



Full Service Partnership (FSP) Outcomes

Findings from 2016-2017 Fiscal Year

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APR 2018

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Apr 2018

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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 child partners experiencing homelessness changed from 6.7% before FSP to 5.2% in the first year with FSP, a 22% improvement.

In sum, the findings from self-reported outcomes (survey data) suggest that the vast majority of the outcomes improve (22 of 24 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: homelessness, 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, children also experience improvements to their school attendance and grade ratings, and a reduction in arrests. Finally, the percent of TAY and adult partners with an episode of detention or incarceration decreases.

However, there are three outcomes for which there is no improvement. First, the attendance ratings for TAY partners, and second, grade ratings for TAY partners both remain stagnant (a 4% decrease and 1% improvement, respectively). Third, the proportion of children who are incarcerated increases on the first year of FSP. However, the increase in incarceration is relatively small (26 in the first year with FSP compared to 21 in the year just prior) when compared to the decrease in arrests (8 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 enrollment in a FSP program is associated with a reduction in hospital and psychiatric emergency service (PES) use for all cohorts. Specifically, 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. These 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*	Child (16 years & younger)	TAY (17 to 24 years)	Adult (25 to 59 years)	Older adult (60 years & older)
<i>Self-reported Outcomes (Survey data)</i>				
Homelessness	22%	7%	28%	NR
Detention or Incarceration	(24%)	16%	30%	NR
Arrests	67%	65%	87%	NR
Mental Health Emergencies	89%	67%	57%	42%
Physical Health Emergencies	100%	88%	65%	29%
School Suspensions	47%	72%	NR	NR
Attendance Ratings	10%	(4)%	NR	NR
Grade Ratings	14%	1%	NR	NR
Employment	NR	NR	26%	NR
<i>Healthcare Utilization (EHR data)</i>				
Hospitalization	56%	24%	48%	54%
Mean hospital days per partner	56%	30%	24%	50%
Psychiatric Emergency Services (PES)	64%	41%	67%	7%
Mean PES admissions per partner	53%	20%	34%	58%

Hospitalization Outcomes	Overall	Range (Partnerships Beginning 2006 – 2015)
<i>Healthcare Use (EHR data, N= 667)</i>		
Partners with Hospitalizations	45%	21% – 65%
Mean Hospital Days	59%	(14%) – 83%
Partners with PES	32%	13% – 52%
Mean PES Events	34%	12% – 64%

* With the exception of attendance and grade ratings, 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 NR means a change is not reported due to insufficient sample size.

** 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.

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.

This memo reports on outcomes for clients (hereafter referred to as “partners”) of the Full Service Partnership (FSP) program in San Mateo County, who were served by Edgewood, Fred Finch, Caminar, and Telecare. 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.

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 each survey outcome. 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.

Outcomes for Child Partners

The following section presents outcomes for the 134 child (aged 16 and younger) FSP partners.

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 Department of Juvenile Justice, Juvenile Hall, Jail, or Prison (PAF and KET)
3. **Partners with any reported arrests:** measured by arrests in past 12 months (PAF) and date arrested (KET)
4. **Partners with any self-reported mental health emergencies:** measured by emergencies in past 12 months (PAF) and date of mental health emergency (KET)
5. **Partners with any self-reported physical health emergencies:** measured by emergencies in past 12 months (PAF) and date of acute medical emergency (KET)
6. **Partners with any reported suspensions:** measured by suspensions in past 12 months (PAF) and date suspended (KET)
7. **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)
8. **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)

Note that employment is not presented for this cohort because it is not relevant for this age group. The results below compare the first year on FSP to the year just prior to FSP for partners completing at least one year of FSP.

For a visual description on how these outcomes change over a longer partnership duration, 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.

This report also presents the four hospitalization outcomes for the 185 child 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 hospital stay (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.

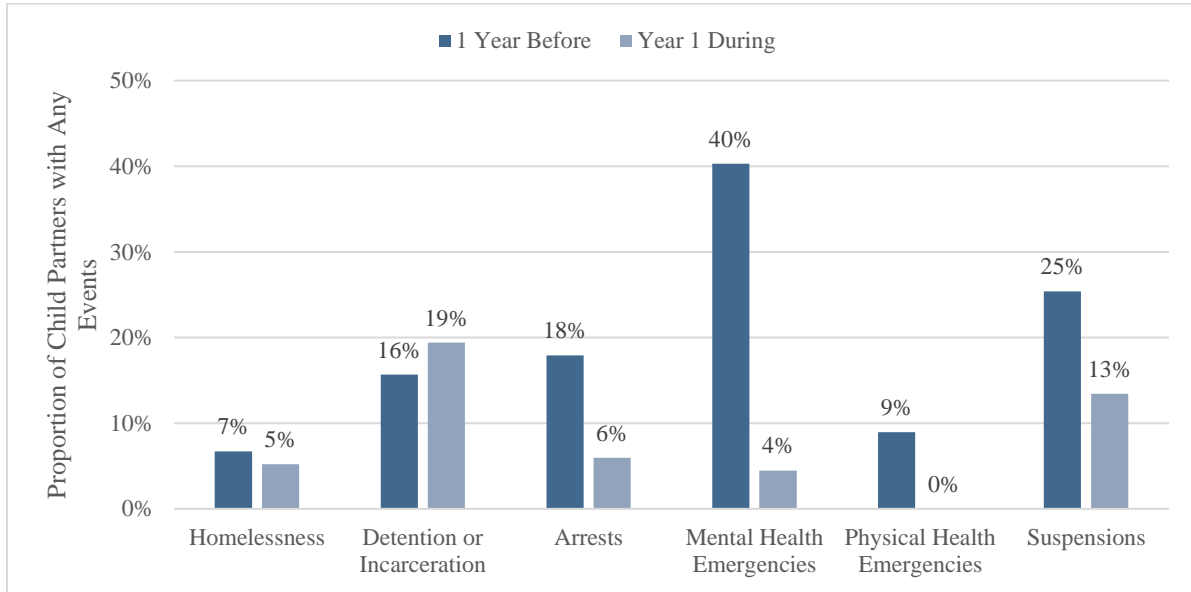
*Note that the difference in the number of partners across the data sources is due to the difference in age group definition (see Appendix C) and not every partner has a health care record in the County's EHR system.

Results

Exhibit 2 shows the comparison of outcomes in the year prior to FSP to the first year on the program for child partners. As can be seen, homelessness decreases. In addition, though there is a small increase in the percentage of partners who had any incarceration incident the percentage of partners with arrests decreases. However, the increase in incarceration is relatively small (26

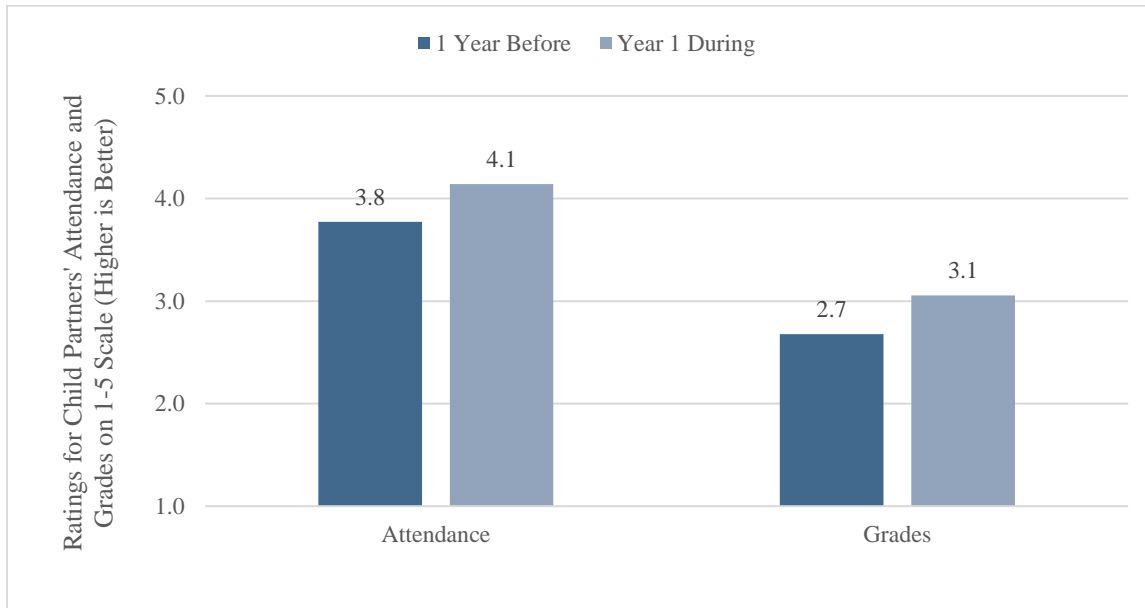
in the first year with FSP compared to 21 in the year just prior) when compared to the decrease in arrests (8 in the first year with FSP compared to 24 in the year just prior) among child partners. The percentage of partners with self-reported mental health and physical health emergencies decreases. Finally, there is a reduction in the percentage of child partners getting suspended from school.

