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HealthConnect Hub Report Long Term Impact of Pathways

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Long-Term Impact of the HealthConnect Hub Pathways Program on Health Care Utilization

December 2022 SWACH Evaluation Report

CORE | Center for Outcomes Research and Education

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CORE
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Executive Summary | December 2022

Background

Southwest Washington Accountable Community of Health (SWACH) has created the HealthConnect Hub to serve as a central care coordination system aimed at advancing whole person health for individuals in their region. The first program to run through the HealthConnect Hub, the Pathways program, began in February 2019.

SWACH partnered with the Center for Outcomes Research and Education (CORE) to evaluate the impact of the Pathways program on participants. **This report details the findings of an analysis of Medicaid claims data to understand the long-term impact of the Pathways program on health care utilization**

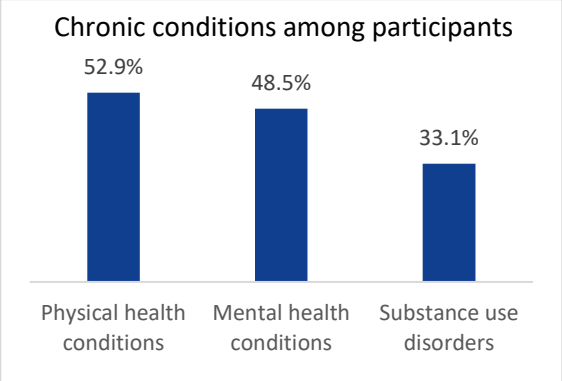
The Pathways Program Model

The Pathways program is an evidence-based approach to care coordination in which partnering Coordinated Care Agencies (CCAs) hire and train a community-based workforce to support program participants in navigating different health care and social services systems to receive the care they need. As needs are identified, the CBWs initiate specific "pathways" toward overcoming those barriers.

Key Takeaways

The Pathways program reached a population with high medical and social needs; however, program participation and needs varied by county.

- **76%** of participants identified a **housing need** at enrollment.
- **76%** of participants had a least one **physical or behavioral health condition**.
- The number of **opened pathways** per person **differed substantially by county**.



Pathways opened per person

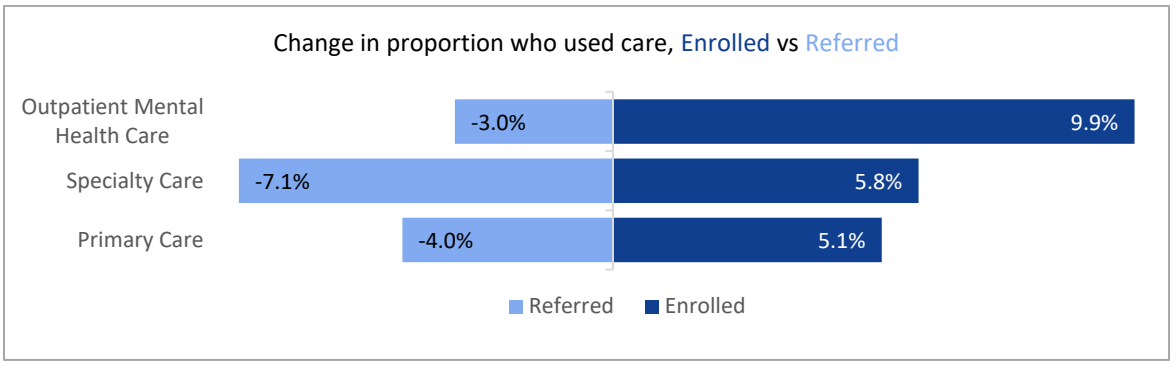
7 Clark County

33 Klickitat County

30 Skamania County

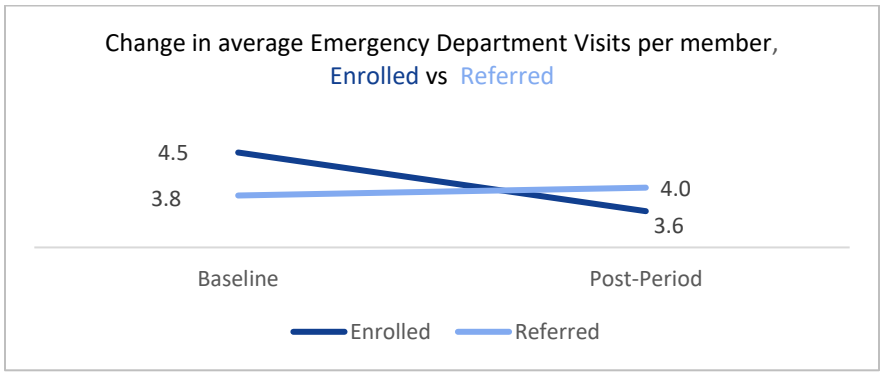
Enrollment in the Pathways program had a positive impact on connection to outpatient care.

Pathways participants showed a **significant increase in the proportion who used outpatient care**, while the those not enrolled experienced a decrease in use of outpatient care.



Enrollment in the Pathways program showed an encouraging trend in decreasing emergency department use.

Pathways participants showed a **trend towards a declining number of emergency department visits** per member per year among those who used care, while emergency department use among those not enrolled remained constant.



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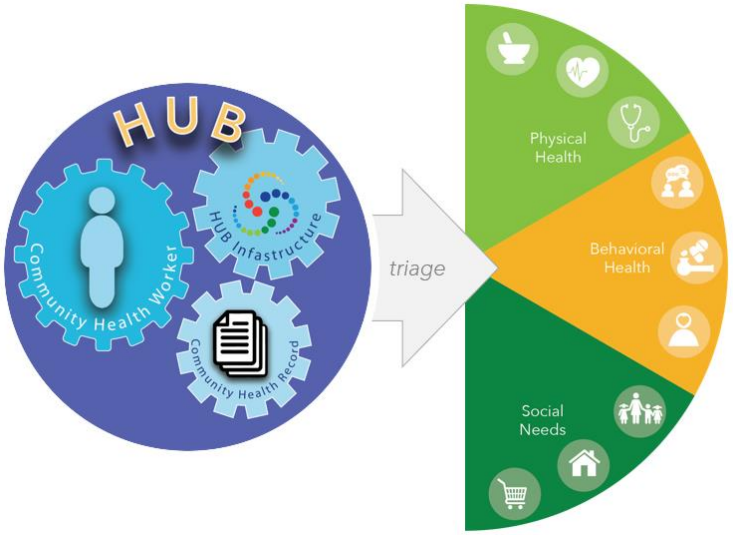
Background

