EMERGENCY ROOM
ENHANCEMENT
Improving Access to Behavioral Health Care

Emergency Room Enhancement Annual Summary Report - Year 4

Reporting Period: July 1, 2016 - June 30, 2017
Report Completed: July 31, 2017

This report describes the results from the ERE evaluation activities for fiscal year 4. Key findings are presented below, followed by in-depth descriptions. MIMH conducts the outcome evaluation for the ERE Project by analyzing the data collected from the seven implementation sites in reference to the primary outcomes. Fiscal Year 4 ERE Project Annual Report includes a number of **Key ERE Evaluation Results in three main areas:**

1. ERE Project Audit of Outcomes over time (Years 1 – 4):

- In order to audit the effectiveness of the ERE project across time, we utilized all consumer data with intake and at least one follow-up assessment available (n = 3675) to examine primary outcomes - 1) number of ER visits, 2) number of hospitalizations, 3) rates of unemployment, 4) rates of homelessness, 5) contact with law enforcement - across each year of the program and each provider region.
- **Analyses illustrate the ERE Project has consistently improved primary outcomes of interest across all years and all provider regions.**

2. Primary ERE Outcomes for Year 4: Examining changes in outcomes for those who engaged in ERE services in year 4 specifically.

- **Number of ER Visits**: Reduced by 63.3% after 3months and 69.2% at 6 months.
- **Number of Hospitalizations:** Reduced by 60.6% after 3 months and 75.3% after 6 months.
- **Homelessness:** Reduced by 60.0% after 3 months and 74.0% after 6 months.
- **Unemployment Status:** Reduced by 45.4% after 3 months and 66.9% after 6 months.
- **Contact with Law Enforcement (in the past 90 days):** Reduced by 51.6% after 3 months and 66.7% after 6 months

3. Process Evaluation: MIMH also conducts process evaluation to assess participants' and stakeholders' perceptions regarding the implementation and impact of ERE. These evaluation activities consist of: 1) focus groups with ERE consumers at each site and 2) an online collaboration survey with stakeholders.

- **Focus Groups:** Participants described the positive impact of ERE on their lives via provision of basic needs and supportive mental health resources that deter utilization of the ER.
- **Online Collaboration Survey:** A majority of ERE collaborators agree ERE is working well and that the collaboration has generated high quality working relationships.

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ERE Project Audit of Primary Outcomes over time (Years 1 – 4):

MIMH analyzes the data collected by the seven ERE sites to evaluate whether ERE participants are showing improvement on the following primary outcomes collected at baseline as well as 3- and 6-month follow-up time-points: 1) number of ER visits, 2) number of hospitalizations, 3) rates of unemployment, 4) rates of homelessness, and 5) involvement with the criminal justice system. To assess these outcomes, ERE consumers complete a brief interview and report their current residential and employment status and number of arrests in the past 30 days (MIMH data collection forms) or number of general law enforcement encounters in the past 90 days (Coalition data collection forms). Previous 90-day ER and hospital use data are also collected from the consumers or hospital records when available. Data are collected at three time-points: enrollment in ERE (i.e., intake), 3-months after intake, and 6-months after intake. Findings for fiscal year 4 are presented below.

For analyses reported below, outcomes data reflect clients who: 1) were *engaged* in ERE and 2) for whom *data were available for baseline and at least one follow-up (either 3-month OR 6-month).* As a result, sample sizes and means/percentages differ across outcomes.

ERE Enrollment: Table 1 presents the total number of consumers engaged in the ERE project and overall follow-up rates by fiscal year. Because rates capture whether or not either 3- or 6-month follow-up was collected, they are somewhat higher than the separate 3- and 6-month rates reported quarterly.

Table 1: Number of Consumers Engaged in ERE and Follow-up Completion Rates by Year and Region

	Total			Year 1		Year 2		Year 3		Year 4		
	Engaged	Follow-up	Follow-up*	Engaged	Follow-up	Engaged	Follow-up	Engaged	Follow-up	Engaged	Follow-up	Follow-up*
Site	n	%	%	n	%	n	%	n	%	n	%	%
Pathways	354	88%	96%	78	100%	68	99%	78	99%	130	69%	89%
Kansas City	927	94%	98%	119	99%	286	100%	262	100%	260	79%	94%
Springfield	965	40%	44%	178	84%	381	30%	150	32%	256	29%	41%
St. Louis	795	79%	83%	98	90%	225	82%	242	85%	227	66%	79%
Columbia	886	40%	43%	81	78%	156	44%	279	43%	370	28%	34%
FCC	479	84%	90%	116	100%	82	100%	123	98%	158	53%	66%
Mark Twain	769	94%	99%	156	100%	215	100%	207	100%	190	76%	95%
Total	5174	71%	76%	826	93%	1413	72%	1341	77%	1591	53%	67%

Note. Follow-up rates reflect the completion of any follow up (at 3-month or 6 month); *rates marked with asterisk are corrected to only include those who were enrolled in ERE services long enough to be eligible for a 3-month assessment (n = 4846 for Total; n = 1266 for Year 4).

Overall, 3675 follow-ups assessment were administered (follow-up rate = 76%) across years and sites (including only those who were eligible for at least a 3-month follow-up) Rates of follow-up across year (93% in YR1, 72% in YR2, and 77% in Y3, and 67% in Y4), point to a potential area of improvement for the ERE Project. That said, several sites consistently report high follow-up completion rates (i.e., Pathways, Kansas City, and Mark Twain).

ERE Demographics: Table 2 depicts demographics and presenting concerns for participants engaged in the ERE program across sites and for each individual site. The average age of an ERE consumer is 37.8 years (range 17-87 years), and is evenly divided by gender (54.6% male). ERE consumers are largely White (74.2%) and uninsured (55.6%) or have Medicaid (22.3%), and/or Medicare (3.6%). Approximately thirty percent (30.3%) of consumers are experiencing homelessness. Few have had served in the military (4.0%). ERE consumers present with a variety of complicated symptoms. Over two-thirds exhibit psychiatric concerns (78.5%), 31.2% have substance use problems, and 18.5% express suicidality. Further, a significant portion of clients (41.1%) present with both psychiatric and substance use concerns. **Taken together, these findings indicate that ERE consumers tend to be under-served and in critical need of mental health services. Fortunately, as detailed in this report, the ERE program facilitates a high rate of engagement in the program and addresses multiple behavioral outcomes to improve the life of individuals engaged in ERE services.**

Table 2. Participant characteristics at baseline across sites, project-to-date (N = 5174)

