



# The Foundational Community Supports Program: Preliminary Evaluation Findings

Taylor Danielson, PhD • David Mancuso, PhD • Barbara E.M. Felver, MES, MPA

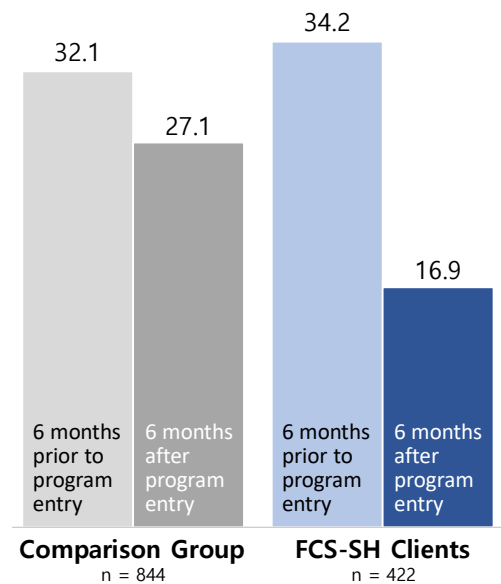
This study was funded by the Washington State Health Care Authority.

**T**HE FOUNDATIONAL COMMUNITY SUPPORTS (FCS) program, developed under Washington State's 1115 Medicaid Waiver, provides supported employment and supportive housing services to Medicaid beneficiaries with behavioral health needs and other risk factors. These services are designed to promote self-sufficiency by helping beneficiaries obtain and maintain housing and/or competitive employment. We review early findings from the evaluation of FCS services, examining outcomes for 1,736 persons enrolled during the first nine months of program operations, relative to a matched comparison group with similar baseline risk factors. Analyses were stratified by service delivery system affiliation and program type to provide more precise measurement of impacts. Longer-term evaluation findings will be provided by the Oregon Health Sciences University Center for Health Systems Effectiveness, in their role as the independent external evaluator for the 1115 Waiver.

## Key Findings

- 1. Relative to a matched comparison group, persons enrolled in supported employment services experienced statistically significant improvements in employment rates, earnings, and hours worked.** Positive impacts were modest in magnitude, and experienced both by clients receiving long-term services and supports (LTSS) through the DSHS Aging and Long-Term Supports Administration (AL TSA), and by other Medicaid beneficiaries with behavioral and physical health care needs served through the Health Care Authority (HCA).
- 2. Enrollment in supportive housing services was associated with significant or promising increases in transitions out of homelessness.** Positive impacts were modest in magnitude, and experienced both by AL TSA clients and other Medicaid beneficiaries with behavioral and physical health care needs served through the HCA.
- 3. Supportive housing services were associated with promising reductions in outpatient (OP) emergency department (ED) and inpatient (IP) utilization for Medicaid beneficiaries with behavioral and physical health care needs served through the HCA.**

**HCA Supportive Housing Clients**  
 IP Admissions per 1,000 Member Months  
 Adjusted Difference-in-Difference = -12.4  
 p = 0.06



SOURCE: RDA Integrated Client Databases

## Program Overview

The Foundational Community Supports (FCS) program is a component of Washington State's 1115 Waiver Medicaid Transformation Project. Launched in January 2018, FCS provides statewide supportive housing and supported employment services to vulnerable populations with complex physical or behavioral health care needs. The primary goal of these services is to promote self-sufficiency, promote integration into the community, and reduce potentially avoidable use of more intensive services, by helping individuals with significant support needs obtain and maintain stable housing or competitive employment. To be eligible for these services, individuals must meet age criteria, have a behavioral health treatment need or qualifying physical disability, and meet at least one of the housing or employment risk criteria outlined in the table below.

Eligible clients may access an array of person-centered housing and employment services following enrollment. Examples of services provided under FCS include helping clients identify and apply for housing or employment opportunities and providing ongoing supports following placement in a job or housing unit. The program type that the client is enrolled in (supportive housing, supported employment, or both) determines which services clients may access.