In 2019, the Southwest Washington Accountable Community of Health (SWACH) created the HealthConnect Hub to address the region's siloed health care and social services systems. The HealthConnect Hub serves as a central care coordination system aimed at advancing whole person health by systematically:

- Identifying program participant needs
- Coordinating referrals across physical health, behavioral health, and social services partners
- Providing support in navigating currently fragmented systems

The Pathways program is an evidence-based approach to care coordination in which partnering Coordinated Care Agencies (CCAs) hire and train a community-based workforce (CBW) to support program participants in navigating different health care and social services systems to receive the care they need. As needs are identified, the CBWs initiate specific "pathways" toward overcoming those barriers.



Purpose of this Report

SWACH partnered with the Center for Outcomes Research and Education (CORE) to evaluate a variety of their efforts and initiatives, including understanding the impact of the HealthConnect Hub on program participants. Several programs of varying intensity operate through the HealthConnect Hub; of these, Pathways is currently the most intensive, with program participants often remaining enrolled for several months. Because of this, the Pathways program was identified as potentially benefiting from an evaluation separate from the other programs.

This report details the findings of an analysis of Medicaid claims data to understand the long-term impact of the Pathways program on health care utilization. These findings can be read and interpreted in combination with findings from several other CORE reports that combine program data, interviews with Pathways clients, and Medicaid data to understand the impact of the HealthConnect Hub, including:

- HealthConnect Hub & the Pathways Program (November 2020)
- Understanding the Experiences of Pathways Participants in SW Washington (August 2021)
- Short-Term Impact of the HealthConnect Hub on Health Care Utilization (August 2022)
- Long-Term Impact of the HealthConnect Hub by County (December 2022)

Methods

Evaluation Question

Our main evaluation question for this report is: **How did engagement with the Pathways program impact health care utilization in the year after enrollment?** This report builds off our previous analysis of the short-term impacts of engagement with any program in the HealthConnect Hub. We had hypothesized that the HealthConnect Hub's impact will work in two distinct ways:

- Short-term increase in connection to needed outpatient services, such as primary care, specialty care, or outpatient mental health services. This will result in better chronic condition management, which will in turn lead to…
- Long-term decrease in use of acute care services, such as emergency department visits and inpatient stays.

This report focuses specifically on the Pathways population as this program is more intensive than the others run through the HealthConnect Hub, and therefore has more potential to impact health care utilization.

Study Sample

Our evaluation focuses on adults (18 years of age or older) who were enrolled in both Medicaid and the Pathways program, with data recorded in Care Coordination Systems (CCS), February 2019 through August 2021. Some analyses require a specific length of Medicaid enrollment either before or after engagement in the Pathways program; specific Medicaid enrollment criteria and sample sizes are given in each section.

Health care utilization is strongly susceptible to secular trends; that is, influences unrelated to the program being evaluated that drive changes in utilization over time. The study window for this evaluation includes the COVID-19 pandemic, which had one of the most substantial impacts on health care utilization in recent history. It is therefore critical in the analysis of health care utilization to have a control group that represents the expected changes in health care utilization in the absence of the Pathways program. In order to have a large enough sample size, we defined our control group as all individuals with a status of being referred to any HealthConnect Hub program.

Data Sources & Measures

We used two data sources for this report: CCS data and Medicaid data. Information on Pathways program participants is tracked and recorded through CCS; this includes demographics, health and social/economic needs, and work done with the CBW. This information is, however, less available for individuals who were referred to the HealthConnect Hub but never engaged in the programs.

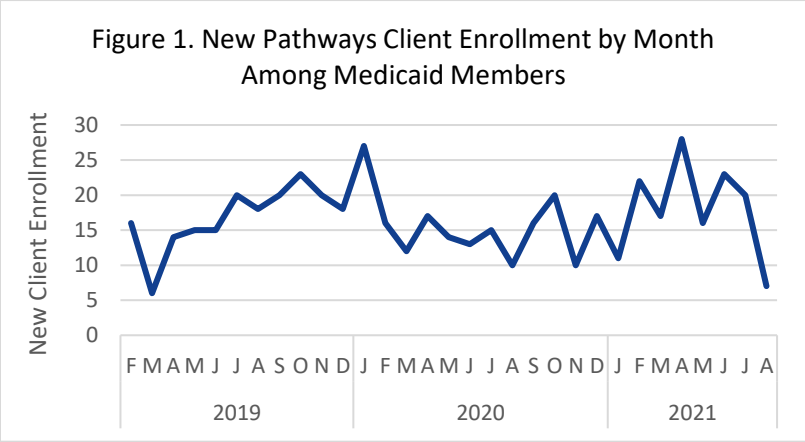
Medicaid enrollment and claims data contain demographics, chronic conditions, and all health care utilization for Medicaid enrollees. Because Medicaid data has more complete information than CCS on demographics and chronic conditions for the control group, we use the Medicaid data in the analysis of changes in health care utilization.

Populations Served by the Pathways Program

The SWACH Pathways Program began enrolling individuals in February 2019. From program launch to August 2021, seven CCAs across the three counties in the SWACH region (Clark, Klickitat, Skamania, in Washington State) served several hundred eligible individuals, connecting them to needed services and care. The following section describes the program details of the **516 individuals enrolled in both the Pathways program and Medicaid during the study window**.