Exhibit 2: Outcomes for Child Partners Completing One Year with FSP (n = 134)



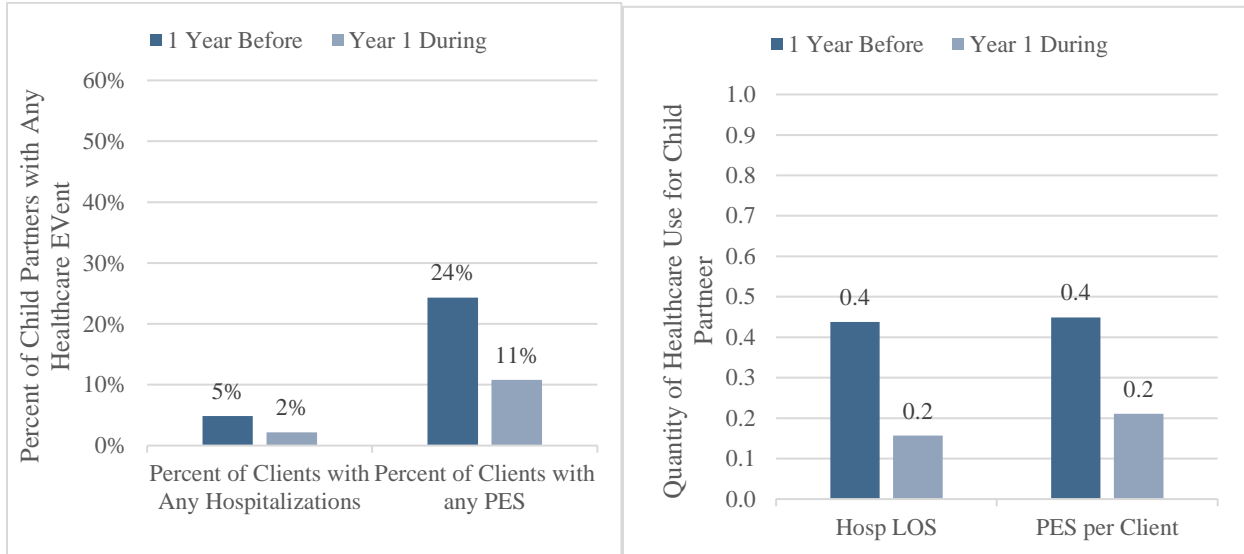
Outcomes on school attendance and grades are presented below in Exhibit 3. As can be seen, attendance and grades for child partners improve modestly. Recall that these ratings are on a 1-5 scale, coded such that a higher score is better.

Exhibit 3: School Outcomes for Child Partners Completing One Year with FSP (n = 134)



Hospitalization outcomes are presented in Exhibit 4. The percent of child partners with any hospitalization or PES event decreases after joining FSP. The mean number of hospital days experienced by FSP partners, as well as the average number of PES events decreases after FSP enrollment.

Exhibit 4: Hospitalization Outcomes for Child Partners Completing One Year with FSP (n = 185)



Outcomes for TAY Partners

The following section presents outcomes for the 203 TAY (aged 17 - 25) FSP partners.

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 Department of Juvenile Justice, Juvenile Hall, Jail, or Prison (PAF and KET)
3. **Partners with any reported arrests:** measured by arrests in past 12 months (PAF) and date arrested (KET)
4. **Partners with any self-reported mental health emergencies:** measured by emergencies in past 12 months (PAF) and date of mental health emergency (KET)
5. **Partners with any self-reported physical health emergencies:** measured by emergencies in past 12 months (PAF) and date of acute medical emergency (KET)
6. **Partners with any reported suspensions*:** measured by suspensions in past 12 months (PAF) and date suspended (KET)
7. **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)
8. **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)

* The 29 TAY 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.

The results below compare the first year on FSP to the year just prior to FSP for partners completing at least one year of FSP. For a visual description on how these outcomes change over a longer partnership duration, 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.

This report also presents the four hospitalization outcomes for the 145 TAY partners using the Avatar system (EHR):

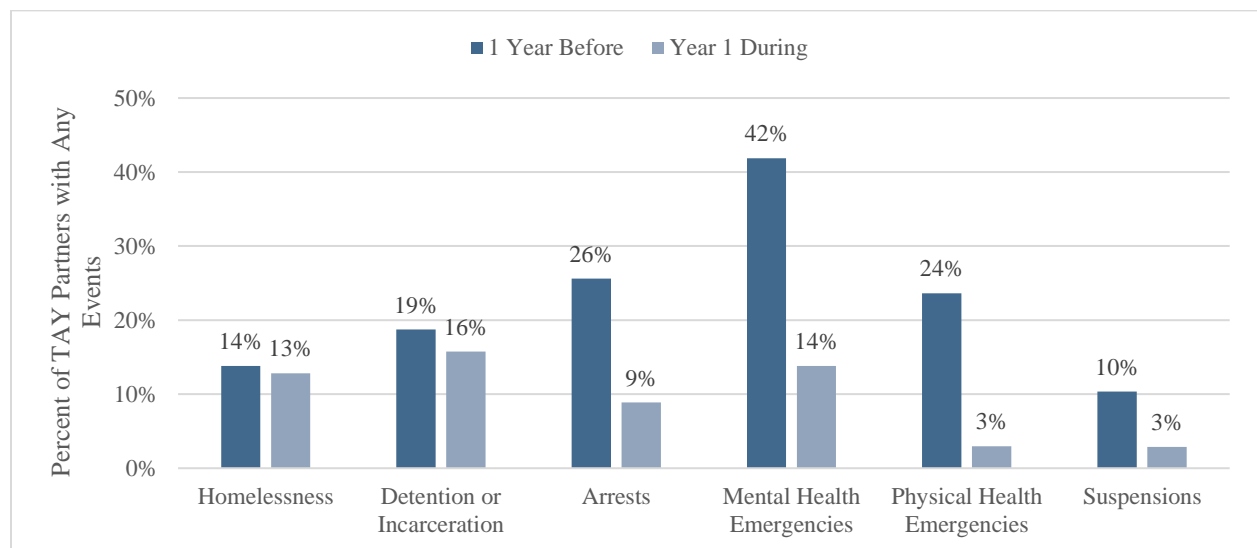
1. **Partners with any hospitalizations:** measured by any hospital admission in the past 12 months
2. **Partners with any PES:** measured by any PES event in the past 12 months
3. **Average length of hospital stay (in days):** the number of days associated with a hospital stay in the past 12 months;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

Results

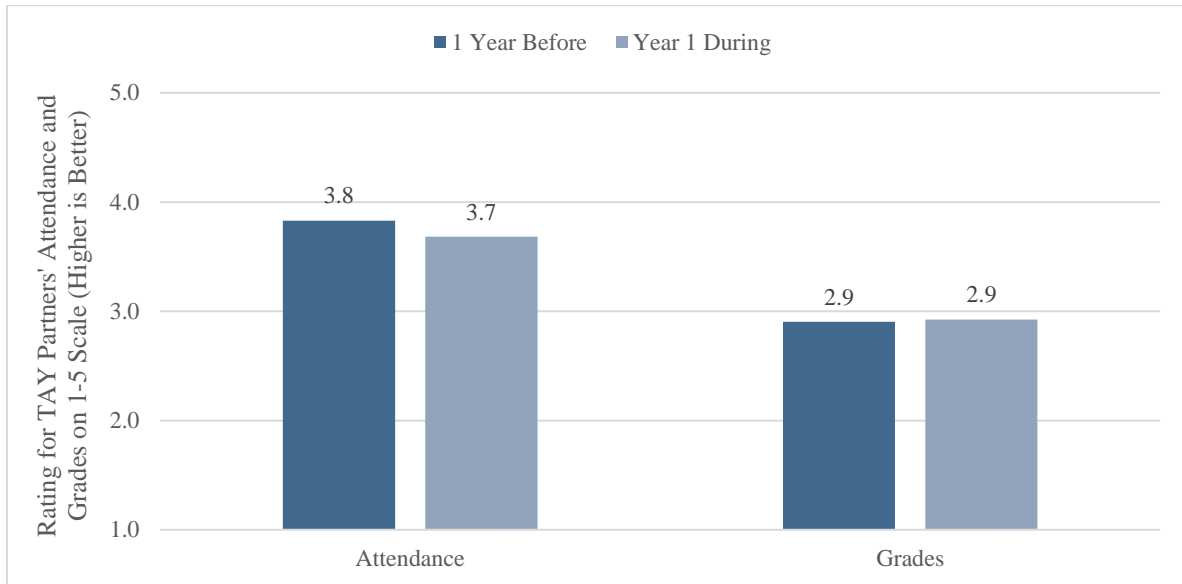
Results for TAY are presented below in Exhibit 5. The percentage of partners with days spent homeless decrease modestly. There are decreases across the other major outcomes: partners with incarceration incidents, arrests, self-reported mental and physical health emergencies, and suspensions. Note that the TAY sample for suspensions excludes the 29 Caminar and Telecare TAYs and the resulting number of partners is 174.

Exhibit 5: Outcomes for TAY Partners Completing One Year with FSP (n = 203)



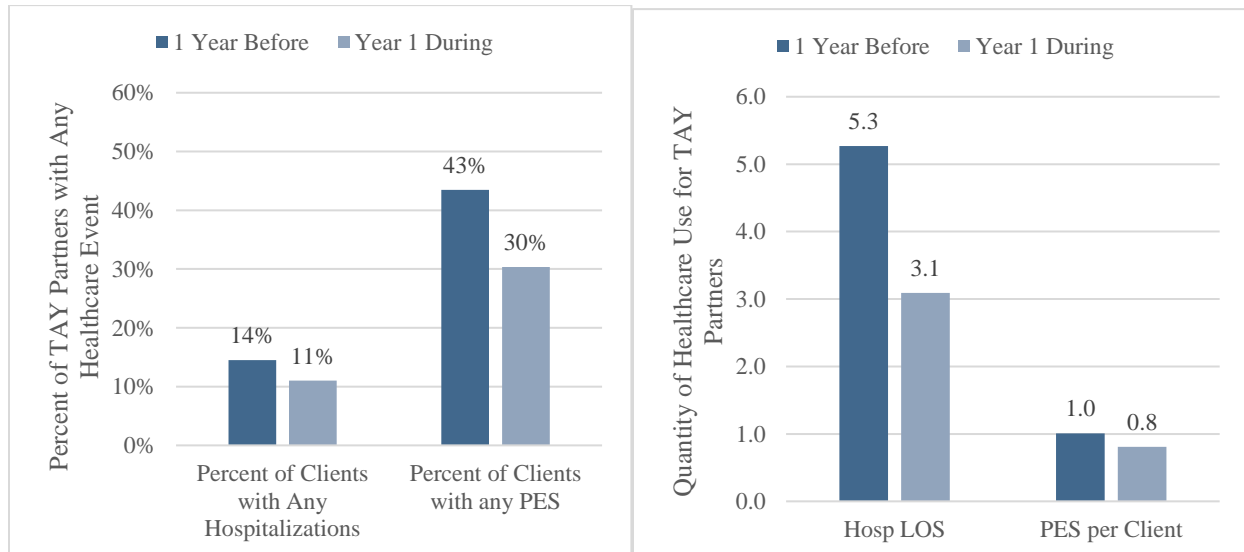
Outcomes on school attendance and grades are presented in Exhibit 6. Attendance and grades for TAY partners change very little. These ratings are on a 1-5 scale; a higher score is better.