### Risk Criteria for FCS Services

Supported Employment	Supportive Housing
<ul style="list-style-type: none"> <li>Unemployed for at least 90 consecutive days due to a mental or physical impairment.</li> <li>Inability to obtain or maintain employment due to age, physical disability, or traumatic brain injury.</li> <li>Receipt of inpatient substance use disorder (SUD) treatment in the past two years.</li> <li>At risk of deterioration of mental illness or SUD.</li> <li>Behaviors or care needs that disrupt employment or schooling or have resulted in terminations from work and/or expulsions from school.</li> </ul>	<ul style="list-style-type: none"> <li>Indication of chronic homelessness as defined in 24 CFR 578.3.</li> <li>History of frequent or lengthy stays in jails, behavioral health inpatient treatment facilities, hospitals, or skilled nursing facilities.</li> <li>Two or more adult residential care stays in the past 12 months.</li> <li>Receipt of services from three or more different in-home care providers in the past 12 months.</li> <li>A Predictive Risk Intelligence System (PRISM) risk score of 1.5 or higher.</li> </ul>

## Study Population and Evaluation Approach

### Study Population

Supported Housing AL TSA	<b>12%</b> n = 201
Supported Housing HCA	<b>24%</b> n = 422
Supported Employment AL TSA	<b>21%</b> n = 371
Supported Employment HCA	<b>43%</b> n = 742

The focal population for these analyses are Medicaid clients enrolled in FCS supportive housing or supported employment services from January 2018 through September 2018. After linking FCS enrollees to records in RDA's Integrated Client Database (ICDB) and applying restrictions to improve data quality and make the pool of potential controls more homogeneous, the final study population includes 1,736 FCS program participants in the treatment groups.<sup>1</sup> All matching processes were performed within program type (supported employment or supportive housing) and delivery system affiliation (HCA or AL TSA affiliated clients). The distribution of FCS enrollees by program type and delivery system is shown at left. Unless otherwise noted, changes in client outcomes between the treated populations and the matched comparison groups were assessed over six-month pre- and post-periods using a difference-in-difference (DID) approach.

<sup>1</sup> Information on these population restrictions and the matching processes are available in the accompanying Technical Appendix.

# Results

## Population Characteristics

As illustrated in the appendix table, FCS clients face multiple challenges. Seventy-seven percent of FCS clients had a high school education or less. Low employment rates in the six months prior to enrollment across all subpopulations indicate that most FCS clients were not strongly attached to the labor force prior to their engagement in FCS services. Almost a quarter of FCS clients were homeless in the six months prior to enrollment, with homelessness rates differing by delivery system and service type. Almost 90 percent of all FCS clients had some indication of a serious mental illness, 58 percent had some indication of a substance use disorder treatment need, and 71 percent met state or federal disability standards in the year prior to enrollment. Disability rates were particularly high among AL TSA clients, with almost all clients meeting state or federal disability standards.

Additional administrative data highlight the acute care needs of the FCS population. AL TSA-affiliated clients had particularly intensive service needs, with a chronic disease burden (as measured by PRISM risk scores) two to three times that of the average disabled Medicaid beneficiary. Within each program, AL TSA clients tended to have higher baseline rates of ED and inpatient utilization. AL TSA supportive housing clients had particularly intensive baseline inpatient utilization, with rates roughly three times higher than observed in the HCA supportive housing group.

## Outcomes at Six Months

The tables below summarize results of the matched comparison analyses for supported employment and supportive housing populations. All estimates were regression-adjusted to control for residual baseline differences between treatment and control groups that may be related to the outcomes of interest. Enrollment in FCS services resulted in statistically significant improvements in client housing and employment outcomes. Additionally, there is evidence of promising reductions in ED utilization and inpatient hospitalization rates for HCA supportive housing clients, although not for the other FCS treatment groups. These findings are discussed in more detail below.