Client Enrollment

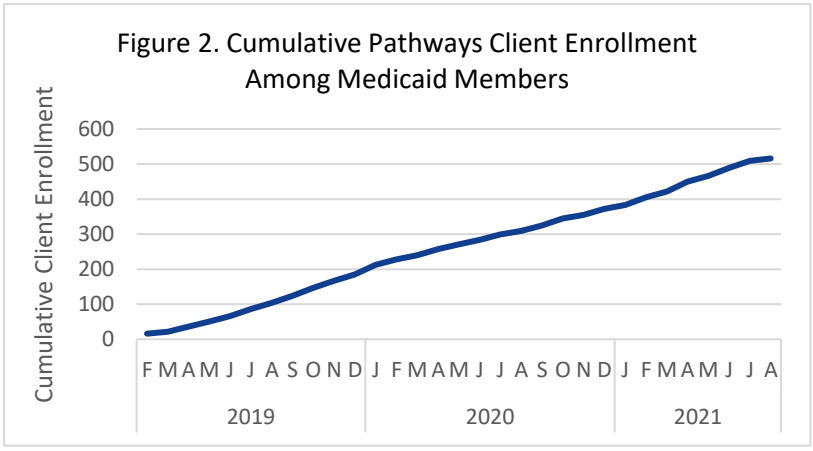
CBWs are constantly enrolling new clients into the Pathways program; every month during the study window showed new client enrollments, with the number of new enrollments fluctuating month-to-month (Figure 1). S



Several factors likely contribute to this variation. First, the total number of CCAs participating in the Pathways program has changed over the course of the study window, with one of the original four CCAs dropping out in 2020, and three other CCAs joining in 2021. In addition to changes in the number of participating CCAs, changes in the number of employed CBWs over time has impacted how many new clients can be contacted and enrolled each month.

Finally, the early months of the COVID-19 pandemic in 2020 presented a number of challenges for the Pathways program and the CBWs, which may be the cause of the decrease in monthly enrollments during that time.

Clients also left the Pathways program – either through graduation or loss to follow-up. However, those leaving the program did so at a much slower rate than new enrollments, leading to a substantial growth over the study period in the total number of clients enrolled at any given time (Figure 2). While some of this increase may have been absorbed by an increasing number of CBWs, this also suggests that CBW caseload has increased over time.



Client Location and CCA

The number of clients served by the Pathways program varied across the three counties (Table 1). As expected, the majority of clients lived in Clark County, the most populous of the counties in the SWACH region. However, compared to the whole adult Medicaid population in the SWACH region, Pathways participants are disproportionately from Klickitat and Skamania. The Medicaid population in the region is:

- 91.9% Clark County
- 5.5% Klickitat County
- 2.6% Skamania County

By contrast, nearly 40% of Medicaid-enrolled Pathways participants are from either Klickitat or Skamania County.

Table 1. County and CCA of 516 individuals enrolled in the Pathways Program, Feb 2019 through Aug 2021

	N	%
County		
Clark	316	61.2%
Klickitat	102	19.8%
Skamania	98	19.0%
CCA		
Community Voices Are Born	75	14.5%
Council for the Homeless*	--	<5.0%
Lifeline Connections	32	6.2%
SeaMar	163	31.6%
SHARE*	--	<5.0%
Skamania County Community Health	120	23.3%
Washington Gorge Action Program	99	19.2%

The number of clients served by the Pathways program also varied across the CCAs, with SeaMar and Skamania County Community Health serving the highest number of clients during the study window. Differences in client enrollment in CCAs has two main causes: length of time as a Pathways CCA and CBW capacity. Both SeaMar and Skamania County Community Health served as Pathways CCAs throughout the entire study window, while many of the other CCAs either stopped participating in the program early or joined after February 2019.

Program Engagement

Individuals enrolling in the Pathways program often have complex medical and social needs that require a significant investment of time to address. They can remain in the program for several months as they work with CBWs to meet these identified needs, and every time an individual is contacted by or interacts with their CBW, this is recorded in CCS.

Nearly half of Pathways participants remained in the program, as determined by the length of time they appeared in the CCS data, for between 2 and 6 months; over one-third remained in the program for more than 6 months (Table 2). Across all participants, the average length of enrollment was just over 6 months.

Table 2. Time (days) in the Pathways program for 516 Medicaid enrollees, Feb 2019 through Aug 2021

	N	%
Days in CCS		
1 day	24	4.7%
1 month or less	52	10.1%
2-6 months	247	47.9%
Over 6 months	193	37.4%
Mean number of days in CCS[‡]	190.5	186.1

[‡]Mean, standard deviation

*In order to protect the anonymity of participants, we suppressed all table cells with less than 10 individuals; in these instances, we indicate that the number is less than 5% of the total sample size. In the case of Council for the Homeless, while the cell had more than 10 individuals, we needed to suppress it to prevent the SHARE cell from be calculable.

Population Demographics

Table 3 gives the demographics of the 516 Medicaid members enrolling in the Pathways program. There was a wide range of ages, with the two largest age groups being 51 – 64 and 18 – 30 years of age. Participants were slightly more likely to be female. The majority were non-Hispanic White and English-speakers.

Overall, the population enrolled in the Pathways program was slightly less racially and ethnically diverse, but still largely mirrored the general adult Medicaid population in the SWACH region, which is:

- 57% Female
- 76% White
- 88% Not Hispanic/Latinx
- 93% English as primary language

Importantly, overall enrollment in the HealthConnect Hub is more racially and ethnically diverse than the Pathways program specifically, and more closely mirrors the SWACH region's Medicaid population:

- 76% White
- 87% Not Hispanic/Latinx

The education, employment, and income data are all self-reported by the program participant and entered into the CCS data system by the CBW. Each variable had approximately 5% to 10% missing.

The majority of the population enrolled in Pathways had a high school diploma/GED or less, and 4 out of every 5 participants were unemployed. Almost all participants had a yearly income less than $25,000; half had a yearly income less than $5,000. For comparison, the median income for an individual living in the SWACH region ranges from $27,441 in Klickitat County to $37,704 in Clark County.

*Asian and Pacific Islander (including Native Hawaiian) were combined to ensure that cell sizes were over 10. Likewise, Spanish was placed in the Other category rather than being presented alone because its cell size was less than 10.

Percentages for education, employment, and income do not add to 100 because of missing data.

