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# **Full Service Partnership (FSP) Outcomes**

## **Findings from 2017-2018 Fiscal Year**

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JUNE 2019

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## Executive Summary

Full Service Partnerships (FSPs) are a set of enhanced, integrated services administered through San Mateo County contracted providers to assist individuals with mental and behavioral health challenges. American Institutes for Research (AIR) is working with San Mateo County (“the County”) to understand how enrollment in an FSP promotes resiliency and improved health outcomes of individuals living with mental illness served by an FSP (hereafter referred to as “partners”).

This report shows outcomes for child, transitional age youth (TAY), adult, and older adult clients (hereafter referred to as “partners”) of the Full Service Partnership (FSP) program in San Mateo County using FSP program survey data and Avatar data, San Mateo County’s electronic health records (EHR) system.

Exhibit 1, below, presents the percent improvement between the year just prior to FSP and the first year with FSP, by age group. Percent improvement is the percent change in the percent of partners with any events. For example, the percent of adult partners experiencing homelessness changed from 91% before FSP to 58% in the first year with FSP, a 36.3% improvement.

In sum, the findings from self-reported outcomes (survey data) suggest that the vast majority of the outcomes improve (27 of 32 outcomes) for all reported age groups. As can be seen in Exhibit 1, there are improvements comparing the year prior to FSP to the first year of FSP for partners in all age groups for the following self-reported outcomes: arrests, mental health emergencies, and physical health emergencies. In addition, for children and TAY partners, school suspensions decrease, and for adult partners, the percent with any employment increases. Further, fewer adult and older adult partners have an active substance abuse problem and are receiving substance abuse treatment. Finally, the percent of TAY and adult partners with an episode of detention or incarceration decreases.

However, there are five outcomes for which there is no improvement. First, for TAY partners, grade ratings decrease, and homelessness increases slightly (less than 10%). Second, for child partners, grade rating and attendance decrease. The proportion of children who are incarcerated increases in the first year of FSP. However, the increase in incarceration is relatively small (26 in the first year with FSP compared to 22 in the year just prior) when compared to the decrease in arrests (9 in the first year with FSP compared to 24 in the year just prior) among child partners.

Moreover, the main finding from the hospitalization outcomes (EHR data) is that, compared to the year before joining an FSP, there are reductions in the percent of partners with any hospitalization, mean hospital days per partner, percent of partners using any PES, and mean PES event per partner. The only exception is that the mean hospital days for older adults increase by about one day which is likely be attributed to other medical conditions as both the hospitalization and PES incidence decrease significantly. Also, for all cohorts, the reductions are consistently observed over the years since the inception of the FSP program.

**Exhibit 1: Percent Improvement in Outcomes by Age Group, Year before FSP Compared with First Year with FSP**

FSP Outcomes <i>Self-reported Outcomes</i>	Adult (25 to 59 years) N = 346			Older adult (60 years & older) N = 59		
	<i>Yr before</i>	<i>Yr after</i>	<i>change</i>	<i>Yr before</i>	<i>Yr after</i>	<i>change</i>
<b>Homelessness</b>	91	58	36.3%	3	8	N/A
<b>Detention or Incarceration</b>	61	43	29.5%	3	5	N/A
<b>Employment</b>	35	44	25.7%	4	2	N/A
<b>Arrests</b>	52	6	88.5%	3	0	N/A
<b>Mental Health Emerg.</b>	151	57	62.3%	13	7	46.2%
<b>Physical Health Emerg.</b>	83	26	68.7%	18	12	33.3%
<b>Active S.A. Problem</b>	268	171	36.2%	44	18	59.1%
<b>S.A. Treatment</b>	184	62	66.3%	39	6	84.6%
<i>Healthcare Utilization (EHR data)</i>	Adult (25 to 59 years) N = 298			Older adult (60 years & older) N = 44		
	<i>Yr before</i>	<i>Yr after</i>	<i>change</i>	<i>Yr before</i>	<i>Yr after</i>	<i>change</i>
<b>Hospitalization (N)</b>	116	54	53%	12	6	50%
<b>Hospital Days per partner</b>	12.1	3.5	71%	4.5	5.4	20%
<b>PES (N)</b>	160	114	29%	15	7	53%
<b>PES Event per partner</b>	1.8	1.0	45%	0.7	0.2	68%

FSP Outcomes <i>Self-reported Outcomes</i>	Child (16 years and younger) N = 148			TAY (17 to 25 years) N = 202		
	<i>Yr before</i>	<i>Yr after</i>	<i>change</i>	<i>Yr before</i>	<i>Yr after</i>	<i>change</i>
<b>Homelessness</b>	8	6	25%	24	26	8%
<b>Detention or Incarceration</b>	22	26	18%	31	29	6%
<b>Arrests</b>	24	9	63%	54	19	65%
<b>Mental Health Emerg.</b>	57	7	88%	84	23	73%
<b>Physical Health Emerg.</b>	13	0	100%	51	5	90%
<b>Suspension</b>	38	19	50%	21	5	76%
<b>Grade</b>	3.28	2.95	10%	3.17	3.11	2%
<b>Attendance</b>	2.25	1.85	18%	2.26	2.39	5%
<i>Healthcare Utilization (EHR data)</i>	Child (16 years and younger) N = 198			TAY (17 to 25 years) N = 164		
	<i>Yr before</i>	<i>Yr after</i>	<i>change</i>	<i>Yr before</i>	<i>Yr after</i>	<i>change</i>
<b>Hospitalization (N)</b>	10	3	70%	23	18	22%
<b>Hospital Days per partner</b>	1.3	0.1	91%	4.8	2.8	41%
<b>PES (N)</b>	47	22	53%	71	49	31%
<b>PES Event per partner</b>	0.5	0.2	54%	1.0	0.8	22%

Hospitalization Outcomes	Overall	Range (Partnerships Beginning 2006 – 2015)
<i>Healthcare Use (EHR data, N= 704)</i>		
<b>Partners with Hospitalizations</b>	50%	26% – 71%
<b>Mean Hospital Days</b>	64%	(7%) – 83%
<b>Partners with PES</b>	34%	13% – 58%
<b>Mean PES Events</b>	42%	12% – 64%

\* The table above indicates the percent change in the percent of partners with any events, comparing the year just prior to FSP with the first year on FSP. Percent change in ratings indicates the change in the average rating for the first year on the program as compared to the year just prior to FSP. Value of N/A means a change is not reported due to insufficient sample size (fewer than 10 observations).

\*\* These outcomes are presented overall for all clients as well as by year of partnership; the range presented is from the lowest to highest percent changes among the calendar years.

\*\*\*Red font indicates outcomes that are not improved.

## Background and Introduction

The Mental Health Services Act (MHSA) was enacted in 2005 and provides a dedicated source of funding to improve the quality of life for individuals living with mental illness; a large component of this work is accomplished through Full Service Partnerships (FSP). FSP programs provide individualized integrated services, flexible funding, intensive case management, and 24-hour access to care (“whatever it takes” model) to help seriously mentally ill adults, children, transition-age youth and their families on their path to recovery and wellness. In San Mateo County (the County) there are currently four comprehensive FSP providers, Edgewood Center and Fred Finch Youth Center serve children, youth and transition age youth and Caminar and Telecare serve adults and older adults.

As part of San Mateo County’s implementation and evaluation of the FSP programs, American Institutes for Research (AIR) is working with the County to understand how enrollment in the FSP is promoting resiliency and improved health outcomes of County’s clients living with a mental illness. The data used for this report are collected by providers via self-report from the partners as well as electronic health records (EHR) data obtained through the County’s Avatar system. Note that self-reported data for this year is available only for adult and older adult partners (Caminar and Telecare). This is because the providers working with younger partners had technical difficulties entering data into the system.

Initial survey data are collected via an intake assessment, called the Partnership Assessment Form (PAF), which includes information on wellbeing across a variety of measures (e.g., residential setting), at the start of FSP and over the twelve months just prior. While a partner, survey data on partners is gathered in two ways. Life changing events are tracked by Key Event Tracking (KET) forms, which are triggered by any key event (e.g., a change in residential setting). Partners are also assessed regularly with Three Month (3M) forms. Changes in partner outcomes are gathered by comparing data on PAF forms to data compiled from KET and 3M forms.

EHR data collected through the SMC Avatar system contain longitudinal partner-level information on partner demographics, FSP program participation, hospital stays, and PES uses before and after the enrollment date within the SMC health system. The Avatar system is limited to individuals who obtain care in the San Mateo county health system. Hospitalizations outside of San Mateo County, or in private hospitals, are not captured.

The following report will explore how the first year with FSP differs from the year just prior to joining the FSP program, for child, transitional age youth (TAY), adult, and older adult individuals who complete at least one full year with FSP. Then, we present trends in EHR data overall and over time, by year of FSP program enrollment.

Appendix A presents additional detail on residential outcomes. Outcomes for individual FSP providers can be found in Appendix B. Details on our methodology for both the FSP outcomes and hospitalization outcomes can be found in Appendix C.

