



Illinois Children's
Healthcare Foundation

Children's Mental Health Initiative (CHMI)



Local Evaluation Report – Due May 31, 2017

Project Name	The Children's MOSAIC Project		
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Executive Summary

The Children's MOSAIC project is a collaborative effort in Springfield to change the landscape of children's mental health care by moving it into the community. The main, although not exclusive, elements of MOSAIC's model are screening and embedding mental health clinicians in the settings where screening occurs, so that children who are identified as needing help can be referred to a person able to provide that help. The strategy has been to expand MOSAIC's reach gradually, by starting where the need is greatest. It began in one lower income neighborhood, one elementary school near that neighborhood, and one primary care group practice serving a high percentage of lower income families. MOSAIC operates through twelve schools and two of the three large primary care practices in Springfield, with plans to continue expanding in coming years, eventually covering the entire community.

In 2016, MOSAIC's local evaluation sought answers to three questions:

- What children have challenges to their mental well-being, how do they get connected to the services they need, and do those services make a difference?
- To what extent have the practices of the professionals who serve children with mental health needs changed to reflect the MOSAIC approach?
- What other mental health initiatives and programs has MOSAIC inspired, and what have been the effects of these additional activities?

The evaluation has produced the following findings:

- In 2016, the average rate of positive screens indicating social-emotional difficulties for children six and older was 33 percent in the schools and 24 percent in primary care. The rate of positive screens for children under six was 29 percent.
- In participating schools in 2016, 59 percent of children with a positive screen were referred for treatment services, and 78 percent of those children began or continued participating in treatment. Owing to data limitations in the three participating primary care sites, it was not possible to determine comparable referral and service uptake rates based on a positive screen.
- School-aged children who enter the behavioral healthcare system through MOSAIC have experienced more therapy and have less involvement in psychiatry and crisis intervention than school-aged children who access care through other ways. There is some evidence that therapy may be more effective when it lasts longer and psychiatry more effective when it is shorter.
- In general, MOSAIC children have not received as big a boost in functioning, measured by the Daily Living Activities-20 scale (DLA-20), as children who access care through other ways (comparison group), although this difference has weak statistical significance. MOSAIC has done better than the comparison group with children under the age of 13, and worse among teenagers. MOSAIC children have also tended to see more improvement in their DLA-20 score than comparison children between 2012 and 2015. In 2016, likely owing to turnover and limited availability of clinicians embedded in participating schools, MOSAIC children did worse on the DLA-20 than comparison children. While black children with social-emotional challenges generally have had less involvement in treatment than other children across the school years, this gap has been smaller for black children who access services through MOSAIC. Also, MOSAIC appears to be more effective among children who have experienced family violence and are in treatment for two or more years.
- MOSAIC has become well-embedded in participating primary care practices and continues to make progress in the schools.

- MOSAIC has spurred other initiatives, in particular MOSAIC Moms for parents and Mental Health First Aid training, that have made the overall system of care in Springfield stronger. Both new initiatives are having discernible, positive effects.

The findings from the evaluation suggest the following recommendations:

- MOSAIC’s commitment to gradual expansion has proven the correct strategy and should continue.
- While deeply committed to MOSAIC, primary care practices need to develop the data to measure the effects they are having on the children they serve. Primary care is the main gateway to reaching children early in their lives, when the opportunity to affect their development is greatest.
- The commitment of schools to MOSAIC is contingent on having the resources to support the two key elements of the MOSAIC model – regular screening and embedded mental health clinicians.
- There is a need to better understand the differences between therapy and psychiatry in terms of which is most effective under what circumstances. MOSAIC has mainly been a vehicle for accessing therapy provided by psychologists, social workers, and counselors. Yet, in general, psychiatry appears to be more effective. When therapists need to make a referral to psychiatry is probably a question worth deeper analysis.
- MOSAIC services a higher proportion of black children, and black children do better in MOSAIC, but they still experience significantly less improvement in functioning than other children. A closer look may need to be taken at why black children are not benefiting as much and what might be done to resolve that problem.

Project Description

The Children’s MOSAIC Project is a community collaboration to change the landscape of children’s mental healthcare by moving care into the community. The aim is to identify children earlier and quickly engage them in appropriate services and supports in schools, primary care offices, and a target neighborhood. By leveraging trust and relationships, the system being created can engage even the most vulnerable children and families, providing services needed to give children the best opportunity to grow up happy and healthy. Families will experience a system of care that is easy to access and responsive to their particular needs. Children and families will also benefit from greater collaboration and communication among those professionals who are providing care.

MOSAIC serves children and adolescents living in the city of Springfield. Approximately 26,000 youth, ages 0-17, live in the city of Springfield, representing about 23% of the total population of 117,809 (American Community Survey, 2015 estimates). With an annual enrollment of approximately 15,000 students (pre-K through 12), Springfield Public School District 186 is the largest school district serving the local area. The demographics of its current student body reflect a high level of diversity with 44.5% white, 39.8% black, 10.1% multi-ethnic, 3.1% Hispanic, and 2.2 % Asian. More than half – 57.3% -- of students enrolled in Springfield public schools are from low-income households based on participation in free and reduced price school lunch programs, or living in substitute care or in a family receiving public aid.

From the outset, critical community partners needed to be at the table for the MOSAIC Project to be a system of care encompassing all aspects of the community that have an impact on children. These partners have included the Springfield public schools, large primary care providers, nonprofit service providers, and institutions of higher education.

MOSAIC has worked with the community and its partners in a ground up approach. It has identified target sites of children and families with the most need for access to mental health care, as well as staff readiness at each site, and it has added new sites each year. At the start, MOSAIC community partners identified a target neighborhood on Springfield's east side. This neighborhood (as well as areas immediately beyond its boundaries) has a significant number of Springfield's low-income families, with most of the children attending school in Springfield public schools, the city's only public school district. The neighborhood and surrounding area have many risk factors that put its children and their families at risk of experiencing some kind of behavioral health distress.

In the past six years, MOSAIC has grown from the neighborhood, a nearby elementary school, and one primary care practice to fifteen sites: Matheny-Withrow Elementary School, Graham Elementary School, Harvard Park Elementary School, Fairview Elementary School, McClernand Elementary School, Black Hawk Elementary School, St. Patrick Catholic School, Douglas/PREP, Washington Middle School, Southeast High School, Springfield Urban League Head Start, Southern Illinois University School of Medicine Center for Family Medicine and Department of Pediatrics, and Memorial Physician Services at Koke Mill.

Evaluation Methodology

The local evaluation of MOSAIC in year six has focused on two core questions:

- What children have challenges to their mental well-being, how do they get connected to the services they need, and do those services make a difference?
- To what extent have the practices of the professionals who serve children with mental health needs changed to reflect the MOSAIC approach?

In addition, the pursuit of MOSAIC has spawned other activities in the community to address behavioral health needs, which leads to a third question:

- What other mental health initiatives and programs has MOSAIC inspired, and what has been the effect of these additional activities?

Children Needing and Receiving Services

Participating primary care practices and schools have collected data on their screening of children for developmental and social-emotional problems and, for those children who screen positive, service referrals. For positively screened children whose families have agreed to participate in services and the evaluation, fairly detailed information has been solicited on family well-being, looking at both material welfare and social support. In addition, steps have been taken to gather data from schools on child behavior and basic socio-economic characteristics (e.g., discipline, attendance). The principal measure for assessing child outcomes in the cross-site evaluation is the Child Behavior Checklist (CBCL).¹ However, there have been too few completed CBCL's, especially as follow-up assessments, for using this measure to analyze change in child well-being in relation to MOSAIC.

¹ While not ideal, multiple screening scores for children tracked over time could be used to assess the effects of MOSAIC on child well-being. However, because these data have not been available in easily accessed electronic records from primary care sites, and because all participating schools but one are too new to MOSAIC to have conducted more than one screening to date, it is not yet feasible to do an outcome analysis using screening results.

Since data from CBCLs has been limited, an alternative strategy has been pursued for evaluating the effects of MOSAIC on children. School-aged children receiving services through MOSAIC have been compared to children receiving services outside of MOSAIC. In previous local evaluations, this comparative analysis has focused on process outcomes, such as intensity of therapy. For the current evaluation, measures of process outcomes have been complemented by a substantive outcome measure – the Daily Living Activities 20 -- routinely collected by Memorial Behavioral Health on all children in its care. Thus, children who access care through MOSAIC can be compared with children who access care outside of MOSAIC to see if the “MOSAIC pathway” is more successful in improving child well-being. Owing to incomplete data from the two participating primary care practices, similar analysis has not been possible for the younger children who access care through their doctor’s office.

Professional Engagement

In the past two annual evaluations, a survey was used to assess acceptance of the MOSAIC approach within primary care practices. Last year, a similar survey was used to gauge the value of MOSAIC within Springfield schools. For the current evaluation, the survey on MOSAIC acceptance was replaced with a practice change assessment. The assessment identified the different dimensions of MOSAIC (e.g., screening, monitoring child progress), broke each dimension down into a set of four stages (roughly from immature to mature implementation), and then asked professionals in primary care and the schools to select the stage that best corresponds with their view of where their practice is at on that dimension currently. This method has been used to assess other types of integrated care and provides a more concrete picture of progress than possible with a standard survey using Likert scales.

