

## **Supports for Families Affected by Substance Abuse**

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*Using an in-home services program model, Project Connect works collaboratively with the child welfare system, substance abuse treatment providers, the courts, and other community agencies to support parental recovery, enhance safety and permanency, and strengthen family relationships. Results from the most recent evaluation of the program, which used a dosage level design to examine project outcomes for 415 families, are presented here. Data indicate that the program was particularly helpful in strengthening parenting capacity. Child safety and permanency were also positively correlated with program participation.*

*KEYWORDS in-home services, child welfare, substance abuse, permanency, evaluation*

Parental substance abuse is a significant risk factor for involvement in child welfare services and child removal (Gardner, 2014). While estimates vary (Traube, 2012), a large number of children are known to be living in families affected by substance abuse. An estimated 8.3 million children are living with at

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least one parent who abused or was dependent on alcohol or an illicit drug (U.S. Department of Health and Human Services [US DHHS], 2009). Of the 8.3 million, 27.5% are age 5 years and younger.

Child welfare involved families with substance abuse issues require specialized interventions to address their complex needs (Boles, Young, Dennis, & DeCercio, 2012). Quite often, families are living significantly below the poverty line, which influences their ability to meet their children's basic needs. This may hinder their ability to safely care for their children or reunify. Parents frequently have histories of trauma, mental illness, and interpersonal and community violence (Breshears, Yeh, & Young, 2009; Covington, 2008). Children in these families are also at greater risk for experiencing trauma, and subsequent social-emotional and behavioral difficulties (Staton-Tindall, Sprang, Clark, Walker, & Craig, 2013).

### SERVICE MODELS AND PRACTICES

To meet the challenges facing these families, services are needed that will allow parents to safely care for their children as they work toward recovery and to prepare for their safe return if their children have been removed. One way is to provide in-home supports using a comprehensive services model that facilitates access to outcome targeted services, matches services to client needs, and places emphasis on the client-provider relationship (Marsh, Smith, & Bruni, 2011). Such supports may be provided through home visiting programs (Avellar, Paulsell, Sama-Miller, & Del Grosso, 2014). A number of programs have adapted home visiting to address the needs of these families (Grant, Ernst, Streissguth, & Stark, 2005; Huebner, Willauer, & Posze, 2012; Mullins, Bard, & Ondersma, 2005). These programs typically include parent training; case management to assist with concrete needs; and linkage with more specialized services; such as substance abuse treatment, mental health counseling, and domestic violence services. Further study of in-home services and service innovations will extend our understanding of how to best help these families (Maluccio & Ainsworth, 2003; National Resource Center for In-Home Services, n.d.).

Service delivery approaches recommended for working with this population stress the importance of using a strengths approach, engagement and relationship building, and multi-systems collaboration (Children and Family Futures, 2011). These approaches are compatible with a family-centered approach in which providers partner with families to ensure the safety of children and enhance parenting capacities (Epley, Summers, & Turnball, 2010).

Strengths-based practice focuses on establishing trusting relationships between clients and their workers who work together to identify clients' strengths and abilities and develop individualized case plans (Saleebey, 2013). These plans build upon client identified goals and specify the resources needed to accomplish those goals, as well as the barriers that may hinder their

accomplishment. This approach aims to create an atmosphere of optimism and hope for clients and to increase clients' sense of confidence and empowerment (Saleebey, 2013). Strengths-based case management is a specific application of this approach, in which the case manager works in alliance with clients to link them with needed resources and advocates on their behalf (Rapp & Lane, 2013). Studies have found the strengths-based approach to be positively associated with clients' engagement in services and to be effective with clients who have substance abuse issues (Kemp, Marcenko, Lyons, & Kruzich, 2014; Rapp & Lane, 2013).

Motivational interviewing is an evidence-based practice that shares many similarities with strengths-based practice (Manthey, Knowles, Asher, & Wahab, 2011). It involves the use of skills to promote nonjudgmental client-worker relationships that allow clients to explore the ambivalence they may be feeling around change and build motivation for change (Miller & Rollnick, 2002). Studies have found motivational interviewing to significantly increase client engagement and retention in treatment, and to promote positive changes in drug and alcohol behaviors (Lundahl, Kunz, Brownell, Tollefson, & Burke, 2010).