## Self-reported outcomes

The following section presents outcomes for the 148 child (aged 16 and younger) FSP partners, 202 TAY (aged 17 - 25) FSP partners, 346 adult (aged 26-59) FSP partners, and the 59 older adult (aged 60 and older) FSP partners. The results described compare the first year on FSP to the year just prior to FSP for partners completing at least one year of FSP.

Several outcomes are broken down by age category, as described below. Note that employment, homelessness, incarceration, and arrest outcomes are not presented for older adults, as there are insufficient observations in this age group for meaningful interpretation (i.e., there are less than 5 older adult partners total with any of these events).

1. **Partners with any reported homelessness incident:** measured by residential setting events of homelessness or emergency shelter (PAF and KET).
2. **Partners with any reported detention or incarceration incident:** measured by residential setting events of Jail or Prison (PAF and KET).
3. **Partners with any reported employment:** measured by employment in past 12 months and date employment change (PAF and KET).<sup>1</sup>
4. **Partners with any reported arrests:** measured by arrests in past 12 months and date arrested (PAF and KET).
5. **Partners with any self-reported mental health emergencies:** measured by emergencies in past 12 months and date of mental health emergency (PAF and KET).
6. **Partners with any self-reported physical health emergencies:** measured by emergencies in past 12 months and date of acute medical emergency (PAF and KET).
7. **Partners with any self-reported active substance abuse problem:** measured by self-report in past 12 months and captured again in regular updates (PAF and 3M).
8. **Partners in substance abuse treatment:** measured by self-report in past 12 months and captured again in regular updates (PAF and 3M).

In addition, we also examine three outcomes specific to child and TAY partners:

9. **Partners with any reported suspensions:** measured by suspensions in past 12 months (PAF) and date suspended (KET)
10. **Average school attendance ranking:** an ordinal ranking (1-5) indicating overall attendance; measured for past 12 months (PAF), at start of FSP (PAF), and over time on FSP (3M)
11. **Average school grade ranking:** an ordinal ranking (1-5) indicating overall grades; measured for past 12 months (PAF), at start of FSP (PAF), and over time on FSP (3M)

Then, mental and physical health emergencies are considered in conjunction with residential status for all age groups combined. Specifically, the likelihood of an emergency is considered for partners in all advantageous residential settings in their first year with FSP is compared to partners experiencing one or more high risk setting.

For additional detail on residential outcomes, see Appendix A. For additional details on outcomes broken apart by FSP providers, see Appendix B. For details on the methodological approach, see Appendix C.

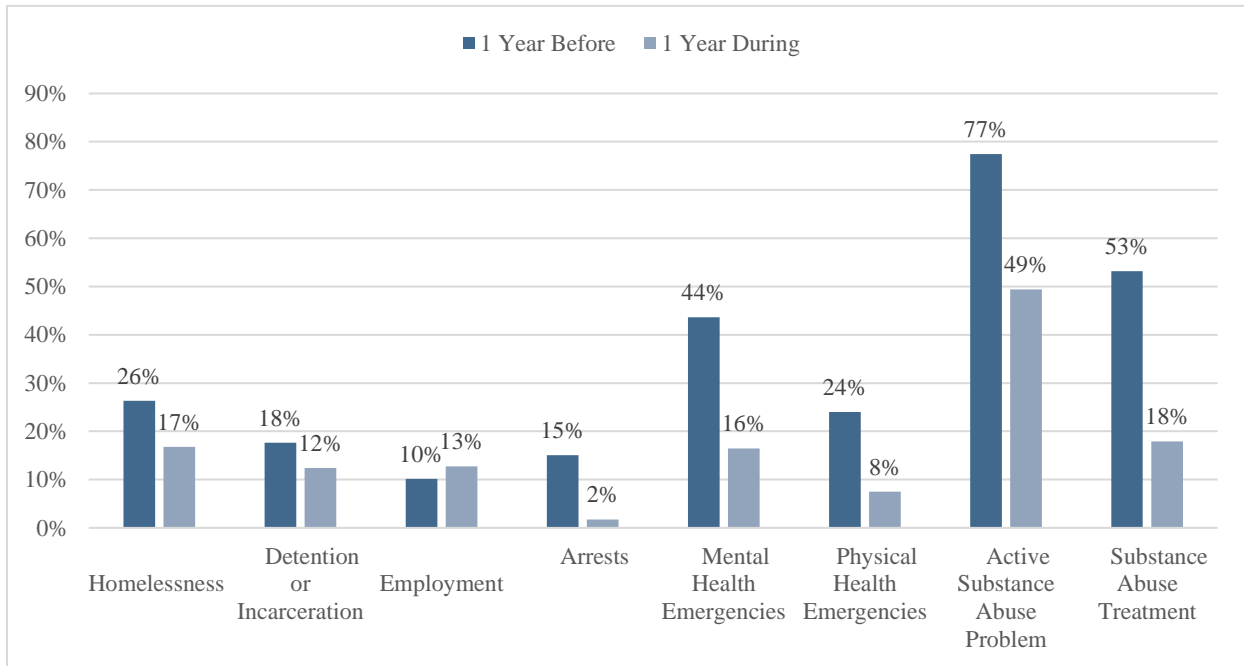
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<sup>1</sup> Employment outcome is not applicable to child and TAY partners.



First, please find the comparison of outcomes in the year prior to FSP to the first year on the program for adult partners in Exhibit 2. Homelessness, incarceration, arrests, self-reported mental and physical health emergencies, and substance abuse problems and treatment all decrease. In addition, employment increases.

**Exhibit 2: Outcomes for Adult Partners Completing One Year with FSP (n = 346)**



Next, below in Exhibit 3, please find the comparison of outcomes in the year prior to FSP to the first year on the program for older adult partners. Similar to adult partners, self-reported mental and physical health emergencies, and substance abuse problems and treatment all decrease.

**Exhibit 3: Outcomes for Older Adult Partners Completing One Year with FSP (n = 59)**

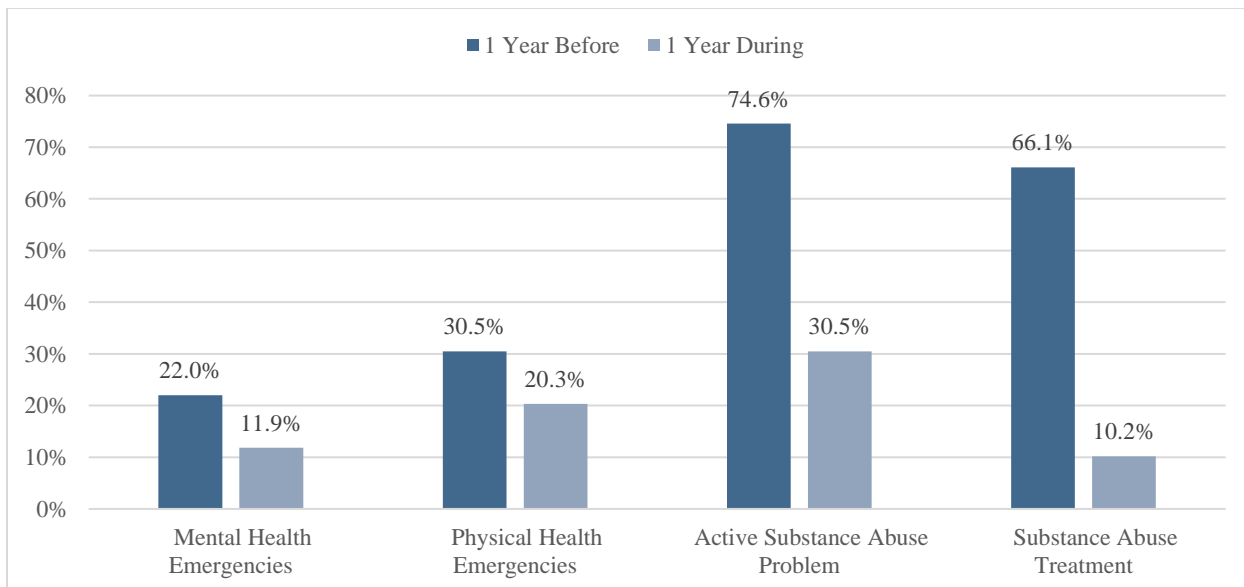
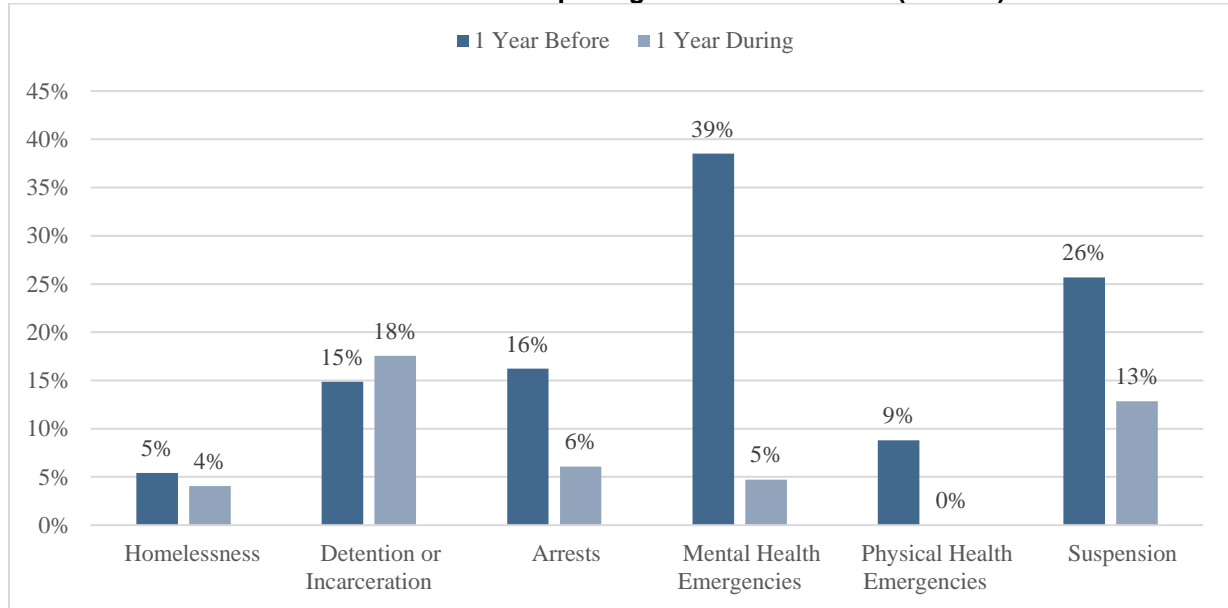


