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TECHNICAL REPORT

National Evaluation of Safe Start Promising Approaches

Results Appendix J: Oakland, California

In Jaycox, L. H., L. J. Hickman, D. Schultz, D. Barnes-Proby, C. M. Setodji, A. Kofner, R. Harris, J. D. Acosta, and T. Francois, *National Evaluation of Safe Start Promising Approaches: Assessing Program Outcomes*, Santa Monica, Calif.: RAND Corporation, TR-991-1-DOJ, 2011

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OAKLAND, CALIFORNIA, SAFE START OUTCOMES REPORT

ABSTRACT

The Oakland Safe Start program developed an integrated treatment model that combined intensive case management and dyadic mental health services. The primary goals of the program were to increase the identification of young children (ages 0–5) exposed to violence and to improve their outcomes. A full description of the program can be found in *National Evaluation of Safe Start Promising Approaches: Assessing Program Implementation* (Schultz et al., 2010). The evaluation consisted of a randomized controlled trial of the intervention, with randomization occurring at the family level. Oakland’s program staff enrolled 85 families in the study but retained just 31 families (36 percent) for the six-month assessment. At baseline, caregivers reported that children had been exposed to an average of 2.6 types of violence in their lives. Caregivers of 27 percent of children reported child posttraumatic stress disorder (PTSD) symptoms that fell in the “significant” range, and 54 percent of caregivers reported levels of parental stress that fell in the “clinical” range. Overall, 91 percent of Oakland’s intervention group families received at least one session of combined case management and mental health services. All 16 intervention group families who remained in the study at six months did receive at least one session, with an average of 26 sessions over the six-month period. While some statistically significant within-group changes were detected among the primary outcomes, there were no statistically significant differences when comparing the intervention and control groups on changes in primary outcomes at six months. Overall, however, the sample size limitations mean that no conclusions can be drawn about the effectiveness of the Oakland Safe Start intervention as implemented on child and family outcomes. While conclusions about the direct service impacts on child-level outcomes await further testing, our process evaluation identified key successes in Oakland’s implementation of its community-level training and referral process (Schultz et al., 2010).

INTRODUCTION

The Oakland Safe Start program is located in the sixth largest city in California, the City of Oakland, which is located in Alameda County. Prior to the development of the Oakland Safe Start program, there was no comprehensive source of data on the extent of children's exposure to violence. However, law enforcement data indicated a 21-percent increase in domestic violence-related calls for assistance to the Oakland Police Department between 2001 and 2003 (Safe Passages, 2004). In addition, in a review of domestic violence data, the Oakland Police Department found that the majority (85 percent) of calls were from homes where children resided, with 63 percent of the calls involving residences containing children age 5 or younger (Safe Passages, 2004).

The Oakland Safe Start program was launched after a partnership between a number of public and private social service agencies cataloged existing services for children exposed to violence and identified service gaps. This effort was led by Safe Passages, a nonprofit organization that functions as the research and development entity for public agencies within Alameda County, California.

The Oakland Safe Start program had three goals:

1. increase identification citywide of children ages 0 to 5 who have been exposed to violence
2. develop a centralized intake and screening process for these young children to identify their service needs
3. develop a culturally appropriate, integrated case management and mental health service for these young children and their families.

To our knowledge, the particular mix of services offered by the Oakland Safe Start program in this type of setting had not previously been evaluated.

The outcomes evaluation detailed here presents data relevant to the question of whether the Oakland Safe Start program, as implemented within this project, improved outcomes for young children exposed to violence.

OAKLAND SAFE START

- **Intervention type:** Case management integrated with dyadic caregiver/child psychotherapy
- **Intervention length:** 24 weekly sessions over six months
- **Intervention setting:** In-home, community, or agency setting
- **Target population:** Children residing in Oakland who have been exposed to domestic violence or community violence and/or have experienced abuse or neglect
- **Age range:** 0 – 5
- **Primary referral sources:** Family Paths, Inc., (formerly known as Parental Stress Services) Family Hotline; Oakland Police Department; Oakland Family Violence Intervention Unit; Alameda County Family Justice Center; Children’s Hospital Domestic Violence Education and Screening (DOVES) Project; early childhood education sites; and other community-based organizations

INTERVENTION

Oakland’s Safe Start program consisted of integrated intensive case management and dyadic mental health services provided by staff at one of two agencies. English- and Spanish-speaking clients were served by the Jewish Family and Children’s Services of East Bay. Asian families (monolingual and bilingual) were served by the Asian Community Mental Health Services. Only clients of the former agency participated in the evaluation, as those of the latter agency often did not speak English or Spanish. Evaluation resource restrictions made it impossible to develop and administer research assessments in multiple Asian languages. For a full description of the Oakland intervention as it was delivered, see Schultz et al. (2010).

Oakland Safe Start planned to offer services for a minimum of 24 one-hour sessions, delivered weekly over six months, but the number of sessions could be reduced or extended based on family need. Jewish Family and Children’s Services clinicians provided both case management and mental health services during these sessions. The services were offered either in the home or at another location convenient for the family.