Because so many child welfare involved families enter the system with histories of trauma and may experience further trauma when their children are removed from their care, staff also need to be trained in trauma informed work (Amaro, Chernoff, Brown, Arevalo, & Gatz, 2007; Center for Substance Abuse Treatment [CSAT], 2009). Parents who have experienced trauma often have more difficulty in their relationships with their children, increasing the need to use parent training programs that address these issues (CSAT, 2009).

Cultural-relational theory and relational models, which recognize the disconnections clients may have experienced in their relationships, can also inform our work (Covington, 2008). Parenting interventions that stress parent-child attachment and relationships are grounded in these theoretical frameworks (Moore & Finkelstein, 2001).

Because the needs of substance affected families are so complex, multi-systems collaboration through which staff work across systems to identify needed resources and coordinate efforts to achieve positive outcomes is necessary (Children and Family Futures, 2011). Such collaboration involves developing working partnerships where responsibility can be shared for case planning and coordination, treatment monitoring, permanency planning, and child visitation (Breshears, Ye, & Young, 2009). These approaches are being found to improve treatment outcomes, help families remain together, and promote reunification (Marsh et al., 2011; US DHHS, Children's Bureau, 2014).

## THE PROJECT CONNECT MODEL

Project Connect offers a comprehensive home visiting program that addresses the needs of child welfare involved, substance affected families. The primary

goal of the program is to keep children safe through working with parents to build resources that will help achieve abstinence, support recovery, enhance parental capacity, strengthen family relationships and functioning, and improve families' living conditions. With support from a 5-year federal Regional Partnership Grant, funded through the Child and Family Services Improvement Act of 2006 (Public Law No. 109-89), Project Connect expanded to work state-wide with families. It has been cited as a promising practice for providing in-home services to child welfare involved families (Child Welfare Information Gateway, 2014, March).

Any legally involved family who has been identified as having substance abuse issues may be referred to the project by their child welfare worker. Once a family agrees to Project Connect services, project staff meet with the family and their child welfare worker to review roles and responsibilities. There is on-going contact with community providers and child welfare staff through phone, email, and case conferences that are held every 90 days or more often if necessary. Project staff also provide written letters to the Family Court and attend all court hearings. Project Connect staff are co-located in the state's regional child welfare offices to facilitate relationship building, referrals, and case coordination.

In addition to in-home visits, the program provides home-based parent education and parenting groups, using the *Nurturing Program for Families in Substance Abuse Treatment and Recovery*, which is based on a relational model (Moore & Finkelstein, 2001). A group addressing healthy relationships is also offered, as is an on-going sobriety support group.

With families whose issues are so complex, there is a need for intensive, long-term work. Project Connect clients may stay involved with the program for up to 1 year, or longer if circumstances require. A primary worker who is part of a multi-disciplinary team visits families in the home twice a week. Project Connect staff have either a master's degree in social work or other human services field, or a bachelor's degree with more than 5 years of experience in the substance abuse field and/ or in working with at-risk families. Several are licensed clinical social workers and/or chemical dependency professionals. They may also be certified as domestic violence advocates. A registered nurse, a bachelor's-level parent educator, and a master's-level clinical supervisor complete the team. To the extent possible, staff are hired from the same cultural and linguistic groups as the families they serve. The primary family workers have a caseload averaging nine families; the nurse and parent educator carry a caseload of 12 to 16 families.

Project staff partner with parents to identify strengths and to develop individualized service plans. Recognizing that many families have immediate, concrete needs that must first be met, project staff may initially help families through an emergency fund and/or community referrals. Project staff members make direct connections with workers in those community agencies. They may also assist with transportation and attend referral meetings.

Using motivational skills and their training in trauma informed practice, which has been guided by the Adverse Childhood Experiences (ACE) Study (Dube et al. 2003), project staff work with parents to develop recovery plans that include linkage with substance abuse treatment programs and work on underlying issues that may be contributing to their substance abuse. Knowing that recovery is a process and that relapse may happen, the project staff also helps parents develop relapse prevention and intervention plans (Breshears et al., 2009).