	All Sites	Pathways	Kansas City	Spring-field	BHN	Columbia	FCC	Mark Twain
N	5174	354	927	965	795	886	479	768
Mean Age	37.8	39.7	40.9	38.9	36.8	37.2	36.4	34.6
	%	**%**	**%**	**%**	**%**	**%**	**%**	**%**
Gender								
Male	54.6	48.9	64.7	50.7	56.7	51.1	44.9	57.6
Female	45.0	50.6	34.6	48.7	42.6	48.6	54.7	42.2
Transgender	.3	.5	.4	.4	.4	.1	.4	.1
Other/Refused	.1	-	.2	.2	.3	.1	-	.1
Race								
White	74.2	94.9	62.7	85.7	43.0	73.9	86.0	89.1
Black	19.9	3.7	31.3	6.9	46.0	20.5	9.8	8.2
Other	4.6	1.4	5.7	6.4	4.7	5.1	3.8	2.7
Unk/Refused	1.3	-	.3	1.0	6.3	.5	.4	-
Military Status								
Civilian	80.7	91.8	85.7	90.1	22.6	94.6	93.3	94.0
Veteran	3.7	5.6	5.5	4.0	1.8	3.2	1.9	3.8
Active	.3	.3	.2	.2	.4	.2	-	.4
Missing	15.4	2.2	8.6	5.7	75.2	2.1	4.8	1.8
Payer Source								
Medicaid	22.3	37.3	31.4	27.8	24.3	4.7	31.7	10.2
Medicare	3.6	4.5	7.6	3.9	1.5	2.5	2.3	2.1
M & M	5.8	14.1	12.0	5.8	2.5	1.1	9.6	.9
Private	3.8	5.1	5.5	7.7	-	2.3	.6	4.3
Uninsured	55.6	35.0	35.1	47.3	60.4	80.1	37.0	78.9
Other	4.1	3.7	1.8	3.4	4.4	2.2	17.9	1.3
Missing	4.8	.3	6.6	4.1	7.0	7.1	.9	2.3
Homeless	30.3	17.2	58.6	30.9	25.8	22.2	21.3	21.1
Legal Inv.	14.3	14.1	18.8	11.5	6.5	7.2	6.1	34.1
Presenting Concerns	%	%	%	%	%	%	%	%
Psychiatric	88.2	81.1	88.0	89.0	77.7	91.4	95.2	93.6
Substance Use	44.8	52.3	56.6	37.9	38.3	41.9	36.1	51.0
Health	31.5	45.8	37.1	31.6	16.3	43.5	26.5	22.6
Co-occurring	41.1	44.4	49.8	34.5	37.5	38.6	33.6	48.8

Note. M & M = Both Medicaid and Medicare were endorsed as payer sources; Some data do not equal to 100% as percentages were rounded to one decimal place. More than one presenting concern could be endorsed for each consumer; Co-occurring refers to endorsement of both a psychiatric disorder and substance use; Numbers reflect participants engaged in ERE services only

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ERE Project Audit of Outcomes Over Time (Years 1 – 4)

As detailed in Figures 1 & 2 and Tables 3 & 4 below (see Appendix A for data on additional outcomes), the services provided through the **ERE Project have consistently improved primary outcomes of interest across all years and all provider regions.** Data reflect the change in primary outcomes from the Intake/Baseline assessment to the consumer's most recent follow-up (n = 3675); 62.1% of consumer's most recent follow-up assessment was at 6-months with the remaining 37.9% having only a 3-month follow-up assessment available. Importantly, although a large range of change exists across sites, it should be noted that eligibility and consumer population needs differ across site. For example, some sites had lower mean number of ER visits at intake and therefore less room to improve (reduce ER visits). Therefore, comparisons across provider regions should not be made.

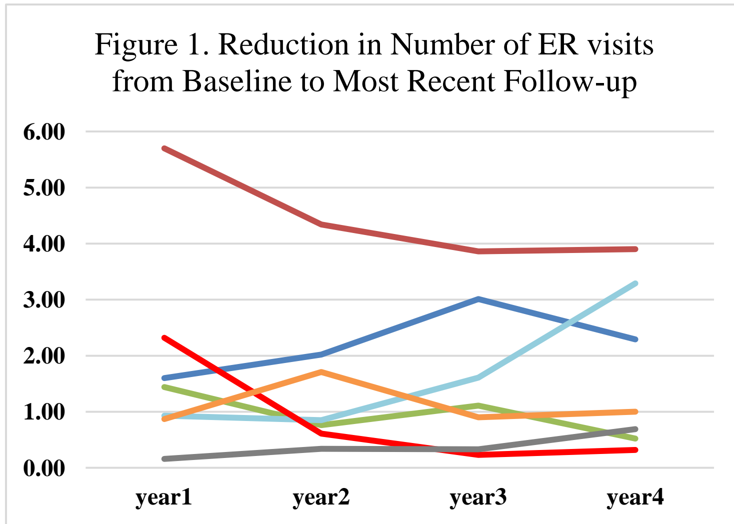


Table 3: Reduction in ER Visits by Year and Region

Regions	Year1	Year2	Year3	Year4	Overall
Pathways	1.60	2.02	3.01	2.29	**2.23**
Kansas City	5.70	4.34	3.86	3.90	**4.45**
Springfield	1.44	0.76	1.11	0.52	**0.96**
St. Louis	0.93	0.85	1.61	3.29	**1.67**
Columbia	2.32	0.61	0.23	0.32	**0.87**
FCC	0.87	1.71	0.90	1.00	**1.12**
Mark Twain	0.16	0.34	0.33	0.69	**0.38**
Total	**1.86**	**1.52**	**1.58**	**1.72**	**1.67**

Note: Figure 1 & Table 3 reflect the reduction in the number of ER visits in the past 90 days from the baseline client interview to the most recent follow-up organized by project year and provider region.

Overall, consumers visits to the ER in the past 90 days have been reduced on average 1.67 days with a (*Range* = 0.23 days - 5.70 days). Similar reductions were observed for hospitalization in the past 90 days with an overall mean reduction of 0.70 days (Range = 0.06 days – 2.54 days; Appendix A).