### Estimates of FCS Program Impacts, 6-Month Follow-Up

Regression Adjusted

Supported Employment	AL TSA		HCA	
	Estimate	p-value	Estimate	p-value
Employed in 6-Month Follow-up	+8.0%	p < 0.001	+11.9%	p < 0.001
Average Earnings Per Quarter	+\$202	p < 0.05	+\$329	p = 0.06
Average Hours Worked Per Quarter	+15.6	p < 0.05	+36.1	p < 0.01
OP ED Visits, per 1,000 Member Months	+11.6	p = 0.66	-15.1	p = 0.26
IP Hospitalizations, per 1,000 Member Months	+5.3	p = 0.42	-2.3	p = 0.53

Supportive Housing	AL TSA		HCA	
	Estimate	p-value	Estimate	p-value
Transitioned Out of Homelessness†	+4.3%	p < 0.05	+3.7%	p = 0.12
Housed in Commerce-Funded Project†	-0.1%	p = 0.96	+7.4%	p < 0.01
Received In-Home Services	+9.6%	p < 0.05	—	
Nursing Facility Services	+2.8%	p = 0.28	—	
OP ED Visits, per 1,000 Member Months	+71.8	p = 0.18	-45.9	p = 0.14
IP Hospitalizations, per 1,000 Member Months	+22.9	p = 0.18	-12.4	p = 0.06

†Post-period comparison only.

## Employment

Enrollment in supported employment services resulted in modest, statistically significant improvements in employment rates, earnings, and hours worked. The overall employment rate for HCA clients increased by 12 percentage points relative to the comparison group, while the employment rate for AL TSA supported employment clients increased by eight percentage points.

## Housing

Enrollment in FCS supportive housing services was associated with modest, statistically significant (AL TSA) or promising (HCA) reductions in post-period homelessness rates for supportive housing clients. The percentage of individuals transitioning out of homelessness as of the last month of the follow-up period was roughly 4 percentage points higher for both populations. In line with AL TSA's objective of diverting individuals from more costly institutional settings, enrollment in supportive housing services for AL TSA clients was associated with a statistically significant increase in the proportion of individuals receiving in-home personal care services relative to the comparison group. Conversely, HCA's focus on housing individuals who were currently unsheltered is associated with a statistically significant 7 percentage point increase in the proportion housed by a program funded by the Department of Commerce, relative to the matched comparison group.

## Healthcare Utilization

Supportive housing services were associated with promising reductions in outpatient emergency department and inpatient utilization for Medicaid beneficiaries with behavioral and physical health care needs served through the Health Care Authority. These impact estimates approached but did not quite achieve the usual standard of statistical significance. Point estimates of impacts for AL TSA-affiliated FCS program participants were in the opposite direction of the hoped-for effects, although these estimates were not statistically significant. Future analyses will explore the sensitivity of estimated impacts to the criteria used for creating the matched comparison groups for AL TSA-affiliated FCS clients, in an effort to leverage additional CARE assessment and baseline utilization data to reduce the risk that selection bias may be affecting our estimates.

## Study Limitations and Caveats

We note the following study limitations:

- Due to lags in data completeness and the limited available follow-up time, analyses used a six-month follow-up period. More time is needed to examine longer-term outcomes.
- Analyses focused on a relatively small cohort of clients who enrolled in FCS services during the first nine months of program operations, a time when services and provider networks were maturing. More time is needed to examine mature program effects.
- Estimated treatment effects are based on an intent-to-treat analysis that includes "enrolled" clients in the treatment group who may never have actually engaged in FCS services. This could lead us to underestimate the impact of the programs on persons who actually engaged in FCS services.
- There may be residual differences between treatment and comparison group members related to health status, service needs, client motivation, or other factors not controlled for through the matching process. Matching and regression adjustment may not eliminate the risk of selection bias in measured program impacts.
- Finally, we note that longer-term evaluation findings will be provided by the Oregon Health Sciences University Center for Health Systems Effectiveness, in their role as the independent external evaluator for Washington State's 1115 Waiver.