Initiatives Spurred by MOSAIC

Memorial Behavioral Health, along with community partners, has developed, using local resources, a MOSAIC component for parents. Parent support activities have been established in the eastside neighborhood that served as MOSAIC’s initial focus. And, using local funds, a program called MOSAIC Moms has been instituted to help mothers with their own mental health challenges. MOSAIC Moms has been and will continue to be evaluated using a standardized instrument that tests for stress, depression, adequacy of social and material support, and service utilization.

In addition, in the past year, Memorial Health System provided funds to Memorial Behavioral Health to begin implementing Mental Health First Aid (MHFA) training in the Springfield area, a response to the 2015 community health need assessments completed by Memorial Health System’s four hospitals. This program, shown to be effective through rigorous research, seeks to broaden the cross-section of the community that understands and is able to detect and respond when individuals may be having a mental health crisis or challenge. Participants evaluate the training using a standard post-training rating instrument created by the developer of MHFA.

Findings

Children Needing and Receiving Services

The Front End: Screening

To date, screening has been implemented in twelve schools, mostly serving substantial numbers of low-income children, and three primary care sites representing most of the primary care in Springfield. While school engagement has been relatively consistent and expanding, a few schools have been in and out owing to a lack of resources to support the embedded mental health clinicians needed to follow up positive screens. Primary care practices have been doing screening consistently, although providing the results for evaluation purposes has been thwarted by electronic health record limitations. Only one primary care site, SIU Center for Family Medicine, has been able to provide data on their efforts on something approximating a regular basis.

Numbers screened and the results of screening for 2016 are provided in Table 1. In addition to the schools listed in the table, there are participating schools that did not have complete enough data to include here: Washington Middle School, Black Hawk Elementary School (new), Douglas/PREP, St. Patrick’s Catholic School, and Head Start. Except for Black Hawk, these schools have been affected either by limited or no availability of clinicians to see children who screen positive or by personnel turnover. The primary care data are limited to the first three quarters for SIU Center for Family Medicine, owing to excessive data demands on the electronic health record system in the fourth quarter. Koke Mill has never been able to provide screening results in an extractable form for evaluation purposes, and screening data from SIU Pediatrics are too incomplete to include in the report.

Table 1: Screening, 2016

School	Total Enrollments	Total Screened	Elevated Screen (80th percentile)	Highly Elevated Screen (95th percentile)	Total Positive Screens	Positive Rate 2016	Positive Rate 2015
Matheny-Withrow Elementary	249	249	50	35	85	34%	31%
Graham Elementary	253	247	48	21	69	36%	21%
Harvard Park Elementary	405	316	74	64	138	44%	27%
Southeast High	1252	647	83	35	118	18%	15%
Fairview Elementary	295	297	50	27	77	26%	36%
McClelland Elementary	261	255	40	10	50	20%	25%
Springfield Learning Academy (New)	119	19	6	5	11	58%	--
Total	2834	1783	351	197	548	33%	28%
Primary Care Practice	Total Screened	Total Screened ASQ	Total Positive ASQ	Positive Rate ASQ	Total Screened PSC	Total Positive PSC	Positive Rate PSC

SIU Center for Family Medicine	2959	715	210	29%	2244	547	24%
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The up and down movement of the positive screening rates for participating schools is difficult to interpret. Most likely, it reflects normal variation as school student populations change some from year to year. The SIU positive ASQ rate of 29 percent for young children is substantially higher than the 13 percent in 2015. That higher rate is more in line with the broader experience with the ASQ among low-income populations, a point we have made in previous local evaluation reports. The PSC rate of 24 percent is just slightly lower than the previous year's rate of 27 percent.

Referrals and Service Use

It was possible in 2015 and 2014 to report on experience through SIU Family Medicine with service referrals based on screening results. However, the necessary data are lacking for 2016.

Most participating schools have kept records on the referral and service experiences of students who receive a highly elevated screening score. The results for 2016 are reported in Table 2.

Table 2: School Referrals, 2016

School	Number Highly Elevated	Number Referred to MOSAIC Services	Number Using MOSAIC Services	Number Using Other Services	Rate of Service Uptake
Matheny-Withrow Elementary	35	18	7	0	20%
Graham Elementary	21	12	5	3	38%
Harvard Park Elementary	64	50	43	2	70%
Fairview Elementary	27	7	5	2	26%
McClelland Elementary	10	8	6	0	60%
Southeast High	35	19	15	1	46%
Total	192	114	81	8	46%

The average rate of service uptake of 46 percent across all schools represents a modest drop from the 2015 level of 52 percent. The variation for specific schools is significant in some cases (Matheny's rate was 64 percent in 2015 compared to 20 percent in 2016). However, there is no reason to expect that any individual school's experience with the number of highly elevated screens will be largely the same

from one year to the next. Plus, at least some children who keep showing up as highly elevated may either come from families less interested in receiving the help that MOSAIC can provide or be engaged in therapy/counseling too inconsistently for it to have its intended effect on their behavior.

The 2014 report presented preliminary evidence suggesting relatively long intervals between a finding of a highly elevated screen and first contact by a school social worker (18-19 days on average) and between first social worker contact and first appointment with a behavioral health clinician (56 days on average). For 2015, the average screening-first contact interval was 38 days, about twice the 2014 length. This longer period was almost entirely due to schools just beginning their participation in MOSAIC and needing to revise their procedures to accommodate the requirements of the program. The average contact-appointment interval was 26 days. In 2016, with most schools having now had extended experience in the program, intervals between screening and first contact and first contact and first appointment narrowed considerably. The average time lapse between screening and first contact was 15 days last year, and between first contact and first appointment it was 9 days.

Data was available from six schools on the response to children with elevated, in contrast to highly elevated, screens. Out of these 351 children, 159, 45 percent, were referred to a Tier II intervention. The largest number of these, 76, was to Check In Check Out – a component of the Positive Behavioral Interventions and Supports program used in Illinois public schools. Other options included small groups, setting individual goals, and, in a few cases, referral to MOSAIC.

Are Children Served Through MOSAIC Better Off?

All along the main question the evaluation has needed to answer, if possible, is whether MOSAIC is improving the well-being of children who screen positive. It might be that the structural (e.g., addition of embedded clinicians in schools and primary care practices) and process (e.g., screening) changes induced by MOSAIC result in the identification of more children with needs and better coordination of services, but without any significant change in the mental health of children. Do children get better is the test of whether any of this matters.

In previous years, the question was addressed indirectly by comparing school-aged students who enter the service system through MOSAIC with those who enter in other ways on measures of process engagement. The main outcome measure used for this purpose was the number of therapy/counseling sessions. The assumption was that more therapy might be a predictor of better child functioning. The evaluations generally found evidence of an advantage on this measure for MOSAIC clients. For 2015, instead of just number of therapy visits, analysis also focused on number of therapy visits per 30 days. Arguably, higher intensity of treatment would provide a better chance of substantive improvement for children than would treatment spread out more thinly over time. Analysis showed that, indeed, MOSAIC children did better on the intensity measure than comparison children.

Memorial Behavioral Health (MBH) has consistently used the Daily Living Activities (DLA)-20 to measure mental health outcomes for the children it serves. The DLA-20 is a fairly common, validated instrument used in behavioral health settings for children. It contains 20 domains, from health practices to dress. Each domain can receive a score from 1 to 7. Higher scores mean better functioning. Scores of 5-7 in a domain are considered to represent functioning “within normal limits.” A child’s DLA score is his or her average score across all domains multiplied by ten (min=10, max=70). A score of 50 or above is considered to represent typical, healthy functioning. MBH uses the DLA-20 to assess initial functioning and then to track changes in functioning over time, typically in six-month intervals.

In comparative analyses in prior years, there were too few MOSAIC children with more than one DLA-20 score to make analysis feasible. By the end of 2016, this was no longer the case. The availability of DLA-20 data for both MOSAIC and comparison children served by MBH made it possible to get a clearer answer to the question of whether MOSAIC matters to child well-being. For this part of the evaluation, we were able to use data spanning a five-year period, 2012-2016.

To assess potential influences on change in DLA-20 scores, several Independent variables were included in the analysis:

- Gender (male=1, female=0)
- Race (black=1, other=0)
- Family violence indicator (yes=1, no=0)
- Monthly household income
- Family size
- MOSAIC client (MOSAIC=1, comparison=0)
- Mean child age and child age by developmental category
- Mean days in treatment
- Mean total services and mean total services per 30 days
- No. receiving any treatment
- Mean no-shows/cancellations per 30 days
- No. of therapy & counseling sessions per 30 days
- No. of psychiatric services per 30 days
- No. of medication services per 30 days
- No. of crisis intervention services per 30 days

In addition to change in DLA-20 scores between the first and last administration of the assessment, dichotomous outcome variables were created using the DLA cutoff score of 50. Descriptive information on all variables is provided in Table 3.