Exhibit 6: School Outcomes for TAY Partners Completing One Year with FSP (n = 174)



Hospitalization outcomes are presented in Exhibit 7. The percent of TAY partners with any hospitalization or PES event decreases after joining FSP. The mean number of hospital days experienced by FSP partners, as well as the average number of PES events decreases after FSP enrollment.

Exhibit 7: Hospitalization Outcomes for TAY Partners Completing One Year with FSP (n = 145)



Outcomes for Adults

The following section presents outcomes for the 310 adult (aged 26-59) FSP partners.

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 arrests:** measured by arrests in past 12 months (PAF) and date arrested (KET)
4. **Partners with any self-reported mental health emergencies:** measured by emergencies in past 12 months (PAF) and date of mental health emergency (KET)
5. **Partners with any self-reported physical health emergencies:** measured by emergencies in past 12 months (PAF) and date of acute medical emergency (KET)
6. **Partners with any reported employment:** measured by employment in past 12 months (PAF) and date employment change (KET)

Note that school outcomes are not presented for this cohort because it is not relevant for this age group.

Again, the results below compare the first year on FSP to the year just prior to FSP for partners completing at least one year of FSP. For a visual description on how these outcomes change over a longer partnership duration, 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. This report also presents the four hospitalization outcomes for the 294 adult partners using the Avatar system (EHR):

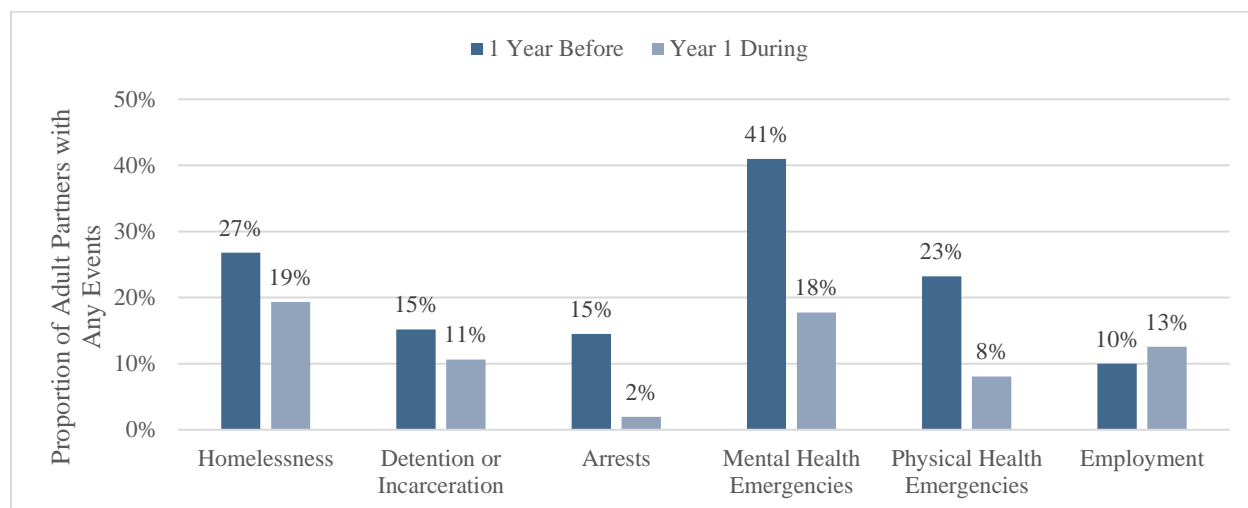
1. **Partners with any hospitalizations:** measured by any hospital admission in the past 12 months
2. **Partners with any PES:** measured by any PES event in the past 12 months
3. **Average length of hospital stay (in days):** the number of days associated with a hospital stay in the past 12 months;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

Results

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 8. Homelessness, incarceration, arrests, as well as self-reported mental and physical health emergencies all decrease. In addition, employment increases.

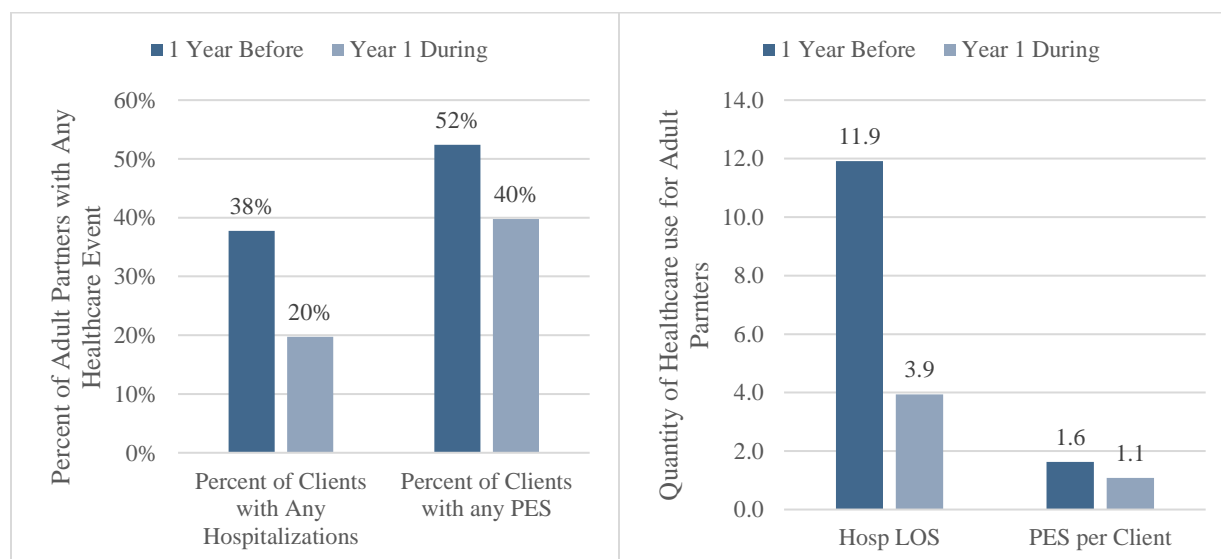
Exhibit 8: Outcomes for Adult Partners Completing One Year with FSP (n = 310)



Hospitalization outcomes are presented in Exhibit 9. The percent of adult partners with any hospitalization or PES event decreases after joining FSP. The mean number of hospital days experienced by FSP partners, as well as the average number of PES events decreases after FSP enrollment.

Among all age groups, Adults partners experienced the greatest percentage point reduction from 38% of partners with any hospitalization before FSP decreasing to 20% during FSP. Among all age groups, adults experienced the greatest changes from 11.9 days before FSP decreasing to 3.9 days during FSP.”

Exhibit 9: Hospitalization Outcomes for Adult Partners Completing One Year with FSP (n = 294)



Outcomes for Older Adults

The following section presents outcomes for the 54 adult (aged 60 and older) FSP partners.

1. **Partners with any reported mental health emergencies:** measured by emergencies in past 12 months (PAF) and date of mental health emergency (KET)
2. **Partners with any reported physical health emergencies:** measured by emergencies in past 12 months (PAF) and date of acute medical emergency (KET)

Note that school outcomes are not presented for this cohort because it is not relevant for this age group. In addition, 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).

This report also presents the four hospitalization outcomes for the 43 older adults using the Avatar system (EHR):

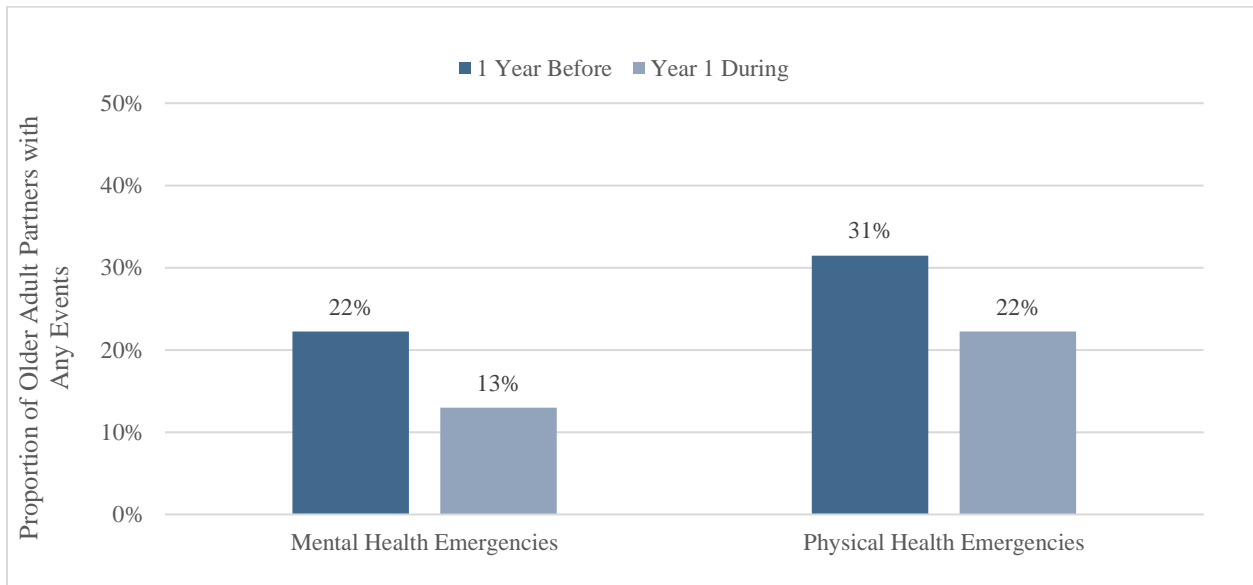
1. **Partners with any hospitalizations:** measured by any hospital admission in the past 12 months
2. **Partners with any PES:** measured by any PES event in the past 12 months
3. **Average length of hospital stay (in days):** the number of days associated with a hospital stay in the past 12 months;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

Results

Next, below in Exhibit 10, 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 also decrease.