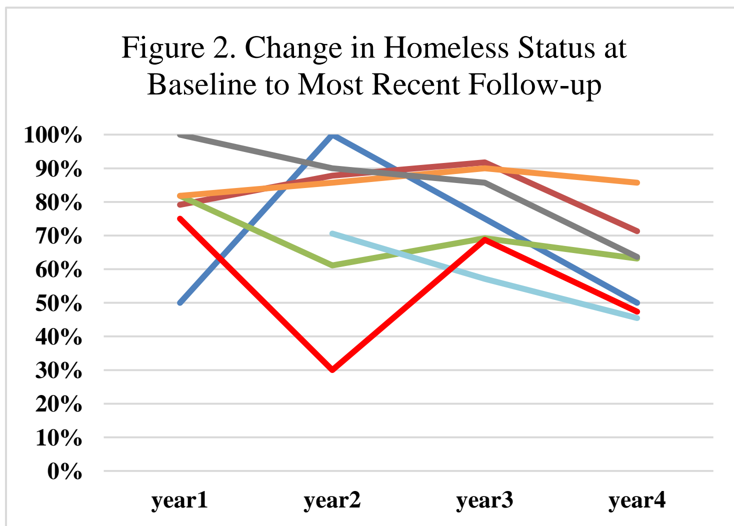


Table 4: Reduction in Homelessness by Year and Region

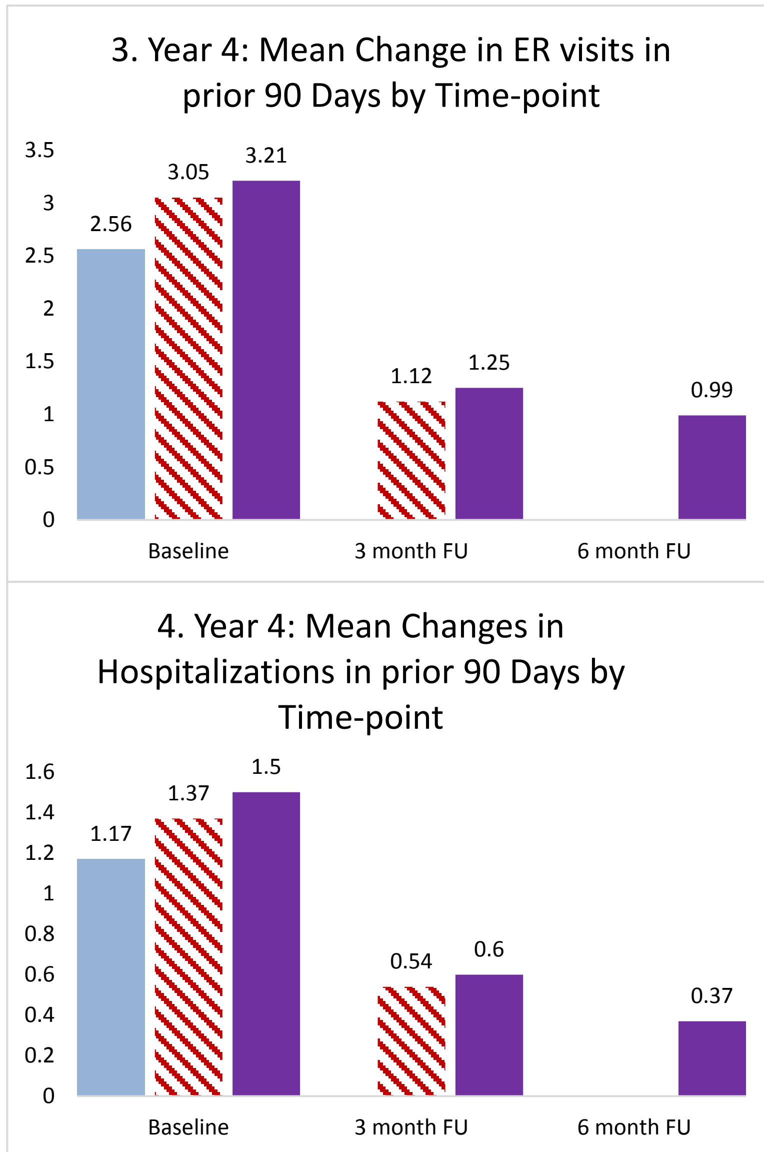
Regions	Year1	Year2	Year3	Year4	Overall
Pathways	50.0%	100.0%	75.0%	50.0%	**68.8%**
Kansas City	79.2%	87.8%	91.8%	71.3%	**82.5%**
Springfield	81.8%	61.1%	69.2%	63.2%	**68.8%**
St. Louis	-	70.6%	57.1%	45.5%	**57.7%**
Columbia	75.0%	30.0%	68.8%	47.4%	**55.3%**
FCC	81.8%	85.7%	90.0%	85.7%	**85.8%**
Mark Twain	100.0%	90.0%	85.7%	63.6%	**84.8%**
Total	**78.0%**	**75.0%**	**76.8%**	**60.9%**	**72.7%**

Note: Figure 2 & Table 4 reflect, of those who identified as experiencing homelessness at baseline, the percent of individuals no longer endorsing homelessness at most recent follow-up (by project year and provider region).

Figure 2 and Table 4 display the percent reduction in homelessness from intake to the most recent follow-up assessment. Rates reflect, of those who identified as experiencing homelessness at baseline, those who transitioned from experiencing homelessness to living "independently", "with relatives", or "in a residential facility". Overall, 73% of consumers who endorsed experiencing homelessness at intake reported no longer experiencing homelessness at their most recent follow-up assessment (Range 30.0% - 100%). Reductions in rates of unemployment were also observed across all years of the project and all provider regions, with an overall 33.5% reduction in unemployment from baseline to most recent assessment (Range = 2.8%- 75.0%; Appendix A).

Primary ERE Outcomes for Year 4

In Year 4 1591 consumers were eligible and engaged in ERE services. Of the total sample, 1266 (79.6%) were enrolled in ERE services long enough to be eligible for 3-month follow-up and 841 completed the assessment (66.4% return rate). For the 6-month follow-up, 885 (55.6%) of consumers were engaged in services long enough and 463 completed a 6-month follow-up assessment (52.3% return rate). Below figures 3 – 5 illustrate change in outcomes across the assessment time-points (e.g. Baseline, 3-month follow-up, and 6-month follow-up). Data reflect: 1) overall sample scores at baseline for all engaged; 2) sample scores where 3-month follow-up data are available, and 3) sample scores where 6-month follow-up data are available.



Past 90-Day ER Use: Figure 3 displays the mean number of ER visits 90 days *prior* to engagement in ERE and mean number of past 90-day ER visits at 3- and 6-month follow-ups. Changes in sample size – based on availability of 3- and 6-month follow-up data are reflected.

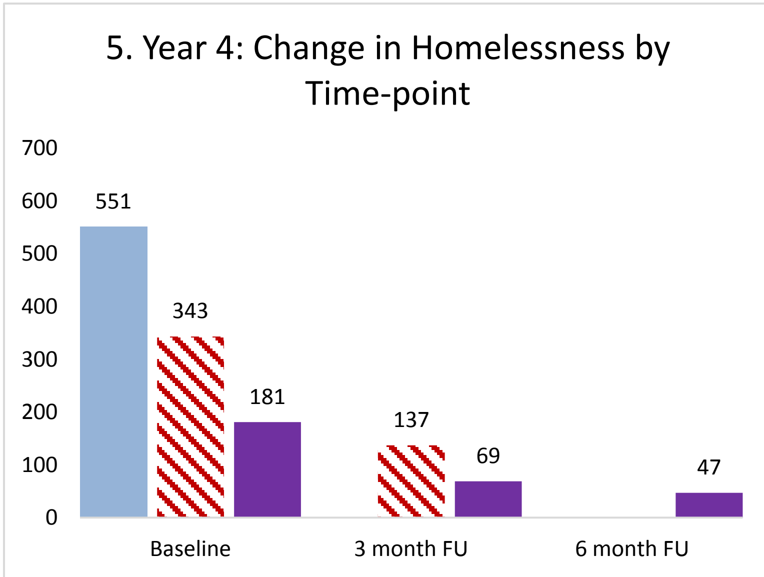
To assess the degree of reduction in ER visits, the rate of change was calculated (rate of change = (PreERE Mean – 3-month mean)/PreERE Mean). **The change in ER visits at 3 months was calculated as a 63.3% reduction**; (3.05 – 1.12)/3.05 = 63.3**%). Among those with a 6-month follow-up, a 69.2% reduction in ER visits was observed.** When examining change from 3- to 6- month follow-up, (for those with data at both time-points) a 20.8% reduction in ER visits was observed. Repeated-measures ANOVA with post hoc pair-wise comparisons yielded significant change over time ($p < .001$), revealing that ER visits were significantly lower at both 3- and 6-month follow-up compared to intake and lower at 6-month compared to 3-month follow-up. These results are consistent with findings reported in previous years, suggesting that improvements in outcomes are stable over time.

