ERE Annual Report- Year 3

Reporting Period: July 1, 2015 - June 30, 2016
Report Completed: July 30, 2016

This report describes the results from the ERE evaluation activities for fiscal year 3. Key findings are presented below, followed by in-depth descriptions.

Key ERE Evaluation Results for Year 3

Primary ERE Outcomes: 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.

- **Number of ER Visits**: Reduced by 55% after 3months and 67% at 6 months.
- **Number of Hospitalizations:** Reduced by 55% after 3 months and 68.9% after 6 months.
- **Homelessness:** Reduced by 59% after3monthsand 75% after 6 months.
- **Unemployment Status:** Reduced by 20% after 3 months and 25.8% after 6 months.
- **Number of Arrests in Past 3 Months:** Reduced by 40.9% after 3 months and 51.7% after 6 months.
- **Treatment Program Enrollment:** Increased by 99% after 3 months and 70% after 6 months. At both follow-ups, this increase is primarily driven by new enrollment in CPS and CPR services after consumers enroll in ERE.

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, 2) an online collaboration survey with stakeholders, and 3) a phone implementation survey with ERE collaborators.

- **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.
- **Phone Implementation Survey:** Partners expressed high appreciation for ERE and recognize the value in creating significant, sustainable change in the lives of individuals needing behavioral health services.

ERE Annual Report- Year 3

Primary ERE Outcomes

MIMH analyzes the data collected by the seven ERE sites to determine the impact of the program on the following primary outcomes at both 3- and 6-month follow-up periods: 1) number of ER visits, 2) number of hospitalizations, 3) rates of unemployment, 4) rates of homelessness, and 5) rates of number of arrests. MIMH also analyzes the number of consumers enrolled in DMH treatment services before versus after ERE participation. 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. Previous 90-day ER and hospital use data are collected from the consumers or hospital records when available. The interview is conducted at three time-points: enrollment in ERE (i.e., intake), 3-months after intake, and 6-months after intake. Findings for fiscal year 3 are presented below.

Outcomes are reported for consumers who: 1) were *engaged* in ERE and 2) for whom *data were available for* each time-point. For example, for 3-month change in ER use, analyses were completed using only consumers with relevant data at both intake and 3-month follow-up. 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.

Table 1: ***Number of consumers enrolled in ERE and follow-up completion rates***

Site	Total Engaged	Total 3-Month FUP	% FUP Completed YR1	% FUP Completed YR2	# FUP Completed YR3	% FUP Completed YR3	Overall %
Mark Twain	574	292	44%	55%	104	56%	53%
BHN	571	203	4%	19%	162	60%	38%
Columbia	505	170	61%	34%	96	40%	38%
Kansas City	668	409	76%	73%	158	63%	66%
Pathways	223	179	75%	73%	78	92%	82%
FCC	315	138	41%	64%	40	42%	48%
Springfield	709	219	49%	27%	70	33%	31%

Note. 3-month follow-up rates for the current year-to-date may reflect a lower rate as the "window" for completing the 3-month follow-up is still "open" at the time the data are analyzed.

Rates of follow-ups have remained relatively consistent since YR1, with a mean follow-up rate of 50% in YR1, 56% in YR2, and 52% in Y3. Several sites continue to report high follow-up completion rates (i.e., Pathways, Kansas City). Other sites, such as St. Louis, reported low completion rates during YR1 but have improved over time.

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 37.9 years (range 17-87 years), and is evenly divided by gender (53.1% male). ERE consumers are largely White (76%) and uninsured (53.4%), have Medicaid (36.5%), and/or Medicare (10.9%). Approximately one-quarter of consumers (26.7%) are homeless. Few have

had military involvement (4.3%). ERE consumers present with a variety of complicated symptoms. Over two-thirds exhibit psychological difficulties (83.4%), 37.9% have substance use problems, and 23.2% express suicidal ideation. Further, for approximately one-third of the sample (33.4%), there are co-occurring presenting 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 below, the ERE program facilitates a high rate of treatment referrals.