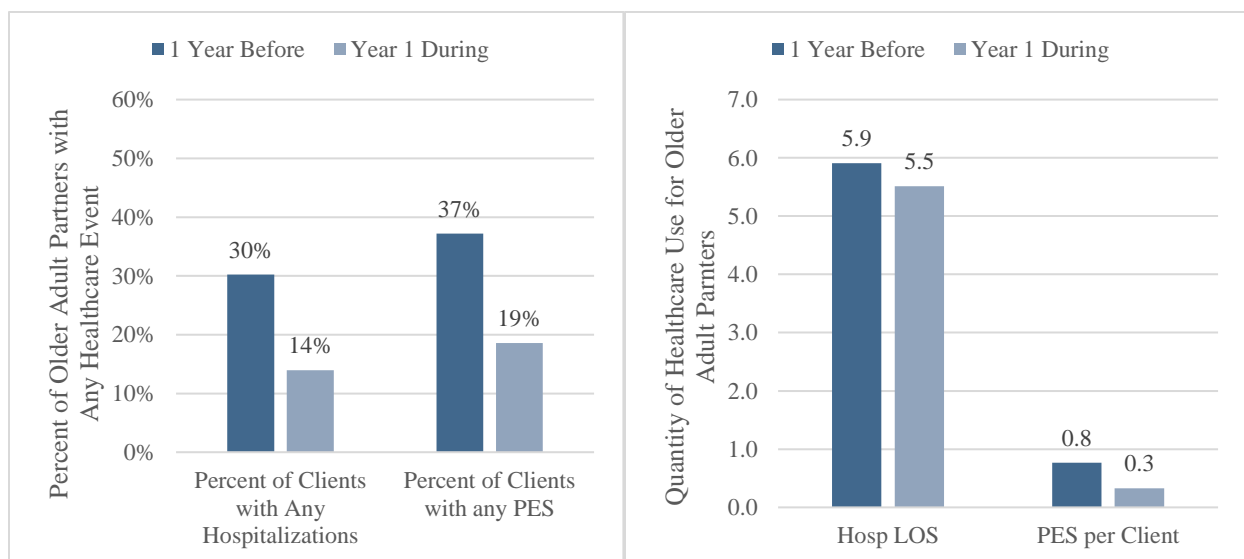
Exhibit 10: Outcomes for Older Adult Partners Completing One Year with FSP (n = 54)



Hospitalization outcomes are presented in Exhibit 11. The percent of older adult partners with any hospitalization or PES event decreases after joining FSP. The mean number of hospital days experienced by FSP partners, as well as the average number of PES events decreases after FSP enrollment.

Among all age groups, older adults experienced the greatest percentage point reductions; 37% of partners had a PES event before FSP compared to 19% during FSP. Among all age groups, adults and older adults experienced similar decreases of 0.5 events per partner before compared to during FSP.

Exhibit 11: Hospitalization Outcomes for Older Adult Partners Completing One Year with FSP (n = 43)



Hospitalization Outcomes 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 12) Percent of partners with any hospitalization decreased from 23% before FSP to 13% during FSP. Days in the hospital decreased from 6.97 days before FSP to 2.86 days during FSP. Percent of partners with any psychiatric emergency services (PES) decreased from 42% before FSP to 29% during FSP. The average number of PES events decreased from 1.13 events before FSP to 0.74 events during FSP.

Exhibit 12: FSP Partners Have Significantly Improved Hospitalization Outcomes (n=623)

	Mean	95% Confidence Interval
Percent of Partners with Any Hospitalization*		
1 Year Before	23%	(20% - 26%)
Year 1 During	13%	(10% - 15%)
Mean Number of Hospital Days, per Partner*		
1 Year Before	6.90	(5.50 - 8.30)
Year 1 During	2.81	(1.91 - 3.70)
Percent of Partners with any PES Event*		
1 Year Before	42%	(38% - 45%)
Year 1 During	28%	(25% - 32%)
Mean PES Events, per Partner*		
1 Year Before	1.11	(0.95 - 1.28)
Year 1 During	0.73	(0.59 - 0.87)

*Results are statistically significant at the 95% level

Exhibit 13-16 show the four hospitalization outcomes, stratified by enrollment year. As can be seen in Exhibit 13, the percent of partners with any hospitalization decreased after joining an FSP program for all cohorts.

Exhibit 13: Percent of Partners with Any Hospitalization over Time

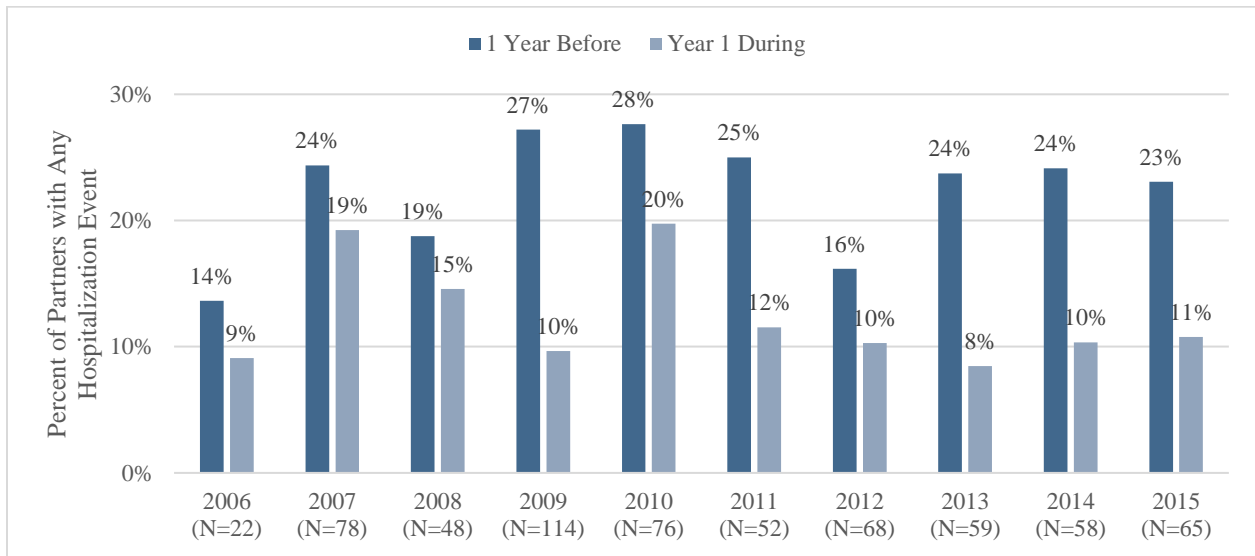


Exhibit 14 displays the mean hospital days per partner. With the exception of 2006 and 2007 cohorts, most partners experienced decreases in the mean number of hospital days.

Exhibit 14: Mean Number of Hospital Days over Time

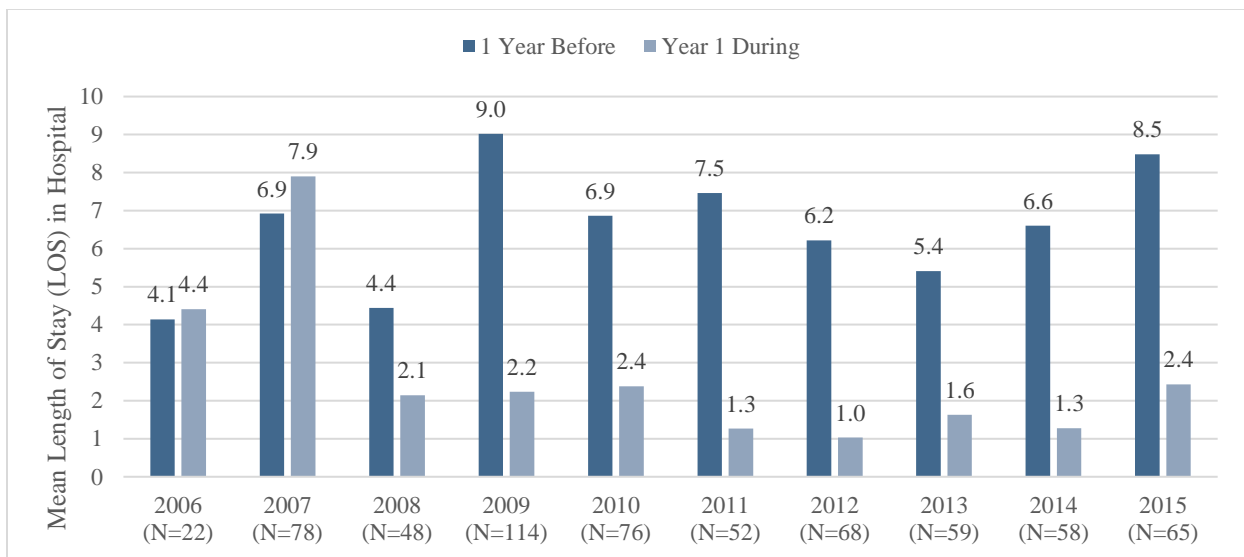
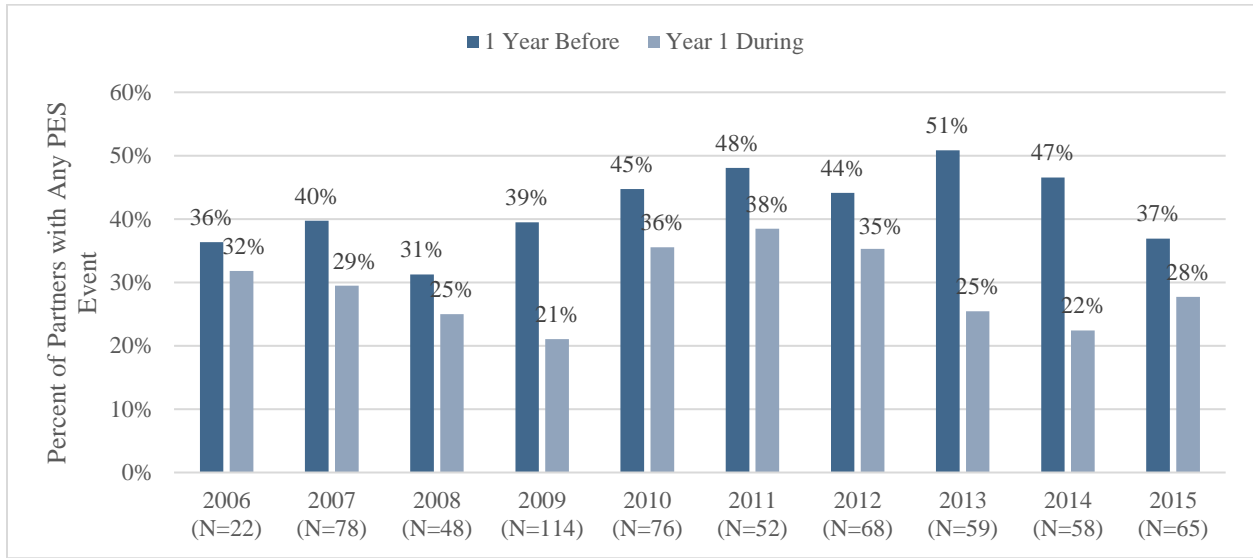