Exhibit 4 below shows the comparison of outcomes in the year prior to FSP to the first year on the program for child partners. The findings are essentially the same as those in the last year's report. All but one self-reported incidences (homeless, arrest, suspension, mental or physical health emergencies) decrease. The increase in incarceration is small (26 in the first year with FSP compared to 22 in the year just prior). The magnitude of decline in arrest incidence is much larger (9 in the first year with FSP compared to 24 in the year just prior).

**Exhibit 4: Outcomes for Child Partners Completing One Year with FSP (n = 148)**



Outcomes on school attendance and grades are presented below in Exhibit 5. As can be seen, attendance and grades for child partners decline modestly. Recall that these ratings are on a 1-5 scale, coded such that a higher score is better.

**Exhibit 5: School Outcomes for Child Partners Completing One Year with FSP (n = 148)**

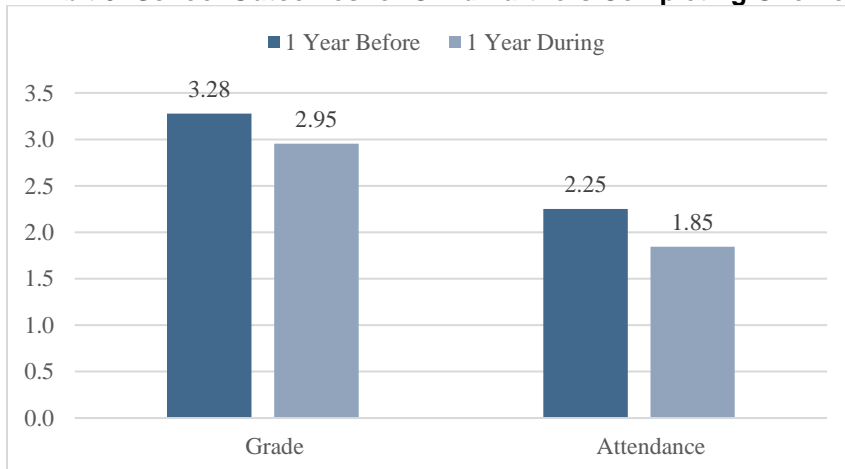
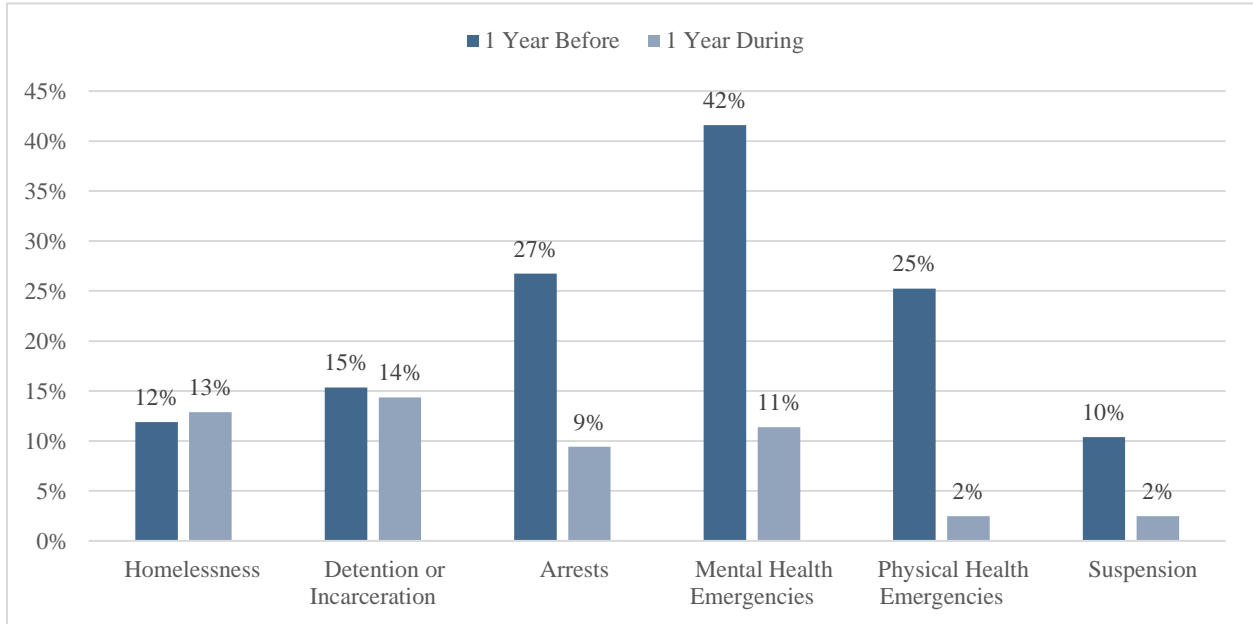


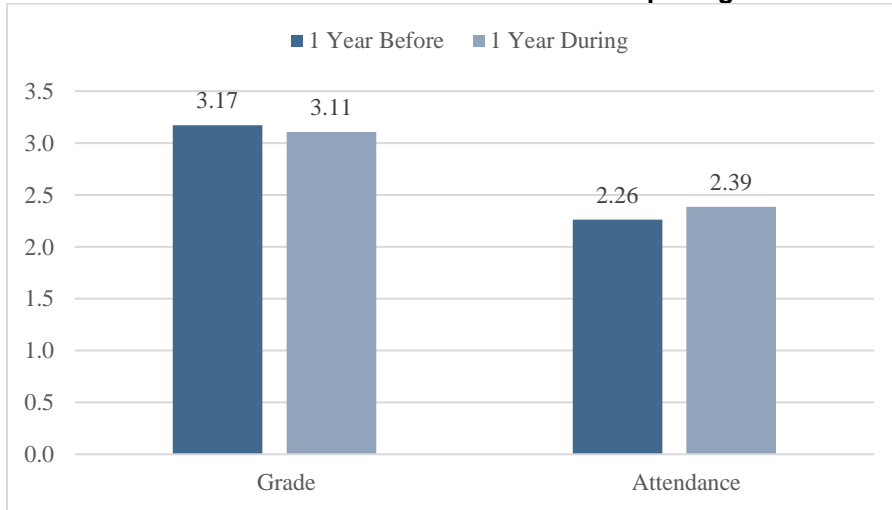
Exhibit 6 below shows the comparison of outcomes in the year prior to FSP to the first year on the program for TAY partners.<sup>2</sup> All self-reported outcomes except for homelessness decrease. The increase in homelessness is small (26 in the first year with FSP compared to 24 in the year just prior). Compared to the last year's report, the magnitudes of decrease are similar and slightly larger.

**Exhibit 6: Outcomes for TAY Partners Completing One Year with FSP (n = 202)**



Outcomes on school attendance and grades are presented in Exhibit 7. Attendance and grades for TAY partners change very little. These ratings are on a 1-5 scale; a higher score is better.