Table 2: ***Participant characteristics at baseline across sites (n = 3565)***

	All Sites	Pathways	Kansas City	Spring-field	BHN	Columbia	FCC	Mark Twain
N	3565	223	668	709	571	505	315	574
Mean Age	37.9	41.1	41.0	39.5	35.9	36.9	37.2	34.4
Gender	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**
Male	53.4	44.4	62.6	49.9	54.7	50.7	44.1	56.6
Female	46.1	55.6	36.5	49.4	44.4	49.1	55.6	43.2
Other	.5	-	.9	.7	.7	.2	-	.2
Race	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**
White	76.0	96.0	62.9	86.3	46.4	74.1	87.9	88.9
Black	19.9	2.7	31.9	6.1	46.1	21.6	9.5	8.2
Other	5.1	1.3	5.1	7.6	7.6	4.4	2.5	2.9
Military Status	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**
Civilian	76.0	90.6	81.7	92.9	96.8	93.7	92.1	93.9
Veteran	4.1	5.8	6.3	4.9	2.1	3.0	1.9	3.8
Active	.2	.4	.3	.1	-	.4	-	.2
Missing	19.7	3.1	11.7	2.0	1.1	3.0	6.0	2.1
Insurance	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**
Medicaid	36.5	59.2	46.4	47.2	28.4	10.7	74.0	13.1
Medicare	10.9	24.7	20.5	13.1	2.8	5.3	14.0	2.6
Private	6.1	8.5	8.2	11.3	0.0	4.0	4.1	5.4
Uninsured	53.4	30.0	31.4	36.7	70.4	72.9	47.6	78.0
Homeless	26.7	10.3	53.1	28.9	15.9	19.8	23.2	18.3
Presenting Concerns	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**
Psych.	84.3	70.9	84.6	88.2	68.7	86.3	94.3	92.5
Substance Use	37.9	40.8	52.5	35.3	25.4	30.3	30.2	46.2
Suicide	23.2	11.2	28.4	44.6	16.6	16.2	20.0	9.8
Health	19.9	23.3	27.5	28.1	5.6	21.4	12.7	16.4
Law Involved	14.4	8.1	17.1	11.4	4.9	5.7	4.8	39.7
Pain	13.6	16.6	15.7	28.9	1.1	11.9	7.3	8.4
Violent Behavior	8.9	8.5	10.6	12.8	1.1	8.5	9.8	9.9
Co-occurring	33.4	28.7	44.0	31.7	24.5	25.5	27.3	43.7

Note. Co-occurring refers to presence of both psychological disorder and substance use. Some data (i.e., race and gender) do not equal to 100% as the data are only presented with one decimal place and the data were not rounded.

Past 90-Day ER Use: Figures 1 and 2 display 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.

Figure 1:
Mean ER visits in prior 90 days by time-point

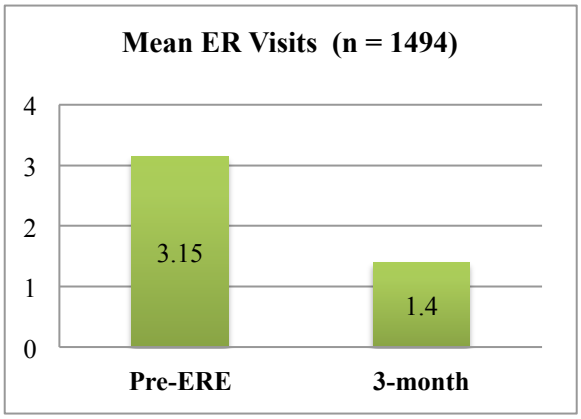
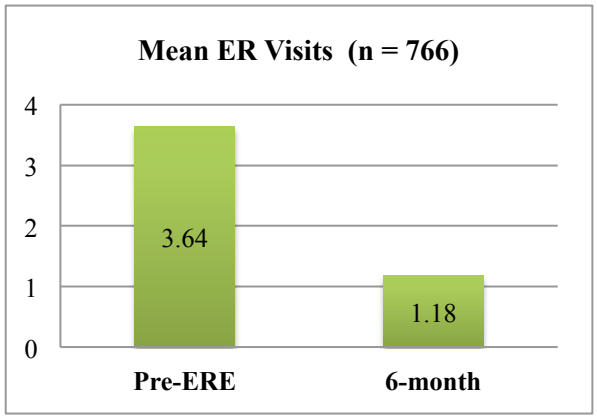