Total Sample (*N*= 1591)

3 month follow-up data available (*n* = 841)

6 month follow-up data available (*n* = 463)

Past 90-Day Hospital Use: As shown in Figure 4, past 90-day hospital visits declined for consumers engaged in ERE services from intake to both 3- and 6-month follow-up. The **rate of change indicates a 60.0% reduction in hospitalizations by 3-month follow-up for ERE consumers. For those with a 6-month follow-up interview, data indicate a 75.3% reduction in hospitalizations compared to intake**. When examining change from 3- to 6-month follow-up, (for those with data at both time-points) a 38.3% reduction in hospital visits was observed. Repeated-measures ANOVA and post hoc pair-wise comparisons revealed significant change over time ($p < .001$) and indicate that hospitalizations were lower at both 3- and 6-month follow-up compared to intake and lower at 6-month compared to 3-month follow-up.

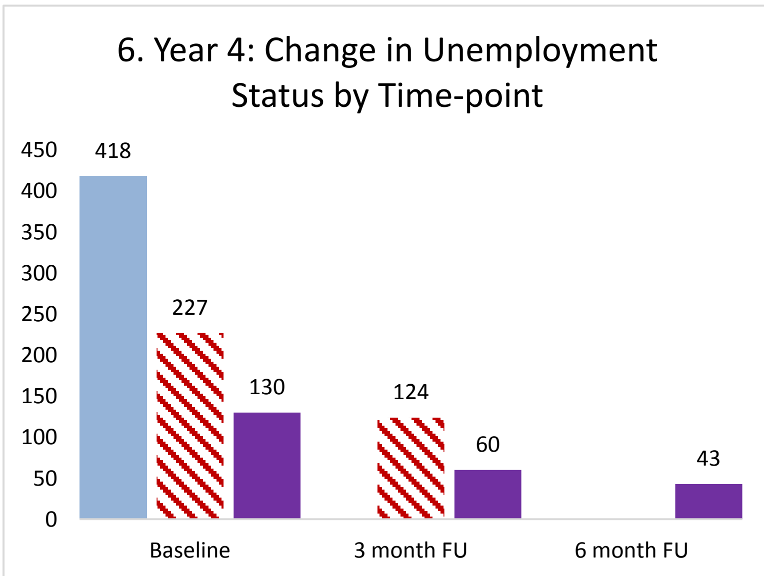


Total Sample (*N*= 1591)

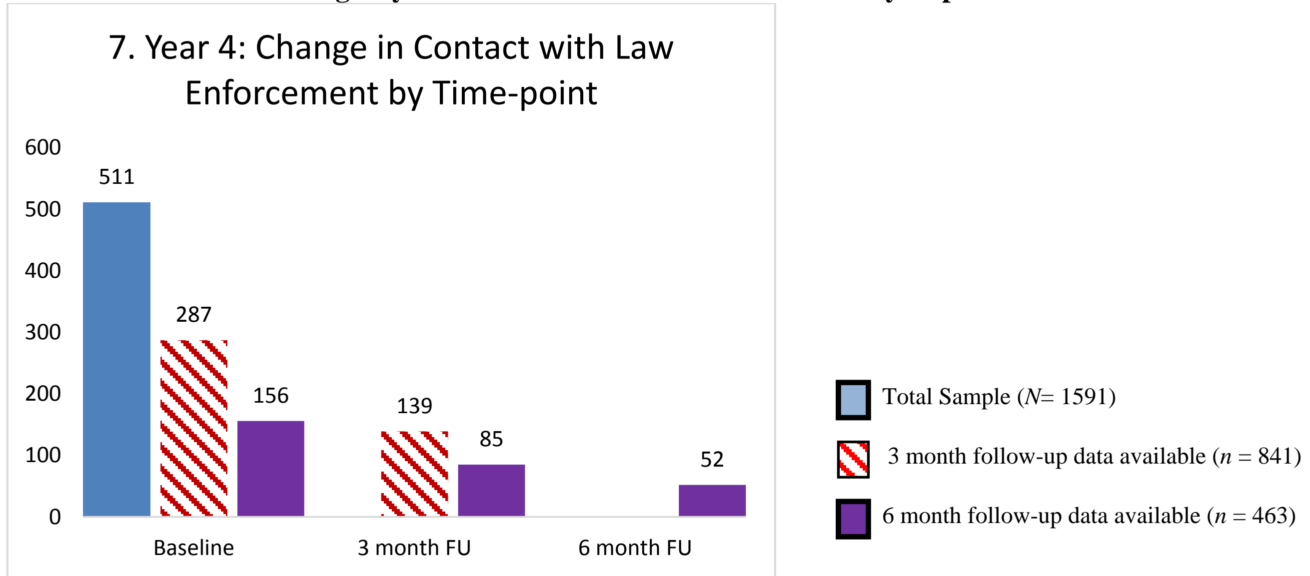
3 month follow-up data available (*n* = 841)

6 month follow-up data available (*n* = 463)

Homelessness: The Residential Status item asks consumers to indicate their current living situation, including whether they are housed independently, live with relatives, reside in a residential facility, or are experiencing homelessness. Figures 5 displays the number of consumers who reported their status as "homeless" at intake and at 3- and 6-month follow-up, respectively. **The rate of change for homelessness yielded a 60.0% reduction in homelessness at 3 months. At 6-months, the rate of change from intake to 6-months was 74.3%.** Furthermore, a 31.9% reduction in homelessness was observed when examining change from 3- to 6-month follow-up (for those with data at both time-points). For this categorical variable, statistical significance of change from intake to the 3- and 6-month follow-ups and from 3- to 6- month follow-ups were tested using Chi-square, and results revealed a significant reduction in homelessness, $p < .001$ for all three time-points.



Employment: Figure 6 displays the number of consumers engaged in ERE who reported being unemployed at intake compared to 3- and 6-month follow-up. **The rate of change for unemployment revealed a 45.4% reduction in unemployment from intake to 3-month follow-up and 66.9% from intake to 6-month follow-up**. When examining change from 3 to 6 month follow-up (for those with data at both time-points), a 28.3% reduction in unemployment was also observed. Chi-square analyses revealed that the changes from intake to 3-month follow-up and intake to 6-month follow-up as well as change from 3- to 6 month follow-up as significant ($p < .001$).