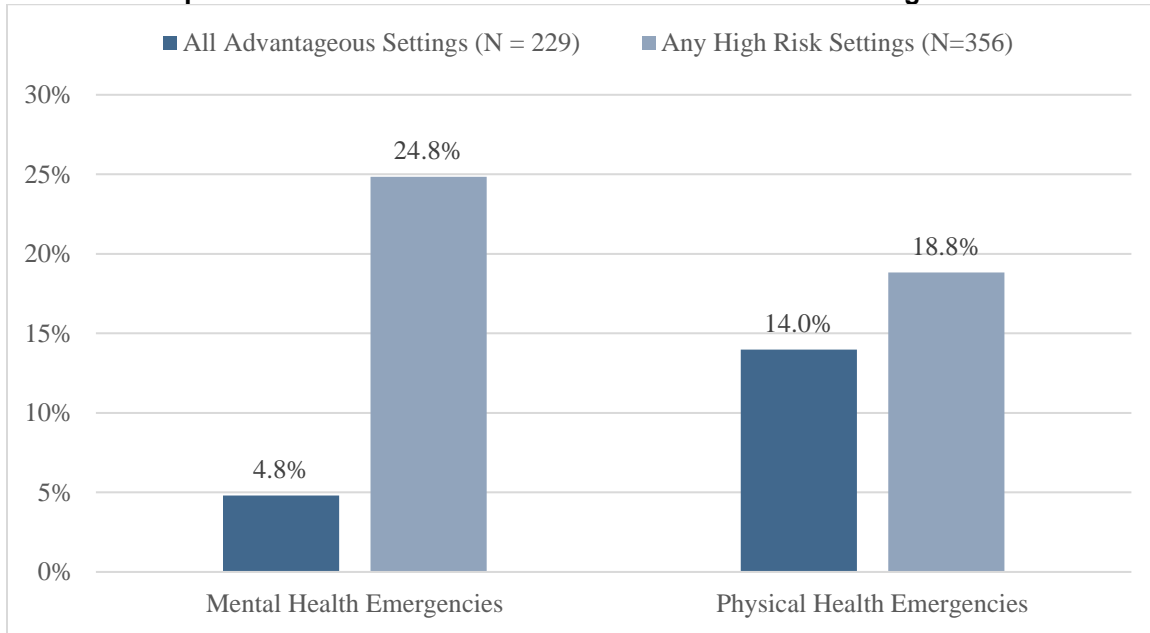
**Exhibit 7: School Outcomes for TAY Partners Completing One Year with FSP (n = 202)**



<sup>2</sup> The 40 older TAY partners in Telecare and Caminar are excluded from these outcomes because these providers do not reliably gather outcomes related to school attendance. Note that employment as an outcome is not presented for this cohort because many of these individuals are in school.

Finally, below in Exhibit 8, please find mental and physical health emergencies for adult and older adult partners, as for partners who are in all advantageous residential setting versus a one or more high risk settings in their first year on FSP. Advantageous settings are defined as living with family or foster family, living alone and paying rent, or living in group care or assisted living. High risk settings are defined as homelessness, incarceration, or in a hospitalized setting. As can be seen, both mental and physical health emergencies are more common among individuals who experience a high risk residential setting.

**Exhibit 8: Hospitalization Outcomes as a Function of Residential Setting**



## Health Care Utilization Overall and Over Time

We detected statistically significant changes in outcomes from the year before FSP compared to the first year in FSP for all FSP partners (Exhibit 9). Percent of partners with any hospitalization decreased from 23% before FSP to 12% during FSP. Days in the hospital decreased from 6.98 days before FSP to 2.51 days during FSP. Percent of partners with any psychiatric emergency services (PES) decreased from 42% before FSP to 27% during FSP. The average number of PES events decreased from 1.19 events before FSP to 0.69 events during FSP.

**Exhibit 9: FSP Partners Have Significantly Improved Hospitalization Outcomes (n=704)**

	Mean	95% Confidence Interval
<b>Percent of Partners with Any Hospitalization*</b>		
1 Year Before	23%	(20% - 26%)
Year 1 During	12%	(9% - 14%)
<b>Mean Number of Hospital Days, per Partner*</b>		
1 Year Before	6.89	(5.48 - 8.31)
Year 1 During	2.51	(1.67 - 3.34)
<b>Percent of Partners with any PES Event*</b>		
1 Year Before	42%	(38% - 45%)
Year 1 During	27%	(24% - 31%)
<b>Mean PES Events, per Partner*</b>		
1 Year Before	1.19	(1.00 - 1.37)
Year 1 During	0.69	(0.55 - 0.82)

\*Results are statistically significant at the 95% level.

## Health Care Utilization for FSP Partners by Age Group

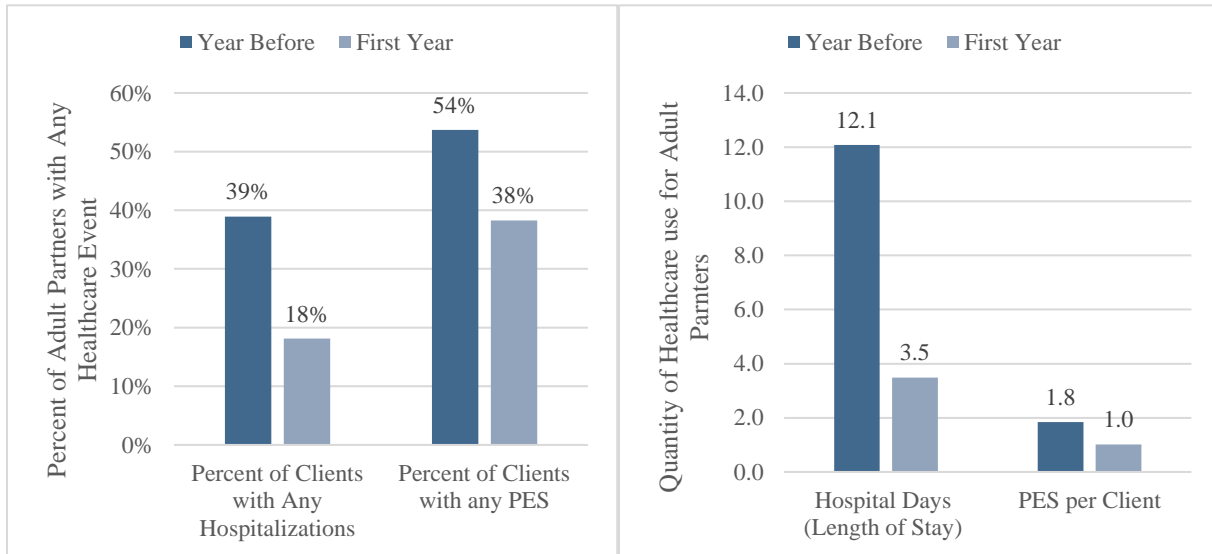
This report also presents the four hospitalization outcomes for the 198 child, 164 TAY, 298 adult, and 44 older adult partners using the Avatar system (EHR):

1. **Partners with any hospitalizations:** measured by any hospital admission in the past 12 months
2. **Partners with any PES:** measured by any PES event in the past 12 months
3. **Average length of hospitalization (in days):** the number of days associated with a hospital stay in the past 12 months;
4. **Average number of PES event:** the number of PES events in the past 12 months.

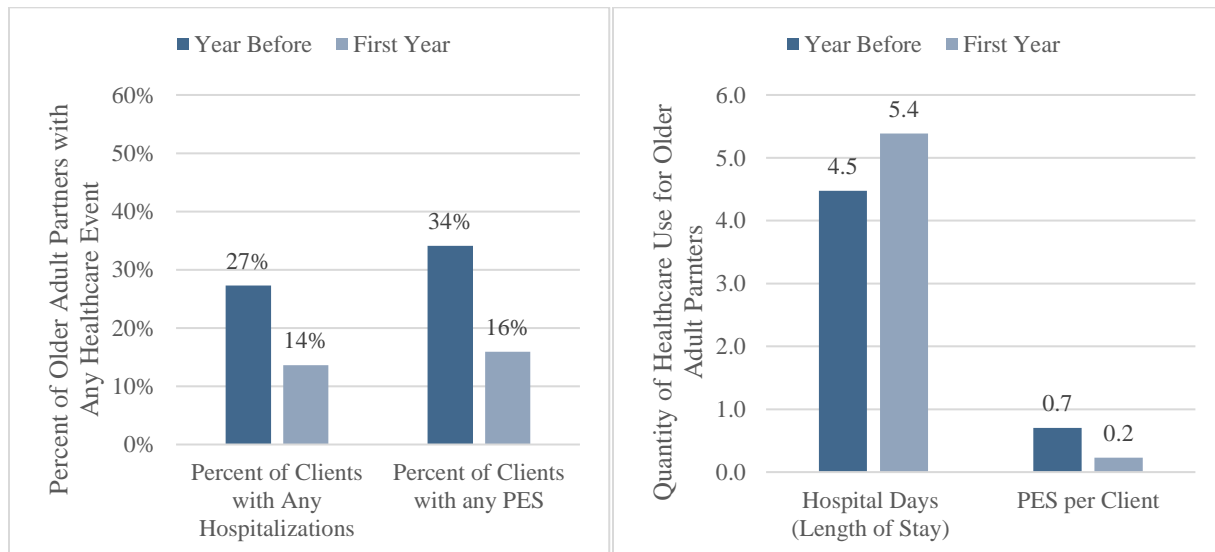
\*Note that the difference in the number of partners across the data sources is due to the difference in age group definition (see Appendix C) and not every partner has a health care record in the County's EHR system.