Table 3: Demographics of 516 individuals enrolled in the Pathways Program, Feb 2019 through Aug 2021.*

	N	%
Age at entry		
18 – 30 years	138	26.8%
31 – 40 years	107	20.8%
41 – 50 years	84	16.3%
51 – 64 years	149	28.9%
65 years and older	37	7.2%
Gender		
Female	284	55.0%
Male	232	45.0%
Race/Ethnicity		
AI/AN	26	5.0%
Asian/Pacific Islander	11	5.7%
Black	28	5.4%
Other	24	4.7%
White	427	82.8%
Hispanic	35	6.8%
Primary Language		
English	466	90.3%
Russian	29	1.2%
Other	21	8.5%
Education		
Less than high school diploma	146	28.3%
High school diploma/GED	174	33.7%
Some college	78	15.1%
Vocational/2-year degree	31	6.0%
4-year degree or more	26	5.0%
Employment		
Employed	78	15.1%
Unemployed	409	79.3%
Income		
$0-$5,000	258	50.0%
$5,001-$10,000	100	19.4%
$10,001-$15,000	46	8.9%
$15,001-$20,000	19	3.7%
$20,001-$25,000	14	2.7%
More than $25,001	20	3.9%

AI/AN: American Indian or Alaskan Native

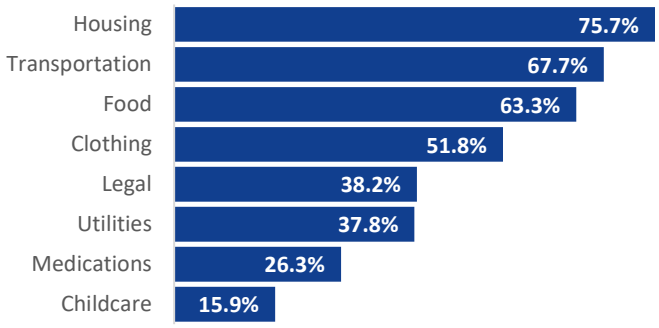
Needs Identified & Met

Client Needs

Individuals entering the Pathways program often have many complex social needs. At intake, the CBW completes an initial checklist that covers the participants' history and health, social, and economic needs (Figure 3).

Among the 516 Medicaid members enrolled in Pathways during the study window, three-quarters identified housing as a top need; this was followed by transportation need, which was indicated by two-thirds of participants.

Figure 3. Top Social Needs for Individuals Enrolled in Pathways



Client Pathways

CBWs opened over 13,000 pathways to address the needs of their 516 clients (Table 4). The most commonly opened pathways were education and social service referral, which accounted for over 80% of all pathways opened. The next most commonly opened pathway, medical referral, accounted for just 6% of all pathways.

Table 4: Most commonly opened and closed complete pathways*: Feb 2019 to Aug 2021.

	Opened Pathways	Closed - Complete	Closed - Complete %	Days to complete
Education	6747	6028	89.3%	2
Social Service Referral**	4255	2067	48.6%	16
Medical Referral	817	381	46.6%	58
Tobacco Cessation	298	4	1.3%	112
Housing	238	61	25.6%	119
Medical Home	229	80	34.9%	61
Behavioral Health	213	59	27.7%	65
Medication Assessment	170	40	23.5%	24
Employment	140	22	15.7%	65
Health Insurance	77	25	32.5%	23
Adult Learning	66	7	10.6%	172
Pregnancy	19	4	21.1%	83
Family Planning	15	5	33.3%	35
Medication Management	11	3	27.3%	55

*Four pathways were not included in the table because they were opened so few times: developmental referral, postpartum, lead, and immunization referral. These pathways accounted for less than 0.1% of all pathways opened.

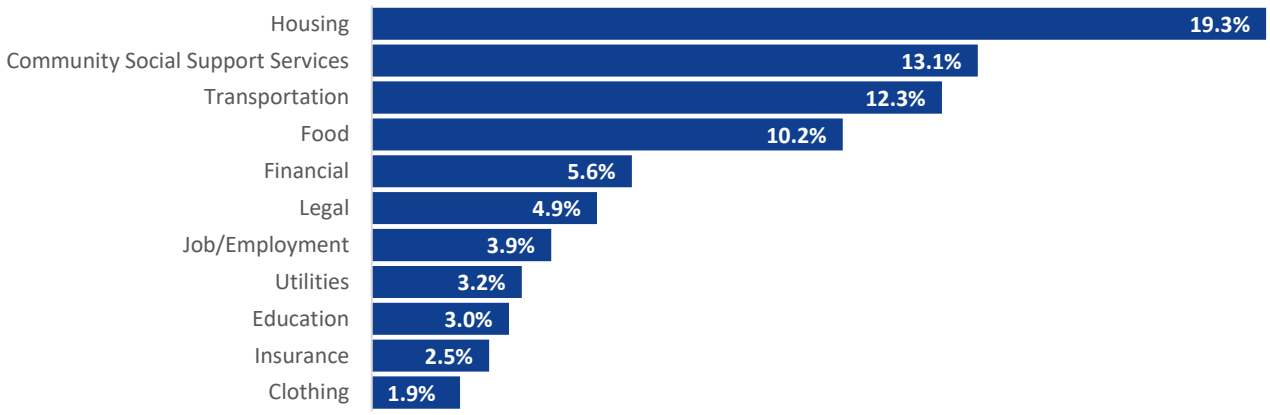
**There were likely more social service pathways closed complete. Towards the beginning of the Pathways program, one CBW had challenges marking the social service pathways as closed in the data platform, and as a result, over 600 closed complete pathways were incorrectly coded.

Each pathway has a specific outcome that must be achieved for the pathway to be considered closed complete. For example, to close a social service referral pathway as complete, clients must be successfully referred to a social service agency that can help address their specific social service need; to close the housing pathway complete, clients must obtain stable housing for at least 30 days. Pathways that do not achieve their specific outcome either remain open or are closed incomplete.

There was wide variability in both the percent of pathways closed complete and the length of time it takes to close a pathway by type of pathway (Table 4). The education pathway was closed complete almost 90% of the time; in contrast, most other pathways were closed complete less than one-third of the time. The length of time to closing a pathway complete ranged from almost immediately (education) to over three months (housing, tobacco cessation, adult learning).

CBWs can open the social services pathway to help their clients with a variety of different types of needs. The most commonly sought social service was housing assistance (Figure 4); this is aligned with housing being the most commonly identified need.

Figure 4. Most commonly sought assistance in the social services pathway: Feb 2019 to Aug 2021



We were further interested in understanding if there were differences in the pathways opened by county or by length of enrollment in the Pathways program.