Involvement with Law Enforcement:
For the majority of Year 4 data, collected by the Coalition (92.4% of Year 4 data), criminal justice system involvement was operationalized as law enforcement contacts in prior 90-days. Figure 5 displays the number of consumers engaged in ERE who reported being in contact with law enforcement at intake compared to 3- and 6-month follow-up. **The rate of change for law enforcement contact revealed a 51.6% reduction from intake to 3-month follow-up and 66.7% reduction in law enforcement contact from intake to 6-month follow-up**. When examining change from 3 to 6 month follow-up (for those with data at both time-points), a 38.8% reduction in contact with law enforcement was also observed. Chi-square analyses revealed that the changes from intake to 3-month follow-up and intake to 6-month follow-up as well as change from 3- to 6 month follow-up as significant ($p < .001$).

Process Evaluation

To assess ERE consumers' and stakeholders' experiences with the ERE program, MIMH annually conducts focus groups with ERE consumers and a collaborative survey with personnel from participating agencies. These activities supplement the outcome evaluation data and provide quantitative and qualitative data regarding ERE consumer experiences and the experiences of agency leadership and staff who plan and implement the services. Below is a summary of the key findings from each process evaluation activity for Year 4.

Focus Groups: As part of the ERE program evaluation, MIMH has annually conducted focus groups with participants who are engaged in ERE services at each of the seven ERE sites. These focus groups are held to obtain qualitative data regarding consumers' perceptions and experiences from the program. **This data provides insight into the experiences that participants had prior to ERE services as well as experiences while engaged in ERE services.** Between March and April, 2017, eight focus groups were held across all ERE implementation sites, yielding a total of 58 total participants. Overall, findings support that ERE has played a pivotal role in bettering the lives of those engaged in the program.

Key Findings from the Focus Groups:

- Prior to enrollment to ERE services, **participants reported feeling marginalized in Emergency Departments (ED)** when attempting to access resources for their behavioral health concerns.
- The majority of participant comments identify **hospitals as their referral** source into the ERE program.
- Following ERE enrollment, the majority of **participants felt understood and engaged in developing treatment plans with ERE providers**.
- Participants listed a **variety of services and support accessed through ERE** including clinical support via case management treatment (identified as the most helpful service offered), medication assistance, counseling, and substance use as well as socioeconomic support via housing, transportation, and access to basic needs.
- **ERE helped participants develop a plan and coping strategies** when experiencing mental health or substance use concerns including utilization of learned coping mechanisms and contacting a caseworker or a crisis hotline.

- **Participants reported improved personal outcomes** including reductions is ER visits and hospitalizations, stable housing and employment, less contact with law enforcement, development of new coping skills, and overall better quality of life. Thus, open-ended comments by consumers in focus groups corroborate and amplify the quantitative outcomes.
- **Gaps in Services** were identified by some participants included housing, wait-time to get into services, not knowing enough about what services are offered at the agency and having to switch caseworkers after establishing rapport.
- **Participants' advice and requests for legislators** included additional funding for ERE and similar programs, more systematic approaches to personalize mental health care, and promotion of mental health education in workforce development efforts.

    - *"Help a person with their self-worth.... We are not throwaways. We are not failures. We need help. We [just] need help in different ways."*

    - *"I would tell [Governor] funding, urgency, and also more centers to help people. People have to walk quite a way if they are [experiencing homelessness] to get to certain centers and stuff like that. I would put them more strategically around the city and I would have funding and urgency to get those people aid as soon as possible."*

Success Stories: Below are participant quotes highlighting how the ERE program has improved their lives, with specific focus on commonly endorsed topics: ***improved quality of life, provider care and support, and wrap-around services.***

"I think my life is showing hopefulness."

"I'd like to say the same because I think because of the services that helped emotionally and overall I calm down and I got my stuff together enough where I got to go see my boy for Christmas and I have not seen him in seven months. I have never been away from him for more than two weeks. I am about to go down a week or two weeks to see my boy for his birthday and stuff. It feels a lot better. I really appreciate the services I have right now."

"[Case manager] has always been there for me and was always just really helpful. He was really nice. Because after the hard road I had everybody has been through something either drugs or [experiencing homelessness] or both, which I have been through both. Nobody knows what it is like to struggle like that until you have been there. That is something you would not want to wish your enemy to go through. It was just nice to find someone to actually care. It was really nice."

"I've got one of those motorized scooters and I needed batteries for it and I didn't know where to go get them, didn't have the money to get them or anything because it took two batteries for it. [Case manager] asked if she could take the book with her and see what she could do. I go yeah; I am not in no big hurry for it or anything. She was gone I guess probably an hour. She called me and said open your front door. I have a present for you. I seen that and I started crying. She helped me out a lot."

Online Collaboration Survey: Prospective participants were invited via email to complete an anonymous web-based survey assessing providers' impressions of how ERE is working and the nature of collaboration among their regional partners - including areas of strength and room for growth for the ERE project. In addition to traditional quantitative questioning, the 2017 ERE Community Collaboration Survey included qualitative responses to improve our understanding of the strengths and weaknesses of the ERE implementation. A total of 364 individuals were identified to participate in the 2017 survey with an overall rate of survey response at 39.6% (n = 144). Key findings from the Year 4 survey are highlighted below.

Areas of focus for the survey included:

- Provider Services and Responsibilities
- Project Communication, Familiarity, and Clarity
- Interagency Collaboration and Working Relationships
- Overall Impact of ERE on Clients
- Program Limitations and Highlights
- Client Success Stories

- The majority of respondents were employed by mental health treatment agencies (50.3%); however, respondents came from a representative range of collaborative sites, offered a large range of specific behavioral health and substance use disorder services, and identified a heterogeneous list of responsibilities pertaining to the ERE program. These data point to the multidisciplinary nature as well as a broad range of service options reflecting the mission and scope of the ERE program.
- The majority of participants (58.3%) reported meeting with ERE administrators on at least a monthly basis. Eighty-nine percent (89%) of respondents who reported any meetings indicated that these meetings "include representatives from other local agencies and organizations, in addition to representatives from the ERE administrative site."
- Respondents were also asked to indicate how familiar they were with ERE goals, implementation processes, and program outcomes. Overall, more frequent meetings were associated with greater perceived familiarity with ERE program goals, but not significantly associated with familiarity with ERE processes or outcomes. Perceived familiarity with ERE goals, processes, and outcomes, are all significantly associated with one another
- Perceived familiarity with ERE program goals, processes, and outcomes were each significantly associated with respondents' clarity regarding both their individual role in ERE as a member of their agency, as well as their clarity regarding their agency's collective institutional role in the larger ERE program.
- When asked to rate the strength of working relationships, 84.9% of respondents reported strong or complete alignment between their personal and their organizations' vision and values. Respondents were also asked to indicate which of four descriptive terms—cooperation, coordination, collaboration, or integration, with definitions provided for each of these terms—best capture the working relationship between their agency and the regional ERE administrative site. Slightly more than half (54.6%) selected collaboration or integration.
- Trust and Reciprocity
    - Of the 138 respondents to this section, well over half (56.5%) agreed that "*partners in the collaboration are trustworthy"*, 36.2% were neutral, and only a small proportion (7.3%) disagreed.
    - Over forty percent (40.6%) of participants agreed that their *"organization can rely on partners to meet their obligations for the collaboration",* whereas 14.6% disagreed and 44.9% were neutral.
    - Sixty percent (59.9%) of participants agreed *"it is worthwhile to stay, rather than leave, the collaboration"* - one third (33.9%) of respondents were neutral and 7.3% disagreed.
    - When collapsing all three items, the majority (52.3%) of respondents positively perceived trust and reciprocity within the ERE program.
    - When comparing 2017 survey results with those from previous administrations of the survey in 2014, 2015, and 2016 from non-matched individual respondents, perceived trust and reciprocity has steadily improved annually from 34.2% in 2014 to 52.3% in 2017.