Figure 2:
Mean ER visits in prior 90 days by time-point

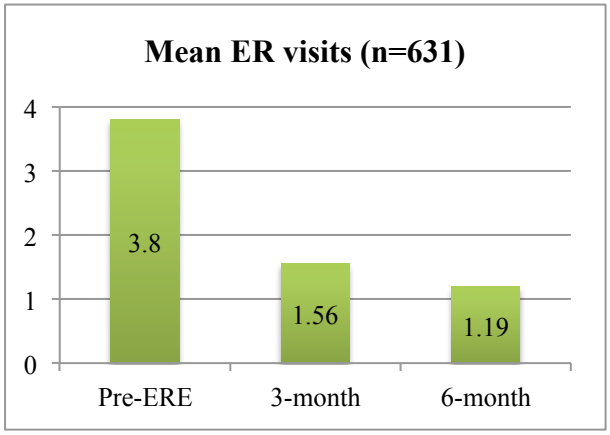


To assess the degree of reduction in ER visits, the rate of change was calculated (rate of change = (PreERE Mean – 3-month mean)/PreERE Mean). The change in ER visits at 3 months was calculated as a 55.55% reduction; (3.15 – 1.4)/3.15 = **55.55%)**. Among those with a 6-month follow-up, a **67.5% reduction in ER visits** was observed.

Paired-samples t-tests were performed to determine whether the change in number of ER visits from pre-ERE to 3- and 6-month follow-up was statistically significant. As the data do not meet all of the statistical assumptions (i.e., normal distributions and equal variances) for parametric tests, a nonparametric Wilcoxon test was also performed. Both statistical approaches indicated significant reduction in ER visits from pre-ERE to both 3 and 6-month follow-ups (p <.001).

Figure 3 displays mean change from intake, to 3-month follow-up, to 6-month follow-up, for consumers who responded to this item at all three time-points. Repeated-measures ANOVA yielded significant change over time (p <.001), and simple contrasts revealed that ER visits were significantly lower at both 3- and 6-month follow-up compared to intake. These results are consistent with previous monthly reports, suggesting that the outcomes are stable over time.

Figure 3:
Mean ER visits in prior 90 days by time-point



Past 90-Day Hospital Use: As shown in Figures 4 and 5 below, past 90-day hospital visits declined for consumers engaged in ERE services from intake to both 3- and 6-month follow-up.

Figure 4*: Mean hospitalizations in prior 90 days by time-point*

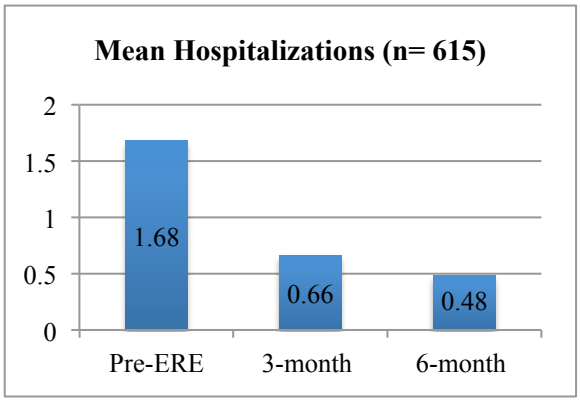
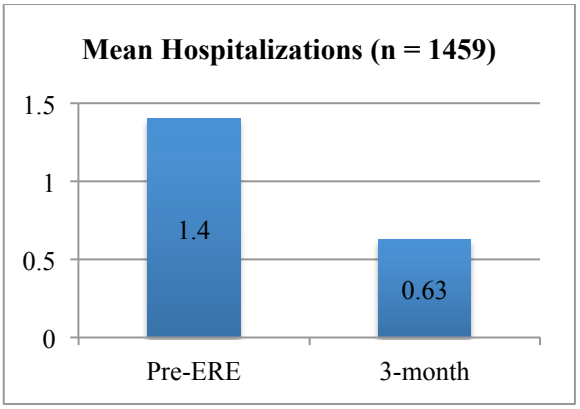