The case management services were expected to account for approximately half of the time spent with the families. Case management included assistance to families in securing public and community services (such as legal assistance, food, transportation, emergency financial assistance, medical care, housing support, child care, and employment) and collateral contact with other agencies to facilitate families' access to other services and supports.

For the mental health services, the implemented approach was referred to as "Dyadic Caregiver/Parent-Child/Infant Psychotherapy" and was described as similar to Child-Parent Psychotherapy (CPP). This approach involves such activities as play therapy and includes training caregivers to convey empathy, as well as interpreting the child's behavior by commenting on the emotions and reactions of the child. The approach targeted improving child social functioning, establishing or reestablishing positive parent/caregiver-child interaction and attachment, and identifying the root causes of mental health problems and maladaptive child behavior (such as anxiety, depression, or impulse control). In earlier evaluations of CPP, Lieberman, Van Horn, and Ghosh Ippen (2005) showed medium intervention effects on PTSD symptoms and behavior problems (0.63 and 0.64, respectively). However, Oakland's model had never been evaluated.

Efforts to ensure the quality of the program included the use of master's-level clinicians who were either licensed or license-eligible to deliver program services. All clinicians had received some training in early child mental health and in addressing trauma. They were also required to participate in a 40-hour certified training program on domestic violence, a training on child/caregiver dyadic therapy conducted by a clinical supervisor, a cultural competency training, and an orientation to the Safe Start program and community resources. The clinicians engaged in on-site weekly case reviews for monitoring the application and delivery of services and monthly supervision by a psychotherapist who was experienced in working with the target population and trained in the dyadic therapy model.

METHOD

Design Overview

The design of this study was a randomized controlled trial, with randomization occurring at the family level and eligible children recruited after families were referred to the program. Both groups received an initial intake and needs assessment, referral to existing community resources, and limited case management from the intake coordinator. Families randomized to the treatment group received integrated case management and dyadic therapy sessions from therapists at Jewish Family and Children's Services. Families assigned to the control group received usual services from the referring agencies and, as needed, extra support and referrals from the Safe Start intake coordinator. Child outcomes and contextual information were assessed at baseline, six, 12, 18, and 24 months. Study enrollment took place between January 2007 and March 2009.

Evaluation Eligibility Criteria

Eligibility criteria for Oakland's Safe Start program required that referred families (1) resided within the City of Oakland; (2) spoke English or Spanish; (3) included at least one child age 0 to 5 who had been exposed to domestic violence or community violence and/or had experienced abuse or neglect; and (4) needed multiple services, including basic needs (such as food, clothing and housing, and physical safety) and mental health services.

If there were multiple eligible children, the target child to serve as the focus of the intervention was selected based on which child had the greatest need or was most symptomatic. However, if eligible children demonstrated similar levels of need, the child with the most recent birthday was selected.

Randomization Procedures

On enrollment into the study, the children were randomized into intervention or control groups using a block randomization procedure that allowed for approximately the same number of children in the intervention and control groups (see Chapter Four of the main document [http://www.rand.org/pubs/technical_reports/TR991-1.html]). Because of the possibility that the impact of the intervention could differ by child age, the sample was stratified into two groups to equalize the ages of children within the two groups. The first age

group consisted of children from birth up to 2 years old and the second group included children between the ages of 3 and 5.

Measures

The measures used in this study are described fully in Chapter Two of the main document (see http://www.rand.org/pubs/technical_reports/TR991-1.html). The measures were uniform across the national evaluation but prioritized within each site as to the relevance to the intervention under study. Given the nature of the Oakland Safe Start intervention, the outcomes were prioritized as shown in Table 1. One measure prioritized by the site ultimately could not be presented in this report because the measure applied to fewer than five children in each group. This measure was social-emotional competence for children age 2 and younger (as assessed by the Ages and Stages Questionnaire [ASQ]).

Table 1
Prioritized Outcome Measures for Oakland Safe Start

Primary Outcome Measures			
<i>Domain</i>	<i>Source/Measure</i>	<i>Age of Child</i>	<i>Respondent</i>
PTSD Symptoms	Trauma Symptom Checklist for Young Children	3–5 years	Caregiver
Behavior/Conduct Problems	BITSEA and Behavior Problem Index	1–5 years	Caregiver
Social-Emotional Competence	BITSEA and SSRS (Assertion and Self-Control)	1–5 years	Caregiver
Caregiver-Child Relationship	Parenting Stress Index	All	Caregiver
Violence Exposure	Juvenile Victimization Questionnaire	All	Caregiver
Caregiver Victimization	Caregiver Victimization Questionnaire	All	Caregiver
Secondary Outcome Measures			
<i>Domain</i>	<i>Measure</i>	<i>Age of Child</i>	<i>Respondent</i>
Social-Emotional Competence	SSRS (Cooperation)	3–5 years	Caregiver
Background and Contextual Factors	Everyday Stressors Index	All	Caregiver
Tertiary Outcome Measures			
<i>Domain</i>	<i>Measure</i>	<i>Age of Child</i>	<i>Respondent</i>
School Readiness/Performance	Woodcock-Johnson III	3–5 years	Child

NOTE: BITSEA = Brief Infant-Toddler Social and Emotional Assessment, SSRS = Social Skills Rating System.