Although the majority of Pathways program participants lived in Clark County, CBWs in this county opened the least number of pathways (2,223 vs 3,357 in Klickitat County and 2,949 in Skamania County). This resulted from a substantial difference in the average number of pathways opened per person between the three counties:

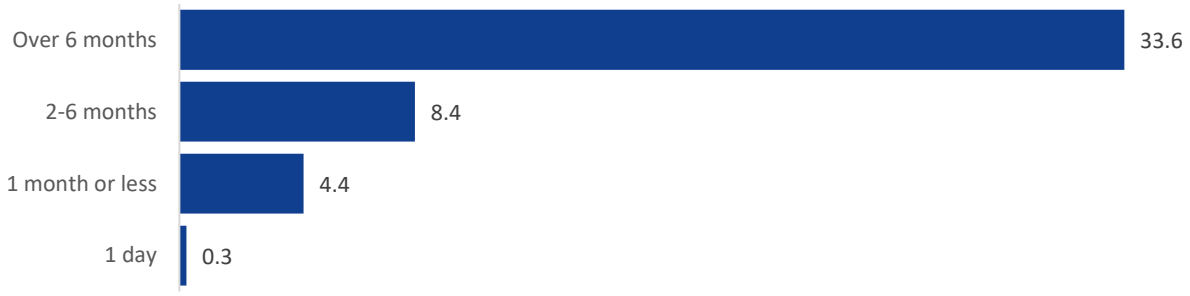
- Clark County: 7 pathways opened per program participant
- Klickitat County: 33 pathways opened per program participant
- Skamania County: 30 pathways opened per program participant

There were also differences in the types of pathways opened. In both Skamania and Klickitat Counties, the education pathway accounted for three-quarters of all pathways opened; in Clark County, it accounted for only half of all pathways opened. By contrast, the social services referral, medical referral, housing, medical home,

and behavioral health pathways all made up a greater proportion of the pathways opened in Clark County than in the other two counties.

Similar to the differences in the average number of pathways opened per person across the three counties, there were differences in the average number of pathways opened per person by length of enrollment in the Pathways program (Figure 5).

Figure 5. Average number of pathways opened per person by length of Pathways Program enrollment: Feb 2019 to Aug 2021



There was a positive association between the number of pathways opened per person and length of time in the Pathways program, with individuals enrolled in the program for longer having more pathways opened. Approximately 5% of enrolled individuals were only present in the CCS data for a single day; most of these individuals did not have pathways opened for them. Those enrolled for over 6 months had a substantially higher number of pathways opened on average than all other categories; they had approximately 4 times as many pathways opened as those enrolled for between 2 and 6 months.

This suggests that individuals who were enrolled in the Pathways program for a longer period of time likely also had more varied and/or complex needs for the CBW to address.

Health and Health Care Utilization

Enrollment in the Pathways program is meant to connect individuals to needed social and health care services. We were therefore interested in understanding the impact of Pathways enrollment on health care utilization, and especially acute health care utilization (emergency department visits and inpatient stays). Accurately exploring this impact requires the use of a control group to account for secular trends in health care use. We defined our **control group as all individuals enrolled in Medicaid with a status of referred in any HealthConnect Hub program (N=278).**

Chronic Conditions

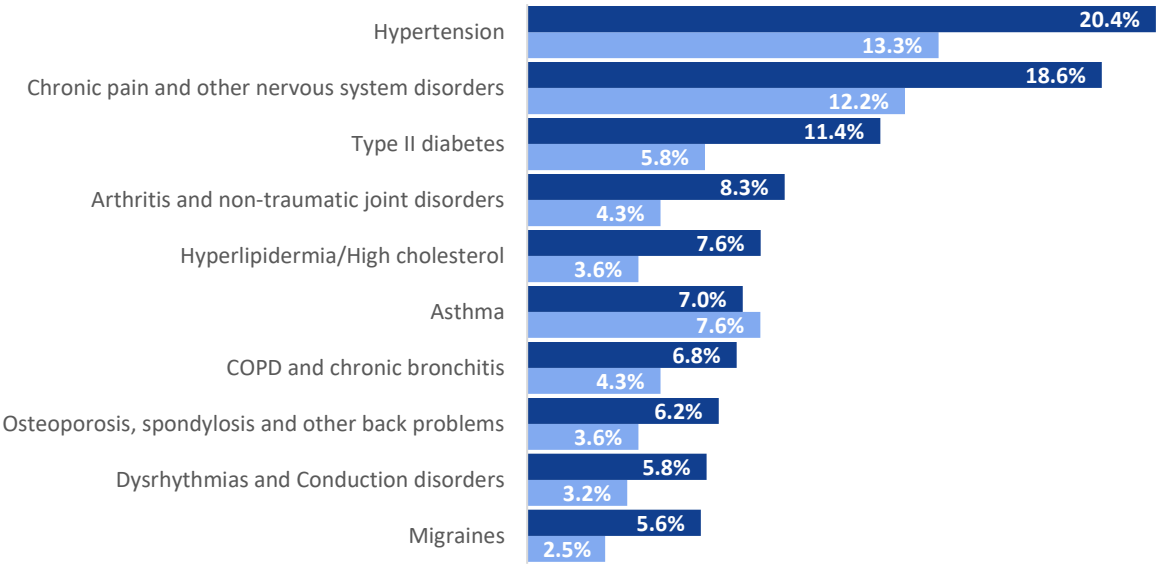
In order to understand the impact of the Pathways program on health care utilization, we first explored the health burden of enrolled and referred individuals, as defined by their chronic condition diagnoses in the Medicaid data.