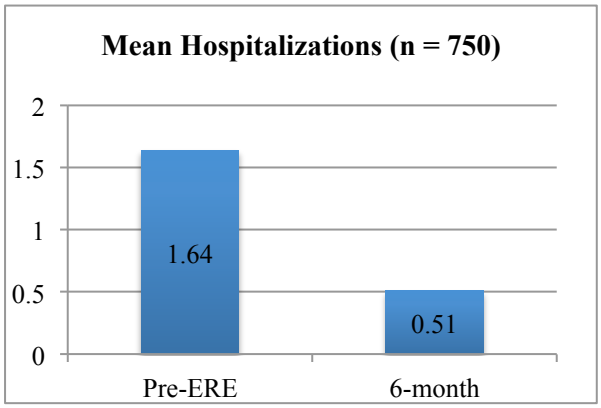
Figure 5: *Mean hospitalizations in prior 90 days by time-point*



The rate of change indicates a **55% reduction** in hospitalizations by 3-month follow-up for ERE consumers. For those with a 6-month follow-up interview, data indicate a **68.9% reduction** in hospitalizations compared to intake. Significance testing revealed that in hospitalizations was statistically significant (p <.001 for both t-tests and Wilcoxon) at both follow-ups.

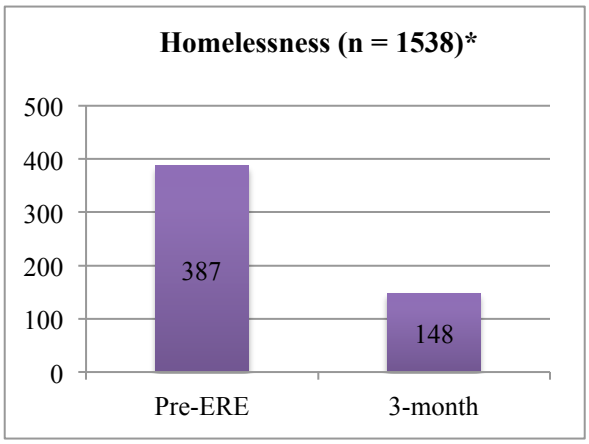
Figure 6 presents mean hospitalizations across all three time-points. Repeated-measures ANOVA indicated significant change over time (p <.001), and simple contrasts indicate that hospitalizations were lower at both 3- and 6-month follow-up compared to intake.

Figure 6: *Mean hospitalizations in prior 90 days by time-point*



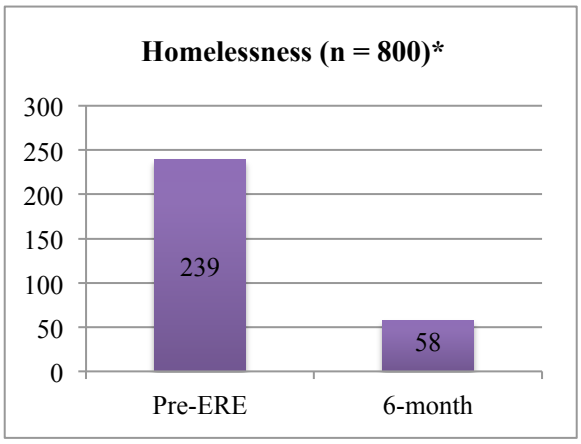
Homelessness: The Residential Status item asks consumers to indicate their current living situation, including whether they are housed independently, live with relatives, reside in a residential facility, or are homeless. Figures 7 and 8 display the number of consumers who reported their status as "homeless" at intake and at 3- and 6-month follow-up, respectively.