Table 3: Variables, MOSAIC and Comparison, 2012-2016

Independent Variables	MOSAIC Group	Comparison group
N	512	4196
% Male*	65.8%	61.0%
% Black***	35.7%	20.5%
% Family violence indicated***	23.4%	9.9%
Monthly income mean***	\$1,227	\$1,027
Family size mean***	3.77	3.22
Mean child age at entry***	10.32	11.92
% Children ages 5-8	39.5%	21.9%
% Children ages 9-12	29.5%	27.3%
% Children ages 13-18	31.1%	50.8%
Mean days in treatment **	540	459
Mean total services***	57.02	44.02

Mean total services per 30 days***	1.90	1.47
% received any treatment**	89.8%	93.0%
Mean no-shows/cancellations per 30 days**	.40	.60
Mean therapy/counseling sessions per 30 days***	.89	.39
Mean psychiatric services per 30 days**	.04	.06
Mean medication services per 30 days**	.08	.11
Mean crisis intervention services per 30 days***	.06	2.14
Dependent (Outcome) Variables		
Mean change in DLA-20 between first & last**	.44	1.18
Mean first DLA-20 score**	47.46	48.36
Mean last DLA-20 score***	47.89	49.54
% DLA-20 Improves above 50 between first & last	10.7%	9.3%
% DLA-20 Declines below 50 between first & last***	8.4%	4.5%
% DLA-20 Stays below 50 between first & last***	48.8%	28.7%
% DLA-20 Stays above 50 between first & last	27.0%	24.3%
***Significant at 1%;**Significant at 5%;*Significant at 10%		

As can be seen in Table 3, the MOSAIC and comparison groups differ significantly on most independent variables. Although this may in part be a function of the large size of the overall sample, increasing the odds of even small observable differences achieving statistical significance, it requires caution in interpreting the results of the analyses below comparing the two groups.

Two different types of analyses were carried out. First, as in prior years, linear regressions were performed to evaluate the possible influences on the three main service intensity variables: therapy/counseling, psychiatric services, and crisis intervention per 30 days. Medication service intensity was excluded, since it is very highly correlated with the intensity of psychiatric services (.930, $p=.000$). Evaluation of influences on no-shows and cancellations revealed no meaningful statistical differences between MOSAIC and the comparison group; so, these analyses are not reported here.

The second type of analysis used linear regression to assess the relationships between the demographic and service variables and change in DLA-20 over time. For all analyses, the continuous independent variables were centered to correct for deviations from the normal distribution.

Analysis of Treatment Process

The analysis in Table 4 deals with the treatment intensity variables as process outcomes. The results shown are for four regression equations, one for each process outcome: therapy intensity, psychiatry intensity, crisis intervention intensity, and total services intensity. The numbers in each cell represent standardized beta coefficients that measure the strength of the relationship between each of the several independent variables and the four process outcomes, taking all the other independent variables into account. All children who receive services have an assigned therapist, and thus, all receive some therapy. And the therapist is the referral agent for access to psychiatry. Children may access crisis intervention directly. Crisis intervention, however necessary, is regarded as a suboptimal response to need, since it occurs when a child is experiencing a high level of disturbance.

Table 4: Treatment Process Outcomes

Independent Variables	Therapy Intensity	Psychiatry Intensity	Crisis Intervention Intensity	Total Services Intensity
Family Size	.031*	-.010	0.009	-.024**
Black (race)	-.063***	-.049**	-.041**	0.019
Family Violence Indicator	.051***	-.046**	-.016	0.078
Household Income (standardized)	.106***	.050**	-.064***	-.006
Child age	0.003	-.040**	.170***	-.057***
Gender	0.011	0.002	-.053**	0.013
MOSAIC Client	.214***	-.187***	-.091***	0.012
Therapy Intensity	N/A	.305***	-.222***	.103***
Psychiatry Intensity	.276***	N/A	0.02	.712***
Crisis Intervention Intensity	-.320***	0.021	N/A	.178***
First DLA Score	0.015	-.010	-.119***	-.008
% variance explained	20.1%	11.7%	13.3%	56.4%

N=3220

***Significant at 1%; **Significant at 5%; *Significant at 10%

There are notable patterns. Black children experience less intensive services of all kinds. The presence of the family violence indicator positively predicts therapy intensity but negatively predicts psychiatry intensity. Why family violence is negatively related to the intensity of psychiatry is not obvious and requires further exploration (see below). Likewise, it is perhaps somewhat surprising that the violence indicator does not predict crisis intervention intensity, since one might expect violence at home to often precipitate crisis intervention. Household income positively predicts the intensity of therapy and psychiatry services and is negatively associated with the intensity of crisis intervention, suggesting that poorer children are more likely to be treated through crisis intervention. The intensity of psychiatry has a negative relationship with the age of the child, meaning that intensity is higher for younger children, and the relationships is reversed for crisis intervention, where intensity is higher for older children. Overall, service intensity is greater the younger the child, which may be an indicator of a healthy service system attempting to deal with problems when they are more treatable.

Being in MOSAIC is positively associated with therapy intensity, but negatively associated with the intensity of both psychiatry and crisis intervention. This pattern is consistent with findings from analyses in previous years' local evaluation reports. Therapy intensity is strongly and positively associated with the intensity of psychiatry services but has a negative relationship with crisis intervention, whereas psychiatry intensity does not have a statistically significant relationship with crisis intervention. Paradoxically, a child's initial DLA-20 score does not predict the intensity of the therapy or psychiatry services he or she receives. This score negatively predicts crisis intervention intensity, which makes sense (i.e., lower scores are associated with more intense crisis intervention services).

Analysis of Treatment Outcomes

The main treatment outcome is the score change between the first and last administrations of the DLA-20. Initially, a straightforward linear regression was performed with this outcome as the dependent variable and independent variables that are significantly correlated with this outcome. The results of this analysis are reported in Table 5. Statistically significant relationships (10% or better) are indicated in yellow.

Table 5: Change in DLA-20 Score

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	0.968	0.402		2.409	0.016	0.180	1.757
	MOSAIC client	-0.717	0.273	-0.047	-2.621	0.009	-1.252	-0.181
	Family size	0.120	0.067	0.032	1.782	0.075	-0.012	0.251
	Black	-0.410	0.227	-0.032	-1.806	0.071	-0.854	0.035
	Child age	-0.014	0.027	-0.009	-0.525	0.599	-0.066	0.038
	Household income	0.269	0.117	0.042	2.297	0.022	0.039	0.498
	Family violence	0.004	0.299	0.000	0.012	0.990	-0.583	0.591
2	(Constant)	-0.360	0.482		-0.748	0.455	-1.305	0.584
	MOSAIC client	-0.940	0.280	-0.062	-3.353	0.001	-1.490	-0.390
	Family size	0.118	0.067	0.032	1.768	0.077	-0.013	0.248
	Black	-0.258	0.226	-0.020	-1.141	0.254	-0.701	0.185
	Child age	0.010	0.027	0.007	0.378	0.705	-0.043	0.063
	Household income	0.118	0.118	0.018	0.999	0.318	-0.113	0.349
	Family violence	-0.023	0.297	-0.001	-0.076	0.939	-0.605	0.560
	Therapy intensity	1.016	0.251	0.079	4.054	0.000	0.525	1.507
	Psychiatry intensity	1.615	0.487	0.070	3.316	0.001	0.660	2.570
	Crisis intervention intensity	-0.792	0.371	-0.039	-2.131	0.033	-1.520	-0.063
	Days in treatment	0.017	0.010	0.033	1.640	0.101	-0.003	0.036
3	(Constant)	-0.130	0.514		-0.253	0.800	-1.137	0.877
	MOSAIC client	-0.990	0.279	-0.065	-3.542	0.000	-1.538	-0.442
	Family size	0.098	0.066	0.027	1.478	0.140	-0.032	0.229
	Black	0.128	0.258	0.010	0.495	0.620	-0.378	0.634
	Child age	0.006	0.027	0.004	0.220	0.826	-0.047	0.059
	Household income	0.135	0.118	0.021	1.151	0.250	-0.095	0.366
	Family violence	-0.021	0.296	-0.001	-0.069	0.945	-0.601	0.560
	Therapy intensity	-0.281	0.454	-0.022	-0.620	0.536	-1.172	0.609
	Psychiatry intensity	7.332	1.382	0.317	5.307	0.000	4.623	10.041
	Crisis intervention intensity	-0.675	0.370	-0.034	-1.823	0.068	-1.401	0.051
	Days in treatment	-0.004	0.016	-0.007	-0.228	0.820	-0.035	0.028
	Black and psychiatric intensity	-3.362	1.075	-0.066	-3.126	0.002	-5.470	-1.253
	Therapy intensity & Days in treatment	0.086	0.025	0.176	3.502	0.000	0.038	0.135

	Psychiatry intensity & Days in treatment	-0.215	0.048	-0.297	-4.440	0.000	-0.310	-0.120
4	(Constant)	18.786	0.863		21.755	0.000	17.093	20.479
	MOSAIC client	-1.441	0.254	-0.095	-5.661	0.000	-1.939	-0.942
	Family size	0.036	0.060	0.010	0.602	0.547	-0.082	0.155
	Black	-0.267	0.235	-0.021	-1.136	0.256	-0.728	0.194
	Child age	-0.036	0.025	-0.024	-1.447	0.148	-0.084	0.013
	Household income	0.215	0.107	0.034	2.011	0.044	0.005	0.425
	Family violence	0.066	0.269	0.004	0.246	0.806	-0.461	0.593
	Therapy intensity	-0.372	0.413	-0.029	-0.901	0.368	-1.181	0.437
	Psychiatry intensity	5.375	1.258	0.233	4.274	0.000	2.910	7.841
	Crisis intervention intensity	-1.809	0.339	-0.090	-5.331	0.000	-2.474	-1.144
	Days in treatment	-0.028	0.014	-0.056	-1.943	0.052	-0.057	0.000
	Black and psychiatric intensity	-2.763	0.977	-0.054	-2.827	0.005	-4.680	-0.847
	Therapy intensity & Days in treatment	0.099	0.022	0.202	4.416	0.000	0.055	0.143
	Psychiatry intensity & Days in treatment	-0.148	0.044	-0.204	-3.353	0.001	-0.234	-0.061
	DLA score first	-0.363	0.014	-0.420	-26.039	0.000	-0.390	-0.335

N=3220

There are four models represented in the table. The first model (top of the table) includes just the demographic variables, which accounts for only 0.05% of the variance in the outcome. The second model adds the service variables, which accounts for 2.4% of the variance in the outcome. In the third model, interactions between certain of the variables are introduced into the regression. The purpose of including an interaction term is to evaluate whether the effects of the two variables in the term on the outcome can be explained, to a greater or lesser degree, by how these two variables interact. Only interaction terms with a statistically significant relationship to the outcome have been used in this analysis. The inclusion of interaction variables boosts the explained variance in the outcome to 3.4%. The fourth model adds a child's first DLA score, which accounts for 20.2% of the outcome variance.