If families are disrupted by a child's removal from the home, project staff work with parents to maintain and strengthen their relationship with their child to the extent possible. To meet state and federal permanency guidelines and to plan for successful reunification, project staff develop individualized visitation plans with parents. When reunification is not possible, efforts are directed toward developing alternative permanency plans.

Project Connect staff work closely with the child welfare system, the courts, treatment providers, and other community agencies. They facilitate referrals and monitor treatment for substance abuse, mental health, and domestic violence. They may also be in contact with probation and parole officers. Additionally, the project team coordinates and monitors medical care, liaisons with school departments, facilitates enrollment for income assistance and job and educational training, and assists families with housing.

## METHOD

### Current Study

This study presents the evaluation of the program following the state-wide expansion of services. To examine the benefits of services for children and families, a dosage level design was used to examine program outcomes. This design involves comparisons between groups that have different levels of intervention. This approach is used when researchers wish to determine the optimal dose of a drug (Lamb et al., 1999) or when random assignment is either not feasible or ethically permissible (Shadish, Cook, & Campbell, 2002). This situation may be the case when there are scarce resources, with no other viable service for families, or when presenting problems are particularly severe, as was true for Project Connect families. In such designs, more highly involved participants serve as the treatment group, and less involved participants as the comparison groups.

Several programs have used dosage level designs, testing interventions by examining different levels of service and their effects on client outcomes (Falconer, Clark, & Parris, 2011; Kim & Crutchfield, 2004; Mullins et al., 2005). Client involvement is typically defined as the amount of contact clients had with a program. In the Project Connect evaluation, the maximum level of intervention

(high levels of involvement) was compared with lower levels of intervention (slight or no involvement in services). In order to address validity issues that might be associated with determining a client's level of involvement, project staff developed quantitative indicators associated with different levels of involvement. For each category, they identified the percentage of contacts that a client would need in order to be included in that group. Highly involved families met with the worker for over 76% of their scheduled visits, groups, and/or recreational events. This is consistent with the cut-off point Falconer et al. (2011) used to identify the high fidelity group in their study of The Healthy Families Florida program. Somewhat involved families kept 50% to 75% of their scheduled contacts. Slightly involved families met with their worker for less than 50%, but more than 25%, of their scheduled contacts. All three groups completed an assessment. Families who did not engage in services consented to treatment, but met with the staff for fewer than 25 % of their scheduled contacts and may have dropped out before completing an assessment.

### Research Questions

Using the level of involvement in the program as the independent variable, this study sought to answer the following: 1) does completion of substance abuse treatment vary by level of involvement? 2) is level of involvement associated with reductions in substance abuse risk, and increases in parenting abilities, family safety, family interaction, environmental conditions, and child well-being? 3) does the level of substance abuse risk at case closing vary by level of involvement, after controlling for pre-group differences at case opening? 4) do parenting abilities, family safety, family interaction, environmental conditions, and child well-being vary by level of involvement, after controlling for pre-group differences at case opening? 5) do permanency and child safety outcomes vary by level of involvement?

### Measurement of Participant Outcomes

Data for this study were taken from case records, The *North Carolina Family Assessment Scale (NCFAS)* (Reed-Ashcraft, Kirk, & Fraser, 2001), The *Risk Inventory for Substance Abuse-Affected Families (SARI)* (Olsen, Allen, & Azzi-Lessing, 1996), and the state child welfare database. Case record data were used to document level of client involvement, completion of substance abuse treatment, and toxicity screen results at birth. The only information for families who did not engage in services was that in the state data system.

The *NCFAS* was used to assess risks in families that might lead to children being removed from the home. This tool includes indicators of parenting ability, family interaction and safety, parents' environmental situations, and child well-being. Items were rated by staff at intake and at case closing on a

scale ranging from (−3) serious problem to (+2) clear strength. Cronbach's alphas range from .71 to .94 (Reed-Ashcraft, Kirk, & Fraser, 2001).