Hospitalization outcomes are presented in Exhibits 10-13. For all four age groups, the percent of FSP partners with any hospitalization or PES event decreases after joining FSP. The mean number of hospital days experienced by FSP partners decreases after FSP enrollment, except for the older adult group. The average number of PES events decreases after FSP enrollment for all the age groups.

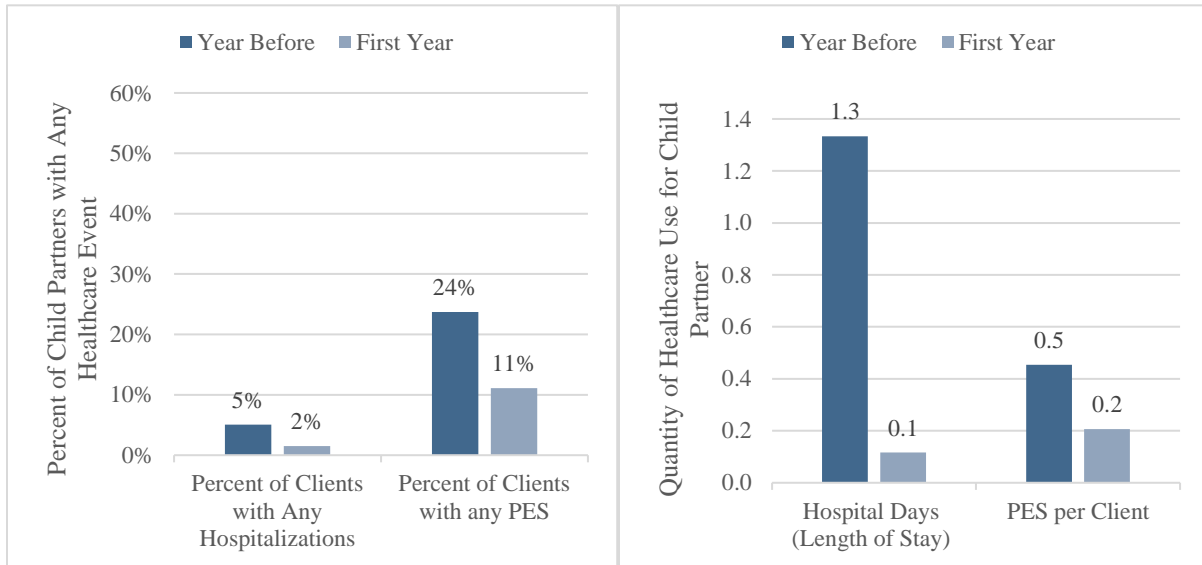
**Exhibit 10: Hospitalization and PES Outcomes for Adult Partners Completing One Year with FSP (n = 298)**



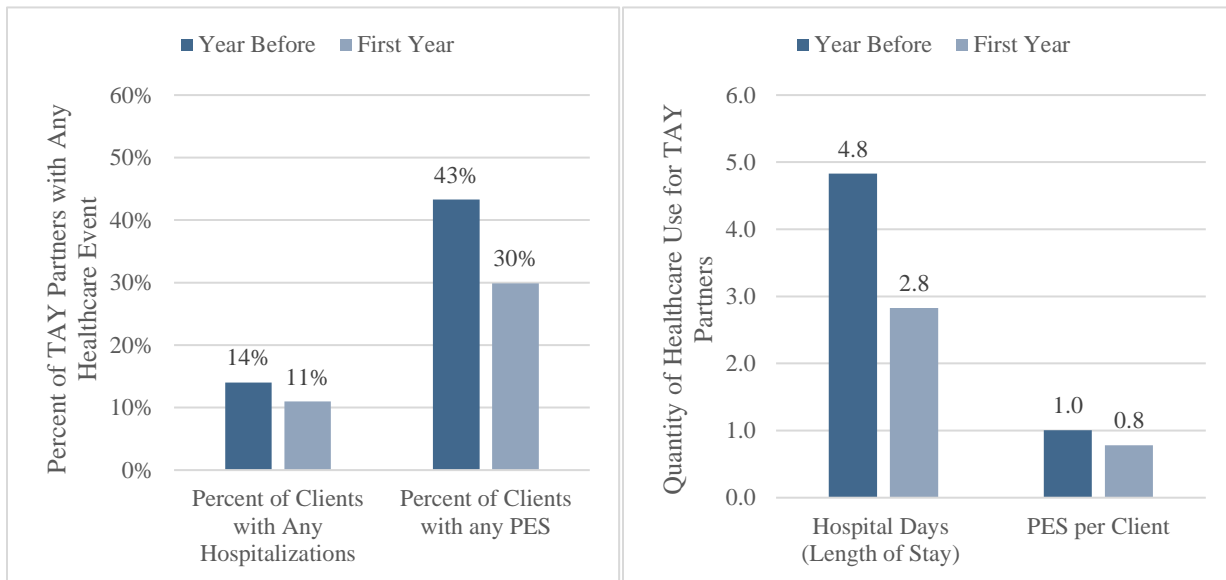
**Exhibit 11: Hospitalization and PES Outcomes for Older Adult Partners Completing One Year with FSP (n = 44)**



**Exhibit 12: Hospitalization and PES Outcomes for Child Partners Completing One Year with FSP (n = 198)**



**Exhibit 13: Hospitalization and PES Outcomes for TAY Partners Completing One Year with FSP (n = 164)**



## Health Care Utilization for FSP Partners over Time

Exhibits 14-18 show the four hospitalization outcomes, stratified by enrollment year. As can be seen in Exhibit 14, the percent of partners with any hospitalization decreased after joining an FSP program for all cohorts.

**Exhibit 14: Percent of Partners with Any Hospitalization over Time**

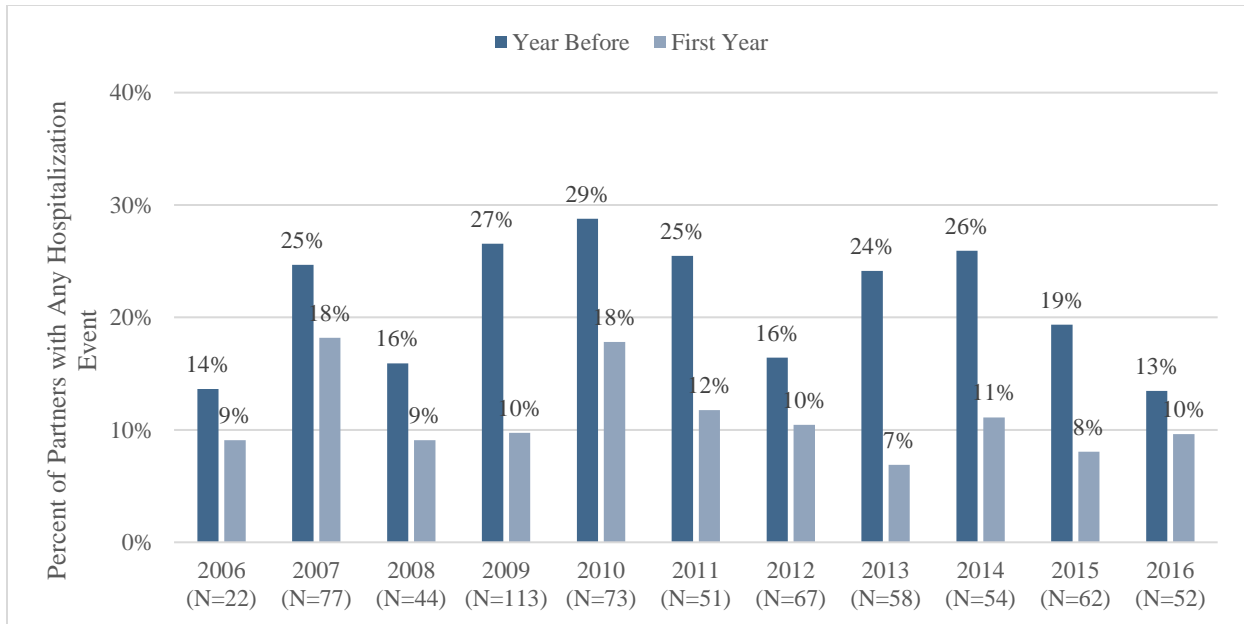


Exhibit 15 displays the mean hospital days per partner. With the exception of 2006 and 2007 cohorts, most partners experienced decreases in the mean number of hospital days.