All four models show that being in MOSAIC is negatively associated with change in DLA-20 scores, although the influence is relatively modest. None of the other demographic variables has a consistent relationship with the outcome, and even when the relationship is statistically significant, it tends to be weak. However, in the third model with interaction terms, the interaction of being black with psychiatry intensity is negative and statistically significant. This confirms the finding in Table 3 of black children being less likely to receive intensive psychiatric services, and that interaction has a negative bearing on change in DLA scores. In model two, the three service intensity variables each has the expected relationship with the outcome: therapy and psychiatry are positive, while crisis intervention is negative. However, when interactions are added in model three, there is no longer a positive, direct relationship between therapy intensity and change in DLA scores. This relationship appears to be mediated through how long a child has been in treatment, as indicated by the positive association of that interaction with the outcome. By contrast, while psychiatry intensity maintains its direct, positive relationship with DLA change in the model with interaction terms, its interaction with days in treatment has a statistically significant negative relationship with the outcome. In other words, more intensive psychiatry over a longer period of time is associated with lower DLA scores. Most likely this situation involves children with greater needs.

Even though child age was not a significant variable in the above analysis, the difference in the age composition of the MOSAIC and comparison populations raises the possibility that age may matter in how well MOSAIC is working for children at different stages of development. When MOSAIC and comparison children in the three age groups are compared on mean change in DLA scores, there are notable differences, with MOSAIC doing better in the youngest group, ages 5-8 (mean DLA change of 1.93 vs. 1.41 for the comparison children), about the same in the middle group, ages 9-12 (mean DLA change of 1.01 vs. 1.08 for the comparison), and worse in the oldest group, ages 13-18 (mean change of .26 vs. 1.52 for comparison youth).

In regression analyses for each age group separately (details not reported here), the MOSAIC variable is not a predictor for the 5-8 and 9-12 groups, but it has a statistically significant negative relationship with DLA change in the teenage group until the interaction of MOSAIC and first DLA score enters the model. The interaction has a significant negative relationship with DLA change, indicating that gains may be harder for MOSAIC teens who start with relatively low scores. The MOSAIC variable alone becomes positive and significant with this interaction in the equation. In the two younger groups, the associations between the independent variables and the outcome variable are similar to the pattern in the analysis shown in Table 5. Demographic variables, other than household income, are not statistically significant. The positive influence of therapy intensity on DLA scores appears to be a function of younger children being in treatment longer, while the positive influence of psychiatry appears to be a function of treatment being shorter rather than longer. For the teen group, crisis intervention intensity is the only intensity variable significantly predicting change in DLA scores, and the direction is negative. As with younger children, therapy intensity becomes significant when it interacts with how long a teen has been in treatment. This interaction has a positive relationship with DLA change.

The intensity of crisis intervention is significantly higher among teens than for the other two age groups. Mean crisis interventions per 30 days is 2.91 for children ages 13-18, 1.28 for children ages 9-12, and .63 for children ages 5-8. For all age groups, the rates are substantially higher for children in the comparison group relative to MOSAIC children. Because crisis intervention is more likely among older children, a separate regression was done for the ages 13-18 group, with the intensity of crisis intervention as the outcome variable. The notable result of this analysis is that, while therapy intensity has a negative association with crisis intervention intensity, and psychiatry intensity is unrelated, the interaction of the MOSAIC variable and psychiatry intensity positively predicts the intensity of crisis intervention. This suggests that MOSAIC children who receive intensive psychiatry are more likely than comparison children to be involved in crises.

Changes in DLA scores by age group also varied by year. For children aged 5-8, those in MOSAIC did better than the comparison group in 2012 (1.12 vs 1.04), 2013 (4.50 vs. 2.85), 2014 (2.73 vs. 1.01), and 2015 (.750 vs. .712), and worse in 2016 (-.174 vs. .532). For children ages 9-12, those in MOSAIC did better than the comparison group in 2012 (3.50 vs. .491), 2014 (2.15 vs. 1.64), and 2015 (1.73 vs. .880), and worse in 2013 (-2.05 vs. 1.69) and 2016 (.407 vs. .486). For children ages 13-18, those in MOSAIC did better than the comparison group in 2014 (2.39 vs. 2.13), and worse in 2012 (.000 vs. 1.13), 2013 (-1.43 vs. 2.13), 2015 (-.689 vs. .332), and 2016 (-1.46 vs. .460).

Since across all three age groups, MOSAIC children had mean DLA gains that were less than comparison children in 2016, a regression was performed excluding 2016 data. This analysis was revealing. The results are reported in Table 6.

Table 6: Change in DLA-20 Score, 2012-2015

Model		Unstandardized Coefficients		Standardized Coefficients		95.0% Confidence Interval for B		
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	1.282	0.479		2.679	0.007	0.344	2.221
	MOSAIC client	-0.219	0.370	-0.012	-0.591	0.555	-0.944	0.507
	Family size	0.123	0.079	0.032	1.558	0.119	-0.032	0.277
	Black	-0.543	0.262	-0.041	-2.075	0.038	-1.056	-0.030
	Child age	-0.023	0.032	-0.015	-0.742	0.458	-0.086	0.039
	Household income	0.328	0.141	0.047	2.325	0.020	0.051	0.605
	Family violence	-0.153	0.352	-0.009	-0.435	0.664	-0.842	0.536
2	(Constant)	-0.106	0.601		-0.176	0.860	-1.285	1.073
	MOSAIC client	-0.446	0.375	-0.025	-1.192	0.233	-1.181	0.288
	Family size	0.116	0.078	0.030	1.487	0.137	-0.037	0.270
	Black	-0.353	0.262	-0.027	-1.344	0.179	-0.867	0.162
	Child age	0.009	0.032	0.006	0.288	0.773	-0.054	0.073
	Household income	0.173	0.142	0.025	1.215	0.225	-0.106	0.452
	Family violence	-0.136	0.350	-0.008	-0.389	0.697	-0.822	0.550
	Therapy intensity	1.149	0.330	0.078	3.485	0.001	0.503	1.796
	Psychiatry intensity	1.344	0.544	0.058	2.468	0.014	0.276	2.411
	Crisis intervention intensity	-0.987	0.500	-0.041	-1.976	0.048	-1.967	-0.007
	Days in treatment	0.011	0.012	0.021	0.953	0.340	-0.012	0.035
3	(Constant)	-0.485	0.617		-0.786	0.432	-1.694	0.725
	MOSAIC client	2.336	1.092	0.129	2.139	0.033	0.194	4.477
	Family size	0.114	0.078	0.029	1.458	0.145	-0.039	0.267
	Black	-0.402	0.263	-0.031	-1.529	0.126	-0.916	0.113
	Child age	0.042	0.034	0.026	1.216	0.224	-0.026	0.110
	Household income	0.183	0.142	0.026	1.286	0.199	-0.096	0.462
	Family violence	-0.156	0.349	-0.009	-0.447	0.655	-0.841	0.529
	Therapy intensity	1.176	0.330	0.079	3.567	0.000	0.529	1.822
	Psychiatry intensity	1.331	0.544	0.058	2.448	0.014	0.265	2.398
	Crisis intervention intensity	-1.001	0.499	-0.042	-2.005	0.045	-1.980	-0.022
	Days in treatment	0.012	0.012	0.022	1.021	0.307	-0.011	0.036
MOSAIC & Child age	-0.258	0.095	-0.162	-2.711	0.007	-0.445	-0.071	

N=3220

In the demographic model (1), being black and household income are the only variables that significantly predict change in DLA scores. These factors fall out of significance once service intensity variables enter the picture (model 2), where all three have the expected relationship with DLA change. In each of the first two models, the MOSAIC variable is negative but non-significant. Since MOSAIC appears to make more of a positive difference among younger children, the interaction of MOSAIC and age is added in the third model. In this model, the MOSAIC variable positively predicts change in DLA scores. The influence of the interaction of MOSAIC and child age is negative and significant, confirming the findings from the simple comparison of mean DLA change by age group above. Thus, prior to 2016, being in MOSAIC positively predicts DLA change, and this effect is more concentrated among younger children.

There are two plausible explanations for the fall of in performance in 2016. One is turnover and limited availability of embedded clinicians, particularly in participating middle schools and the one participating high school. The other may be the higher level of need represented by students in these schools, since MOSAIC has targeted schools with the greatest needs. Less stability in the ranks of clinicians combined with more challenging students may have worked against sustaining the good performance achieved in the four years prior to 2016.