Qualitative Responses:

- **Strength of ERE working relationships** Respondents were asked open-ended questions pertaining to the perceived strengths of ERE working relationships. Qualitative analysis identified three overall themes across responses: 1) engaged collaboration, 2) confidence in service delivery, and 3) access to network/resources. Specifically, respondents felt the ERE initiative has improved cooperation with law enforcement, hospitals, community agencies, and ERE administrators. In addition, many collaborators shared that their involvement in the ERE initiative has elevated confidence in service delivery and coordinated care for their clients as well as improved access to a larger network of resources so they can better serve their clients.
- **Aspects of ERE *working relationships* in need of improvement** Respondents were also asked open-ended questions pertaining areas of the ERE working relationship that would benefit from improvement with three overall themes identified through qualitative analysis – two of which are consistent with strengths of the ERE initiative: 1) increase engaged collaboration, 2) access to (and efficiency of) network/resources, and 3) administration and implementation logistics. Although the majority of respondents identified engaged collaboration and access to network/resources as strengths, many still felt ERE could continue to improve communication and integration with and between hospitals and community agencies and provide support pertaining to timeliness of referrals.
- **Overall beneficial impact of ERE** On a five-point rating scale, the majority of respondents endorsed feeling successful in meeting their clients' needs at least most of the time (65.9%) while about a third (31.1%) felt they were successfully meeting their clients' needs about half of the time. On an open-ended item, respondents were

asked how they would describe the overall benefits of the ERE program. Three themes pertaining to overall beneficial impact were identified through qualitative analysis: 1) coordinated multidisciplinary care for high-need populations, 2) consumer access to and engagement in services, and 3) consumer quality of life.

- **Improving ERE consumer outcomes** Respondents were also asked to provide suggestions for improving outcomes for ERE participants. Only a small portion of respondents indicated areas for improvement. Two overarching themes emerged from the responses to this question: 1) interagency coordination and communication, and 2) consumer housing resources. Respondents identified lack of capacity/slots/beds (54.1%) and lack of financial resources (48.0%) as significant barriers to implementing ERE. Thirty percent (30%) also identified lack of staff and personnel as often or always a barrier to ERE implementation.
- **Gaps in ERE Services** Respondents were asked to think about the services they provide for ERE participants, as well as those they do not provide, and list up to three gaps in services they perceive to exist for the ERE participant population. Gaps identified were relatively consistent with other areas identified above: lack of housing, lack of substance use treatment, and lack of follow-up care. Furthermore, access to psychiatric services for participants was also commonly listed as a gap by approximately 10% of response comments (n=14).
- There is a positive correlation between respondents' perception of meeting ERE participant needs and their rating of changes in how they perceive high utilizers of the ED (also 1 to 5 scale, 1="My views are much more negative" to 5="My views are much more positive") $r=.42$, $p<.001$. <u>This finding indicates that the higher perceived ability to meet ERE participant needs is associated with greater positive change in respondents' views of high utilizers.</u>

Success Stories. The inclusion of client success stories was identified in the 2016 Collaborator survey as a way to convey the importance and impact of the ERE project for the people served. Respondents shared numerous stories of client success and below are four examples covering different types of success:

- **Reducing ER utilization** "We had a gentleman who utilized our emergency department well over 300 times in a 6 year period. He [experienced] depression, alcoholism, COPD, homelessness and unemployment. ERE has assisted our organization in helping link to treatment, healthcare, insurance options, [a drug free] living environment, clothing, counseling, graduation from mental health court, and employment. <u>After daily drinking for 30 years, he is about to celebrate one year [substance use free] and only one ED visit since committing to a healthier lifestyle.</u>"
- **Homelessness to stability** "I received a referral for [a] man [experiencing homelessness], living under bridge, from police dept. Consumer had been [experiencing] homeless[ness] for 10-15 years due to mental health, substance use and chronic medical [concerns]. I was able to get this consumer in [a] substance use treatment program to [help initiate recovery]. He was housed in his own apartment 2 months after being in ERE program. He now has disability benefits, his own apartment and managing his symptoms with support from therapist, psychiatrist and Case Manager. He has established Primary care Physician that is following his physical health. He has decreased his hospital visits by 80-90% due to supportive services he is currently receiving."
- **Removing from trauma and returning to family** "There was a client, she was the on the top 10 list of hospital users as well as on the violent offenders list. The courts asked for help with her as did the hospitals. She was using (often by force) PCP, Meth, marijuana, [not taking prescribed medications], separated from her husband, had not seen her son in 18 months, had criminal charges, was being prostituted (trafficked), had been raped repeatedly, and getting CIT [Crisis Intervention Team] calls approximately 3-4 times a week. After months of interaction and constant support to her, she has reunited with her husband and son. She has been [taking her medications] for 4 mos. She is stable and has had no interaction with police in 4 months. She has remained [drug free] for the past 5 months. We have gone from needed daily check-ins, to once a week medication appointments (as they are making adjustments to her meds currently). She is no longer in danger of rape and abuse on the streets. She no longer gets reports to police about her behavior. She is safe and with her family. She is a mom, a wife, and a daughter again."
- **Integration of services "**We had a particular individual who was a high utilizer of the Emergency Room. Frequently [approached strangers for money or food], engaged in prostitution, co-occurring diagnosis of substance use and mental health. He was also HIV positive. Through the collaborative efforts of all agencies involved we were able to house the individual and get them wrap around services. The ERE program was the "glue" that helped all the pieces fit together through the process. This individual is now receiving his disability and is utilizing community mental health services. Stable for about a year now."

Emergency Room Enhancement Annual Summary Report- Year 4

Summary and Recommendations

As Missouri's ERE program concludes its fourth year of funding, it is associated with significant improvements across all primary client outcomes identified as key indicators of success. As of June 2017, when examining improvements in outcomes across the life of the project, the number of ER visits has been reduced on average by 1.67 visits per 90 days per client served. Extrapolating out, this is a potential reduction of over 10,500 visits to the emergency room just this year [1.67 X 1591(# clients engaged this year) X 4 (4 - 90 periods in one year)]. Similarly, hospitalizations have been reduced, on average across project year and provider region, by 0.70 visits per 90 days – amounting to a potential 4,455 hospitalizations avoided.