**Exhibit 15: Mean Number of Hospital Days over Time**

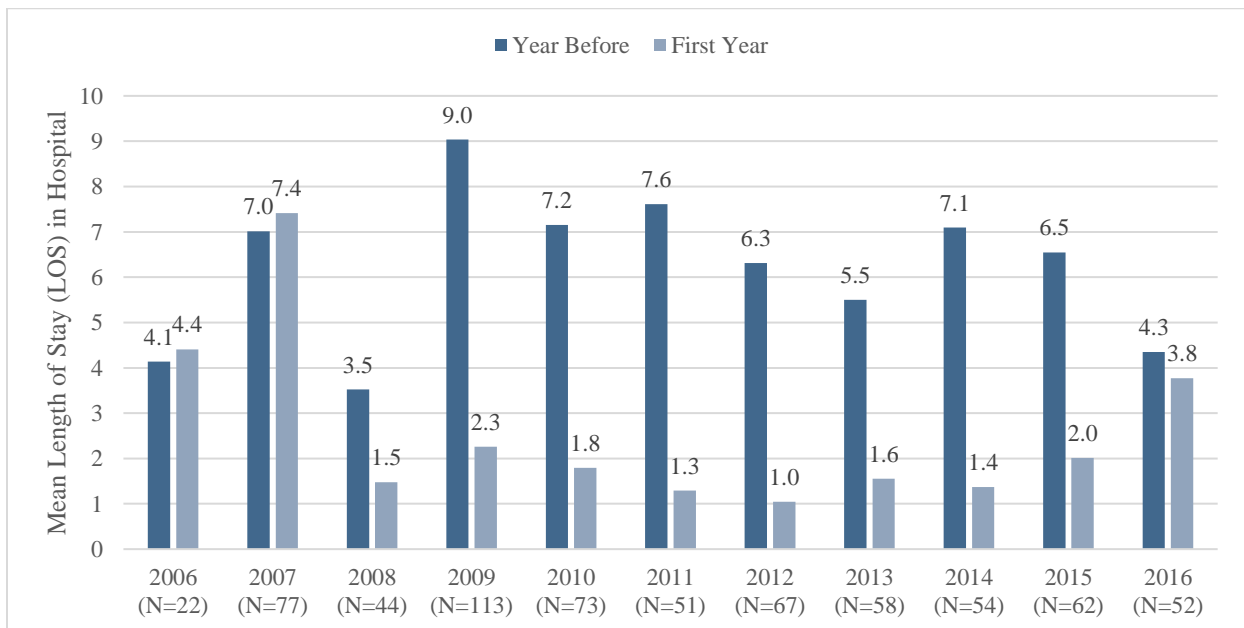
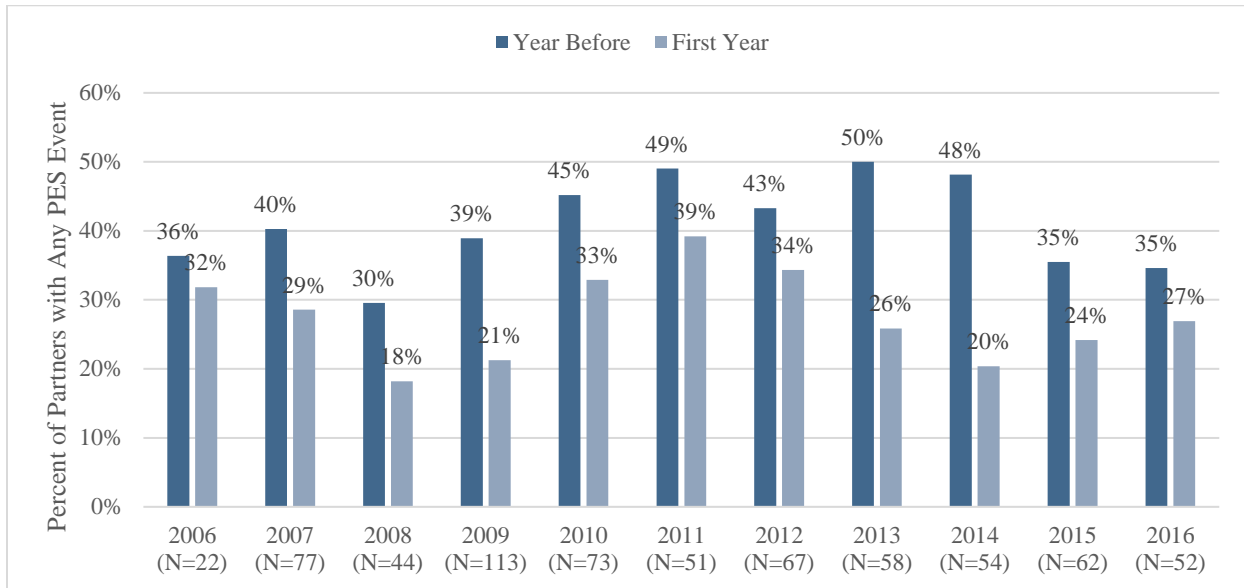




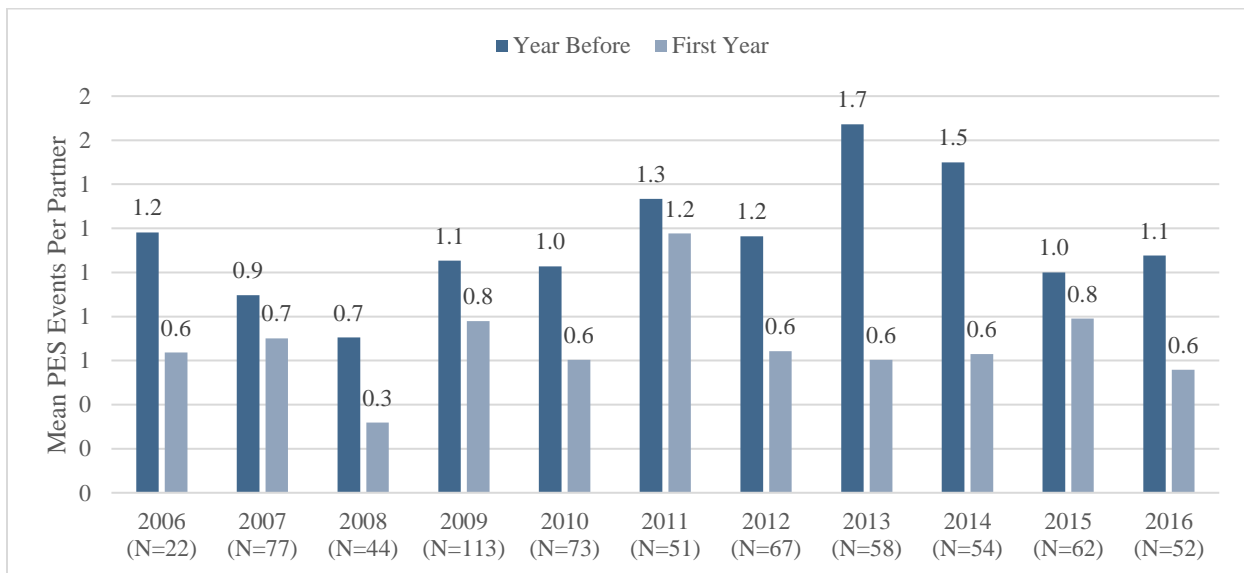
Exhibit 16 displays the percent of partners with any PES event by the year they began FSP. All cohorts experienced a decline in the likelihood of a PES event.

**Exhibit 16: Percent of Partners with any PES Event over Time**



Finally, Exhibit 17 displays the mean PES events per partner. Again, all cohorts experienced a reduction in PES events.