As already noted, black children experience smaller mean changes in DLA scores than other children do. However, the difference is less among black children in MOSAIC compared black children in the comparison group. In MOSAIC, the mean DLA change for black children is .406 vs .453 for other children. In the comparison group, black children have a mean DLA change of .742 vs. 1.30 for other children. All in all, black children experience less intensive treatment whether they are in MOSAIC or the comparison. However, there are some exceptions when the population is broken down into developmental age groups. Black children ages 5-8 in MOSAIC experience a slightly higher intensity of psychiatric services than other children, and this is associated with a higher intensity of medication services. The pattern is reversed in the comparison group. Likewise, black children ages 9-12 in MOSAIC have a higher intensity of crisis intervention services than other children, and again, the pattern is reversed in the comparison group.

One of the puzzles contained in these analyses is why the family violence indicator, which is significantly more pronounced among MOSAIC children, does not appear to influence the DLA outcome measure. A correlation analysis shows that family violence has a positive relationship with the length of time a child has been in treatment. To get a better handle on how family violence may be influencing DLA change, the time in treatment variable was divided into four equal groups representing, from least amount of time in treatment to most. The population was then restricted to the group with the most amount of time in treatment (769 or more days). A regression was then done with this more restricted group and included a variable for the interaction between being in MOSAIC and the family violence indicator (FVI). The results are shown in Table 7.

Table 7: Change in DLA-20 Score, in Treatment 769 Days or Longer

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
1 (Constant)	-0.752	1.003		-0.750	0.453	-2.721	1.216
MOSAIC client	-1.009	0.655	-0.048	-1.542	0.123	-2.294	0.275
Family size	0.422	0.160	0.086	2.643	0.008	0.109	0.736
Black	-0.760	0.549	-0.043	-1.385	0.166	-1.837	0.317
Child age	0.079	0.068	0.036	1.162	0.245	-0.054	0.212
Household income	0.411	0.290	0.046	1.417	0.157	-0.158	0.980
Family violence	1.647	0.748	0.069	2.201	0.028	0.179	3.114
2 (Constant)	3.406	2.193		1.553	0.121	-0.897	7.709
MOSAIC client	-1.433	0.665	-0.069	-2.156	0.031	-2.736	-0.129
Family size	0.340	0.160	0.069	2.128	0.034	0.027	0.653
Black	-0.553	0.549	-0.031	-1.007	0.314	-1.631	0.525
Child age	0.099	0.068	0.046	1.461	0.144	-0.034	0.233
Household income	0.248	0.296	0.028	0.837	0.403	-0.334	0.830
Family violence	1.598	0.743	0.067	2.151	0.032	0.140	3.055

	Therapy intensity	2.409	0.890	0.107	2.707	0.007	0.663	4.155
	Psychiatry intensity	0.171	1.103	0.006	0.155	0.877	-1.993	2.336
	Days in treatment	-0.162	0.052	-0.099	-3.121	0.002	-0.264	-0.060
3	(Constant)	3.161	2.185		1.446	0.148	-1.127	7.449
	MOSAIC client	-2.348	0.724	-0.112	-3.241	0.001	-3.769	-0.926
	Family size	0.340	0.159	0.069	2.136	0.033	0.028	0.651
	Black	-0.528	0.547	-0.030	-0.965	0.335	-1.601	0.546
	Child age	0.105	0.068	0.048	1.549	0.122	-0.028	0.238
	Household income	0.221	0.295	0.025	0.749	0.454	-0.358	0.801
	Family violence	0.296	0.850	0.012	0.348	0.728	-1.373	1.964
	Therapy intensity	2.538	0.887	0.113	2.861	0.004	0.797	4.279
	Psychiatry intensity	0.149	1.099	0.005	0.136	0.892	-2.007	2.305
	Days in treatment	-0.156	0.052	-0.095	-3.010	0.003	-0.257	-0.054
	MOSAIC & FVI	5.272	1.698	0.120	3.104	0.002	1.940	8.605

N=1044

In model one, seemingly contrary to expectation, the presence of family violence positively predicts change in DLA scores. It retains this significance in model two, where service variables are added. Therapy intensity has the expected positive relationship with DLA change, while being in MOSAIC and days in treatment are negative predictors, consistent with earlier findings. In the final model with the interaction of MOSAIC and family violence included, therapy intensity, being in MOSAIC, and days in treatment continue to have the same effects. However, the family violence indicator alone loses significance. But, the interaction term has a relatively strong, positive association with DLA change. The suggestion is that MOSAIC children being served the longest, who have the violence indicator, experience more DLA improvement. For children in the second longest time in treatment (264-768 days), family violence is a negative predictor of DLA change, and the interaction with MOSAIC is not statistically significant. It may be that children exposed to violence need longer periods of time in therapy for therapy to be effective. Note that psychiatry intensity is not a significant variable in this regression analysis.

MOSAIC Parents

A key feature of MOSAIC has been to extend its reach gradually toward encompassing the entire geographic area covered by the Springfield school district. This commitment was initially implemented by focusing in the first year on a lower income neighborhood on the eastside of Springfield. The hope was to establish a neighborhood-based capacity to screen and treat children. Neighborhood outreach workers were hired to develop relationships with local families and to take responsibility for screening.

However, despite their best efforts, the outreach workers encountered substantial barriers to doing screening in people's homes. Work and other responsibilities interfered with parents' availability, and parents were often suspicious. Going door to door could build trusting relationships over time but not in a timely enough way to meet MOSAIC's productivity expectations. Consequently, using the neighborhood as a site for screening was de-emphasized, and outreach workers began looking for ways to connect with parents in group settings. This group method, broadly defined, has become the modus operandi of the neighborhood component of MOSAIC. It is rooted in the recognition that the mental health of children and their parents is often integrally related.

To this end, neighborhood outreach workers have conducted group educational sessions for parents on a variety of topics relevant to the social-emotional well-being of their children. As mentioned above, the neighborhood outreach worker model was not sustainable; therefore, neighborhood activities were transitioned to a MOSAIC community partner, Primed for Life, a local nonprofit youth and family service agency. PFL has provided training for parents on the subject of parental resilience and related subjects, as well as youth groups focusing on healthy emotions, mental wellness, and general coping strategies. Owing to resource limitations, these activities have not been specifically evaluated.

Since mothers do most of the caring for children, and mothers with limited social supports, which defines much of the MOSAIC population, can have mental health challenges of their own, Memorial Behavioral Health, with funding from the Women for Women giving circle, a local philanthropy, began in 2014 a program called MOSAIC Moms. The program is a collaboration with Springfield Public Schools Parents as Teachers; M.E.R.C.Y. Communities, a support organization for homeless and at risk individuals; Contact Ministries, and Community Connection Point. It facilitates parent/child groups and support groups for pregnant and post-partum women, provides home-based mental health services, and consults with home visitors and case managers who work with this population of mothers.

MOSAIC Moms has been evaluated using a questionnaire consisting of validated scales that measure feelings of stress, social support, and depression. In fall 2016, a new section was added to this survey to measure a family's material circumstances using a condensed version of the Family Resource Scale. Too few of the surveys with this additional scale have been completed to include in this report. Parents complete the survey when they come for parent/child group and other group sessions. Also last year, the evaluation began collecting from participating agencies records of the other services mothers use. Just as with the revised survey, too few of these records have been created to date to support evaluation.

So far, 203 parents have enrolled in MOSAIC Moms. Of those, 128 have completed the survey at least once. The results reported here are based on the 67 participants who have completed the survey at least twice. (The survey has been administered on ten different occasions since 2014).

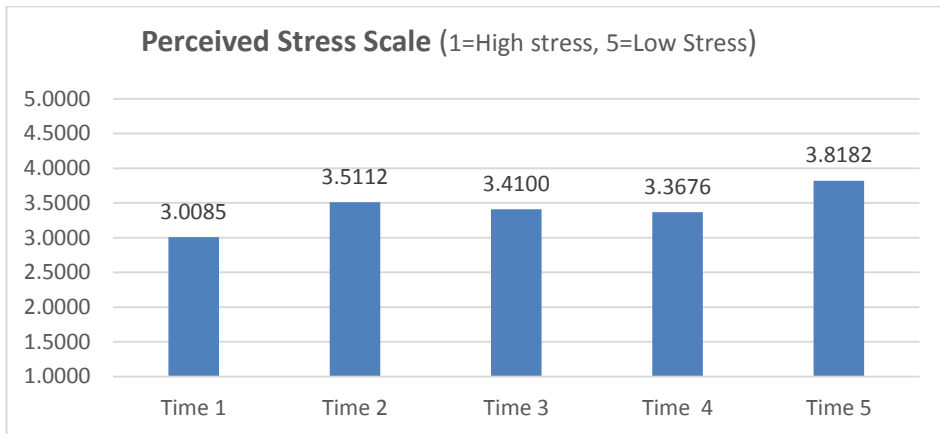
The survey includes basic demographic questions, which show the following:

- 99% of participants have been female
- 49.4% of participants have been African American and 43.3% have been white
- 64.7% of participants have a high school diploma or less
- 17.5% of participants report having a disability
- 73.6% of participants reported being single, and 14.6% reported being married
- 44.35% of participants have one child, 24% have two, and 27.3% have three or more

Figures 1-3 show the average score for each of the three scales in the survey over the first five survey administrations. The number of participants responding to the sixth survey and beyond are too few to be considered for statistical analysis.

Figure 1 reports the results on the Perceived Stress Scale, which measures a person's perception of her or his ability to handle the stress in their lives. It consists of four statements on which respondents are asked to indicate how often each statement applies to his or her life using a five-point scale, from never (1) to very often (5).