The *SARI* assesses patterns of substance use, commitment to recovery, effects of use, parent self-efficacy and self-care, recovery supports, and neighborhood living conditions. Each of these domains was rated on scale ranging from (1) low risk to (5) high risk. Test-re-test correlations range from .98 to .71; inter-rater correlations from .91 to .55 (Olsen, Allen, & Azzi-Lessing, 1996). Inter-rater reliability was determined through comparing the ratings of project staff with those of their supervisors. Project staff completed these assessments at intake and case closing. Children's permanency and reports of subsequent maltreatment were assessed using data from the state automated child welfare information system (SACWIS), which is used to guide state policy and practice and support reporting requirements.

## Data Analysis

### CONTROL FOR CONFOUNDING INFLUENCES

Involvement in services can be influenced by a number of demographic and contextual factors, which can ultimately affect the types of outcomes clients are likely to achieve (Kim & Crutchfield, 2004; McKay & Weiss, 2001). Four measures were found to be significantly correlated with the client's level of engagement in services. One was the families' total score from the time one administration of the *SARI*. The other three were time one measures taken from the *NCFAS*. These three variables measured the extent to which the parent had bonded with their child, the level of verbal and emotional abuse in the parent-child relationship, and the degree to which parents had made opportunities available to their child that would support and enrich their development. None of the demographic variables were significantly correlated with client engagement.

Because these four variables could confound the relationship between client involvement and program outcomes, their effect needed to be controlled. Researchers have recommended that propensity scores be used to control for the selection bias built into quasi-experimental studies such as this (Dehejia & Wahba, 2002; Guo, Barth, & Gibbons, 2006). Propensity scores are the estimated probabilities that subjects will be classified in an intervention, control, or comparison group using information that is known prior to the intervention. These scores can help to "even out" or balance pre-group differences. Together with controlling for time one measures, they allow us to better understand the independent effect of services on client outcomes and can approximate experimental results (Dehejia & Wahba, 2002).

### ANALYSIS OF PARTICIPANT OUTCOMES

Using the levels of client involvement as the independent variable, data from the *NCFAS* and the *SARI* were examined using the Wilcoxon signed ranks test

to assess the significance of changes in risk levels. Analysis of covariance (ANCOVA) was used to assess program effects, controlling for pre-group differences. Propensity scores were used as a covariate in the ANCOVA, which is an alternative strategy used when projects do not have the larger samples required by propensity matching or strata methods (Holmes, 2013; Rubin, 1997). The effect of dosage group was estimated after controlling for the propensity score and the pretest value of the outcome. Partial eta squares provide an estimate of effect sizes. Eta squares with a value of .04 or higher may be considered to have practical significance (Ferguson, 2009), indicating what percent of the outcome is explained by differences in dosage level. For example, an eta square of .27 on the *NCFAS* measure of parenting abilities indicates that 27% of the difference between groups is the result of their level of involvement. These results are reported for the three groups of clients who engaged in services, as pre and post data on the *NCFAS* and *SARI* measures were not available for those who did not engage in services.

Permanency and safety were analyzed using data from the state child welfare data system. These results were analyzed for all four levels of client involvement, including those whose families did not engage in services. Statistical significance is reported in those instances where there were sufficient cases for chi square analysis, with at least 50% of the expected cell counts containing five or more cases.

## RESULTS

### Sample

This study reports results for 415 families whose cases closed to the project over the five year grant period. Among the 342 who engaged in services, 82% were either highly involved (181) or somewhat involved (100) in services. The remaining 18% (61) were slightly involved in services, with more inconsistent contact. An additional 73 families had preliminary contact with the program but did not engage in services; 68 of these families are included as a comparison group in our report of permanency and safety outcomes.

With an annual median family income of \$10,000, household income was very low. Of the study families, 71% resided in the state's four cities having child poverty rates exceeding 25%. Families came from a diversity of backgrounds: 54% were White; 14% were Black; 2% were Hispanic; and 28% were either multi-racial or from other ethnic groups. Four in five were single parent families. Parents ranged in age from 18 to 57 years, with a median age of 31 years. Their children ranged in age from prenatal to 18 years; 75% were 5 years or younger. At the time of intake, case record data showed that 52% (170) of the parents had all their children in their custody; 48% (160) had at least some of their children in out-of-home care.