Enrollment and Retention

Oakland’s Safe Start program received its referrals from a newly implemented citywide intake process. When the intake coordinator received family contact information from another social service agency (or was contacted directly by an Oakland family), a screening was conducted to determine if the family met the Safe Start criteria. The intake coordinator then completed the consent process with the family and assigned them to an assessment administrator to complete the baseline assessment. Enrollment did not occur until after families had consented to participate and completed the baseline assessment. After the assessment was complete, the intake coordinator

implemented the random assignment procedures and informed the family and the referral source.

According to data submitted on its Quarterly Activity Reports, Oakland Safe Start enrolled 73 percent of the eligible families referred to the program. The site did not document on these reports the reasons that the remaining eligible families were not ultimately enrolled in the program. In our interviews for the National Safe Start process evaluation, however, site staff indicated that enrollment often did not occur because economic hardships caused many eligible families to become transient. Also, many changed their contact information multiple times and made it very challenging for Oakland Safe Start Promising Approaches (SSPA) to locate them (see Schultz et al., 2010).

In Table 2, we present the number and percentage of all enrollees who were eligible for participation at each data collection time point. Oakland's program staff initially enrolled 85 families in the study and completed a six-month research assessment for 36 percent of caregivers and 31 percent of children. For subsequent research assessments, the site retained 32 percent of both caregivers and children by 12 months, but very few families continued participation beyond this assessment point. It must be noted that the low rate of study retention increases the potential for biased results. In other words, this degree of attrition may be related to treatment factors that lead to selection bias. For example, if families in more distress are more likely to leave the study and be lost to follow-up, then the results can be misleading.

Table 2
Retention of Enrollees Eligible to Participate in Assessments at Each Time Point

	Caregiver Assessment				Child Assessment			
	Six Months	12 Months	18 Months	24 Months	Six Months	12 Months	18 Months	24 Months
Intervention								
Received	16	7	1	0	9	5	0	0
Expected*	43	23	13	1	29	19	11	1
Retention Rate	37%	30%	8%	0%	31%	26%	0%	0%
Control								
Received	15	7	4	0	8	7	4	0
Expected*	42	21	12	1	26	18	12	1
Retention Rate	36%	33%	33%	0%	31%	39%	33%	0%
Overall								
Retention Rate	36%	32%	2%	0%	31%	32%	17%	0%

* The number of expected assessments for longer-term assessments differs from the number who entered the study because the period for collecting data in this study ended in the fall of 2009, before all families entered the window of time for assessments at 18 or 24 months.

Special Issues

The pace of referral and recruitment into the Oakland Safe Start program and evaluation was initially somewhat slower than expected. This was likely due to the fact that citywide identification of children exposed to violence and the case management/therapy component of the Safe Start program were newly implemented processes. In order to increase referrals, Oakland SSPA conducted an outreach and public awareness campaign with public agencies, including posters and referral cards with contact information for the intake coordinator. In addition, presentations about Oakland SSPA were conducted at the local Head Start, Oakland Unified School District, Child Development Centers, shelters, and other public agencies providing services for young children and their families. Safe Passages also conducted a series of trainings with the Oakland Police Department about the impact of violence on young children, the importance of including infants in police reports, and how to make referrals to the Oakland SSPA project. By the second year of implementation, the number of identified families had increased considerably. However, the referrals and enrollments in the Safe Start intensive case management/therapy component remained somewhat lower than the pace that had been anticipated. According to the Safe Start program staff, this may have been due to the eligibility criteria's focus on

very young children, the potential concerns of families about being randomly assigned to a service, and stigma associated with receiving mental health services among families in the target population. For a more in-depth discussion, see Schultz et al. (2010).

Analysis Plan and Power Calculations

First, we conducted descriptive analyses to summarize the sample characteristics: age, gender, race or ethnicity, family income level, and the child's violence exposure. We also compared the two groups on primary, secondary, and tertiary outcomes at baseline. Because this was a randomized experimental design, we did not expect any meaningful differences between the two groups at baseline. However, to be certain, we tested for differences in child and caregiver characteristics and outcomes between intervention and control group children using t-tests and chi-square tests.

To assess the effect of the Safe Start intervention, we primarily examined differences between children in the intervention and control groups at six months. It is important to consider the power that this study has for such an analysis. One way to describe power is by using the effect size difference between the two groups being compared. The effect size is a standardized measure of the strength of association between an intervention and an outcome and is defined as the average difference in an outcome between the intervention and control groups divided by the common standard error. The effect size measure is commonly classified as small if it is about 0.2, medium if it is about 0.5, and large if it is about 0.8 (Cohen, 1988).