APPENDIX TABLE

Selected Baseline Characteristics of FCS Clients\*

	AL TSA-AFFILIATED CLIENTS Client received a CARE assessment in last 15 months						HCA-AFFILIATED CLIENTS All other clients			
	All FCS Clients		Supported Employment		Supportive Housing		Supported Employment		Supportive Housing	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
Population Size	<b>1,736</b>	—	371	—	201	—	742	—	422	—
<b>Demographics for All Clients</b>										
Mean Age at Program Enrollment	<b>41.9</b>	—	46.7	—	54.1	—	36.7	—	41.0	—
17 Years of Age or Under	<b>35</b>	<b>2%</b>	**	**	—	—	34	5%	—	—
18 - 24 Years of Age	<b>176</b>	<b>10%</b>	33	9%	**	**	103	14%	34	8%
25 - 34 Years of Age	<b>397</b>	<b>23%</b>	62	17%	21	10%	211	28%	103	24%
35 - 44 Years of Age	<b>369</b>	<b>21%</b>	57	15%	19	9%	181	24%	112	27%
45 - 54 Years of Age	<b>374</b>	<b>22%</b>	88	24%	41	20%	128	17%	117	28%
55 - 64 Years of Age	<b>305</b>	<b>18%</b>	89	24%	75	37%	85	11%	56	13%
65+ Years of Age	<b>80</b>	<b>5%</b>	41	11%	39	19%	—	—	—	—
White, Non-Hispanic	<b>1,158</b>	<b>67%</b>	255	69%	135	67%	486	65%	282	67%
Minority	<b>578</b>	<b>33%</b>	116	31%	66	33%	256	35%	140	33%
African American	<b>173</b>	<b>10%</b>	42	11%	22	11%	70	9%	39	9%
Hispanic/Latino(a)	<b>186</b>	<b>11%</b>	26	7%	15	7%	92	12%	53	13%
Asian or Pacific Islander	<b>99</b>	<b>6%</b>	24	6%	**	**	42	6%	23	5%
American Indian	<b>222</b>	<b>13%</b>	36	10%	29	14%	97	13%	60	14%
Female	<b>845</b>	<b>49%</b>	152	41%	103	51%	366	49%	224	53%
Male	<b>891</b>	<b>51%</b>	219	59%	98	49%	376	51%	198	47%
High School Education or Lower	<b>1,343</b>	<b>77%</b>	276	74%	152	76%	586	79%	329	78%
<b>Medicaid Coverage</b>										
Average # of Months Receiving Medical Assistance, <i>6 months prior to program enrollment</i>	<b>5.8</b>	—	5.9	—	5.8	—	5.7	—	5.8	—
Medicare/Medicaid Dual Coverage Status, <i>12 months prior to program enrollment</i>	<b>432</b>	<b>25%</b>	217	58%	113	56%	61	8%	41	10%
<b>Physical Health, 12 Months Prior to Program Enrollment</b>										
Average Chronic Disease Burden Score	<b>1.7</b>	—	2.1	—	3.3	—	1.0	—	1.6	—
Met State or Federal Disability Standards	<b>1,238</b>	<b>71%</b>	352	95%	195	97%	369	50%	322	76%
<b>Healthcare Utilization per 1000 Member Months, 6 Months Prior to Program Enrollment</b>										
Number of ED Outpatient Visits	<b>254.0</b>	—	184.7	—	478.3	—	166.9	—	358.5	—
Number of Inpatient Hospitalizations	<b>32.3</b>	—	24.7	—	92.9	—	18.3	—	34.2	—
<b>Behavioral Health Risk Factors, 24 Months Prior to Program Enrollment</b>										
Mental Health Service Need Indicator	<b>1,665</b>	<b>96%</b>	338	91%	193	96%	722	97%	412	98%
Serious Mental Illness Indicator	<b>1,547</b>	<b>89%</b>	306	82%	178	89%	679	92%	384	91%

	ALTSA-AFFILIATED CLIENTS Client received a CARE assessment in last 15 months						HCA-AFFILIATED CLIENTS All other clients			
	All FCS Clients		Supported Employment		Supportive Housing		Supported Employment		Supportive Housing	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
Substance Use Disorder Treatment Need	999	58%	130	35%	125	62%	424	57%	320	76%
Co-Occurring Disorder Treatment Need	849	49%	109	29%	108	54%	344	46%	288	68%