Figure 7:
Number of homeless individuals by time-point



**n=1538 responded to the Residential Status question at both time-points. Of those, 387 indicated homelessness at intake and 148 at 3-month follow-up.*

Figure 8:
Number of homeless individuals by time-point

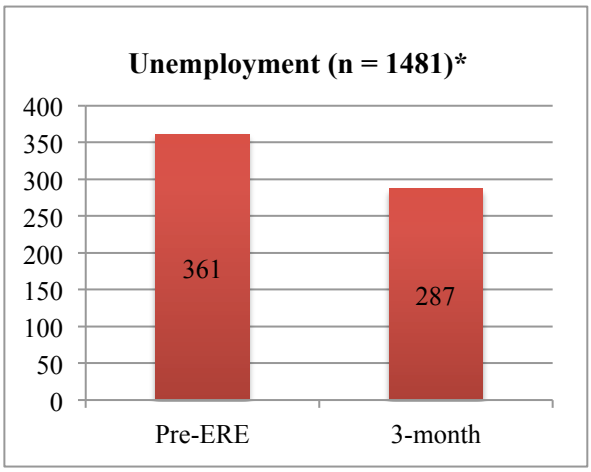


**n=800 responded to the Residential Status question at both time-points. Of those, 239 indicated homelessness at intake and 58 at 6-month follow-up.*

The rate of change for homelessness yielded **a 59% reduction in homelessness at 3 months.** At 6-months, the **rate of change from intake to 6 months was 75.3%**. For this categorical variable, statistical significance of change from intake to the 3- and 6-month follow-ups were tested using Chi-square, and results revealed a significant reduction in homelessness, $p < .001$ for both time-points.

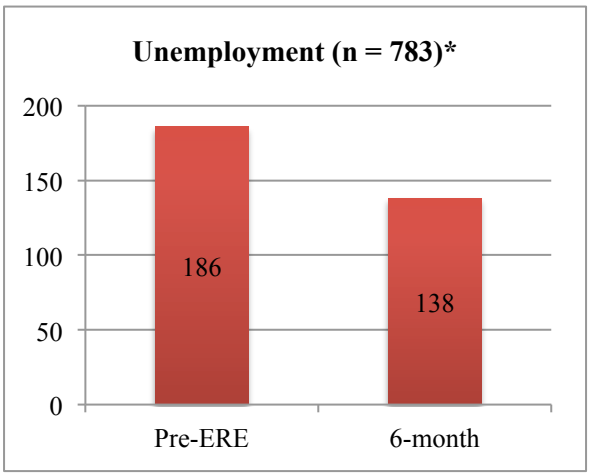
Employment: Figures 9 and 10 display the number of consumers engaged in ERE who reported being unemployed at intake compared to 3- and 6-month follow-up.

Figure 9:
Unemployment rates by time-point



**n= 1481 answered the Employment Status question at both time-points. Of those, 361 indicated that they were unemployed at intake versus 287 at 6-month follow-up.*

Figure 10:
Unemployment rates by time-point

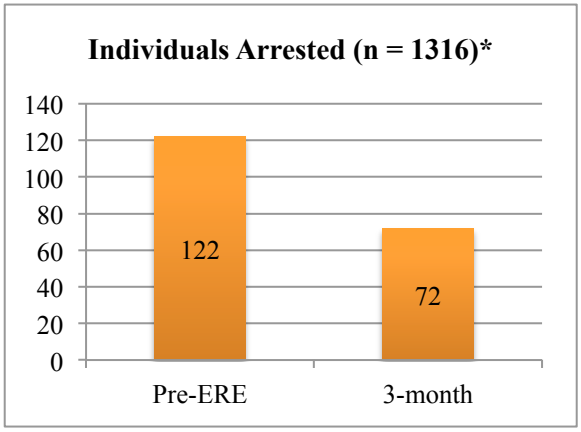


**n= 783 answered the Employment Status question at both time-points. Of those, 186 indicated that they were unemployed at intake versus 138 at 6-month follow-up.*

Rate of change calculations yielded a **20% decrease in unemployment from intake to 3-month follow-up and 25.8% from intake to 6-month follow-up**. Chi-square analyses revealed that the changes from intake to 3-month follow-up and intake to 6-month follow-up are both significant, $p < .001$.