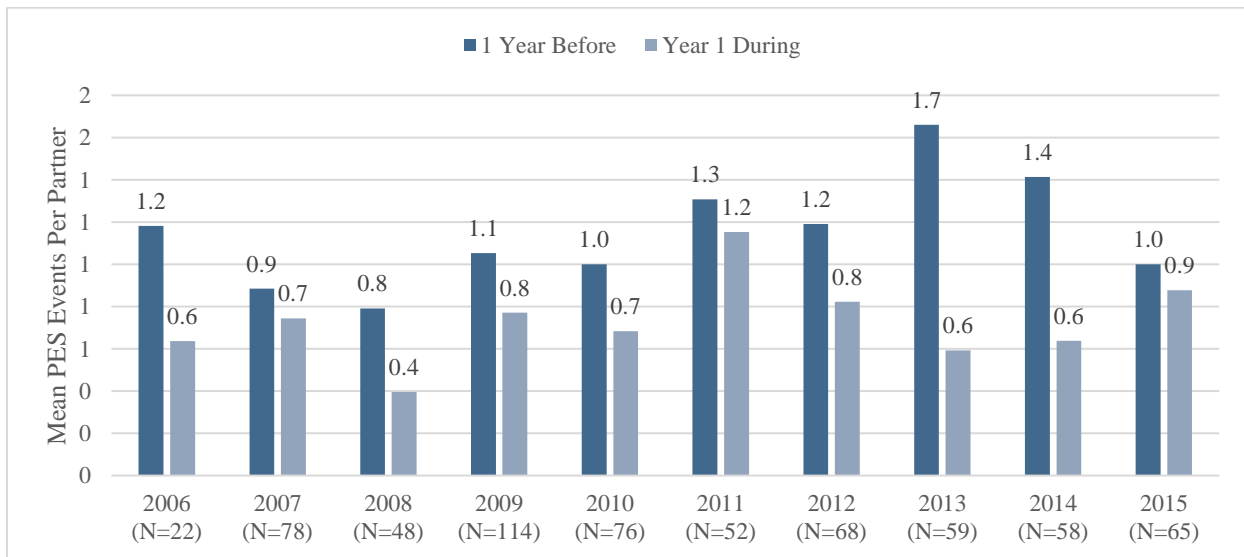
Exhibit 15 displays the percent of partners with any PES event by the year they began FSP. All cohorts experienced a decline in the likelihood of a PES event.

Exhibit 15: Percent of Partners with any PES Event over Time



Finally, Exhibit 16 displays the mean PES events per partner. Again, all cohorts experienced a reduction in PES events.

Exhibit 16: Mean PES Events over Time



Appendix A: Additional Detail on Survey Outcomes

This section provides more details on the results presented above. To show more granular outcomes for groups of individuals large enough to interpret, here we combine child with TAY partners and adult with older adult partners, except where explicitly noted. No outcomes are presented for any group of partners with 50 or fewer individuals.

Residential Setting

For residential setting outcomes (Exhibit A1-A2), we present all the categories of living situations and compare the percentages of 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.

First, Exhibit A1 presents the percentage of child and TAY partners spending any time in various residential settings. As can be seen, there are decreases in the percentage of clients with events in nearly all of the residential settings (except living alone or with others, paying rent).

Exhibit A1: Any Time in Residential Setting - Child and TAY Partners Completing 1 Year (n = 337)

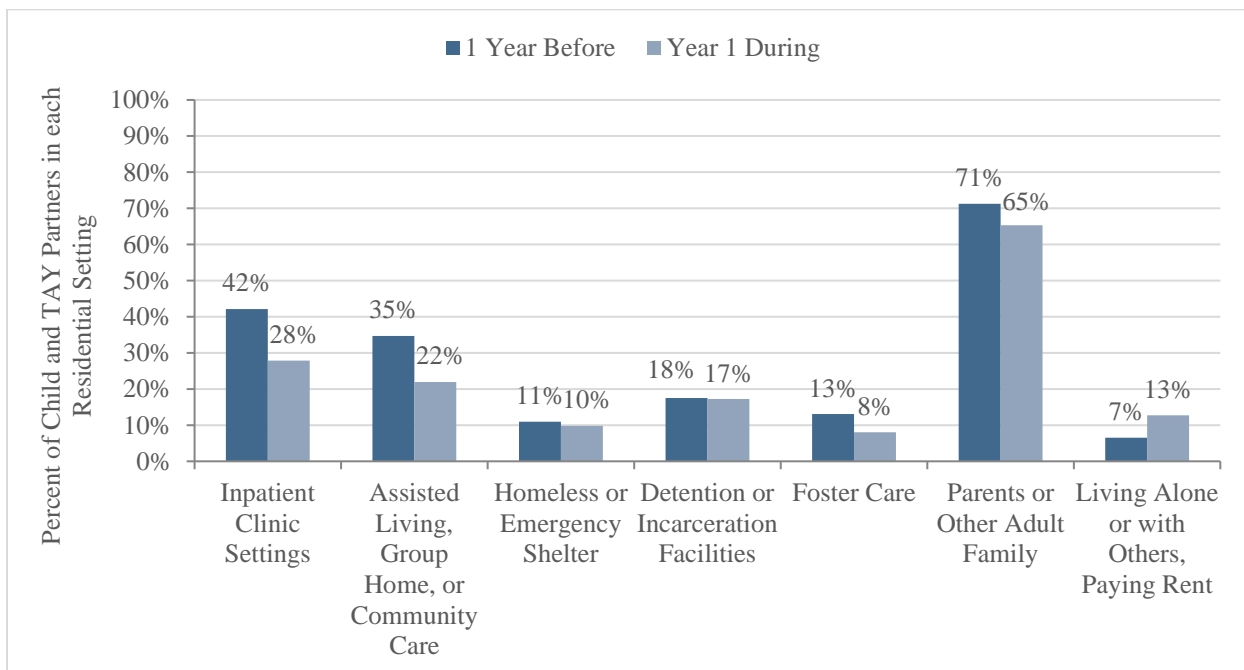
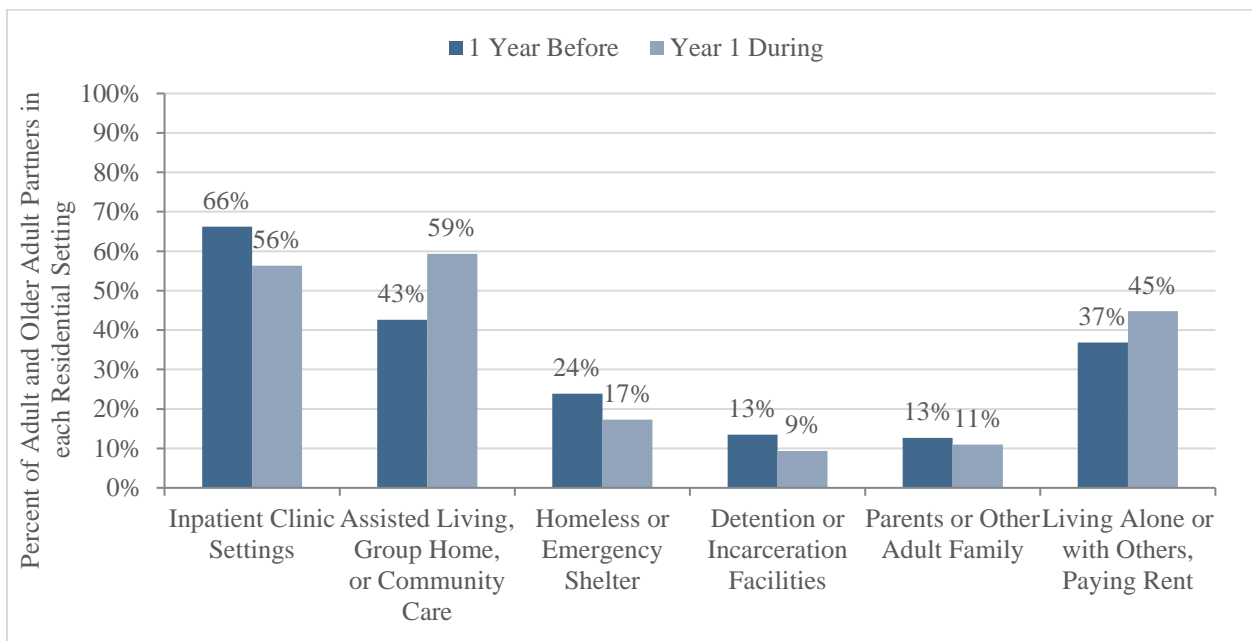


Exhibit A2 presents the residential settings for adult and older adult clients. As can be seen, the percent of clients reporting any time in an inpatient clinic, homeless, incarcerated, or living with parents decreases. In contrast, the percent living in an assisted living, group home, or community care environment, or living alone or with others, paying rent increases.

Exhibit A2: Any Time in Residential Settings – Adult and Older Clients Completing 1 Year (n = 357)



For outcomes of arrests, mental health emergencies, physical health emergencies, school and employment (Exhibit A3-A12), we present the results broken down by the number of years of partnership.

Arrests

Exhibit A3 presents the percentage of child and TAY partners with any arrests, broken down by tenure with FSP and year of program. Arrests are more common among child and TAY partners the year prior to FSP than in the first year. Gains are maintained across additional FSP years.