**Exhibit 17: Mean PES Events over Time**

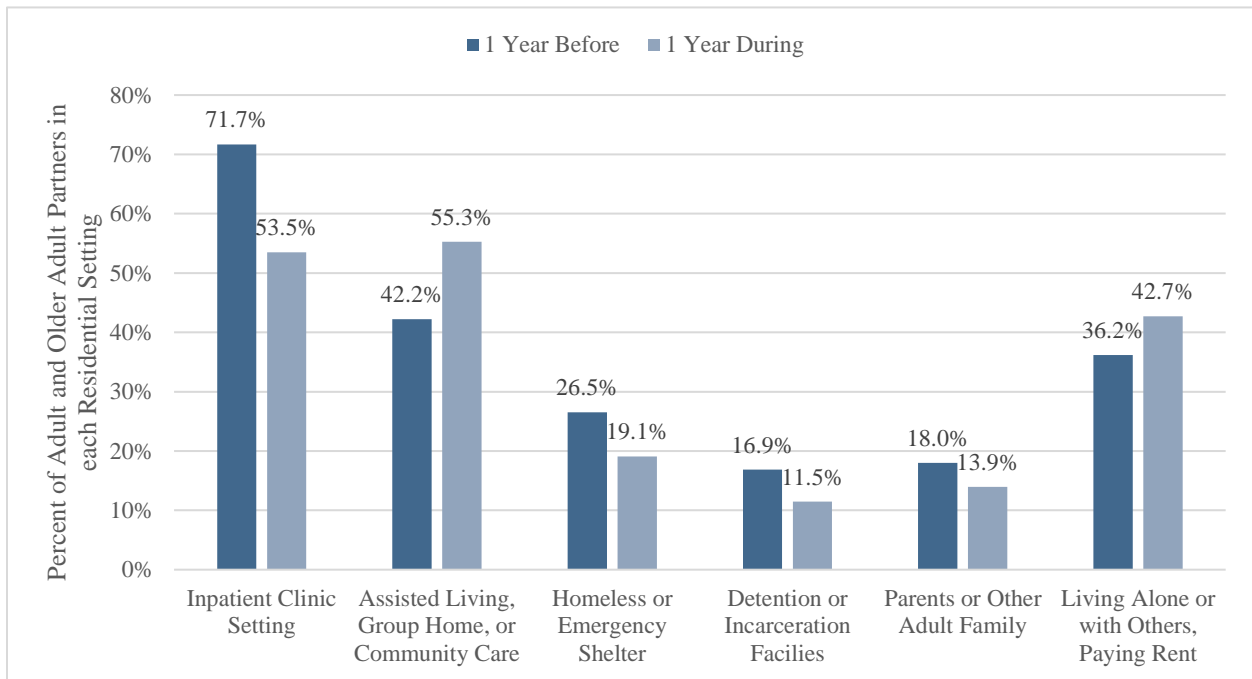


## Appendix A: Additional Detail on Residential Outcomes

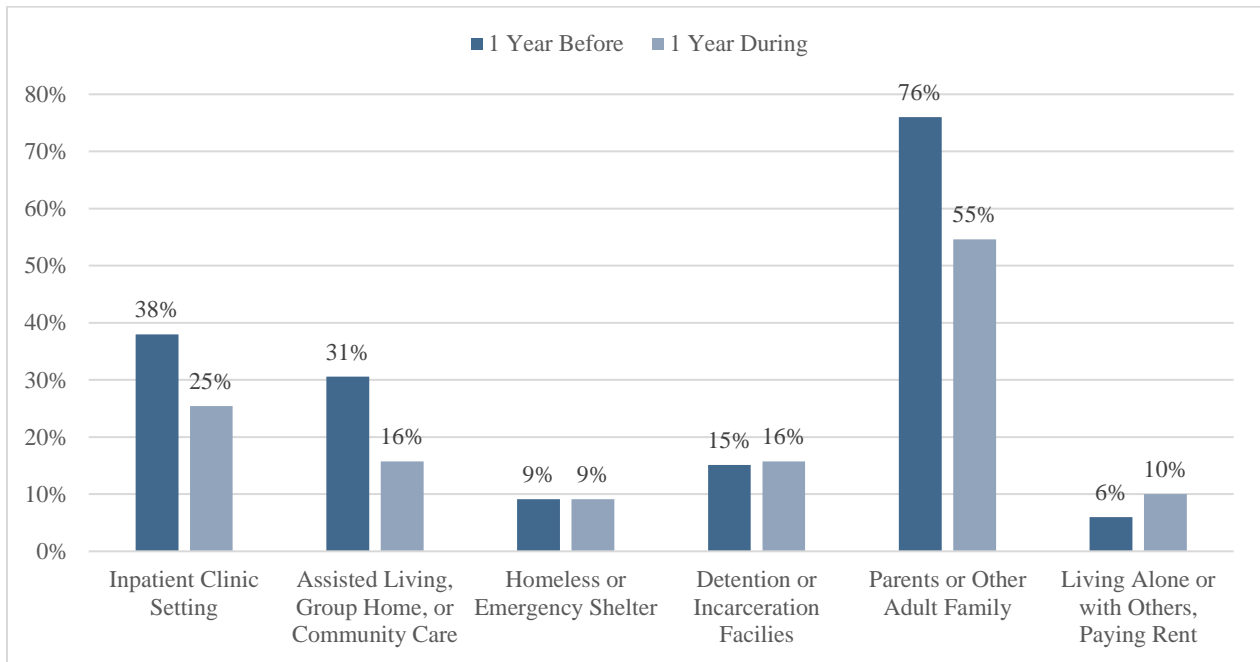
For residential setting outcomes, we present all the categories of living situations and compare the percentages of any partners spending any time in various residential settings the year prior to FSP and in the first year. A list of all residential settings and how they are categorized, is presented in Appendix C with the methodological approach.

As can be seen in Exhibit A1, the percent of clients reporting any time in an inpatient clinic, homeless, incarcerated, or living with parents decreases. In contrast, the percent living in an assisted living, group home, or community care environment, or living alone or with others, paying rent increases.

**Exhibit A1: Any Time in Residential Settings – Adult and Older Clients Completing 1 Year (n = 445)**



**Exhibit A2: Any Time in Residential Settings – Child and TAY Clients Completing 1 Year (n = 350)**



## Appendix B: Additional Detail on Outcomes by FSP Providers

This section provides more details on the results presented in the main report. The outcomes in this section are broken apart for the following FSP providers: Caminar and Telecare. No outcomes are presented for any group of partners with 10 or fewer individuals.

Exhibit B1-B3, presents the percent of partners with any events the year just prior to FSP and the first year on FSP, as well as the percent improvement for each FSP provider. Percent improvement is the percent change in the percent of partners with any events.

As can be seen in Exhibit B1, there are improvements comparing the year prior to FSP to the first year during FSP for Caminar on all the available self-reported outcomes. The percent difference with any employment is reported as N/A because the percent of partners with employment increases from 0% to 2%. Thus, the denominator is 0.

**Exhibit B1. Percent Improvement in Outcomes for Caminar, Year before FSP Compared with First Year with FSP**

Survey Outcomes, Caminar	1 Year Before	Year 1 During	% Difference
Homelessness	32.1%	20.8%	35.3%
Detention or Incarceration	19.8%	12.3%	38.1%
Arrests	15.1%	0.9%	93.8%
Mental Health Emergencies	72.6%	15.1%	79.2%
Physical Health Emergencies	45.3%	10.4%	77.1%
Employment	0.0%	2.8%	N/A
Active Substance Abuse Problem	49.1%	40.6%	17.3%
Substance Abuse Treatment	29.2%	24.5%	16.1%

As can be seen in Exhibit B2, there are improvements comparing the year prior to FSP to the first year during FSP for Telecare on all the available self-reported outcomes.

**Exhibit B2. Percent Improvement in Outcomes for Telecare, Year before FSP Compared with First Year with FSP**

Survey Outcomes, Telecare	1 Year Before	Year 1 During	% Difference
Homelessness	24.8%	18.6%	25.0%
Detention or Incarceration	15.9%	11.2%	29.6%
Arrests	13.3%	1.8%	86.7%
Mental Health Emergencies	31.9%	16.5%	48.1%
Physical Health Emergencies	17.4%	8.3%	52.5%
Employment	12.1%	13.3%	9.8%
Active Substance Abuse Problem	84.4%	48.1%	43.0%
Substance Abuse Treatment	61.4%	13.9%	77.4%

Exhibit B3 shows improvement in many outcomes except for detention or incarceration, grade and attendance.

**Exhibit B3. Percent Improvement in Outcomes for Edgewood, Year before FSP Compared with First Year with FSP**

<b>Survey Outcomes, Edgewood</b>	<b>1 Year Before</b>	<b>Year 1 During</b>	<b>% Difference</b>
<b>Homelessness</b>	9.1%	9.1%	0.0%
<b>Detention or Incarceration</b>	15.1%	15.7%	-3.8%
<b>Arrests</b>	22.3%	8.0%	64.1%
<b>Mental Health Emergencies</b>	40.3%	8.6%	78.7%
<b>Physical Health Emergencies</b>	18.3%	1.4%	92.2%
<b>Suspension</b>	16.9%	6.9%	59.3%
<b>Grade</b>	3.28	3.01	-8.2%
<b>Attendance</b>	2.25	2.05	-9.2%

## Appendix C: Methods

### Methodology for FSP Survey Data Analysis

The FSP survey data are collected by providers via discussions with partners and should thus be viewed as self-report. Among the providers included in these analyses (Fred Finch, Edgewood, Caminar, and Telecare), 795 partners completed a full year with FSP since program inception.

Three datasets were obtained: one from Caminar, one from Telecare and one from Edgewood. Caminar and Edgewood provided their datasets in a Microsoft Excel format while Telecare provided a raw Microsoft Access database, which included data on individuals who were not affiliated with FSP.

For Telecare only, we limited the dataset to FSP partners using the Client Admission data and the System Agency Program.

Edgewood/Fred Finch serve child partners and TAY partners. Caminar and Telecare serve primarily adult and older adult partners, and a small number of older TAY clients. Exhibit C1 below describes the age group of partners completing at least one full year of FSP by provider.