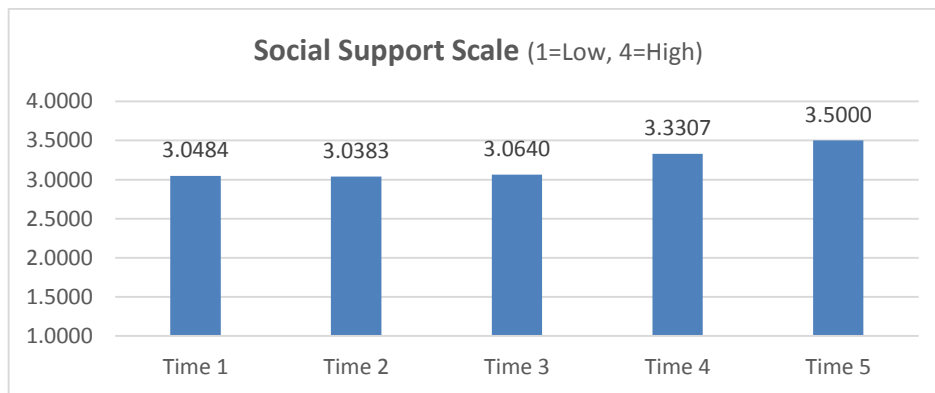
Figure 1: Perceived Stress Scale, MOSAIC Moms



The mean score on the Perceived Stress Scale improves between time 1 and time 2 by half a point on the five-point scale, which is statistically significant. The mean changes relatively little after that, before increasing again at time 5, although not by a significant amount.

Figure 2 shows the results on the Social Support Scale, which measures a person’s perceptions of whether there are people in her or his life who she or he can count on. It consists of ten statements with which respondents are asked to indicate their level of agreement using a four-point scale, from strongly disagree (1) to strongly agree (4). Strong agreement indicates a high level of self-perceived social support.

Figure 2: Social Support Scale, MOSAIC Moms

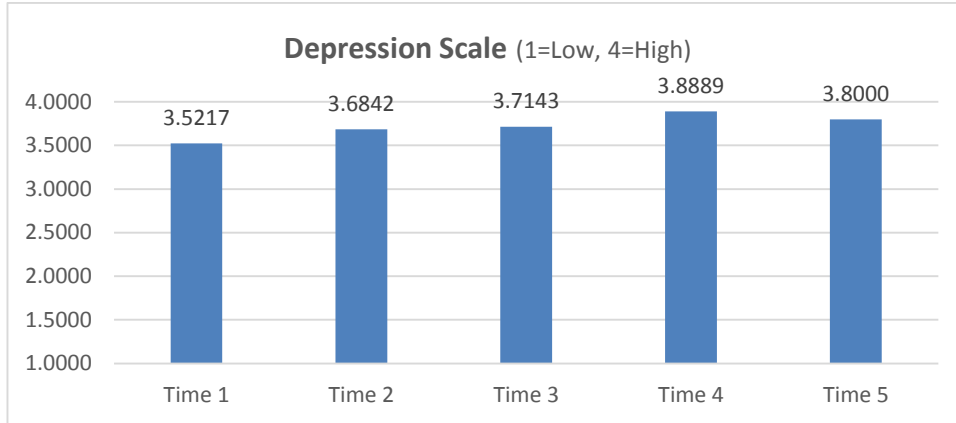


The mean response on the Social Support Scale changes very little during the first three administrations of the survey, when the largest number of participants were involved. It increases after that, however, rising by a non-significant half a point on the four-point scale. It is difficult to interpret the timing of this increase. Possibly, participants who stay in the program longer either see it as a source of meaningful social support itself or the program changes in a positive way how they see and take advantage of their extant social networks.

Figure 3 shows results on the Depression Scale. This scale poses a series of nine statements representing potential symptoms of depression and asks respondents to indicate how often they experience each one using a four-point scale, from not at all (1) to nearly every day (2). For purposes of presentation in the

chart, scores have been reverse coded (e.g., not at all becomes a 4) to make the results consistent with the positive valence of the first two charts.

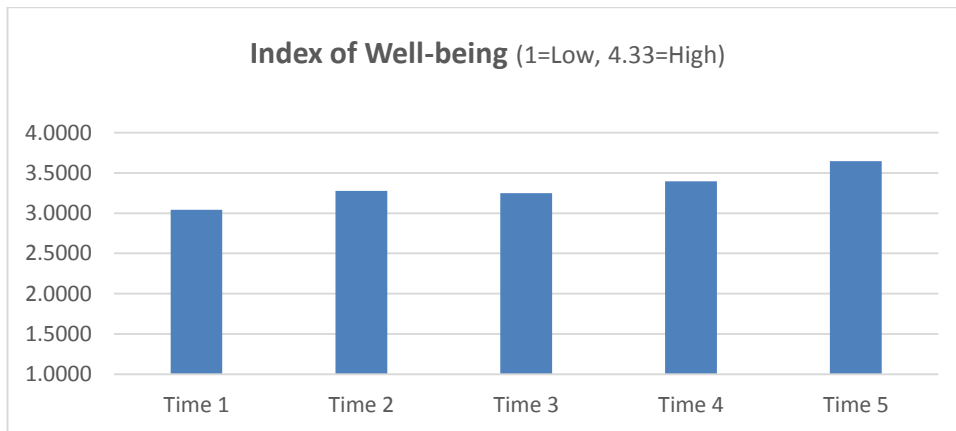
Figure 3: Depression Scale, MOSAIC Moms



The mean scores on the Depression Scale improve slightly with each of the first four administrations of the survey. It drops a little in the fifth administration, where it is still higher than in the first administration. None of the changes is statistically significant. Note that in each administration the mean is quite high, indicating a low probability of depression among Moms' participants.

To summarize the potential effect of MOSAIC Moms on its participants, scores on the three scales above have been standardized and converted into a single "index of well-being." The index is the average of the three measures combined and can range from 1, meaning low well-being, to 4.33, meaning high well-being. The results are provided in Figure 4.

Figure 4: Index of Well-Being, MOSAIC Moms



Overall, the index shows improvement over time. The improvement is not dramatic, and it is only statistically significant between times 1 and 2. Yet, it is still improvement. If there was no improvement, or, worse, declines in average well-being, that would be a fairly strong indication that MOSAIC Moms is not working. But, since the pattern of results is rather steady, albeit modest, gains over time, it would be reasonable to conclude that the program is on the right track. When participants' first and most recent

score are compared, 50 participants (75%) show improvement, 15 (22%) show decline, and one stays the same.

Professional Engagement

As previously pointed out, MOSAIC has attempted to change customary practice in two ways in responding to children with social-emotional challenges. One, and a requirement of participating in the Illinois Children’s Healthcare Foundation’s Children’s Mental Health Initiative, has been to have children screened, ideally on a routine basis, for developmental and mental health issues. Rather than make screening universal out of the gate in 2011, MOSAIC has rolled it out gradually among primary care practices and schools. A second change, directly related to the first, has been to embed a mental health therapist in the places where screening occurs. This way there is a professional skilled in mental health counseling to whom a child with a positive screen or otherwise in need can be referred for help. What MOSAIC did not want to do was to screen large numbers of children and have no appropriate services available for them.

However logical and justifiable in theory routine screening and embedding clinicians may be, they alter work flow and expectations in primary care and schools. Consequently, acceptance of these changes is not guaranteed and, in a sense, must be earned. To learn more about how well the changes have been integrating into primary care, the local evaluation began in Spring 2014 to annually survey physicians and other primary care clinical staff on their reactions to screening and embedded clinicians. This survey was repeated in 2015 and 2016. A similar survey was initiated in the spring of 2016 with the schools participating in MOSAIC. The results from the spring 2016 surveys were covered in last year’s local evaluation report.

For the current report, a different method of measuring primary care and school perceptions of MOSAIC was instituted in the fall of 2016. Instead of a survey that asked respondents to indicate their level of agreement with various statements about screening and embedded clinicians, primary care staff and school personnel were given a “practice change” survey that had them rate their level of development in implementing MOSAIC. Since change is typically a process that occurs over time, it makes sense to think of a change as something that develops or evolves, rather than just happens at one point in time.

Each aspect of the MOSAIC model (e.g., frequency of screening, scoring and communicating screening results, monitoring child progress) was divided into four developmental stages, from immature (score of 1) to mature (score of 4). For each aspect, respondents were asked to select the stage that best described the status of the development of that aspect in their primary care practice or school. The stages were derived logically and from the experience with MOSAIC to date.

The results of the primary care and school practice changes surveys are presented in Tables 8 and 9, respectively.