Exhibit A3: Any Arrests – Child and TAY Partners

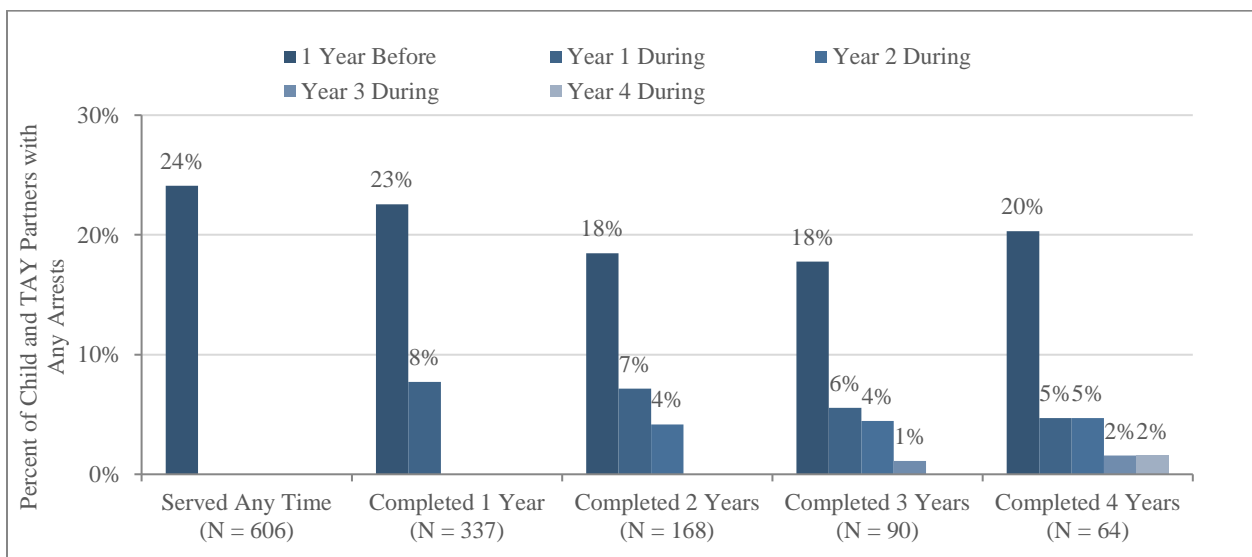
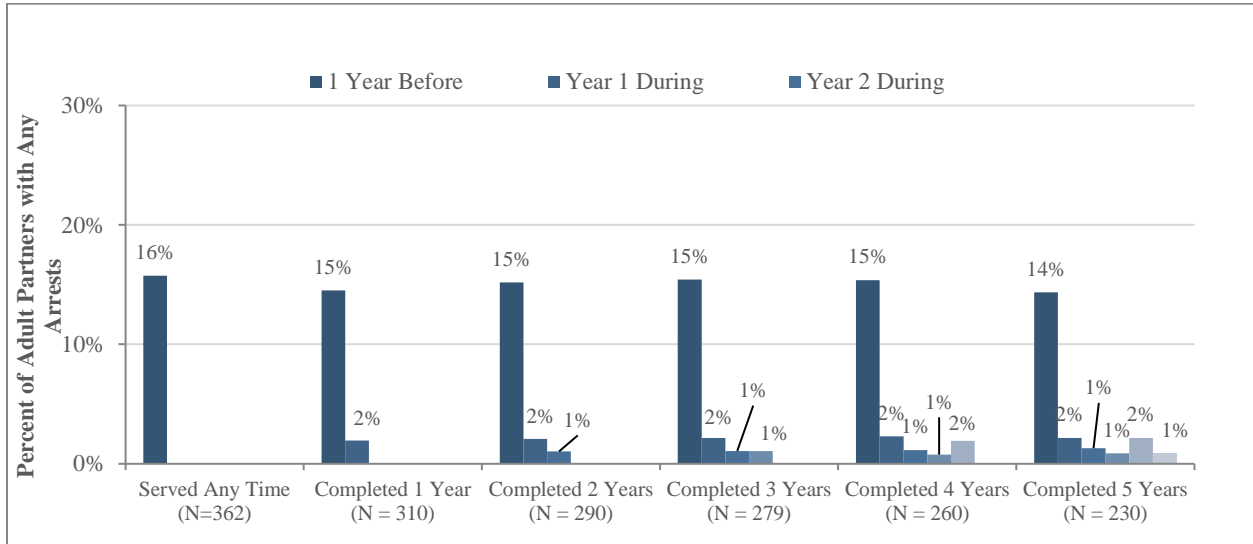


Exhibit A4 presents the percentage of adult partners with any arrests, broken down by tenure with FSP and year of program. Older adults are not included in these analyses because of insufficient observations with any arrests. As can be seen, arrests are more common among adult partners the year prior to FSP than in the first year. Gains are maintained across additional FSP years.

Exhibit A4: Any Arrests – Adult Partners



Self-reported Mental Health Emergencies

Exhibit A5 presents the percentage of child and TAY partners with any self-reported mental health emergencies, broken down by tenure with FSP and year of program. As can be seen, mental health emergencies as measured by self-report are more common among child and TAY partners the year prior to FSP than in the first year. Gains are maintained across additional FSP years.

Exhibit A5: Mental Health Emergencies – Child and TAY Partners

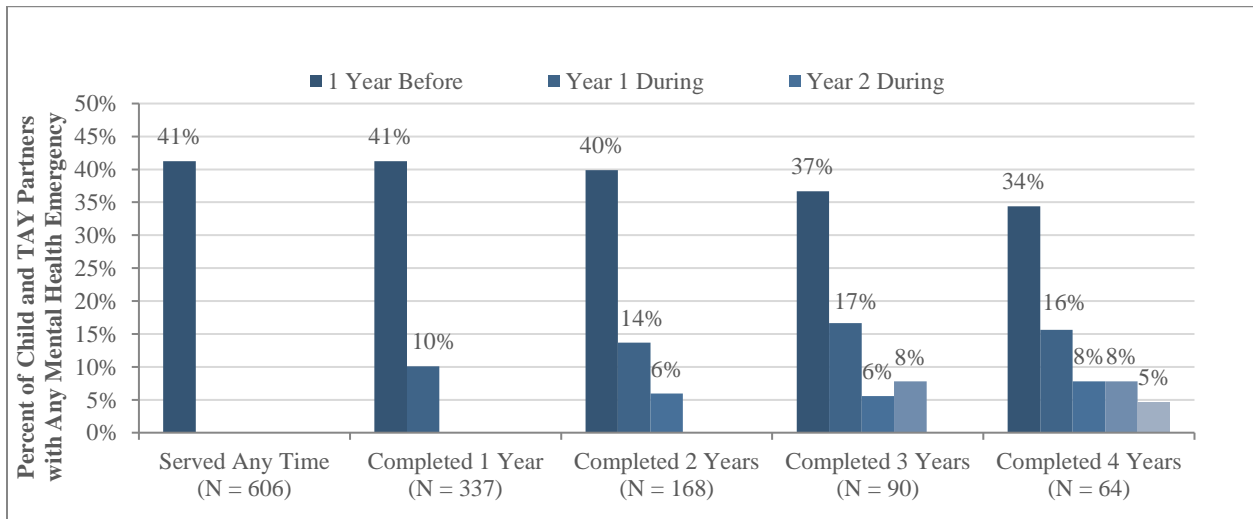
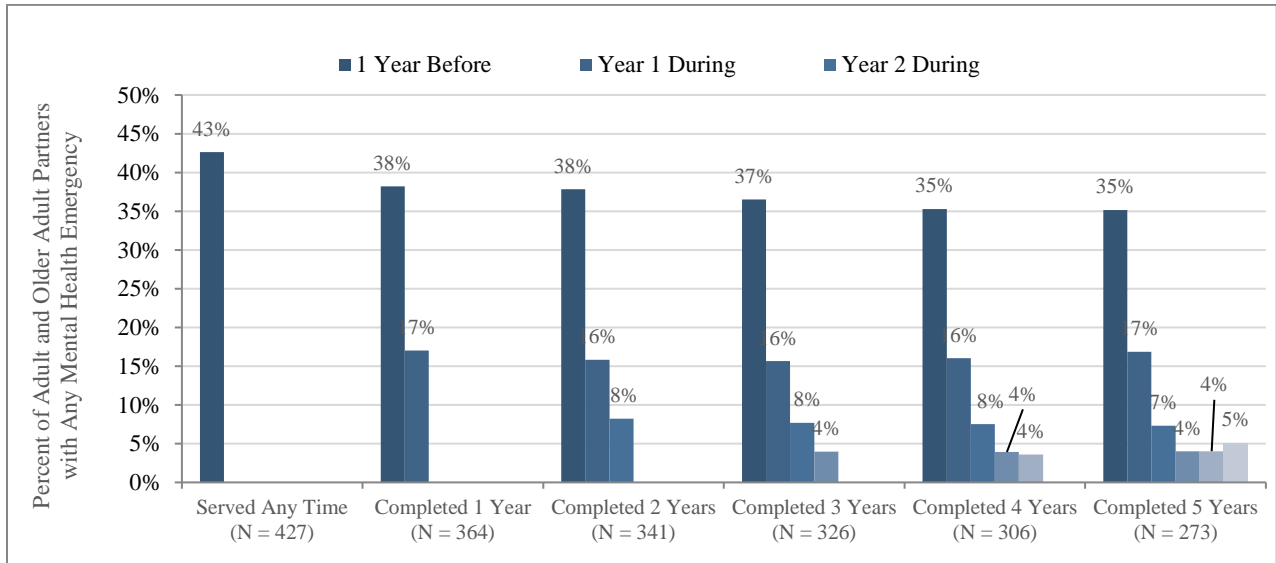


Exhibit A6 presents the percentage of adult and older adult partners with any self-reported mental health emergencies, broken down by tenure with FSP and year of program. Mental health emergencies as measured by self-report are more common among adult and older adult partners the year prior to FSP than in the first year. Gains are maintained across additional FSP years.

Exhibit A6: Mental Health Emergencies – Adult and Older Adult Partners



Self-reported Physical Health Emergencies

Exhibit A7 presents the percentage of child and TAY partners with any self-reported physical health emergencies, broken down by tenure with FSP and year of program. Physical health emergencies, as measured by self-report, are more common among child and TAY partners the year prior to FSP than in the first year. Gains are maintained across additional FSP years.