Only 16 intervention group and 15 control group children were retained at the six-month follow-up, and an even smaller number of children (seven in each group) was retained at the 12-month follow-up. This reduction in sample size hampered our ability to detect any meaningful effects of the intervention with precision. For example, CPP has been demonstrated to have medium effects on PTSD symptoms and behavior problems (0.63 and 0.64, respectively) in prior studies (Lieberman, Van Horn, and Ghosh Ippen, 2005). With only 31 children observed at six months and the nominal 0.05 significance level, we can expect an 8.4-percent chance to detect a small effect (0.2), a 27-percent chance to detect a medium effect (0.5), and a 57.6-percent chance to detect a large intervention effect (0.8) according to Cohen's 1988 effect size classification. We have only a

39.6-percent chance to detect the intervention effect of size 0.63 commonly observed in prior studies. Statistical power was dampened by several factors other than overall sample size. The range of children's ages meant that the full data were not available for some measures because not all children were in the age range eligible to complete that measure. Further, the corrections for the multiple statistical tests being conducted also reduced the power. The low statistical power in this study must be kept in mind in interpreting results.

We examined differences between the intervention and control groups using an intent-to-treat approach, which includes in analyses all assigned to the intervention group regardless of the amount of services received. As discussed in Chapter Four of the main document (see http://www.rand.org/pubs/technical_reports/TR991-1.html), comparisons of a control group only to those who complete services (or who receive a predetermined amount of services) is likely to bias results. That is, those who do not engage in services or who drop out prior to completion may be systematically different than those who remain. Ideally, analyses would take into account the type and amount of services received to account for dosage variability. However, there were not enough families in this site's sample in order to proceed with this type of analysis. Thus, the findings presented here on the entire intervention sample may obscure important subgroup differences by service dose received.

In the analyses of available data, we present baseline and follow-up estimates of primary, secondary, and tertiary outcomes for both groups when the sample size is greater than or equal to five. We compare means within groups across time using t-tests, compare groups via chi-square or t-tests at each time point, and examine difference in differences to compare the two groups on mean changes over time between baseline and follow-up assessments (when the sample size is at least ten per group). These analyses could only be conducted for the six-month follow-up assessment, since subsequent sample sizes were too small. Because the sample size did not exceed 20 in each group at six months, we were unable to do any statistical modeling of differences in differences that includes covariates (child age, gender, race or ethnicity, family income level, and the child's violence exposure at baseline). Thus, the results reported here should be interpreted with caution, since we were unable to adjust for potential imbalance in the groups.

When conducting large numbers of simultaneous hypothesis tests (as we did in this study), it is important to account for the possibility that some results will achieve statistical significance simply by chance. The use of a traditional 95-percent confidence interval, for example, will result in one out of 20 comparisons achieving statistical significance as a result of random error. We therefore adjusted for false positives using the False Discovery Rate (FDR) method (Benjamini and Hochberg, 1995). Our assessments of statistical significance were based on applying the FDR procedure separately to all of the primary and secondary tests in this report using an FDR of 0.05. The FDR significance level differed for unadjusted difference in difference models because the number of statistical tests varied by outcome type. (There were not adequate data to test the tertiary outcomes in these models statistically). With 15 test statistics conducted among the primary outcomes, this led to adopting a statistical significance cutoff of 0.003 in the unadjusted difference in difference results. With two secondary outcomes tested, the FDR significance level adopted was 0.025.

In the discussion of results, we have also identified nonsignificant trends in the data, defined as those tests resulting in p-values of less than 0.05 but that did not exceed the FDR criterion for statistical significance. These trends may suggest a practical difference that would be statistically significant with a larger sample size. By the same token, however, they must be interpreted with caution, because we cannot rule out that the difference was due to chance because of the multiple significance tests being conducted.

RESULTS

Baseline Descriptive Statistics

For the descriptive statistics, we provide the characteristics for the full enrolled sample at baseline. As shown in Table 3, the baseline sample was composed of 56.5 percent females, with an average age of 3.4 years. Most of the enrolled children were age 3 or 4 (44 percent), with 19 percent 5 years of age. The remaining 38 percent of children were age 2 and younger. The children in the sample were predominately Hispanic (54 percent), with some black (18 percent), white (5 percent), and other race/ethnicity children (24 percent). The vast majority (89 percent) of children had family incomes of less than \$30,000. According to the caregivers, children in the baseline sample had been exposed to

an average of 2.6 types of violence in their lives prior to the baseline assessment. All of the caregivers who completed the baseline assessments were the parent or guardian of the target child. There were no statistically significant differences between the intervention and control groups on these characteristics.

In the sample of 31 families retained at six months, the demographics were similar to those at baseline, with somewhat fewer females (45 percent) and a shift in the distribution by race/ethnicity, resulting in a somewhat greater proportion of Hispanic children (61 percent) and fewer white children (6.5 percent). Again, there were no statistically significant differences at baseline between groups in the sample retained at six months (data not shown).