#### Exhibit C1: Summary of Partners One Full Year of FSP

Age Group	Edgewood/ Fred Finch*	Caminar	Telecare	Total
Child (aged 16 and younger)	148	--	--	148
TAY (aged 17 – 25)	202	14	26	242
Adult (aged 26 -59)	--	82	264	346
Older Adult (aged 60+)	--	10	49	59
<b>Total</b>	350	106	339	795

A master assessment file with FSP start and end dates and length of FSP tenure was created at the client level. Note that for clients who stopped and then reestablished their FSPs, we only kept the record corresponding with their most recent Global ID, as indicated in the State's documentation.

*Partner type* (child, TAY, adult, and older adult) is determined by the PAF data.

- For Caminar and Edgewood/Fred Finch, this was done using the variable *Age Group*.
  - Caminar: a value of (7) indicated a TAY partner, a value of (4) indicated an adult partner, and a value of (10) indicated an older adult partner.
  - Edgewood/Fred Finch: a value of (1) indicated a child partner, and a value of (4) indicated a TAY partner.
  - In both cases, this was confirmed using the *Age* variable.
- For Telecare data, partners were given a PAF appropriate for their age; the partner type was identified by the *Form Type* variable (TAY\_PAF; Adult\_PAF; or OA\_PAF).

*Partnership date* and *end date* were determined as follows: End date was determined by the reported date of the partnership status change in the KET, if the status is indicated to be “discontinued.” For clients still enrolled as of the data acquisition at the end of the year, we assigned an end date of June 30, 2018.

All data management and analysis was conducted in Stata. All code is available upon request. Additional details on the methodology for each outcome are presented below.

### ***Residential Setting***

1. Residential settings were grouped into categories as described in the table below (Exhibit C2).
2. The baseline data were populated using the variable *PastTwelveDays* collected by the PAF. Individuals without any reported locations were assigned to the “Don’t Know” category.
3. First residential status for partners once they join FSP is determined by the *Current* variable, collected by the PAF. Individuals without any reported current residence were assigned to the “Don’t Know” category. Some individuals had more than one *Current* location. In this case, if there was one residence with a later value for *DateResidentialChange*, this value was considered to be the first residential setting. If the residences were marked with the same date, both were considered as part of the partner’s first year on FSP.
4. Additional residential settings for the first year were found using the KET data if the *DateResidentialChange* variable is within the first year with FSP as determined by the partnership date. If no residential data were captured by a KET, it was assumed that the individual stayed in their original residential setting.

**Exhibit C2: Residential Categories**

Category	Telecare Setting Value <sup>3</sup>	Caminar, Edgewood, and Fred Finch Setting Value <sup>4</sup>
<b>With family or parents</b>		
With parents	1	1
With other family	2	2
<b>Alone</b>		
Apartment alone or with spouse	3	3
Single occupancy (must hold lease)	4	19
<b>Foster home</b>		
Foster home with relative	5	4
Foster home with non-relative	6	5
<b>Homeless or Emergency Shelter</b>		
Emergency shelter	7	6
Homeless	8	7
<b>Assisted living, group home, or community care</b>		
Individual placement	9	20
Assisted living facility	10	28
Congregate placement	11	21
Community care	12	22
Group home (Level 0-11)	16	11
Group home (Level 12-14)	17	12
Community treatment	18	13
Residential treatment	19	14
<b>Inpatient Facility</b>		
Acute medical	13	8
Psychiatric hospital (other than state)	14	9
Psychiatric hospital (state)	15	10
Nursing facility, physical	20	23
Nursing facility, psychiatric	21	24
Long-term care	22	25
<b>Incarcerated</b>		
Juvenile Hall	23	15
Division of Juvenile Justice	24	16
Jail	30	27
Prison	31	26
<b>Other / Don't Know</b>		
Don't know	0	18
Other	49	17

<sup>3</sup> Setting names determined by *Setting* variable in Telecare data.

<sup>4</sup> Setting names determined by the following guide:

[https://mhdatapublic.blob.core.windows.net/fsp/DCR%20Data%20Dictionary\\_2011-09-15.pdf](https://mhdatapublic.blob.core.windows.net/fsp/DCR%20Data%20Dictionary_2011-09-15.pdf)



## **Employment**

Employment outcomes were generated for adults only. Therefore, Edgewood and Fred Finch data were excluded.

1. The baseline data were populated using the PAF data. An individual was considered as having had any employment if there was a non-zero, non-blank value for one of the following variables (note that variable names differ slightly by dataset):
  - a. Any competitive employment in past twelve months (any competitive employment; any competitive employment for any average number of hours per week; any average wage for competitive employment)
  - b. Any other employment in past twelve months (any other employment; any other employment for any average number of hours per week; any average wage for any other employment)
2. Ongoing employment was populated using the variable indicating the date of employment change (variable names vary slightly by file) in the KET file, as long as the date is within the first year with FSP as determined by the partnership date. A change is considered as indicating some employment if the new employment status code indicated competitive employment or other employment (again, variable names differ by data set). We assumed that no information on employment in the KET indicated that the original employment status sustained.

## **Arrests**

1. The baseline data were populated using the variable *ArrestsPast12* collected by the PAF. Individuals with blank data in this variable were assumed to have zero arrests in the year prior to FSP.
2. Ongoing arrests were populated using the variable indicating the date of arrest (variable names vary slightly by file) in the KET file, as long as the date is within the first year with FSP as determined by the partnership date. We assumed that no information on arrests in the KET indicated that no arrests had occurred in the first year on FSP.

## **Mental and Physical Health Emergencies**

1. The baseline data were populated using the variable *MenRelated* and *PhysRelated* for mental and physical emergencies, respectively, as collected by the PAF. Individuals with blank data in this variable were assumed to have zero emergencies of that type in the year prior to FSP.
2. Ongoing emergencies were populated using the variable indicating the date of emergency (variable names vary slightly by file) in the KET file, as long as the date is within the first year with FSP as determined by the partnership date. The type of emergency was indicated by *EmergencyType* (1=physical; 2=mental). We assumed that no information

on emergencies in the KET indicated that no emergencies had occurred in the first year on FSP.

### ***Substance Abuse***

1. The baseline data were populated using the variable *ActiveProblem* and *AbuseServices* for active substance abuse problems and participation in abuse services, respectively, as collected by the PAF. Individuals with blank data in this variable were assumed to have no substance abuse problems or abuse services in the year prior to FSP.
2. Ongoing substance abuse data were populated using the 3M data variables of the same name. Any record of an active substance abuse problem or participation in abuse services during the first year of FSP was recorded. No observations were assumed to have no ongoing abuse problem or participation in abuse services.

## Methodology for Avatar Data Analysis

The hospitalization outcomes use electronic health records (EHR) data obtained through the Avatar system. Using EHR data avoids some of the reliability shortcomings of self-report, but this presents challenges as well. The Avatar system is limited to individuals who obtain care in the San Mateo county hospital system. Hospitalizations outside of San Mateo County, or in private hospitals, are not captured. The hospitalization outcomes include 704 partners who completed one full year or more in a FSP program and were in the Avatar system. Individuals started FSP between July 2006 (the program’s inception) and June 2016, completing at least one full year before June 2017.

All data management and analysis were conducted in Stata. Code is available upon request.

To count instances of psychiatric hospitalizations and PES admissions, we relied on the Avatar *view\_episode\_summary\_admit* table. Exhibit C3 shows the program codes corresponding with the above measures. Additionally, FSP episodes were identified through the Avatar *episode\_history* table.

### Exhibit C3: Program codes among clients ever in the FSP

Program code	Program value
Psychiatric Hospitalizations	
410200	ZZ410200 PENINSULA HOSPITAL INPT-MSO I/A
410205	410205 PENINSULA HOSPITAL INPATIENT
410700	410700 SMMC INPATIENT
921005	921005 NONCONTRACT INPATIENT
926605	926605 JOHN MUIR MED. CTR INPT MAN CARE
Psychiatric Emergency Services	
410702	Z410702 SMMC PES -termed 10/31/14
410703	410703 PRE CONV SMMC PES~INACTIVE
41CZ00	41CZ00 SAN MATEO MEDICAL CENTER - PES

Notes: Data represent all utilization from FSP clients for these codes, as pulled from Avatar on April 5th, 2016.

Partner type (child, TAY, adult, and older adult) was determined by the partner’s age on the start date of the FSP program, as derived from the “c\_date\_of\_birth” variable from the *view\_episode\_summary\_admit* table and the “FSP\_admit\_dt” variable from the *episode\_history* table.

As we have discussed in the previous year’s report, the distribution of partners by age group is different between the Avatar data and the FSP Survey data (reported in our previous report “Full Service Partnership (FSP) Outcomes: Findings from 2015”). This is likely due to the different ways age group was determined. For the survey data, AIR determined age group by whether the partner was evaluated using the child, TAY, adult, or older adult FSP survey forms. For the Avatar data, AIR assigned individuals to an age group based upon the date they joined FSP and their reported date of birth.

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