Families were connected with a number of supportive services. Assistance with concrete needs, which included linkage with income and financial supports was received by 68%; 48% received assistance with housing; 43% with transportation needs; 36% with primary medical care; 27% with domestic violence issues; and 15% with employment and training.

Families remained in the program for an average of 11.6 months ( $SD = 8.7$ ), which is approximately the length of service called for in the program model. The average for families who were rated as highly involved was 13.5 months ( $SD = 9.5$ ). Those who were less involved averaged 7.8 months ( $SD = 6.9$ ).

### Completion of Substance Abuse Treatment

Nearly all Project Connect parents were referred for substance abuse treatment to either outpatient programs (291 parents), day treatment (86), residential (48), and/or intensive outpatient treatment (68). Parents with child welfare involvement often struggle to complete treatment (Choi & Ryan, 2006; Rockhill, Green, & Newton-Curtis, 2008). Overall, 63% completed at least one of the substance abuse treatment programs to which they had been referred, which may be compared with the 56% completion rate reported by Choi, Huang, and Ryan (2012) in their study of Illinois' integrated services approach that linked parents with recovery coaches and also provided in-home services. Of those who were highly involved in Project Connect services, 77% successfully completed treatment, in contrast with 24% of the program's slightly involved families. These findings show that completion of treatment clearly varied by level of program involvement, answering our first research question.

### Change in Risk Levels

To answer the second question, changes in risk from the time of project opening to project closing were examined using the SARI and NCFAS measures. Clients in each dosage group showed improvement on measures of risk, with those who had been highly involved most likely to demonstrate significant change (Table 1). As measured by the SARI, rates of improvement for those with the highest level of program involvement ranged from 57% on the measure of self-efficacy to 34% on the assessment of neighborhood quality. For parents who were slightly involved, improvement rates ranged from 40% on the measure of lifestyle impact to 27% on child care.

Similarly, the NCFAS summary measures showed that the more highly involved families achieved significant improvements on measures of parenting ability, safety, family interaction, and environmental conditions, with rates ranging from 72% on parenting abilities to 55% on family safety. Among

**TABLE 1** Percent with Improvement at Case Closing by Dosage Groups

| Measure                       | Degree of Involvement |     |                       |          |     |          |          |     |          |
|-------------------------------|-----------------------|-----|-----------------------|----------|-----|----------|----------|-----|----------|
|                               | High                  |     |                       | Some     |     |          | Slight   |     |          |
|                               | <i>n</i>              | %   | <i>Z</i> <sup>a</sup> | <i>n</i> | %   | <i>Z</i> | <i>n</i> | %   | <i>Z</i> |
| Substance abuse risk (SARI)   |                       |     |                       |          |     |          |          |     |          |
| Self-efficacy                 | 93                    | 57% | -5.18**               | 48       | 52% | -2.76**  | 18       | 31% | -1.82    |
| Commitment to recovery        | 86                    | 52% | -3.01**               | 43       | 47% | -2.30**  | 23       | 38% | -1.59    |
| Effect on lifestyle           | 87                    | 54% | -3.87**               | 43       | 48% | -1.65    | 22       | 40% | -1.87    |
| Patterns of use               | 78                    | 49% | -3.25**               | 41       | 45% | -2.30*   | 17       | 30% | -0.31    |
| Self-care                     | 84                    | 52% | -4.66**               | 41       | 44% | -2.19*   | 19       | 32% | -2.33*   |
| Quality of neighborhood       | 54                    | 34% | -2.97**               | 35       | 39% | -1.80    | 17       | 34% | -0.50    |
| Effect on child caring        | 80                    | 52% | -4.05**               | 44       | 54% | -2.65**  | 14       | 27% | -0.62    |
| Supports for recovery         | 77                    | 48% | -4.04**               | 41       | 45% | -2.01*   | 22       | 37% | -1.69    |
| Parental capabilities (NCFAS) |                       |     |                       |          |     |          |          |     |          |
| Overall abilities             | 97                    | 72% | -8.14**               | 46       | 59% | -4.91**  | 11       | 23% | -0.95    |
| Family safety (NCFAS)         |                       |     |                       |          |     |          |          |     |          |
| Overall safety                | 73                    | 55% | -7.31**               | 26       | 33% | -3.36**  | 10       | 21% | -0.40    |
| Family interaction(NCFAS)     |                       |     |                       |          |     |          |          |     |          |
| Overall interaction           | 80                    | 61% | -7.49**               | 43       | 54% | -5.03**  | 8        | 17% | -0.54    |
| Environment(NCFAS)            |                       |     |                       |          |     |          |          |     |          |
| Overall conditions            | 82                    | 62% | -7.34**               | 38       | 49% | -4.72**  | 9        | 19% | -0.37    |
| Child well-being (NCFAS)      |                       |     |                       |          |     |          |          |     |          |
| Overall well-being            | 73                    | 57% | -6.96**               | 39       | 51% | -5.54**  | 20       | 43% | -2.33*   |