Both groups had high rates of having at least one chronic condition, although this was higher in the enrolled group (76.4%) than the referred group (63.3%). This pattern held for all three types of chronic conditions, although it was strongest for mental health conditions:

- Physical Health Conditions: 52.9% in the enrolled group vs 43.2% in the referred group
- Mental Health Conditions: 48.5% in the enrolled group vs 36.0% in the referred group
- Substance Use Disorders: 33.1% in the enrolled group vs 29.5% in the referred group

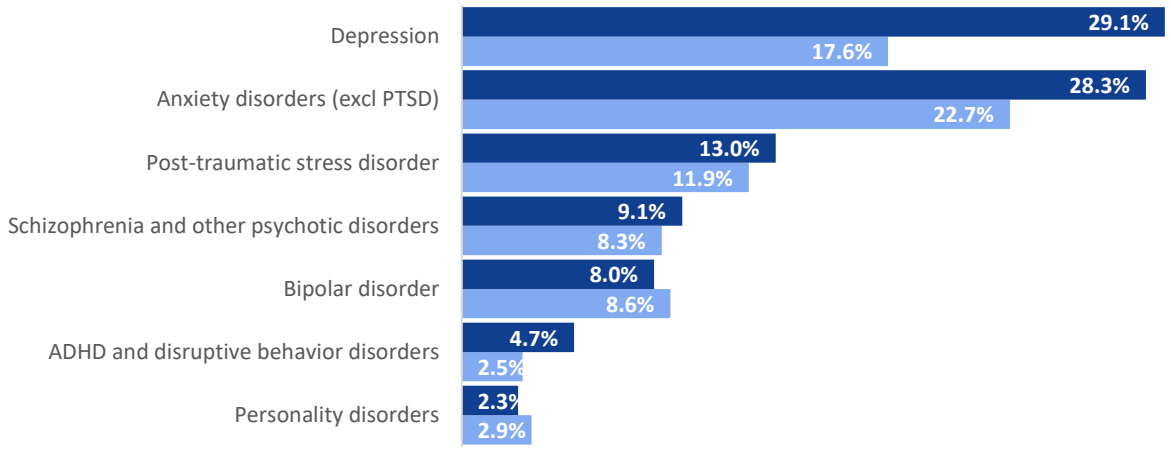
This pattern held true for many individual chronic conditions as well. Among physical health conditions, the most common diagnoses in both groups were hypertension and chronic pain (Figure 6); among the top ten conditions, only asthma was equally prevalent in both the enrolled and referred groups.

Figure 6. Top physical health conditions for the Enrolled (N=516) and Referred (N=278) groups: Feb 2019 to Aug 2021



Among mental health conditions, the most common diagnoses in both groups were depression and anxiety (Figure 7); both conditions were more commonly diagnosed among those enrolled in the Pathways program than the referred group. However, this pattern did not hold true for the remaining top mental health diagnosis, which were equally prevalent between the two groups.

Figure 7. Top mental health conditions for the Enrolled (N=516) and Referred (N=278) groups: Feb 2019 to Aug 2021



Long-term Changes in Utilization

The analysis of long-term health care utilization is limited to individuals with at least 6 months of Medicaid enrollment before and after their enrollment or referral date in order to ensure stable health care utilization estimates. There are therefore **395 individuals in the enrolled group and 198 in the referred group**.

Table 5 gives the proportion of individuals in each group who had each type of visit in the year before and the year after enrollment or referral. In both groups, individuals had high levels of engagement with the health care system, with over 90% in each group having at least one interaction with a health care provider in the baseline and post periods.

Table 5: Long-term changes in health care utilization among the Enrolled (N=395) and Referred (N=198) groups: Feb 2019 – Aug 2021.

	Enrolled			Referred Group				p-
	Baseline	Post	Change	Baseline	Post	Change	Difference	value
Any visit	96.2%	96.2%	0.0%	93.9%	91.9%	-2.0%	2.1%	0.478
Primary Care	78.2%	83.3%	5.1%	71.2%	67.2%	-4.0%	9.6%	0.079
Specialty Care	45.1%	50.9%	5.8%	44.4%	37.4%	-7.1%	12.8%	0.033
Outpatient Mental Health	38.0%	47.8%	9.9%	25.3%	22.2%	-3.0%	11.8%	0.031
Emergency Department	54.2%	53.9%	-0.3%	55.6%	49.0%	-6.6%	6.3%	0.286
Inpatient	14.4%	13.7%	-0.8%	11.6%	12.1%	0.5%	-0.3%	0.950
Dental Care	24.3%	31.9%	7.6%	24.2%	24.2%	0.0%	7.6%	0.155

Adjusted for age, gender, race/ethnicity, language, and medical complexity

Among the enrolled group, connection to outpatient health care (primary, specialty, and outpatient mental health) increased, with a greater proportion of individuals accessing this type of care after enrollment in the Pathways program. This is in contrast to the referred group, which experienced a decrease in connection to all three types of outpatient care from baseline to the post-period. These significant differences highlight the importance of the Pathways program – and the CBW – in helping individuals connect with outpatient care.

In contrast, we did not observe any significant differences in the proportion of individuals accessing either form of acute care (emergency department, inpatient stay) or dental care.

We also assessed changes in the average amount per member per year (PMPY) of each type of care individuals received, among those who received care. While not statistically significant, both inpatient stays and emergency department visits showed encouraging trends, decreasing from baseline to post-period in the enrolled group while remaining constant or increasing in the referred group (Figures 8 & 9).

In contrast, we did not observe any difference in the amount of any type of outpatient or dental care used between the two groups (Appendix).

Taken together, the increase in the proportion of individuals accessing outpatient care without a corresponding increase in the amount of care used suggests that the enrolled and referred group may need similar types of care, but the enrolled group is more likely to be connected to that needed care through enrollment in the Pathways program. This increased connection to needed services may then result in better chronic condition management, which ultimately results in the positive trend we see with decreasing use of acute care in the enrolled group.

Figure 8. Change in Inpatient Stays PMPY, Enrolled (N=395) vs Referred (N=198)

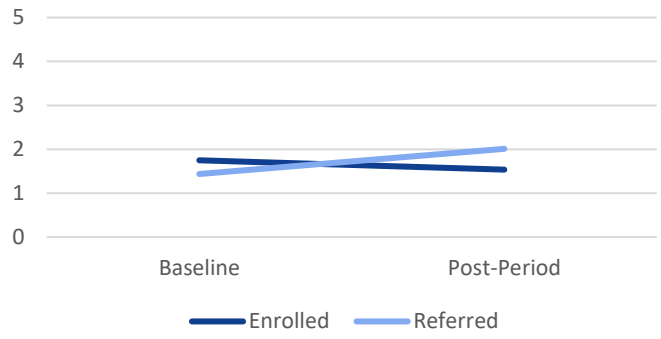
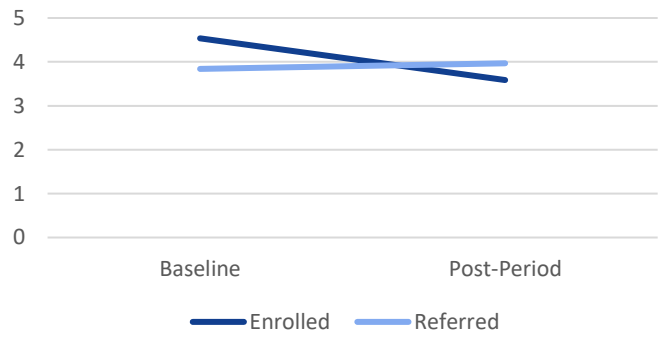