Table 8: Primary Care Practice Change Survey

Frequency of Screening				
Screening of children for social-emotional issues is not a priority in our setting. It is done occasionally for some children but not	Screening for social emotional-issues is done at least once for all children in our setting. It may be done more than once, but	Screening for social-emotional issues is done annually for all children in our setting. There is a policy or procedure that makes	Screening for social-emotional issues is done annually for all children in our setting and more often for particular children if	

as a regular part of our practice.	that's up to each practitioner to decide.	annual screening a priority.	deemed necessary by the professionals responsible for the care of those children. There is a policy or procedure that makes an	
0 (x1 point)	2 (x2 points)	11 (x3 points)	39 (x4 points)	Mean = 3.71
Scoring Screening and Communicating Results				
Screenings are scored mostly when staff have the time to do it. There is no consistent practice as to when and how results are reported to the family for children with a positive screen.	Screenings are scored mostly within a week after a screen has been completed by a parent or child. For children who screen positive, an effort is made to report the results to the family by phone or in-person as soon as possible.	Screenings are scored mostly on the same day they are completed by a parent or child. For children who screen positive, results are reported to the family by phone or in person within two days.	Screenings are always scored on the same day they are completed and the results are nearly always discussed with the family at that time.	
0 (x1 point)	11 (x2 points)	12 (x3 points)	29 (x4 points)	Mean = 3.35
Use of Screening Results				
Most of the time individual practitioners rely on their own judgment in deciding whether a child should be referred for further assessment and/or treatment. Screening results are secondary.	Most of the time individual practitioners use screening results as a starting point for deciding whether a child should be referred for further assessment and/or treatment.	Most of the time individual practitioners use screening results and engage relevant others (e.g., clinicians, social workers, teachers, parents) in deciding whether a child should be referred for further assessment and/or treatment.	Individual practitioners always use screening results and engage relevant others in deciding whether a child should be referred for further assessment and/or treatment.	
0 (x1 point)	2 (x2 points)	24 (x3 points)	26 (x4 points)	Mean = 3.46
Monitoring Child Progress				
There is no specific system in place for monitoring the progress of children referred for further assessment and/or treatment. Monitoring is done on an ad hoc basis.	An effort is periodically made to check on the progress of children referred for further assessment and/or treatment. The results may be shared with parents.	There is a system in place through which providers of assessment/treatment are able, through written documentation or otherwise, to provide feedback on a child's progress. The results are usually shared with parents.	There is an integrated, electronic recordkeeping system in place through which all parties to a child's care are able at any time to obtain up-to-date information on that child's progress. This includes keeping parents in the loop, as much as possible	
4 (x1 point)	4 (x2 points)	17 (x3 points)	27 (x4 points)	Mean = 3.29
Status of Teamwork				
There are no internal team meetings of relevant staff where one of the purposes is to discuss the care of children with social-emotional issues.	There are occasional internal team meetings of relevant staff where one of the purposes is to discuss the care of children with social-emotional issues.	There are monthly internal team meetings of relevant staff where one of the purposes is to discuss the care of children with social-emotional issues.	There are weekly internal team meetings of relevant staff where one of the purposes is to discuss the care of children with social-emotional issues.	
3 (x1 point)	20(x2 points)	7 (x3 points)	18 (x4 points)	Mean = 2.83

Parent Engagement				
Parents are left to their own devices in deciding whether to accept a referral for further assessment and/or treatment for their child.	A single attempt is made to educate parents about the social-emotional health needs of their child and how best to meet those needs.	More than one attempt is made, if necessary, to educate parents about the social-emotional health needs of their child and how best to meet those needs.	Every effort is made to assure that parents understand the social-emotional health needs of their child and how best to meet those needs.	
1 (x 1 point)	3 (x2 points)	11 (x3 points)	37 (x4 points)	Mean = 3.62
Availability of Care				
Only any given day, it is hit or miss whether there is a professional in the clinic who is able to see a child having social-emotional control problems.	In a normal week, about half of the time there is a professional in the clinic who is able to see a child having social-emotional control problems.	On any given day, there is usually a professional in the clinic who is able to see a child having social-emotional control problems.	On any given day, there is always a professional in the clinic who is able to see a child having social-emotional control problems.	
0 (x1 point)	0 (x2 points)	13 (x3 points)	38 (x4 points)	Mean = 3.75
Leadership Support				
Organizational leadership has only limited awareness of our implementation of MOSAIC.	Organizational leadership is aware of our implementation of MOSAIC but does not keep close tabs on it.	Organizational leadership is aware of our implementation of MOSAIC and monitors how it's going.	MOSAIC is a top priority for organizational leadership. Leadership not only pays attention to how MOSAIC is being implemented in our setting but also participates in problem solving and actively promoting the initiative internally and externally.	
0 (x1 point)	2 (x2 points)	19 (x3 points)	30 (x4 points)	Mean = 3.55
Organizational Buy-in				
MOSAIC and what it is trying to accomplish is not well understood by most staff in our facility. Very little effort has been made to educate staff about MOSAIC.	MOSAIC and what it is trying to accomplish is understood by some, but not most, staff in our facility. Initial efforts were made to educate staff about MOSAIC, but they have not been repeated.	MOSAIC and what it is trying to accomplish is understood by most staff in our facility. Frequent efforts to educate staff about MOSAIC have occurred.	MOSAIC and what is trying to accomplish is understood and supported by most staff in our facility. There has been a strong effort to communicate about MOSAIC and to solicit staff feedback on the initiative.	
0 (x1 point)	4 (x2 points)	17 (x3 points)	30 (x4 points)	Mean = 3.51

Index of All Dimensions

Mean = 3.46

Staff in participating primary care practices indicated a relatively high level of development for all but one dimension of MOSAIC. Teamwork was rated not as developed as other aspects of the model. With that exception, the most common rating for every other dimension was a 4. Since the proportions providing ratings less than 4 were not insignificant, there remains room for improvement. Nevertheless,

it is clear, at least based on the perceptions of the physicians and other staff in primary care practices, that MOSAIC has become embedded and valuable in this part of the local system of care.

Table 9: Schools Practice Change Survey

Frequency of Screening				
Screening for social-emotional issues is not a priority in our setting. It is done occasionally for some children but not as a regular part of our practice.	Screening for social emotional-issues is done at least once for all children in our setting. It may be done more than once, but that's up to each school to decide.	Screening for social-emotional issues is done annually for all children in our setting. There is a policy or procedure that makes annual screening a priority.	Screening for social-emotional issues is done annually for all children in our setting and more often for particular children if deemed necessary by the professionals responsible for the care of those children. There is a policy or procedure that makes annual screening and more frequent screening in specific cases a priority.	
0 (x1 point)	4 (x2 points)	12 (x3 points)	8(x4 points)	Mean = 3.17
Scoring Screening and Communicating Results				
Screenings are scored mostly when staff have the time to do it. There is no consistent practice as to when and how results are reported to the family for children with a positive screen.	Screenings are scored mostly within a week after a screen has been completed by a parent, child, or teacher. For children who screen positive, an effort is made to report the results to the family by phone or in-person as soon as possible.	Screenings are scored mostly on the same day they are completed by a parent, child, or teacher. For children who screen positive, results are reported to the family by phone or in person within two days.	Screenings are always scored on the same day they are completed and the results are nearly always discussed with the family at that time.	
3 (x1 point)	9 (x2 points)	8 (x3 points)	3 (x4 point)	Mean = 2.48
Use of Screening Results				
Most of the time school social workers rely on their own judgment in deciding whether a child should be referred for further assessment and/or treatment. Screening results are secondary.	Most of the time school social workers use screening results as a starting point for deciding whether a child should be referred for further assessment and/or treatment.	Most of the time school social workers use screening results and engage relevant others (e.g., clinicians, social workers, teachers, parents) in deciding whether a child should be referred for further assessment and/or treatment.	School social workers always use screening results and engage relevant others in deciding whether a child should be referred for further assessment and/or treatment.	
1 (x1 point)	4 (x2 points)	9 (x3 points)	9 (x4 points)	Mean = 3.13
Monitoring Child Progress				
There is no specific system in place for monitoring the progress of children referred for further assessment and/or treatment. Monitoring is done on an ad hoc basis.	An effort is periodically made to check on the progress of children referred for further assessment and/or treatment. The results may be shared with parents.	There is a system in place through which providers of assessment/treatment are able, through written documentation or otherwise, to provide feedback on a child's progress. The results are usually shared with parents.	There is an integrated, electronic recordkeeping system in place through which all parties to a child's care are able at any time to obtain up-to-date information on that child's progress. This includes keeping parents in the loop, as much as possible	
7 (x1 point)	5 (x2 points)	9 (x3 points)	2 (x4 points)	Mean = 2.26

Status of Teamwork				
There are no internal team meetings of relevant staff where one of the purposes is to discuss the care of children with social-emotional issues.	There are occasional internal team meetings of relevant staff where one of the purposes is to discuss the care of children with social-emotional issues.	There are monthly internal team meetings of relevant staff where one of the purposes is to discuss the care of children with social-emotional issues.	There are weekly internal team meetings of relevant staff where one of the purposes is to discuss the care of children with social-emotional issues.	
3 (x1 point)	9 (x2 points)	9 (x3 points)	1 (x4 points)	Mean = 2.36
Parent Engagement				
Parents are left to their own devices in deciding whether to accept a referral for further assessment and/or treatment for their child.	A single attempt is made to educate parents about the social-emotional health needs of their child and how best to meet those needs.	More than one attempt is made, if necessary, to educate parents about the social-emotional health needs of their child and how best to meet those needs.	Every effort is made to assure that parents understand the social-emotional health needs of their child and how best to meet those needs.	
3 (x1 point)	1 (x2 points)	11 (x3 points)	7 (x4 points)	Mean = 3.00
Availability of Care				
On any given day, it is hit or miss whether there is a professional in the school who is able to see a child having social-emotional control problems.	In a normal week, about half of the time there is a professional in the school who is able to see a child having social-emotional control problems.	On any given day, there is usually a professional in the school who is able to see a child having social-emotional control problems.	On any given day, there is always a professional in the school who is able to see a child having social-emotional control problems.	
2 (x1 point)	3 (x2 points)	13 (x3 points)	4 (x4 points)	Mean = 2.86
Leadership Support				
Organizational leadership has only limited awareness of our implementation of MOSAIC.	Organizational leadership is aware of our implementation of MOSAIC but does not keep close tabs on it.	Organizational leadership is aware of our implementation of MOSAIC and monitors how it's going.	MOSAIC is a top priority for organizational leadership. Leadership not only pays attention to how MOSAIC is being implemented in our setting but also participates in problem solving and actively promoting the initiative internally and externally.	
2 (x1 point)	5 (x2 points)	13 (x3 points)	3 (x4 points)	Mean = 2.74
Organizational Buy-in				
MOSAIC and what it is trying to accomplish is not well understood by most staff in our school building. Very little effort has been made to educate staff about MOSAIC.	MOSAIC and what it is trying to accomplish is understood by some, but not most, staff in our school building. Initial efforts were made to educate staff about MOSAIC, but they have not been repeated.	MOSAIC and what it is trying to accomplish is understood by most staff in our school building. Frequent efforts to educate staff about MOSAIC have occurred.	MOSAIC and what it is trying to accomplish is understood and supported by most staff in our school building. There has been a strong effort to communicate about MOSAIC and to solicit staff feedback on the initiative.	
2 (x1 point)	8 (x2 points)	10 (x3 points)	2 (x4 points)	Mean = 2.55
Index of All Dimensions				Mean = 2.77

