. We did not explicitly match on urbanicity. Instead we dropped individuals from the comparison group sampling frame in the rural category for Pierce County, as all PORCH participants in Pierce County were in the Urban High category. In Chelan-Douglas we dropped the urban high category, as the majority of participants were in the urban low category.
- **1:5 matching.** We attempted to match up to five individuals from the comparison pool of non-participants with every individual in the PORCH treatment group.
- **Balance between treatment and comparison groups.** To test for balance in baseline characteristics after matching, we calculated the absolute standardized mean difference for each baseline measure included in the propensity score models. Achieving a standardized mean difference of .2 or less is generally considered acceptable, and all of our baseline measures were below this threshold.

  After matching, we estimated adjusted outcomes, controlling for residual imbalances in demographics and key baseline variables. The adjusted difference-in-differences (Adj. DID) are reported in the body of this report.

DATA SOURCES AND MEASURES

PORCH program data collected for performance monitoring or to fulfill federal reporting requirements.

- A*VATAR.* PORCH service delivery data recorded by staff and reported to the Pierce and Chelan-Douglas Regional Support Networks (RSNs). RSNs provide this service information to DSHS.
- *PORCH Assessment and Housing Calendar.* A questionnaire administered at enrollment and every 6 months thereafter. The assessment includes a 15-item Illness Management Recovery (IMR) scale and questions about housing status and housing satisfaction. Housing status was tracked using a calendar adapted from the Residential Time-Line Follow-Back Inventory (Tsembris et al., 2007) originally developed for the substance abuse recovery field (Sobell & Sobell, 1992). Respondents describe where they slept each night over the previous 6 months. Interviewers use dates such as holidays, birthdays or other events to help respondents recall their housing status.
- Government Performance and Results Act Transformation Accountability Participant-level National Outcome Measures for Programs Providing Direct Treatment Services (GPRA/TRACs). Federally-mandated information that PORCH staff are required to collect at enrollment and 6 month intervals. Questionnaire items include demographic questions and items regarding health, social connectedness, mental health care, homelessness, education and employment. These data are used to generate National Outcome Measures, for more details see: https://cmhs-gpra.samhsa.gov/TracPRD/View/docs/SVCS_OutcomeMeasuresRptGuide_v6_10_2013.pdf.

Service information from the DSHS Integrated Client Databases (ICDB), a longitudinal, integrated client database containing nearly 20 years of detailed service risks, history, costs and outcomes (Mancuso, D. 2014).

Demographics

- We used the RDA Client Services Database (CSDB) for information on county of residence, age, race, Hispanic origin and gender.

Geography

- A measure of urbanicity was constructed from U.S. Census data based on the percent of each county's population residing in an urbanized area. Clients were assigned to one of the following categories based on their county of residence in the index month: 1) rural, 2) urban (low density) or 3) urban (medium or high density).

Health and Safety Risk Factors

- Data from three information systems, including ProviderOne (medical), the Consumer Information System (mental health), and the Treatment and Assessment Report Generation Tool (chemical dependency) were used to identify the presence of substance use disorders and mental illness over a 24-month pre-period based on health and behavioral health diagnoses, prescriptions and treatment records. In addition, drug and alcohol-related arrest data maintained by the Washington State Patrol was used to identify probable substance abuse issues.
- The chronic illness risk indicator is based on a Medical Risk Score greater than or equal to 1. Medical Risk Score is based on the average Medicaid client in Washington State meeting Social Security Insurance (SSI) disability criteria. These scores are calculated from health service diagnoses and pharmacy claim information, with scoring weights based on a predictive model associating health conditions with future medical costs.
- Medicaid coverage is obtained from eligibility codes available in the ICDB**.**
- Dual eligibility indicates a client was enrolled in both Medicaid and Medicare. The ICDB does not contain Medicare claims data.
- Emergency department use and hospitalizations were identified from ProviderOne medical claims and encounters for Medicaid clients.

Homelessness

- Homelessness was identified through living arrangement status reported to DSHS caseworkers and recorded in ACES, CIS and/or the Homeless Management Information System (HMIS). Specifically, clients who were homeless with housing, homeless without housing ("couch surfing"), or in emergency housing (ACES), clients receiving emergency shelter (HMIS) and homeless individuals (CIS) were identified as homeless/unstably housed. HMIS data were not available for the outcome period, as such emergency shelter use recorded in HMIS is not reflected in the "new homeless episode" outcome.

Employment, Earnings and Public Assistance

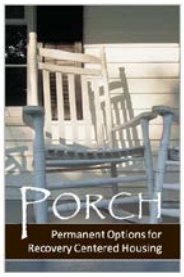
- Employment and earnings data were obtained from the Washington State Employment Security Department. Individuals were considered employed if they had at least one quarter of non-zero earnings during the baseline period. Average earnings during the baseline period were calculated by summing quarterly earnings within the previous two years for those with reported earnings.
- Receipt of Basic Food was identified from Economic Services Administration records.

Criminal Justice Involvement

- Arrests were identified from records in the Washington State Patrol (WSP) database. Arrests reported in the WSP database are primarily felonies and gross misdemeanors.

PORCH SERVICES

- **Assessment and Reassessment** includes the PORCH assessment, housing calendar and GPRA questionnaire (required by SAMHSA).
- **Treatment Planning** includes meeting with the treatment team to plan housing support services.
- **Outreach** includes outreach and engagement visits with an individual or their support system to encourage PORCH participation.
- **Health/Safety** includes periodic home visits to observe housing conditions with respect to health and safety.
- **Housing Acquisition** involves identifying housing options, contacting prospective landlords, scheduling interviews, assisting with applications, and assistance with subsidy applications in collaboration with or on behalf of an individual PORCH participant.
- **Housing Retention** involves mediating landlord-tenant, roommate and neighbor issues, training on interpersonal relations and landlord tenant rights/laws.
- **Life Skills** includes assisting with skills such as shopping, transportation, money management, housekeeping, budgeting, home repairs, cleaning and laundry.
- **Allied Service Coordination** involves assisting participant with access to allied service systems, benefit applications and coordination of services to ensure stability in housing.
- **Employment/Vocational Support** involves services to prepare or support an individual in vocational activities.
- **Community Engagement** includes individual support services to facilitate community inclusion or social activities.
- **Group Session** includes non-clinical training and/or discussion activities in a group setting which may include readiness to rent, housing retention skills and employment preparedness/retention skills and techniques.



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