**Use of Other Health and Human Services, 12 Months Prior to Program Enrollment**

Aging and Long-Term Services Administration	530	31%	352	95%	178	89%	—	—	—	—
Developmental Disabilities Administration	47	3%	28	8%	**	**	**	**	**	**
Economic Services Administration	1,533	88%	269	73%	174	87%	672	91%	418	99%
Basic Food	1,471	85%	241	65%	168	84%	648	87%	414	98%
Aged, Blind, or Disabled Cash Assistance (ESA)	315	18%	27	7%	24	12%	115	15%	149	35%
Housing and Essential Needs Referral	194	11%	**	**	**	**	85	11%	98	23%
Temporary Assistance to Needy Families (TANF)	128	7%	**	**	**	**	80	11%	47	11%
Federal Supplemental Security Income (SSI)	514	30%	170	46%	113	56%	133	18%	98	23%
Department of Commerce Housing Services	432	25%	21	6%	43	21%	178	24%	190	45%

**Social Risk Factors, 6 Months Prior to Program Enrollment**

Homeless	405	23%	**	**	35	17%	174	23%	187	44%
Employed	318	18%	23	6%	**	**	220	30%	71	17%
Any Arrests	198	11%	11	3%	12	6%	99	13%	76	18%

\*Data is limited to those who entered the program in the first nine months of program operations and met study inclusion criteria.

\*\*Double asterisks ("\*\*") indicate that cell contents were suppressed due to small numbers (less than or equal to 10).

## TECHNICAL NOTES

### OVERVIEW AND STUDY POPULATION

A total of 1,952 Medicaid clients enrolled in FCS services from January 1, 2018 through September, 30 2018. These individuals were identified using Managed Care Organization (MCO) program enrollment codes "FCSH" (supportive housing) and "FCSE" (supported employment). This population was then restricted to individuals who were: (1) determined to meet FCS needs- and risk-based eligibility criteria based on available administrative data; (2) were 16 or older for supported employment services or 18 or older for supportive housing services at index; (3) received at least one month of medical assistance in the 6 months prior to and following their first month of FCS enrollment; (4) were alive the entirety of the follow-up period; (4) had a known geographic location in the index month; and (5) were correctly linked to their Automated Client Eligibility System (ACES) and ProviderOne records. After applying these restrictions, 1,746 unique FCS enrollees were included in the initial treated population used in the matching process; 1,736 were successfully matched to observations from the pool of potential controls.

FCS enrollees were attributed to AL TSA or HCA based on whether they had received a CARE assessment in the 15 months prior to and including the first month that they enrolled in FCS services. This information was used to develop four distinct treated populations: (1) AL TSA supported employment clients (n = 371); (2) HCA supported employment clients (n = 742); (3) AL TSA supportive housing clients (n = 201); and (4) HCA supportive housing clients (n = 422). We note that a very small proportion (less than 3 percent) of clients grouped in the AL TSA FCS population were affiliated with the DSHS Developmental Disabilities Administration as indicated by a CARE assessment agency type code "HHDD."

### COMPARISON GROUP SELECTION

The matched comparison group was selected from the broader population of Medicaid clients who received qualifying forms of medical assistance during the intake window, met the eligibility criteria applied to the FCS population, and had not enrolled in FCS services as of September 2019. A separate observation was created for each month that an individual was deemed eligible for FCS services to maximize the possibility of identifying a potential match for each FCS enrollee. The index month for each observation in the control group corresponds to the month that an individual was found eligible for inclusion in the comparison group.