Exhibit A7: Physical Health Emergencies – Child and TAY Partners

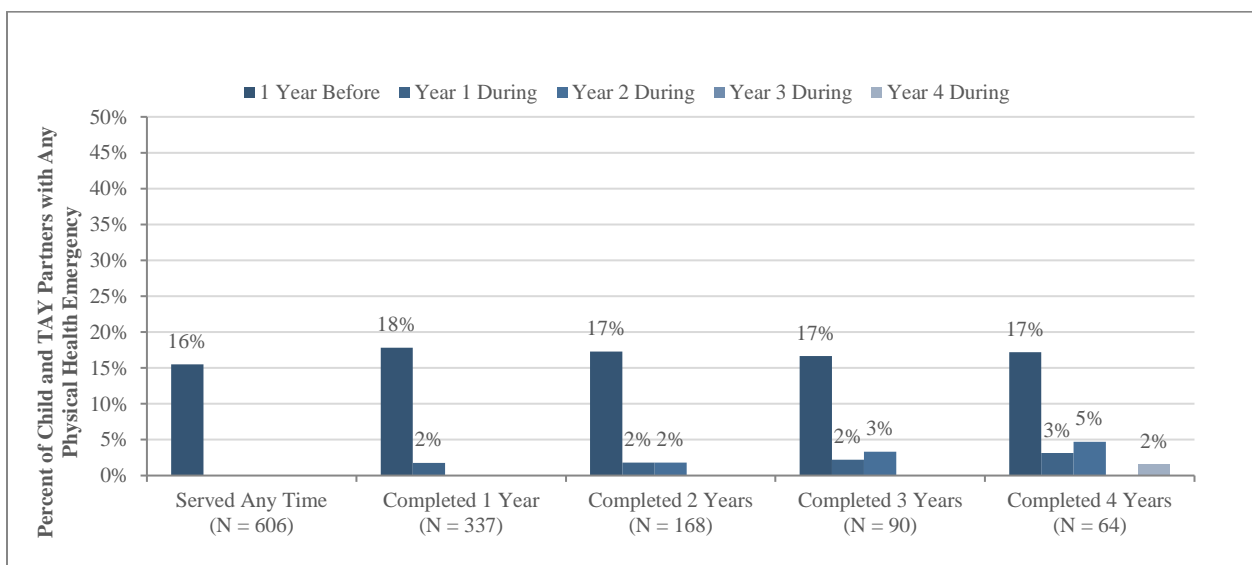
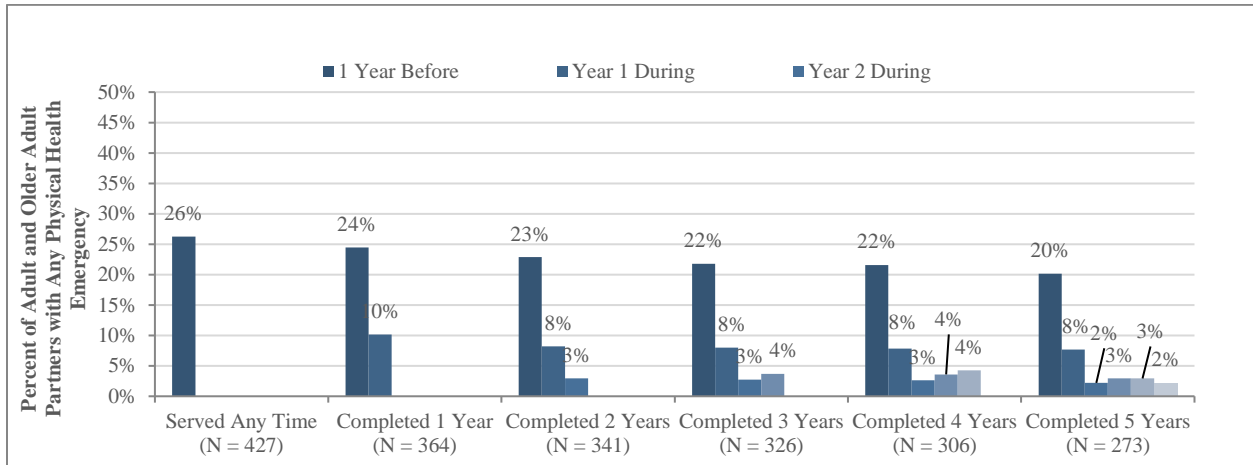


Exhibit A8 presents the percent of adult and older adult partners with any self-reported physical health emergencies, broken down by tenure with FSP and year of program. Physical health emergencies as measured by self-report are more common among adult and older adult partners the year prior to FSP than in the first year. Gains are maintained across additional FSP years.

Exhibit A8: Physical Health Emergencies – Adult and Older Adult Partners



School Outcomes

Exhibits A9, A10, and A11 present school outcomes for child and TAY partners affiliated with Edgewood and Fred Finch. The small number of TAY partners affiliated with Caminar and Telecare are omitted from these analyses due to limited data on school performance.

Exhibit A9 presents the percent of child and TAY partners with any reported school suspensions, broken down by tenure with FSP and year of program. School suspensions are more common among child and TAY partners the year prior to FSP than in the first year. Gains are maintained across the next FSP year.

Exhibit A9: School Suspensions – Child and TAY Partners

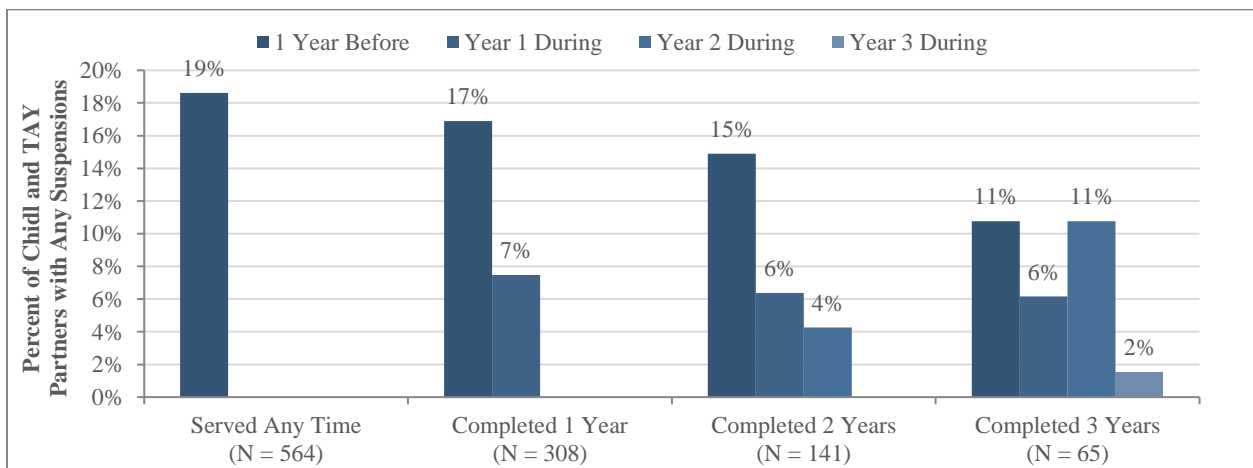


Exhibit A10 presents the average attendance rating (1-5) for child and TAY partners, broken down by tenure with FSP and year of program. Note that not all FSP partners in these age groups

have data on attendance, and those who do have data on attendance do not necessarily have it at every three-month assessment. School attendance increases slightly once partners are on FSP. Attendance appears to dip during the third year, but this represents a small number of individuals and should not be over interpreted.

Exhibit A10: Ratings of Attendance – Child and TAY Partners (Rating 1 – 5; Higher is Better)

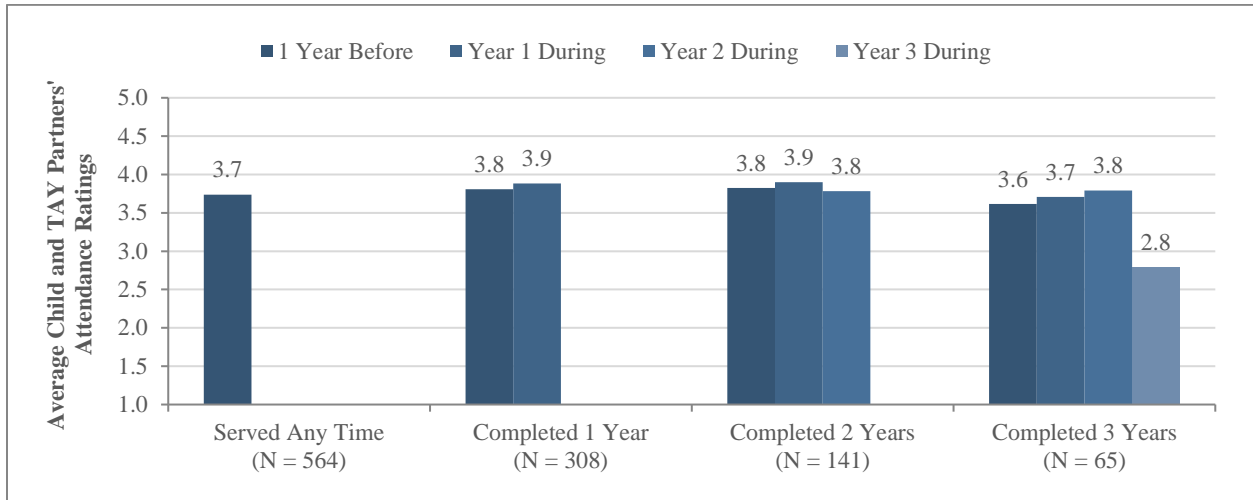
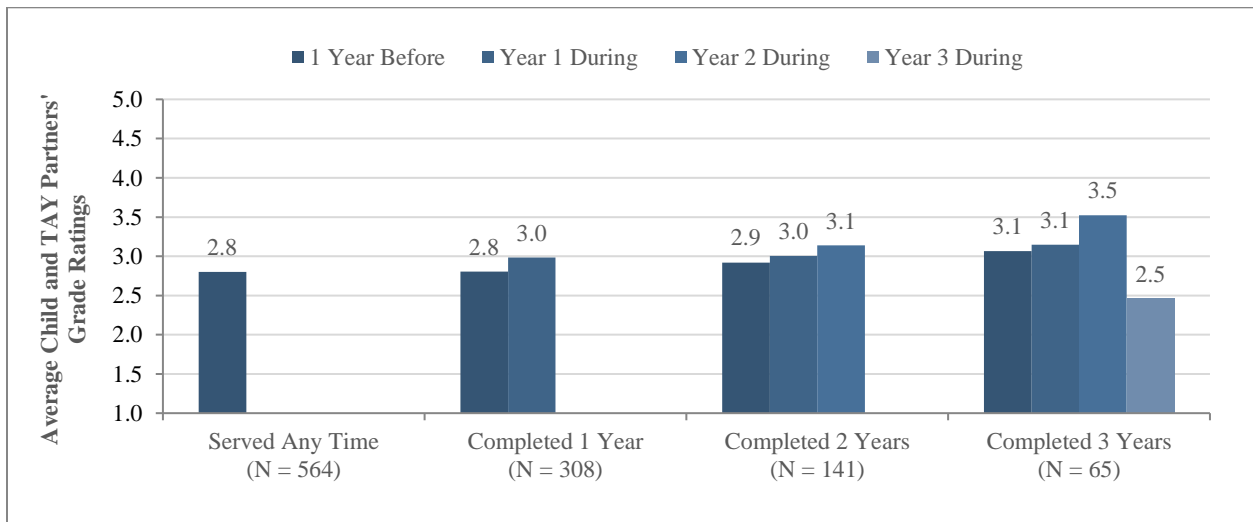