In addition to meeting these central goals of reduced ER/hospital involvement among those who need mental health services, the ERE program has resulted in improved life outcomes. As of June 2017, 72.7% of individuals who engaged with the ERE project and identified as experiencing homelessness reported transitioning to living "independently", "with relatives", or "in a residential facility" at their most recent assessment. Reductions in rates of unemployment were also observed across all years of the project and all provider regions, with an overall 33.5% reduction in unemployment from baseline to most recent assessment. From Year 1 to Year 3 of the ERE project, an average 35% reduction in arrests in the past 30 days were also observed.

Changes observed in ERE Year 4 are consistent with these overall outcomes across the life of the program: The overall number of ER visits was reduced by 63.3% after 3months and 69.2% at 6 months across all regions during Year 4. Similar reductions were observed in number of hospitalizations with a 60.6% after 3 months and 75.3% after 6 months. Strong gains were also displayed in helping those who identified as experiencing homelessness at baseline with 60.0% after 3 months and 74.0% after 6 months transitioning to no longer identifying as experiencing homelessness. Changes in unemployment status were also promising with the number of individuals who endorsed being unemployed reduced by 45.4% after 3 months and 66.9% after 6 months. A two-thirds reduction in contact with law enforcement was also observed from intake to 6month follow-up assessment.

In addition to tracking client outcomes overtime, the Focus Groups and Collaborator Survey also allowed for additional data pertaining to provider and client perceptions of the success and limitations of the ERE project. Providers identified three major areas of perceived success of the ERE program: 1) coordinated multidisciplinary care for high-need populations, 2) consumer access to and engagement in services, and 3) consumer quality of life. These areas were extremely consistent with the areas of success identified by the clients in focus group interviews. Additionally, providers and clients identified areas in need of improvement.

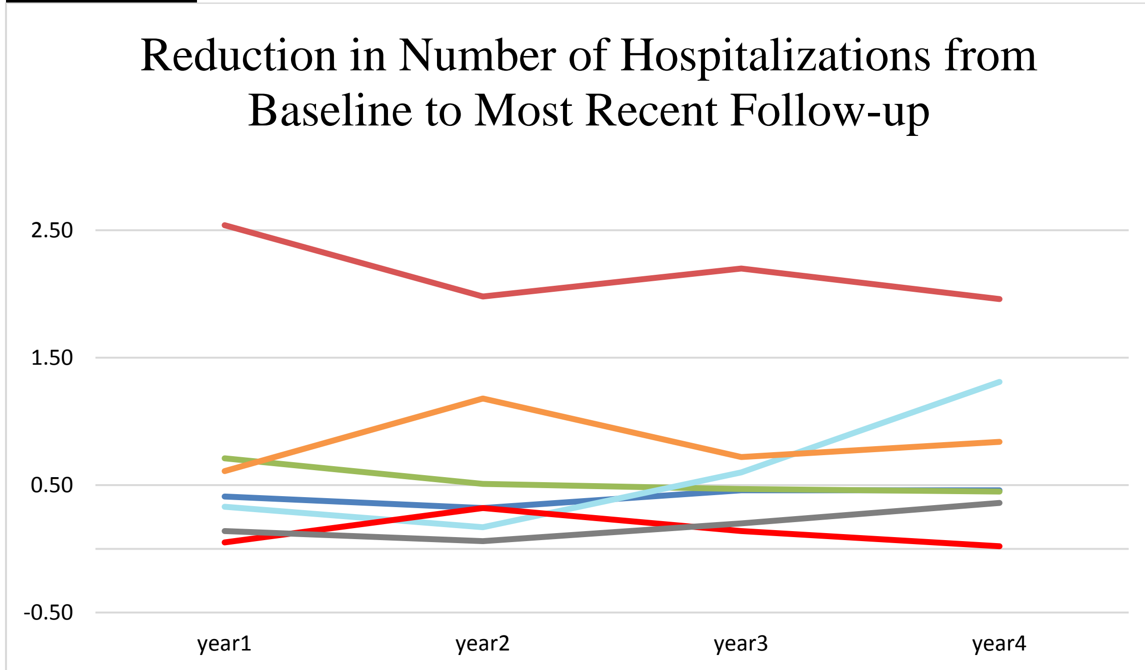
In summary, both quantitative and qualitative outcomes reveal sustainable benefits of the ERE program. Significant improvements in client outcomes across the life of the program as well as within the current fiscal year are evident, although heterogeneity across regions in outcome improvement and engagement is apparent. Collaborator surveys and focus group interviews proved areas of success as well as areas for improvement. This feedback can help us leverage strengths and address areas of concern when expanding to the new ERE sites.

Recommendations:

1. As there is significant variability in follow-up completion rates across sites (range for YR3 34%-95%), it may be useful to continue to consult with sites regarding best practices to promote data collection. This will be particularly important when training new sites in the data collection and evaluation component of ERE.
2. To increase focus group participation, it may be useful to increase the number of participants recruited and incentives. With ERE leadership, MIMH will work with sites to ensure consistent efforts to recruit participants.
3. For the collaborative survey, greater participation is needs to best inform system level evaluation and potential areas of success and limitation.
4. MIMH and ERE leadership will review previous reports and discuss details regarding future evaluation activities to maximize the utility of evaluation activities and products. We will also explore analyses linking outcomes to additional variables assessed in ongoing quantitative data collection, including demographic subgroups and identified client needs.

APPENDIX A. Additional Outcomes Overtime and By Region

Hospitalization



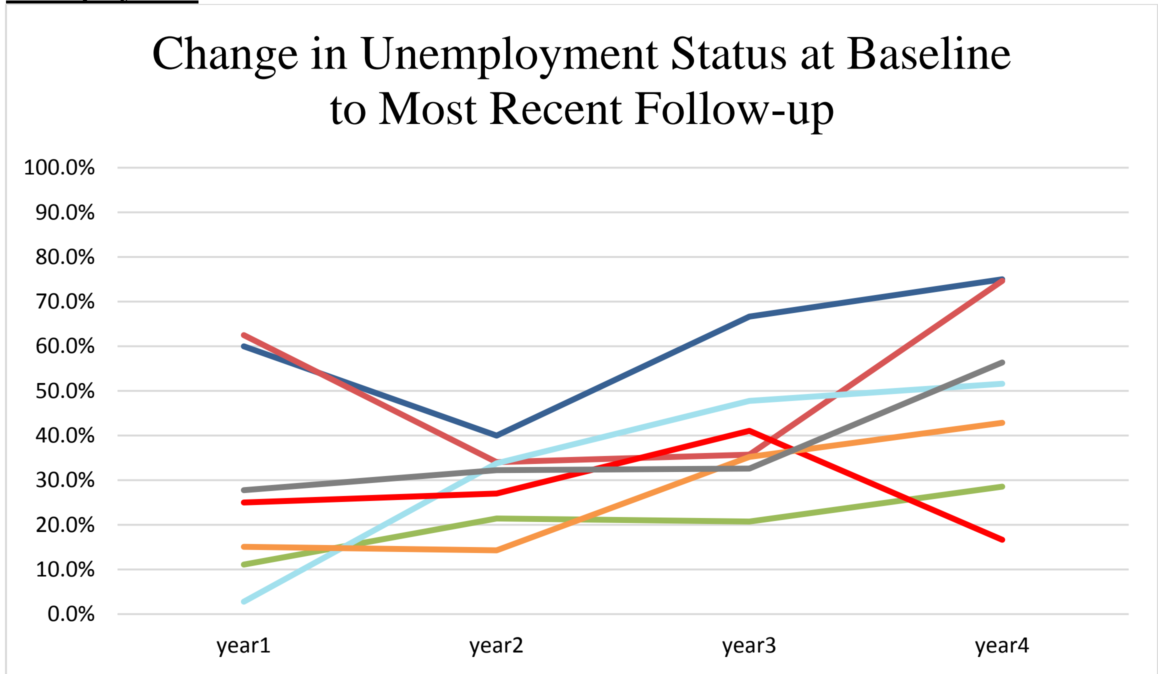
*Note:*Figure 1A & Table 1A reflect the reduction in the number of hospitalization in the past 90 days from the baseline client interview to the most recent follow-up organized by project year and provider region.