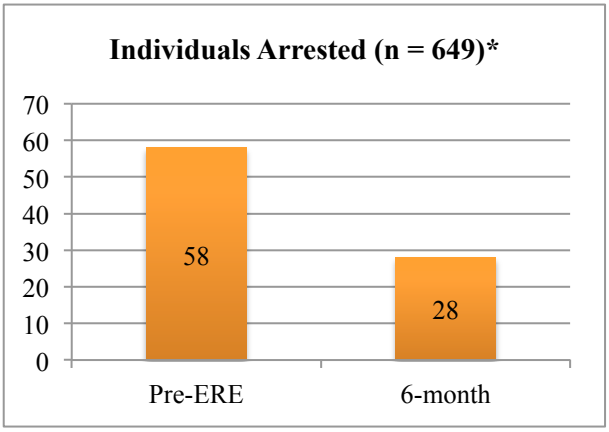
Past 30-day Arrests: The majority of consumers reported no arrests at any time-point, and therefore the average number of past 30-day arrests are <1 at all time-points. To facilitate analyses, the past 30-day arrest item was recoded into a dichotomous indicator of "arrested in past 30 days" or "not arrested." Figures 11 and 12 display the number of consumers reporting any past 30-day arrests at intake and at 3 and 6-month follow-ups.

Figure 11:
Number of individuals arrested by time-point



**n= 1316 answered the Arrest question at both time-points. Of those, 122 indicated that they were unemployed at intake versus 72 at 6-month follow-up.*

Figure 12:
Number of individuals arrested by time-point



**n= 649 answered the Arrest question at both time-points. Of those, 58 indicated that they were unemployed at intake versus 28 at 6-month follow-up.*

Number of consumers arrested is lower at 3-month follow-up compared to intake; the rate of change calculation indicates a **40.9% decrease in number of consumers arrested from intake to 3-month follow-up**. Number of consumers arrested is lower at 6-month follow-up compared to intake and the rate of change = a **51.7% decrease in number of consumers arrested from intake to 6-month follow-up**. Chi-square analyses indicate that the change from intake to 3-month follow-up and change from intake to 6-month follow-up were both significant, $p <.001$.

Treatment Referrals

As shown in Tables 3 and 4, enrollment in DMH services continues to increase from intake to follow-up for ERE consumers. At both 3- and 6-month follow-up, this increase is driven primarily by higher enrollment at follow-up in CPS and CPR services. It should be noted that 6-month data collection is in an earlier stage compared to 3-month data collection, so 6-month numbers should be considered preliminary. Nonetheless, increases observed at 6-month follow-up time point have been consistent with the pattern of change observed at 3 months.

Table 3: ***Treatment program enrollment at 3-month follow-up***

Treatment Program	Number at Intake	Number at 3-mo FUP	Percent Change at 3 months*
CPS	247	460	86% increase in CPS enrollment
CPR	145	401	177% increase in CPR enrollment
CSTAR	74	85	15% increase in CSTAR enrollment
MM Detox	1	0	100% decrease in MM Detox enrollment
PR+	4	7	75% increase in PR+ enrollment
Early Intervention	2	0	100% decrease in Early Intervention enrollment
Other	7[1]	3[2]	57% decrease, "Other" enrollment
Total	480	956	**99% increase in DMH treatment program enrollment**

*Sample=consumers in the 3-month follow-up sample. % Change=(#intake - # at 3-mo FUP)/# at Intake.
[1]Specifications of "Other" at Intake were: "ACO" (n=1); "ADA (Phoenix Programs, Inc.)" (n = 2); and "Hannibal Council" (n=1); "Psychiatrist" (n=1); specification was missing for n=5.
[2]Specifications of "Other" at 3-month follow-up were: "DD-Central Missouri Regional Office" (n=1); "ADA (Phoenix Programs, Inc.)" (n = 3); and "DMH-RRO, SB40" (n=1); specification was missing for n=1.