Table 3
Oakland Safe Start Sample Characteristics for Families in the Baseline Assessment Sample

	Combined		Intervention		Control		Test for Comparison P-Value
<i>Child Characteristics</i>	<i>N</i>	<i>Mean</i>	<i>N</i>	<i>Mean</i>	<i>N</i>	<i>Mean</i>	
Age	85	3.4	43	3.5	42	3.4	0.79
CR Violence Exposure	84	2.6	42	2.4	42	2.7	0.51
	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>	
<i>Gender</i>							
Male	37	43.5	20	46.5	17	40.5	0.57
Female	48	56.5	23	53.5	25	69.5	
<i>Race/Ethnicity</i>							
Hispanic	46	54.1	22	51.2	24	57.1	
White	4	4.7	4	9.3	0	0.0	
Black	15	17.6	8	18.6	7	16.7	
Other	20	23.5	9	20.9	11	26.2	
<i>Caregiver Characteristics</i>							
<i>Family Income Level</i>							
Less than \$5,000	13	20.6	9	29.0	4	12.5	0.35
\$5,000–\$10,000	18	28.6	8	25.8	10	31.3	
\$10,001–\$15,000	12	19.0	4	12.9	8	25.0	
\$15,001–\$20,000	6	9.5	4	12.9	2	6.3	
\$20,001–\$30,000	7	11.1	2	6.5	5	15.6	
More than \$30,000	7	11.1	4	12.9	3	9.4	
<i>Relationship to Child</i>							
Parent or Guardian	84	100.0	43	100.0	41	100.0	
Other Relationship	0	0.0	0	0.0	0	0.0	

NOTES: CR = Caregiver Report. Percentages may not total 100 percent because of rounding.

Next, we examined the Oakland sample at baseline on two outcomes (PTSD symptoms and parenting stress) to understand the level of severity on

these indexes among families entering the study. As shown in Table 4, at baseline, caregivers reported child PTSD symptoms that fell in the “significant” range for 17 percent of boys and 36 percent of girls. For the caregiver-child relationship, 54 percent of the sample had total stress levels that fell in the clinical range, with 39 percent for boys and 66 percent for girls.

Table 4
Baseline Assessment Estimates for Oakland Safe Start Families

	Combined		Boys		Girls	
	N	%	N	%	N	%
CR PTSD Symptoms for Ages 3–5						
Normal	34	67	18	78	16	57
Borderline	3	6	1	4	2	7
Significant	14	27	4	17	10	36
CR Total Parenting Stress						
Parental Distress—Clinical	40	48	13	36	27	57
Parent-Child Dysfunctional Interaction—Clinical	35	41	15	41	20	42
Difficult Child—Clinical	33	39	10	27	23	48
Total Stress—Clinical	45	54	14	39	31	66

NOTE: CR = Caregiver Report.

We also examined differences between the intervention and control groups at baseline for Oakland’s primary, secondary, and tertiary outcomes (see this report’s appendix). Primary outcomes include PTSD symptoms, behavior problems, social-emotional competence, caregiver-child relationship, and violence exposure. There were no statistically significant differences at baseline between the intervention and control groups in relation to the primary outcome variables (Table A.1, first column). Oakland’s secondary outcomes include some aspects of social-emotional competence and background and contextual factors. There was no statistically significant difference between the groups at baseline (Table A.2, first column). Oakland’s tertiary outcomes included the school readiness domain. There was no statistically significant difference between the groups at baseline (Table A.3, first column).

Uptake, Dosage, and Process of Care

As described fully in the process evaluation report (Schultz et al., 2010), the Oakland Safe Start intervention included integrated intensive case

management and dyadic mental health services delivered by a single service provider. Each individual session with families contained both of these service components to a greater or lesser degree depending on individual family need. Oakland Safe Start planned to offer an average of 24 of these combined service sessions, lasting for about one hour each. Tables 5a and 5b show the type and amount of services received by the families assigned to the intervention group.

The data displayed in Table 5a include all intervention group families enrolled at baseline and sums all services they received across all time points reported by the program, with a maximum of 24 months of service provision. Of the 43 intervention group families, 39 (91 percent) received at least one Safe Start service session. The number of sessions received ranged from one to 95, with an average of 28 sessions per family. The Oakland program did not report the reasons that services ended for the families served.

Table 5b shows the services received between the baseline and six-month assessment for the 16 intervention group families who participated in at least the six-month follow-up research assessment and thus are part of our analytic sample for examination of outcomes. Of those families, all received at least one service session in the six months after study enrollment. The average number of sessions was 26, with half of the families receiving between 21 and 34 sessions during the first six-month window.

Table 5a
Total Services Received by Oakland Safe Start Intervention Families (Baseline Assessment Sample)

Service	Number with Service	Percentage with Service*	Range	Distribution	Mean	Median
Total Combined Case Management and Mental Health Sessions	39	91%	1-95	1-12 21% 13-20 26% 21-34 28% 35+ 26%	28	23

* The denominator is the 43 intervention group families who were initially enrolled in the intervention group for whom one or more follow-up Family Status Sheets were submitted.
 NOTE: Percentages may not total 100 percent because of rounding.

Table 5b
Six-Month Services Received by Oakland Safe Start Intervention Families in the Six-Month Assessment Sample

Service	Number with Service	Percentage with Service*	Range	Distribution	Mean	Median
Total Combined Case Management and Mental Health Sessions	16	100%	1–46	1–12 25% 13–20 6% 21–34 50% 35+ 19%	26	27

* The denominator is the 16 intervention group families with a follow-up Family Status Sheet at the six-month assessment point who participated in the six-month research assessment.

NOTE: Percentages may not total 100 percent because of rounding.