Figure 9. Change in Emergency Department Visits PMPY, Enrolled (N=395) vs Referred (N=198)



Long-Term Changes in Utilization: Clark County

We were further interested in understanding if the long-term impact of the Pathways program on health care utilization was different based on county; however, only Clark County had a large enough sample size to allow for a sub-analysis. **There are 216 individuals in the enrolled group and 118 in the referred group.**

Table 6 gives the proportion of individuals in each group who had each type of visit in the year before and the year after enrollment or referral. Similar to the overall results for the SWACH region as a whole, over 90% of individuals in both the enrolled and referred groups had at least one interaction with a health care provider in the baseline and post periods.

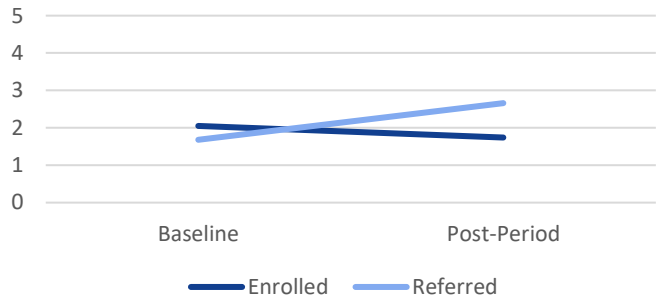
Table 6: Long-term changes in health care utilization among the Enrolled (N=216) and Referred (N=118) groups in Clark County: Feb 2019 – Aug 2021.

	Enrolled			Referred Group				p-
	Baseline	Post	Change	Baseline	Post	Change	Difference	value
Any visit	96.3%	95.4%	-0.9%	94.1%	93.2%	-0.8%	-0.1%	0.973
Primary Care	74.5%	80.1%	5.6%	73.7%	69.5%	-4.2%	9.8%	0.173
Specialty Care	44.9%	52.8%	7.9%	48.3%	36.4%	-11.9%	17.9%	0.024
Outpatient Mental Health	37.0%	44.4%	7.4%	23.7%	19.5%	-4.2%	10.3%	0.135
Emergency Department	54.2%	54.2%	0.0%	45.8%	45.8%	0.0%	-0.5%	0.948
Inpatient	16.2%	13.4%	-2.8%	6.8%	10.2%	3.4%	-5.0%	0.315
Dental Care	24.5%	33.8%	9.3%	28.0%	24.6%	-3.4%	12.4%	0.081

Adjusted for age, gender, race/ethnicity, language, and medical complexity

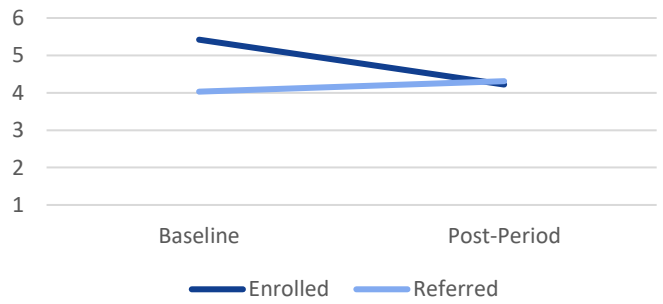
While the trends for use of ambulatory care follow the same pattern as the overall SWACH region, the association with increased connection to primary care and outpatient mental health care is no longer statistically significant when looking at Clark County alone. In contrast, the association between engagement in Pathways and connection to specialty care is stronger in Clark County than the overall region. Likewise, there is an association between Pathways engagement and proportion who used dental care in Clark County; this is driven primarily by greater connection to diagnostic and treatment dental services.

Figure 10. Change in Inpatient Stays PMPY in Clark County, Enrolled (N=216) vs Referred (N=118)



Similar to the Pathways population in the overall SWACH region, there were no significant differences in the proportion of individuals in either group using either form of acute care.

Figure 11. Change in Emergency Department Visits PMPY in Clark County, Enrolled (N=216) vs Referred (N=118)



Figures 10 and 11 give the change in the average amount per member per year (PMPY) of inpatient stays and emergency department visits among those who received care in Clark County. While not statistically significant, both inpatient stays and emergency department visits showed encouraging trends, decreasing from baseline to post-period in the enrolled group while remaining constant or increasing in the referred group. This was a similar pattern, but in fact a stronger trend for decreased emergency department use, when compared to the SWACH region as a whole.

Similar to the overall SWACH region, we did not observe any difference in the amount of any type of outpatient or dental care used between the two groups.

Conclusion & Recommendations

Conclusions

In the United States, health care and social services systems are highly siloed, resulting in complex systems that are difficult to navigate. The Pathways program specifically addresses this challenge through community-based care coordination that supports program participants in navigating different health care and social services systems to receive the care they need. Beginning in 2019, SWACH implemented the Pathways program through their HealthConnect Hub in an effort to promote whole-person health in their region.

Pathways program participants had high levels of social and health needs: 4 in 5 were unemployed; almost all had an annual income less than $25,000, three-quarters reported needing support with housing; and three-quarters had been diagnosed with at least one chronic health condition. The CBWs played a critical role in addressing these varied concerns, opening multiple pathways per participant and supporting the majority of participants for multiple months.

Unsurprisingly, these high levels of social needs and health burden translated into high levels of health care utilization, with almost everyone in both groups having interacted with a provider in the baseline year, and over 50% of participants having had at least one emergency department visit, and nearly 15% having had an inpatient stay, in the previous year.

In the year after enrollment in the Pathways program, participants showed a greater connection to all forms of outpatient care. In terms of the amount of care received, both inpatient stays and emergency department visits showed encouraging – but not statistically significant – trends, with individuals who engaged in the Pathways program having less visits in the year after engagement than at baseline.