Table 4: ***Treatment program enrollment at 6-month follow-up***

Treatment Program	Number at Intake	Number at 6-mo FUP	Percent Change at 6 months*
CPS	147	210	43% increase in CPS enrollment
CPR	95	228	140% increase in CPR enrollment
CSTAR	32	34	6% increase in CSTAR enrollment
MM Detox	0	2	100% increase in MM Detox enrollment
PR+	1	1	0% increase in PR+ enrollment
Early Intervention	2	0	100% decrease in Early Intervention
Other	9[1]	10[2]	10% increase in "Other" enrollment
Total	286	485	**70% increase in DMH treatment program enrollment**

*Sample=consumers in the 6-month follow-up sample. % Change=(#intake - # at 3-mo FUP)/# at Intake.
[1]Specifications of "Other" at Intake were: "ACO" (n=1); "Hannibal Council" (n=1); psychiatrist (n=1); and "group home" (n=1); specification was missing for n=4.
[2]Specifications of "Other" were: "10th District Drug Court" (n=1); "DD" (n=1); "Medication Management services" (n=1); "MTBH via MH3" (n=1); "Swope" (n=1); "Truman ACO Program" (n=1); Johnson County MH in KS for services (n=1); "ADA (Phoenix Programs, Inc)" (n = 2); and "Disease Management" (n=1).

Process Evaluation

To assess ERE consumers' and stakeholders' experiences with the ERE program, MIMH annually conducted focus groups with ERE consumers, a collaborative survey with stakeholders, and a phone implementation survey with collaborators. These activities supplement the quantitative evaluation data and provide quantitative and qualitative data regarding ERE consumers' 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 3.

Focus Groups: In Spring 2016, 8 focus groups were held: two groups were conducted at Mark Twain Behavioral Health, and one group was conducted at each of the other sites. A total of 55 consumers participated. Participation varied by site (5-10 participants per group, Mode = 7).

- **Participants' Experiences in ERs Prior to ERE**: ERE participants reported having negative experiences in the ER prior to ERE and feeling as though they were treated with less empathy and given less help in the ER than someone who presented to the ER with physical health concerns.
- **Referral Sources**: Consumers reported being identified as in need of ERE services and referred to the program through a wide variety of referral sources.
- **ERE Services**: Participants described how ERE meets their needs through a variety of services including assistance with housing, basic needs, and finances, transportation, medication education and management, and help with Medicaid, Social Security, Disability, and school applications.
- **Mental Health Treatment**: Participants voiced feeling involved in their treatment and medication plans and are engaged in their health outcomes. Consumers emphasized that they enjoy a strong therapeutic alliance with their mental health professionals.
- **Future ER use**: Most participants stated that they prefer to utilize their ERE supports rather than the ER for mental health or substance use issues. As the purpose of the ERE program is to reduce ER visits, this is an important finding and complements the reduction in ER visits observed in the outcome survey data.
- **Success Stories*:*** Participants described numerous examples of how ERE has helped improve their lives. Below are examples of how the ERE program have improved the lives of participants:

  "A lot of us with mental illness, there are a lot of people with mental illness that are homeless. They need something to stabilize them. We need the stabilization of these programs. The programs are very important. They're important. Some of them are life or death matters."

  "Yeah all of my experiences with [site] so far have been positive.…I just now have insurance but the first three months I was uninsured, and I thank God that they didn't turn me away or boot me out the door because I didn't have any insurance. So these programs that they have in place for people with no money and people with mental illness they are important to keep them. If you don't, if they don't, if they start closing programs down that help us, where are we going to turn to?"

  "It's like they're part of your life. Most people would shut you up, but these people it's like they want to hear everything that you have to say."

Online Collaboration Survey: Prospective participants, who are employed at various settings such as law enforcement, hospitals, and mental health centers, were recruited to complete an anonymous online survey (Thomson, Perry, & Miller, 2007). Highlights of the Year 3 survey are presented below:

- A total of 268 valid survey participation invitations were distributed. Of those, 127 began the survey and 115 respondents completed the entire survey (47.3% partial completion rate).
- Participants were employed at diverse settings: 33.3% hospital, 21.6% CMHC, 17.1% treatment provider, 16.2% service agency, 9.9% law enforcement, and 1.8% Division of Developmental Disabilities.
- The majority of participants (90.4%) had been employed at their agency for at least one year, and 88.6% have worked in their respective fields for 4 or more years.
- Approximately half (55.6%) reported having communication with the lead agency at least once per month.
- The majority of participants (87%) felt that partners take their organization's opinions seriously regarding the collaboration.
- Most respondents (89.4%) reported that partners agree about the goals of the collaboration and 89.6% indicated that being a part of the collaborative did not interfere with the goals of their organization.
- Most individuals (78.9%) agreed that ERE is working well.
- The majority of the respondents (79.9%) agreed that the ERE collaborative is effective in achieving the expected outcomes.
- Most individuals (84.1%) agreed that high quality working relationships have been generated from the ERE project.
- Only 33.9% of participants reported that other agencies in the collaborative are trustworthy and approximately half (49.5%) perceive that they can rely on other agencies.
- Approximately sixty-one percent (60.9%) agreed it is worthwhile to remain in the collaborative.

Phone Implementation Survey: MIMH conducted a telephone survey of ERE collaborators at partnering organizations within each region. The purpose of the survey is to assess awareness of ERE, perceptions of what is working well, benefits of the program, success stories, and opportunities for improvement. Participation in the interview survey was limited. For some organizations, only a few partners agreed to participate in the survey. Participation was voluntary and while the time commitment was limited to approximately 15 minutes, the incentive to participate in the survey may not have been sufficient. Results from the phone survey are described in site-specific reports previously submitted to DMH. The summary below identifies themes across sites.

- **Roles of Partnering Organizations:** The roles of the partnering organizations are diverse, and the focus of the organizations align with the overall mission of ERE.
- **Awareness of ERE**: Awareness of ERE ranged from "fairly aware" to "very aware". Defining and implementing best practices to increase awareness is warranted. Several organizations were identified by partners as highly engaged to increase awareness (e.g., Burrell-Springfield), and leveraging the practices utilized by these organizations may help continue to raise the overall level of awareness of ERE among collaborators. Development and utilization of printed resources to increase awareness and engagement in ERE was identified by some partners.
- **Communication**: Communication was prioritized as critical to the success of ongoing programs as well as an area of potential improvement. The MIMH website is a valuable

resource for information, though it is a passive repository rather than an active tool to engage discussion, share information, and support best practices. It may be beneficial to include a more active communication process from a centralized organization. MIMH is positioned to lead this effort.

- **Importance of ERE**: Partners consistently expressed high appreciation for their engagement in ERE, recognizing the value of the program in creating significant and sustainable change in the lives of individuals in need of behavioral health services.
- **Mechanisms for Success**: Adequate staffing to support ERE and dedication of the sites were both identified as a key mechanisms of success.

Summary and Recommendations

ERE is associated with significant reductions in ER visits and hospitalizations. As of June 2016, the number of ER visits has been reduced by 55% for the 3-month follow-up period, and 67% for the 6-month follow-up period. Similarly, hospitalizations have been reduced by 55% at 3-month follow-up and a 68.9% at 6-month follow-up. These outcomes demonstrate the success of the ERE program.

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 2016, homelessness has been reduced by 59% at 3-month follow-up and 75.3% at 6-month follow-up. The number of consumers describing themselves as unemployed have decreased 20% by the 3-month follow-up and 25.8% at 6-month follow-up. There has been an average of a 40.9% reduction in arrests at 3-month follow-up and a 51.7% reduction by 6-month follow-up.

Enrollment in DMH services has increased by 99% at the 3-month follow-up and by 70% at the 6-month follow-up. Programs such as CPS, CPR, and PR+ exhibit high rates of increased enrollment. Although the 6-month outcomes are preliminary, these findings indicate that retention in DMH services represents a feasible goal to support long-term success.

In summary, both quantitative and qualitative outcomes reveal sustainable benefits of the ERE program.

Recommendations:

1. As there is significant variability in follow-up completion rates across sites (range for YR3 33%-92%), it may be useful to continue to consult with sites regarding best practices to promote data collection.
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 phone implementation and collaborative survey, it will be worthwhile to consider mechanisms to facilitate a greater level of participation in the surveys in future years, with strong support from ERE leadership.
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.