We used the MatchIt procedure in R 3.5.0 (R Core Team 2018) to match individuals in the treatment and control groups based on their propensity to receive the treatment (i.e., FCS supportive housing and supported employment services). These propensity score models included individual-level measures such as demographics (age, gender, and race/ethnicity), household characteristics and marital status, educational attainment, prior mental health history, prior behavioral and physical health risk indicators, prior receipt of mental health services, prior social service use (including TANF and Supplemental Security Income receipt), prior inpatient psychiatric hospitalizations, prior inpatient substance use disorder treatment, prior employment, prior earnings, prior arrests, prior housing instability/homelessness, medical coverage type as of index month, and prior health care use. The models also included county/population measures, such as census tract-level unemployment, poverty, and vacancy rates and median gross rent costs as a percentage of the median household income.

In addition to matching clients using propensity scores, we also required exact matching between clients in the treatment and comparison group on several key characteristics:

- Index month (supported employment only),
- Inpatient hospitalization in the prior six months,
- Eligibility for supported employment or supportive housing services based on administrative records,
- One or more ED visits in the prior six months,
- Employment status in the prior six months,
- Homelessness status in the prior six months,
- One or more arrests in the prior six months,
- Dual eligibility as of index month, and
- Third-party health insurance coverage as of index month.

Indicators of the urbanicity of a client's county and census tract of residence were also included as exact match variables to account for regional differences in employment rates, access to behavioral health services, and the availability of FCS services across the state.

The matching ratio was 2:1, with each FCS client matched to two unique observations from the pool of potential controls to increase the statistical power of our analyses. All matching processes were performed within delivery system/service group combinations. We used the absolute standardized mean difference (ASMD) for each of the baseline characteristics selected for the matching process to determine if clients in the treatment and comparison groups were adequately matched. An ASMD score of less than 0.10 was used as an indicator of a well-balanced variable, while an ASMD score between 0.10 and 0.20 indicated adequate matching on the variable in question. Using these criteria, we identified a matched comparison group that was well-balanced on the variables used in the propensity score model and on additional variables not included in the matching process.

The final population for our analyses included 1,736 individuals in the treatment group matched to a comparison group of 3,472 observations (corresponding to 3,180 unique individuals) selected from the pool of potential controls. The calendar year quarter containing an individual's index month was identified as the "index quarter" that was used for employment outcomes including employment rates, earnings, and hours worked. Baseline characteristics were measured over a 12- or 24-month period prior to the index month, while outcomes were measured over a six-month post-period prior to and following the index month. Outcomes for employment were measured over a 2-quarter pre-/post-period that excluded the index quarter.

Following the development of the matched group, all other analyses were conducted using SAS 9.4 (SAS Institute, Cary NC). Difference-in-difference models were estimated using PROC REG to assess the impact of FCS services on client outcomes in the six months prior to and following first service receipt. Because an individual could qualify for inclusion in the comparison group for multiple months and be matched to more than one individual in the treated population, all standard error estimates were adjusted to account for this possibility. Impact analyses were also adjusted for residual post-match differences in baseline characteristics between the treatment and control groups by inclusion of covariates in the difference-in-difference models.

## LIMITATIONS

Selection bias is an inherent threat to the validity of drawing causal inferences from observational data. We mitigate the risk of selection bias by using the propensity score matching with variables derived from the Integrated Client Database (e.g., demographics, employment trajectory, and prior mental health service history) to identify a comparison group that, in the aggregate, closely resembles FCS enrollees. However, unobserved variables related to client engagement, motivation, health status, and level of functioning that are not available in administrative data may influence outcomes in our study population. We are not able to balance treatment and comparison groups on unobservable variables.

We included a series of location-based measures (e.g., urbanicity based on the population density and urban/rural character, population size, and unemployment rates) captured at both the county and census tract levels as matching criteria for selecting the comparison group. Values on these measures were assigned to an individual based on the client's location as of their index month. These measures were included in the model to account for regional or location-based factors that may be related to client-level outcomes. Although the treatment and comparison groups were well-balanced on these measures, the groups were not as well matched on geographic units such as county of residence.

REPORT CONTACT: Alice Huber, PhD, 360.902.0707

VISIT US AT: <https://www.dshs.wa.gov/rda>

## ACKNOWLEDGEMENT

We want to acknowledge the work of our colleagues throughout the research and data analysis division and our partner programs for all the work they do in serving Washington's vulnerable populations.