Table 1A: Reduction in Hospitalization Visits by Year and Region

Regions	Year1	Year2	Year3	Year4	Overall
Pathways	0.41	0.32	0.46	0.46	**0.41**
Kansas City	2.54	1.98	2.20	1.96	**2.17**
Springfield	0.71	0.51	0.47	0.45	**0.54**
St. Louis	0.33	0.17	0.60	1.31	**0.60**
Columbia	0.05	0.32	0.14	0.02	**0.13**
FCC	0.61	1.18	0.72	0.84	**0.84**
Mark Twain	0.14	0.06	0.20	0.36	**0.19**
Total	**0.68**	**0.65**	**0.68**	**0.77**	**0.70**

Reductions in the number of consumers hospitalization in the past 90 days were observed with an overall mean reduction of 0.70 days (Range = 0.06 days – 2.54 days).

Unemployment



Note: Figure 2A & Table 2A reflect, of those who identified as unemployed at baseline, the percent of invidiuals who were no longer unemployed at their most recent follow-up organized by project year and provider region.
Table 2A: Reduction in Homelessness by Year and Region

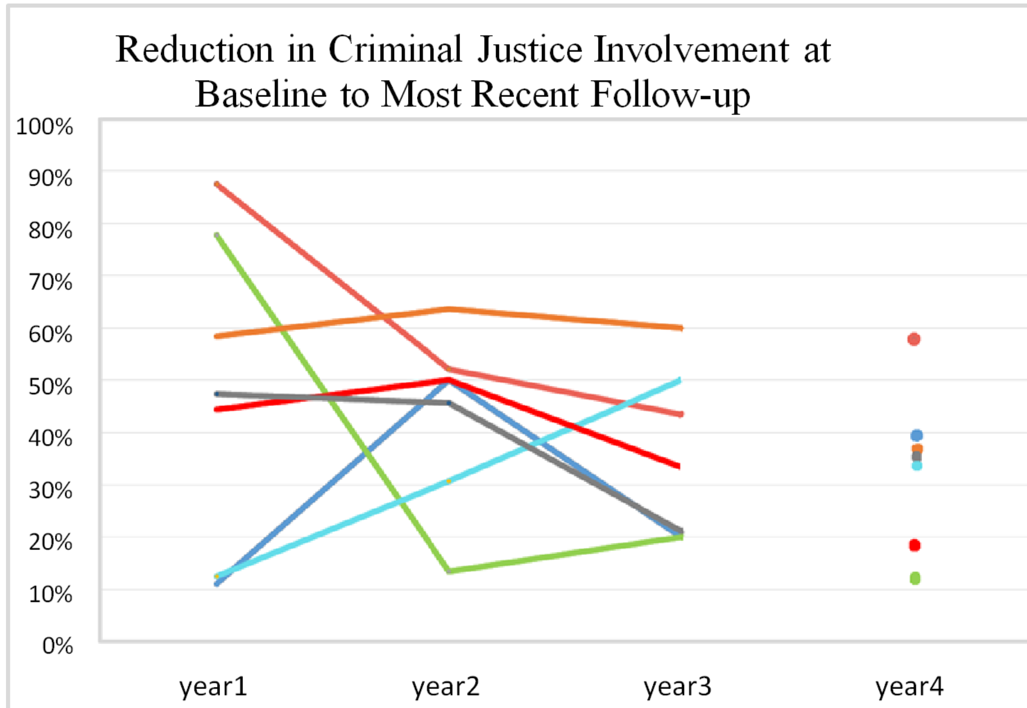
Table 2A: Reduction in Unemployment by Year and Region

Regions	Year1	Year2	Year3	Year4	Overall
Pathways	60.0%	40.0%	66.7%	75.0%	**57.7%**
Kansas City	62.5%	34.0%	35.7%	74.7%	**51.0%**
Springfield	11.1%	21.4%	20.8%	28.6%	**22.2%**
St. Louis	2.8%	33.8%	47.8%	51.6%	**38.6%**
Columbia	25.0%	27.0%	41.1%	16.7%	**24.9%**
FCC	15.1%	14.3%	35.2%	42.9%	**25.9%**
Mark Twain	27.8%	32.3%	32.6%	56.4%	**38.2%**
Total	**19.0%**	**27.3%**	**37.0%**	**42.3%**	**33.5%**

Reductions in rates of unemployment were observed across all years of the project and all provider regions, with an overall 33.5% reduction in unemployment from baseline to most recent assessment (Range = 2.8% - 75.0%).

Criminal Justice Involvement

For data collected prior to Year 4 (FY17) involvement with the criminal justice system was operationalized as the consumer reporting any arrest in the past 30 days at intake, 3 month and 6 month follow-ups. The majority of consumers reported no arrests at any time-point, and therefore the average number of past 30-day arrests are <1 at all time-points. To facilitate analyses, the past 30-day arrest item was recoded into a dichotomous indicator of "arrested in past 30 days" or "not arrested." For year 4, involvment in the criminal justice system was operationalized as any law enforcement contacts in prior 90-days as reported by consumers engaged in ERE at intake compared to 3- and 6-month follow-up.



Note: Figure 3A & Table 3A reflect, of those who identified as involvement with the criminal justice sytem at baseline, the percent of invidiuals who were no longer involved at their most recent follow-up organized by project year and provider region.

Table 3A: Reduction in Criminal Justice Involvement by Year and Region

Regions	Year1	Year2	Year3	Year4
Pathways	11%	50%	20%	38%
Kansas City	88%	52%	43%	58%
Springfield	78%	13%	20%	12%
St. Louis	13%	31%	50%	34%
Columbia	44%	50%	33%	18%
FCC	58%	64%	60%	36%
Mark Twain	47%	46%	21%	35%
Total	**52%**	**40%**	**33%**	**35%**

Reductions in criminal justice involvement – operationalized as arrests in the past 30 days (Year 1 -3) and contact with law enforcement in the past 90 days (Year 4) – were observed across all years of the project and within all provider regions.