As can be seen, the schools are generally not as far along in their implementation of MOSAIC. The overall mean score indicates that they are, essentially, at the mid-point of development. This is understandable, since the rollout of MOSAIC among schools has been gradual and has been more resource-dependent than implementation within primary care, where services have been more

reimbursable. It's also worth noting, as has been done in previous local evaluation reports, that schools, while they offer clinical services (e.g., MOSAIC clinician, school social worker), this is not their core function, in contrast with primary care. Consequently, full development of a clinical model like MOSAIC might take more time and follow a less certain path in schools even under the best of circumstances.

MOSAIC Inspired Initiatives

MOSAIC Moms, the first local initiative prompted by the development of the Springfield MOSAIC Project, has already been described above in the section on how children have fared within MOSAIC. In addition to Moms, this past year Memorial Behavioral Health (MBH) received funding from Memorial Health System, in response to the 2015 community health need assessments completed by Memorial Health System's four hospitals, to begin providing Mental Health First Aid training to the community. The decision to initiate MHFA in Springfield grew, in part, from the positive community experience with MOSAIC.

From September 2016 through April 2017, MBH held 27 Mental Health First Aid trainings in Springfield and locations in the larger geographic area it serves. A total of 346 people participated in the training, 54 of whom are adults caring for youth between the ages of 12-18 who attended the youth version of the program and the rest attended the adult version. While all those who attend a MHFA training are given an evaluation to complete at the conclusion of the training, only a limited amount of this data – from 37 participants (roughly 10%) – was available for inclusion in the current report.

The core part of the evaluation asks participants to indicate how much confidence they have in their ability to do the nine activities the training teaches them to do. The median and mean scores for each of these activities, based on the sample of 37 participants, were as follows, indicating high training impact:

- Recognize the signs that someone may be dealing with a mental health challenge or crisis – Median=5.0, Mean=4.68
- Reach out to someone who may be dealing with a mental health challenge – Median=5.0, Mean=4.73
- Ask a person whether s/he is considering killing her/himself – Median=5.0, Mean=4.59
- Actively and compassionately listen to a person in distress – Median=5.0, Mean=4.72
- Offer a distressed person basic “first aid” level of information and reassurance about mental health problems – Median=5.0, Mean=4.62
- Assist a person who may be dealing with a mental health problem or crisis to seek professional help – Median=5.0, Mean=4.70
- Assist a person who may be dealing with a mental health problem or crisis to connect with appropriate community, peer, and personal supports – Median=5.0, Mean=4.62
- Be aware of my own views and feelings about mental health problems and disorders – Median=5.0, Mean=4.76
- Recognize and correct misconceptions about mental health and illness – Median=5.00, Mean=4.73

Interpretation and Discussion

By definition, the challenge of launching any initiative intended to produce enduring change is one of embedding that change. Many community initiatives start out with great fanfare and high energy, but when the changes they hope for don't materialize or to the degree anticipated or the money runs out,

they often lose steam. They tend to fade away or leave behind just remnants of what they were at the height of the enthusiasm for them. Because change can be evanescent in this way, initial decisions about how best to embed what the initiative seeks to accomplish are among the most important.

MOSAIC was designed from the outset to be a gradual initiative, one that added participating primary care practices and schools and, thus, children with behavioral healthcare needs, in steps over several years. MOSAIC still doesn't cover all children living within Springfield Public School District #186, but it covers many more of them than was the case in 2010 when it all began. It has been an incremental process because that's the best way to embed the changes MOSAIC has called for. Rather than screen every child in Springfield, the initiative has limited screening to children for whom services can be provided if they have a positive screen. At a time of constrained resources for behavioral healthcare, this has been a wise decision. Infrastructure has been firmly established within primary care and many schools to assure that children with social-emotional difficulties are not only identified, but given access to services that can help them.

And this process of gradual embedding is showing signs of the desired pay-offs. Evidence gathered for this report is fairly convincing that MOSAIC is changing the well-being of children with social-emotional challenges, although these effects are more nuanced and complex than might have been expected. Younger children appear to be benefiting more than older children, and longer periods of therapy for children with the greatest need seem to work better than shorter periods. Admittedly, the evidence is still only correlational, and not causal. Still, it is reasonable to conclude that something capable of effectiveness has been created that the community can continue to build on, producing more success for more children over time.

That "building on" is evident in the other initiatives to which MOSAIC has given rise – MOSAIC Moms and Mental Health First Aid. In both cases, Memorial Behavioral Health went looking for and found resources elsewhere to develop important new pieces of the evolving system of care. Diversification of funding sources is a key to the evolution of any complex undertaking. It not only brings more money to the table, to so speak, but establishes as well a wider network of supportive stakeholders.

MOSAIC has been and will continue to be a work in progress, because what it is trying to do is difficult. Data system problems have plagued the participation of primary care almost from the outset. As the large group primary care practices in Springfield develop their electronic health record systems based on the Healthcare Effectiveness Data and Information Set (HEDIS), behavioral healthcare has been accorded a relatively low priority. While the physicians and staff involved in MOSAIC would like to see the data requirements of behavioral healthcare incorporated, they have limited influence over the decisions being made based on the interests of the entire healthcare system.

While the schools have had more success generating the data needed to monitor MOSAIC's progress, they have been challenged by resource problems. Turnover among clinicians embedded in the schools and limits on the current reimbursement model of services has produced uncertainty about the wherewithal of schools to sustain the program in a consistent way. Further, since MOSAIC is not central to what schools are designed to do, the process of embedding there has been more complicated than in primary care. Schools are clearly a case where the resources to support screening and embedded clinicians would appear to make the critical difference.

The evidence indicates that MOSAIC's effort to channel children with social-emotional difficulties relatively quickly into therapy or counseling, often by an embedded clinician, is working. However, it

does not appear to be as effective as psychiatric services in many cases, which are more likely to be accessed by children who enter the behavioral healthcare system outside of MOSAIC. Throughout the development of MOSAIC, psychiatric services have been mainly located in a part of Springfield that is some distance away from most children in need, which would, naturally, have inhibited access to some extent. Most of these services are now being relocated more centrally. This will be an interesting test of whether easier physical access to psychiatric services increases use of this service by those children seen through MOSAIC. Of course, not all MOSAIC children will need psychiatric care. Developing the capacity to determine which ones do and which children are apt to do better with therapy provided by embedded clinicians will be an important step in the continuing evolution of the system of care.

Lastly, there remains important work to do on improving the benefits MOSAIC produces for black children. It was reassuring, in the analysis presented earlier in this report, to see that MOSAIC produces results for black children that are closer to those for children from other racial and ethnic groups. But, the effects themselves are relatively weak, and black children, on the whole, are less engaged in treatment than other children. This gap warrants close attention. MOSAIC has succeeded in getting more black children into care; now, it needs to work on assuring the consistency and effectiveness of that care.

Recommendations and/or Lessons Learned

- MOSAIC's gradual build-up has proven the correct strategy for embedding a better system of care for children with social-emotional challenges and should be continued.
- Primary care practices have fully embraced the changes that MOSAIC has called for. They now need to match that commitment with the development of data to monitor their effects on the children they serve and to be properly accountable to the community. This is of critical importance, since the MOSAIC primary care model includes that part of the system most likely to reach children early in their lives. Early is best for addressing developmental challenges. MBH and the schools have established the ability to monitor children of school-age. If this same ability can be established early, then Springfield will have a way to assure that the behavioral health of children is a priority throughout their development and children can be tracked over time to see whether their behavioral health improves.
- Memorial Behavioral Health should continue working with Springfield Public School District #186 on extending MOSAIC to more schools. These two central local actors need to join forces with others to assure that local schools have the resources to address the social-emotional needs of their students through the mechanisms that MOSAIC has created.
- There is a need to better understand the differences between therapy and psychiatry in terms of which is most effective under what circumstances. MOSAIC has mainly been a vehicle for accessing therapy provided by psychologists, social workers, and counselors. Yet, in general, psychiatry appears to be more effective. When therapists need to make a referral to psychiatry is probably a question worth deeper analysis.
- African American children appear to be benefiting from MOSAIC, but not to the degree other children are. This discrepancy needs to be explored and ways identified that hold the promise of assuring black children have the same chance to improve that other children have. Exploration

should include looking at the relationship between the race of the clinician and client engagement in treatment.