\* $p < .05$  \*\* $p < .01$ .

<sup>a</sup>*Z* statistic based on the Wilcoxon signed ranks test.

families with slight levels of involvement, rates of improvement ranged from 23% on parenting abilities to 17% on family interaction.

It was expected that with improvements in parental and family conditions, we would in turn see corresponding improvements in the NCFAS measures of children's well-being. While each group achieved significant improvements, ranging from 57% among highly involved families to 43% among families with less involvement, only the most highly involved families demonstrated significant improvement in parent-child relationships ( $Z = -7.42$ ,  $p < .01$ ), a subscale of the child well-being measure.

### Dosage Effects: Risk at Case Closing

The third and fourth questions analyzed the effect of dosage on the level of risk in families when controlling for confounding influences and pretest measures (Tables 2 and 3). The SARI measures (Table 2) show that those who were more highly involved left the program at a significantly lower level of risk for substance abuse than families who were less involved. However, overall dosage effects for these measures were very modest (partial eta squared

**TABLE 2** Posttest Mean Adjusted for Pretest and Propensity Scores: Substance Abuse Risk

| Measure  | Degree of Involvement |                    |                      |  | Significance<br>F | P $\eta^2$ <sup>a</sup> |
|--|-----------------------|--------------------|----------------------|--|-------------------|-------------------------|
|  | High<br>M (95% CI)    | Some<br>M (95% CI) | Slight<br>M (95% CI) |  |                   |                         |
| Substance Abuse Risk Inventory (SARI) <sup>b</sup> |                       |                    |                      |  |                   |                         |
| Self-efficacy                                      | 1.98 (1.81–2.14)      | 2.25 (2.03–2.47)   | 2.68 (2.39–2.96)     |  | 8.92**            | .054                    |
| Commitment to recovery                             | 1.81 (1.62–2.00)      | 2.14 (1.89–2.39)   | 2.57 (2.25–2.89)     |  | 8.03**            | .049                    |
| Effect on lifestyle                                | 1.87 (1.69–2.06)      | 2.22 (1.97–2.47)   | 2.42 (2.10–2.74)     |  | 5.03**            | .032                    |
| Patterns of use                                    | 1.75 (1.54–1.94)      | 2.06 (1.80–2.33)   | 2.49 (2.15–2.83)     |  | 6.98**            | .044                    |
| Self-care  | 2.00 (1.84–2.16)      | 2.24 (2.03–2.45)   | 2.57 (2.30–2.85)     |  | 6.52**            | .041                    |
| Quality of neighborhood                            | 1.81 (1.66–1.95)      | 2.04 (1.85–2.23)   | 2.13 (1.87–2.38)     |  | 3.26*             | .022                    |
| Effect on child caring                             | 1.78 (1.61–1.96)      | 2.01 (1.77–2.25)   | 2.47 (2.16–2.77)     |  | 7.27**            | .049                    |
| Supports for recovery                              | 2.06 (1.90–2.21)      | 2.23 (2.03–2.44)   | 2.50 (2.24–2.77)     |  | 4.20*             | .027                    |

\* $p < .05$  \*\* $p < .01$ .