Recommendations

To realize the potential benefits of the Pathways program, the following recommendations should be considered as SWACH continues to grow and sustain the program:

1. **Continue to identify successful strategies to engage traditionally underserved communities.** While data in this report highlight SWACH's success in reaching several priority populations (e.g., individuals struggling with housing, individuals with complex health needs), Pathways program participants are largely White and English-speaking, which generally reflects the Medicaid population in the region. This suggests that SWACH may need to continue trying new strategies in addition to continuing successful ones, including partnering with community organizations that serve marginalized and/or historically oppressed racial and ethnic groups and recruiting CBWs representative of these communities they serve, to facilitate better outreach to these groups.

2. **Consider CBW sustainability models that take into account the varying levels of participant need and geographic context.** The exploration of the type and number of pathways opened per person presented in this report demonstrates that needs varied across participants and across counties, and this directly impacts how many pathways are opened, how long an individual remains enrolled in the program, and, most critically, CBW workload. Continuing to ensure that the supports available to CBWs – including payment models, trainings and technical assistance, and professional development – allow for this variation, is key to ensuring that the CBW can successfully meet the needs of their clients without burning out.

3. **Increase understanding of why program participants use the emergency department.** Individuals enrolled in the Pathways program had high levels of acute care, with over 50% having used the emergency department at least once in the year before enrollment and this proportion remaining relatively constant even after engaging with the program. Further, the amount of emergency department visits among those who used care was substantial, averaging over 4 visits per person at baseline.

   Individuals use the emergency department for multiple reasons beyond emergent needs, including not having a primary care provider, having difficulty accessing primary care appointments, having greater trust in receiving quality care at an emergency department, or using the emergency department to address social needs. Because there are so many different reasons someone may use the emergency department, a *one size fits all* approach to diverting individuals to more appropriate outpatient care is unlikely to be successful. Understanding the factors driving these high rates of emergency department use among this population will therefore allow SWACH and the CBWs to better support individuals in using appropriate outpatient care.

4. **Ensure and sustain the collection of high-quality data.** This report identified potential data quality issues with data collected in CCS. There was substantial missing data for several sociodemographic fields. In some instances, we were able to mitigate this concern by using information from Medicaid enrollment files; for example, we relied entirely on Medicaid for race/ethnicity and language information. However, this was not possible for variables such as income, education, and employment, which are not collected in the Medicaid data. In order to address these issues, SWACH may wish to consider reducing the data collection burden on CBWs. Streamlining the initial needs assessment to include only essential questions may help to improve data quality, and flagging potential problem areas for ongoing training for CBWs may serve to ensure clarity around the questions asked and data collected.

Appendix

Comparability of the Enrolled and Referred Population

The primary goal of this report was to understand the long-term impact of the Pathways program on health care utilization among Medicaid enrollees in Southwest Washington. Because health care utilization is so susceptible to secular trends, it is necessary to have a comparison group for this type of analysis; and it is helpful to understand any differences between program participants and the comparison group at baseline. We therefore assessed the demographic makeup of the referred group, and compared it to those enrolled in the Pathways program.

Compared to the referred group, individuals enrolled in the Pathways program were:

- Older
- More likely to be male
- More likely to be Non-Hispanic White
- More likely to be Russian-speakers
- More likely to live in Klickitat and Skamania Counties

These differences, along with the differences in prevalence of chronic conditions described previously in the report, were accounted for in the analysis; our models were adjusted for age, gender, race/ethnicity, language, and medical complexity.

Supplemental Figures and Tables

The following supplemental figures (A1 – A3) show the change in the average per member per year visits among individuals who used care for the three types of ambulatory care: primary care, specialty care, and outpatient mental health care. As stated in the report, there is no difference in the change in outpatient care from baseline to the post-period between the enrolled and referred groups. For both primary and specialty care, among those who use care, the enrolled group had a higher average number of visits per person at baseline, and remained higher into the post-period.

In contrast, the enrolled group had a higher average number of outpatient mental health visits per person at baseline and this decreased over time, while the average number of outpatient mental health visits per person in the referred group increased from the baseline to post-period. However, despite appearing as a positive trend, this change was not statistically significant.

When looking only at program participants in Clark County, we observe the same general patterns for primary and specialty care. For outpatient mental health care, the amount of care used by the enrolled group increases over time; however, this change is not statistically significant from what is observed in the referred group.

Figure A1. Change in Primary Care Visits PMPY, Enrolled (N=395) vs Referred (N=198)

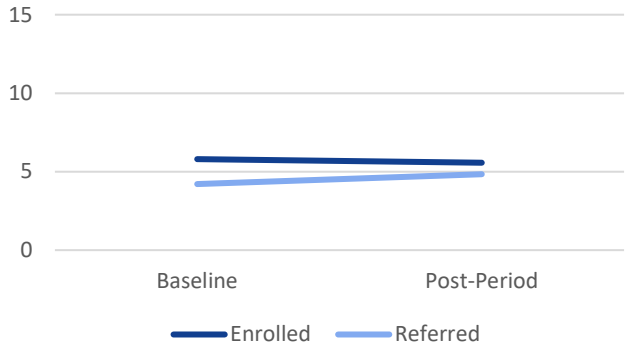


Figure A2. Change in Specialty Care Visits PMPY, Enrolled (N=395) vs Referred (N=198)

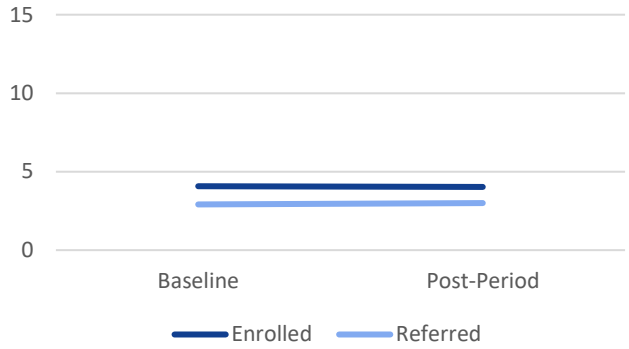


Figure A3. Change in OPMH Visits PMPY, Enrolled (N=395) vs Referred (N=198)