Exhibit A11 presents the average grades rating (1-5) for child and TAY partners, broken down by tenure with FSP and year of program. Note that not all FSP partners in these age groups have data on grades, and those who do have data on grades do not necessarily have it at every three-month assessment. School grades increase slightly once partners are on FSP. Grades appear to dip during the third year, but this represents a small number of individuals and should not be over interpreted.

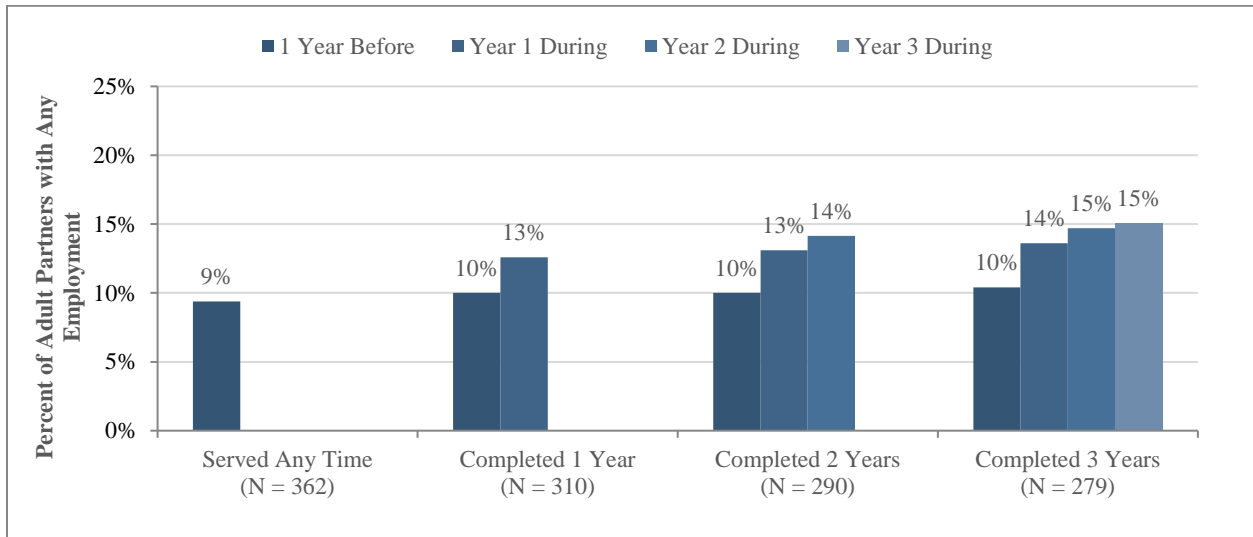
Exhibit A11: Ratings of Grades – Child and TAY Partners (Rating 1 – 5; Higher is Better)



Employment

Exhibit A12 presents the percent of adult partners with any reported employment, broken down by tenure with FSP and year of program. Older adults are not included in these analyses because of insufficient observations with any employment. Having any employment among adult partners the year prior to FSP than in the first year. Gains are maintained across additional FSP years.

Exhibit A12: Employment – Adult Partners



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 by FSP providers, including Edgewood/Fred Finch, Caminar, and Telecare. Adult partnership organizations were broken apart but all children remain combined because the data from Fred Finch and Edgewood is stored together without organizational identifiers. No outcomes are presented for any group of partners with 50 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, with the exception of attendance and grade ratings. Percent improvement is the percent change in the percent of partners with any events. Outcomes of attendance and grade ratings in Exhibit B1-B3 present the average ratings for the year prior to FSP and the first year on FSP, as well as the percent change in the average ratings, for each FSP provider. In sum, the vast majority of the outcomes improve (18 of 19 outcomes) for all reported FSP provider groups.

As can be seen in Exhibit B1, there are improvements comparing the year prior to FSP to the first year during FSP for Edgewood / Fred Finch on the following self-reported outcomes: homelessness, mental health emergencies, physical health emergencies, school suspensions, attendance ratings and grade ratings. However, there is one outcome for which there is no improvement. The percent of partners with an episode of detention or incarceration increases.

Exhibit B1. Percent Improvement in Outcomes for Edgewood / Fred Finch, Year before FSP Compared with First Year with FSP

Survey Outcomes, Edgewood / Fred Finch	1 Year Before	Year 1 During	% Difference
Homelessness	9.4%	8.8%	6.9%
Detention or Incarceration	15.9%	17.2%	(8.2%)
Arrests	23.4%	8.1%	65.3%
Mental Health Emergencies	40.9%	8.8%	78.6%
Physical Health Emergencies	3.9%	1.6%	58.3%
School Suspensions	16.9%	7.5%	55.8%
Attendance Ratings	3.80	3.91	2.9%
Grade Ratings	2.79	2.99	6.7%
Employment	**	**	**

** Not Reported

As can be seen in Exhibit B2, 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 B2. 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	21.4%	10.7%	50.0%
Detention or Incarceration	8.9%	3.6%	60.0%
Arrests	12.5%	1.8%	85.7%
Mental Health Emergencies	75.8%	17.7%	76.6%
Physical Health Emergencies	54.8%	16.1%	70.6%
School Suspensions	**	**	**
Attendance Ratings	**	**	**
Grade Ratings	**	**	**
Employment	0%	1.9%	N/A

** Not Reported

As can be seen in Exhibit B3, 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 B3. 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	27.9%	21.2%	24.1%
Detention or Incarceration	18.4%	12.7%	30.8%
Arrests	14.8%	2.1%	85.7%
Mental Health Emergencies	31.7%	17.5%	44.8%
Physical Health Emergencies	17.8%	8.5%	52.5%
School Suspensions	**	**	**
Attendance Ratings	**	**	**
Grade Ratings	**	**	**
Employment	12.0%	14.7%	22.6%

** Not Reported

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), 701 partners completed a full year with FSP since program inception.

Three datasets were obtained: one from Caminar, one from Telecare, and one from Edgewood/Fred Finch. Caminar and Edgewood/Fred Finch 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. Note that Edgewood/Fred Finch data are presented together.

Exhibit C1: Summary of Partners One Full Year of FSP

Age Group	Edgewood/ Fred Finch	Caminar	Telecare	Total
Child (aged 16 and younger)	134	--	--	134
TAY (aged 17 – 25)	174	4	25	203
Adult (aged 26 -59)	--	52	258	310
Older Adult (aged 60+)	--	6	48	54
Total	308	62	331	701

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, 2016.

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 ¹	Caminar, Edgewood, and Fred Finch Setting Value ²
With family or parents		
With parents	1	1
With other family	2	2
Alone		
Apartment alone or with spouse	3	3
Single occupancy (must hold lease)	4	19
Foster home		
Foster home with relative	5	4
Foster home with non-relative	6	5
Homeless or Emergency Shelter		
Emergency shelter	7	6
Homeless	8	7
Assisted living, group home, or community care		
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
Inpatient Facility		
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
Incarcerated		
Juvenile Hall	23	15
Division of Juvenile Justice	24	16
Jail	30	27
Prison	31	26
Other / Don't Know		
Don't know	0	18
Other	49	17

¹ Setting names determined by *Setting* variable in Telecare data.

² Setting names determined by the following guide:

https://mhdatapublic.blob.core.windows.net/fsp/DCR%20Data%20Dictionary_2011-09-15.pdf

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.

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.

School Outcomes

School outcomes were generated for child and TAY partners affiliated with Edgewood and Fred Finch only. Caminar and Telecare TAY, adult, and older adult partners were excluded. Note that these outcomes are presented as though they represent outcomes for *all* child and TAY partners; however, we do not know how many of these partners are enrolled in school.

Suspensions

1. The baseline data were populated using the variable *SuspensionPast12* collected by the PAF. Individuals with blank data in this variable were assumed to have zero suspensions in the year prior to FSP.
2. Ongoing suspensions were populated using the variable indicating the date of suspension (*DateSuspension*) 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 suspensions in the KET indicated that no suspensions had occurred in the first year on FSP.

Grades and Attendance

Note that grades and attendance are cardinal rankings. They are reported as ranging from 1 to 5, where lower indicates a better outcome. For the purposes of reporting, we reverse-coded these outcomes such that a 5 indicates a better outcome.

1. The baseline data were populated using the variables *GradesPast12* and *AttendancePast12* from the PAF data. Individuals with blank data in this variable were excluded.
2. Ongoing rankings of grades and attendance were gathered using the *GradesCurrent* and *AttendanceCurrent* from the PAF (for the first ranking) and the 3M forms. Again, individuals with blank data are excluded.
3. Because there were multiple observations for each person in each year, first averages by person by year were created; then averages by year.

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 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 667 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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