Outcomes Analysis

We begin by comparing the intervention and control groups’ mean scores on primary, secondary, and tertiary outcomes at each follow-up assessment point (six, 12, 18, and 24 months). We then discuss changes in mean scores over time. For these analyses, we first tested whether there were statistically significant changes in mean scores within the intervention group and the control group. Then, we compared the mean score change of the two groups over time to determine if there were statistically significant differences in mean changes, using an intent-to-treat approach that included all families in the intervention group, regardless of the level of service they received.

Comparison of Means Between Groups

A summary of differences between the intervention and control groups at each follow-up assessment point for Oakland’s primary, secondary, and tertiary outcomes is depicted in the appendix. Primary outcomes include PTSD symptoms, behavior problems, social-emotional competence, caregiver-child relationship, and violence exposure. No statistically significant differences were observed between the groups at the baseline and six-month follow-up assessment on these measures (Table A.1). Adequate data were not available for statistical tests of group means at later time points.

For secondary outcomes (some aspects of social-emotional competence and background and contextual factors), there were no statistically significant differences between the groups at the six-month assessment. Later time points could not be compared because of a lack of adequate data (Table A.2). Oakland’s tertiary outcomes included the school readiness domain. Because of the small

sample sizes, it was not possible to compare the groups at any of the follow-up assessment points (Table A.3).

Mean Differences over Time

Mean differences over time could only be examined at the six-month assessment, as sample sizes were insufficient for the 12-, 18-, and 24-month assessment points.

Table 6 shows differences six months after baseline for Oakland's primary outcomes. The personal-social competence measure for children age 2 and younger is not presented here because there were no children assessed on this measure in either group. The second column of numbers in Table 6 shows the mean change between the baseline and six-month score for each individual family within each group. Within the intervention group, children improved significantly on the mean child assertion scores compared with their scores at baseline. Intervention group caregivers also reported a significant reduction in parental distress after six months. For the control group, there was a statistically significant decline within the control group on the caregiver's report of child behavior problems between baseline and the six-month follow-up. Both groups showed significant declines in total child victimization experiences, child witnessing violence, and caregiver experience of both domestic violence and non-domestic violence traumas. Within the control group only, there was also a significant decline in child maltreatment reports. Overall, declines on the child violence exposure measures by the six-month mark are not surprising because the baseline period of observation is twice as long as that captured in the follow-up assessment (i.e., lifetime or 12 months versus six months).

The third column in Table 6 shows the results of the comparison of the intervention group's mean change in scores from baseline to six months to the control group's mean change in scores using the statistical test of difference in differences. The analysis revealed no statistically significant difference between the groups in the amount of change over the six-month period. There was one nonsignificant trend observed in the data, however. In this case, the caregiver's experience of domestic violence showed a greater decrease for the intervention group relative to the control group. Because of the multiple significance tests being conducted, however, this trend did not reach statistical significance and thus may be due to chance.

Table 6
Changes in Means for Primary Outcome Variables Between Baseline and Six-Month
Assessment and Group-Level Comparison of Mean Changes

Primary Outcome		N	Within-Family Mean Changes ^a	Group-Level Comparison of Mean Changes (Unadjusted Model) ^b
PTSD Symptoms				
CR Child PTSD Symptoms for Ages 3–10	Intervention Control	10	-4.60	
Behavior/Conduct Problems				
CR Child Behavior Problems for Ages 1–18	Intervention Control	16 13	-0.20 -0.60 *	0.39
Social-Emotional Competence				
CR Child Assertion for Ages 1–12	Intervention Control	16 13	0.45 0.32 *	0.13
CR Child Self-Control for Ages 1–12	Intervention Control	16 13	0.10 0.55	-0.45
Caregiver-Child Relationship				
CR Parental Distress for Ages 0–12	Intervention Control	16 15	-3.94 -1.40 *	-2.54
CR Parent-Child Dysfunction for Ages 0–12	Intervention Control	16 15	-0.38 0.87	-1.24
CR Difficult Child for Ages 0–12	Intervention Control	16 15	-1.31 -0.87	-0.45
CR Total Parental Stress for Ages 0–12	Intervention Control	16 15	-5.63 -1.40	-4.23
Violence Exposure				
CR Total Child Victimization Experiences for Ages 0–12	Intervention Control	15 15	-1.73 -1.73 *	0.00
CR Child Maltreatment for Ages 0–12	Intervention Control	16 15	-0.50 -0.47 *	-0.03

Table 6—continued

Primary Outcome		N	Within-Family Mean Changes ^a	Group-Level Comparison of Mean Changes (Unadjusted Model) ^b
CR Child Assault for Ages 0–12	Intervention	15	-0.27	0.00
	Control	15	-0.27	
CR Child Sexual Abuse for Ages 0–12	Intervention	16	0.00	0.13
	Control	15	-0.13	
CR Child Witnessing Violence for Ages 0–12	Intervention	15	-1.00 *	0.07
	Control	15	-1.07 *	
CR Caregiver Total Number of Traumatic Experiences	Intervention	16	-0.25	-0.32
	Control	15	0.07	
CR Caregiver Experience of Any Non-DV Traumas ^c	Intervention	16	-0.25 *	0.02
	Control	15	-0.27 *	
CR Caregiver Experience of Any Domestic Violence ^c	Intervention	16	-0.75 *	-0.48 #
	Control	15	-0.27 *	

^a This column reflects within-family mean changes between the baseline and six-month scores for each group separately. * indicates a significant paired t-test of differences over time.

^b This column reflects the group-level comparison of within-family mean changes from baseline to six months. * indicates a significant t-test of group differences.

^c The outcome is a categorical variable, and the unadjusted within-family mean change and the group-level comparison are changes in proportion.

NOTES: CR = Caregiver Report; DV = domestic violence. # indicates a nonsignificant trend in the t-test (p<0.05 but does not meet the FDR correction threshold). Mean change estimates are not shown when the group size is fewer than ten, and comparisons are not shown when the group size is fewer than ten for either group.

Table 7 shows the within-family and group-level comparison of mean changes after six months for Oakland’s secondary outcomes. As Table 7 shows, there were no statistically significant differences on the secondary outcome measures. For the cooperation aspect of the social-emotional competence domain, the data are not shown here because neither group had an adequate sample size.

Oakland’s tertiary outcomes include the school readiness/performance domain. The data are not shown here because of the small sample size at six months for both groups on these measures.

Table 7
Changes in Means for Secondary Outcome Variables Between Baseline and Six-Month Assessment and Group-Level Comparison of Mean Changes

Secondary Outcome		N	Within-Family Mean Changes ^a	Group-Level Comparison of Mean Changes (Unadjusted Model) ^b
Background and Contextual Factors				
CR Caregiver Resource Problems	Intervention	16	-3.00	-2.93
	Control	15	-0.07	
CR Caregiver Personal Problems	Intervention	16	-1.69	-0.55
	Control	15	-1.13	
Social-Emotional Competence				
CR Child Cooperation for Ages 3–12	Intervention	6	1.67	1.17
	Control	8	0.50	

^a This column reflects within-family mean changes between the baseline and six-month scores for each group separately. * indicates a significant paired t-test of differences over time.

^b This column reflects the group-level comparison of within-family mean changes from baseline to six months. * indicates a significant t-test of group differences.

NOTES: CR = Caregiver Report. # indicates a nonsignificant trend in the t-test ($p < 0.05$ but does not meet the FDR correction threshold). Mean change estimates are not shown when the group size is fewer than ten, and comparisons are not shown when the group size is fewer than ten for either group.

CONCLUSIONS

Oakland’s Safe Start program offered integrated intensive case management and dyadic mental health services. The outcome evaluation consisted of a randomized controlled trial of the intervention. Oakland’s program staff enrolled 85 families in the study, with 36 percent of them retained for the six-month assessment. The lower-than-expected enrollment partly reflects the slow pace of referrals from referring agencies at the beginning of the project (see Schultz et al., 2010). The children participating in the study had been exposed to an average of 2.6 types of violence in their lives prior to the baseline

assessment. At baseline, some families enrolled in the study were experiencing child PTSD symptoms and parenting stress. Children in 27 percent of enrolled families had reported PTSD symptoms that fell in the significant range, and 54 percent of caregivers reported levels of parental stress that fell in the clinical range.

Overall, 91 percent of Oakland's intervention group families received at least one session of combined case management and mental health services. All 16 of the families who remained in the study at six months did receive at least one session, with an average of 26 sessions at that time point.

We were unable to assess the impact of the Oakland intervention over time because of the inadequate sample size for the follow-up assessments. The evaluation ended early because of funding constraints when the appropriation for Safe Start was curtailed, which may have affected the sample size. While there were some statistically significant within-group changes detected at six months among the primary outcomes, these changes may not necessarily be associated with the program because in all but one case there were no statistical differences in the amount of change between the groups.

Overall, however, the sample size limitations mean that no conclusions can be drawn about the effectiveness of the Oakland Safe Start intervention as implemented on child and family outcomes. In addition to the small sample size, there were several other limitations that make the results more challenging to interpret. In this program, the control group was provided enhanced services on an as-needed basis (i.e., extra support and referrals from the Safe Start intake coordinator) during their involvement in the study (see Schultz et al., 2010). These enhanced services may have also served to reduce the amount of difference between the two groups. Also, bias due to low retention could have impacted results. The inability to detect significant differences between the groups may also have been due to the particular outcomes measured. That is, the Oakland Safe Start program may have improved the lives of children and families in ways that were not measured (or were not measured adequately) in this study.

Overall, the Oakland Safe Start program implemented an intervention for a previously underserved population. The direct service component evaluated here represented only a portion of the Safe Start efforts, with the other component focusing on enhancing community-wide identification of children exposed to violence and developing enhanced capacity to address the needs of

these children. While conclusions about the direct service impacts on child-level outcomes await further testing, our process evaluation identified key successes in Oakland's implementation of its community-level training and referral process (Schultz et al., 2010). Future efforts to test the family- and child-level impacts of the direct service component should focus close attention on identifying and addressing potential barriers to study retention both initially and over time.

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OAKLAND OUTCOMES APPENDIX

Table A.1
Comparison of Means for Primary Outcome Variables over Time

Primary Outcome		Baseline		Six Months			12 Months		
		N	Mean	N	Mean		N	Mean	
PTSD Symptoms									
CR Child PTSD Symptoms for Ages 3–10	Intervention	29	40.72	10	40.00		5	30.00	
	Control	26	43.46	9	40.89		7	37.57	
Behavior/Conduct Problems									
CR Child Behavior Problems for Ages 1–18	Intervention	41	-0.08	#	16	-0.19	0.79	7	-1.11
	Control	39	0.38		14	-0.11		7	-0.26
Social-Emotional Competence									
CR Child Assertion for Ages 1–12	Intervention	41	-0.13		16	0.32	0.07	7	0.17
	Control	39	-0.22		14	-0.13		7	0.16
CR Child Self-Control for Ages 1–12	Intervention	41	0.08		16	0.07	0.92	7	0.84
	Control	39	-0.16		14	0.03		7	0.55
Caregiver-Child Relationship									
CR Parent Distress for Ages 0–12	Intervention	42	31.02		16	28.81	0.59	7	26.86
	Control	41	33.34		15	30.27		7	34.71
CR Parent-Child Dysfunction for Ages 0–12	Intervention	43	23.49		16	25.00	0.69	7	21.14
	Control	42	26.62		15	26.00		7	29.43
CR Difficult Child for Ages 0–12	Intervention	43	30.02		16	30.00	0.59	7	23.71
	Control	42	33.26		15	31.73		7	28.29
CR Total Parenting Stress for Ages 0–12	Intervention	42	85.14		16	83.81	0.58	7	71.71
	Control	41	92.95		15	88.00		7	92.43
Violence Exposure									
CR Total Child Victimization Experiences for Ages 0–12	Intervention	42	2.43		16	0.50	0.09	7	0.00
	Control	42	2.74		15	1.73		7	1.29
CR Child Maltreatment for Ages 0–12	Intervention	42	0.50		16	0.13	0.18	7	0.00
	Control	42	0.69		15	0.47		7	0.29
CR Child Assault for Ages 0–12	Intervention	42	0.36		16	0.13	0.28	7	0.00
	Control	42	0.38		15	0.40		7	0.29

Table A.1—continued

Primary Outcome		Baseline		Six Months			12 Months	
		N	Mean	N	Mean		N	Mean
CR Child Sexual Abuse for Ages 0–12	Intervention	43	0.00	16	0.00	0.32	7	0.00
	Control	42	0.10	15	0.07		7	0.00
CR Child Witnessing Violence for Ages 0–12	Intervention	40	1.50	16	0.25	0.19	7	0.00
	Control	40	1.53	15	0.60		7	0.57
CR Caregiver Total Number of Traumatic Experiences	Intervention	43	0.47	16	0.19	0.54	7	0.00
	Control	42	0.21	15	0.33		7	0.00
CR Caregiver Experience of Any Non-DV Trauma	Intervention	43	0.16	16	0.00	—	7	0.00
	Control	42	0.21	15	0.00		7	0.14
CR Caregiver Experience of Any DV	Intervention	43	0.81	16	0.13	0.18	7	0.14
	Control	42	0.67	15	0.33		7	0.57

NOTES: CR = Caregiver Report; DV = domestic violence. * indicates statistically significant (p-value<FDR significance criterion); # indicates nonsignificant trend (p<0.05 and >FDR significance criterion). Data are not shown for outcomes when the cell size is fewer than five for the group. Comparisons were not tested when the group size was fewer than ten for either group.

Table A.2
Comparison of Means for Secondary Outcome Variables over Time

Secondary Outcome		Baseline		Six Months		12 Months	
		N	Mean	N	Mean	N	Mean
Background and Contextual Factors							
CR Caregiver Resource Problems	Intervention	43	18.12	16	15.75	7	16.43
	Control	42	17.67	15	15.93	7	18.14
CR Caregiver Personal Problems	Intervention	43	25.79	16	24.44	7	21.14
	Control	42	26.64	15	24.00	7	25.57
Social-Emotional Competence							
CR Child Cooperation for Ages 3–12	Intervention	25	10.56	6	12.67	4	
	Control	24	10.42	9	9.56	7	13.86

NOTES: CR = Caregiver Report. * indicates statistically significant (p-value<FDR significance criterion); # indicates nonsignificant trend (p<0.05 and >FDR significance criterion). Data are not shown for outcomes when the cell size is fewer than five for the group. Comparisons were not tested when the group size was fewer than ten for either group.

Table A.3
Comparison of Means for Tertiary Outcome Variables over Time

Tertiary Outcome		Baseline		Six Months	
		N	Mean	N	Mean
School Readiness/Performance					
Letter Word Identification for Ages 3–18	Intervention	22	-8.59	6	0.67
	Control	15	-6.73	5	-6.60
Passage Comprehension for Ages 3–18	Intervention	19	11.16	9	-0.67
	Control	15	6.93	8	5.00
Applied Problems for Ages 3–18	Intervention	19	-9.37	8	-6.38
	Control	16	-7.44	7	-8.14

NOTES: * indicates statistically significant (p-value < FDR significance criterion); # indicates nonsignificant trend (p < 0.05 and > FDR significance criterion). Data are not shown for outcomes when the cell size is fewer than five for the group. Comparisons were not tested when the group size was fewer than ten for either group.