<sup>a</sup> Partial eta squared; <sup>b</sup> Substance Abuse Risk Inventory (SARI) is scored from (1) low risk to (5) high risk ( $n = 316$ ).

**TABLE 3** Posttest Mean Adjusted for Pretest and Propensity Scores: Family Risk Assessment NCFAS)

| Measure                                  | Degree of Involvement |                    |                       |  | Significance<br>F | P $\eta^2$ <sup>a</sup> |
|--|-----------------------|--------------------|-----------------------|--|-------------------|-------------------------|
|  | High<br>M (95% CI)    | Some<br>M (95% CI) | Slight<br>M (95% CI)  |  |                   |                         |
| Parenting abilities (NCFAS) <sup>b</sup> |                       |                    |                       |  |                   |                         |
| Overall abilities                        | 0.72 (0.56–0.89)      | 0.19 (–0.03–0.40)  | –0.93 (–1.21 – –0.64) |  | 47.79**           | .274                    |
| Family safety                            | 0.88 (0.73–1.04)      | 0.32 (0.12–0.52)   | –0.28 (–0.55 – –0.01) |  | 28.22**           | .183                    |
| Family interaction                       | 0.60 (0.44–0.76)      | 0.23 (0.02–0.43)   | –0.67 (–0.94 – –0.39) |  | 30.30**           | .194                    |
| Child well-being                         | 0.94 (0.80–1.09)      | 0.76 (0.57–0.94)   | 0.28 (0.03–0.52)      |  | 10.61**           | .080                    |
| Overall well-being                       | 0.58 (0.40–0.77)      | 0.14 (–0.10–0.34)  | –0.90 (–1.21 – –0.58) |  | 31.34**           | .199                    |

\* $p < .05$  \*\* $p < .01$ .

<sup>a</sup> Partial eta squared; <sup>b</sup> North Carolina Family Assessment Scale (NCFAS) is scored from (–3) serious problem to (2) clear strength ( $n = 260$ ).

coefficients ranged from .02 to .05). This indicates that level of program participation contributed modestly to differences between groups on the measures of substance abuse at case closing. Thus, it appears that even less involved families may have gained some benefit from program participation in addressing issues related to their substance abuse.

Of the five NCFAS domains, parenting abilities were the most significantly affected by level of involvement ( $\eta^2 = .274$ ), with more highly involved parents leaving the program at levels considered to be adequate or reflecting mild strengths (Table 3). Parental mental health, a subscale of this measure, was also positively affected by higher levels of program involvement ( $\eta^2 = .25$ ). Family interaction, which included an assessment of parent-child bonding; family safety; and families' living conditions were positively impacted by higher levels of participation as well. Parents who were less involved typically left the program with continuing risks, particularly on subscale measures of mental health ( $M = -1.45$ ,  $SD = 1.3$ ), parent conflict ( $M = -1.46$ ,  $SD = 1.2$ ), and housing stability ( $M = -1.09$ ,  $SD = 1.5$ ).

The level of children's well-being at case closing is also shown in Table 3. At closing, average scores show greater strengths for those whose parents were either highly or somewhat involved in services, as compared with those with slightly involved parents, although dosage effects were not as strong as those found on the measures of parenting and family well-being. The subscale assessing children's relationships with their caretaker was the most greatly affected by level of program involvement ( $\eta^2 = .14$ ), while other measures of child well-being, including children's behavioral health and school performance, were less affected by parents' level of engagement.

### Permanency and Safety

Permanency outcomes and recurrence of maltreatment were tracked for 289 children whose families received Project Connect services. An additional comparison group of 68 whose families did not engage in services were also followed. A total of 235 children were at home at project start (187 project children and 48 comparison children). Another 122 were out of home (102 project children and 20 comparison children). Cases had been closed to the project for at least nine months to provide sufficient time for tracking. We also looked at prenatal substance exposure.

#### CHILDREN ABLE TO REMAIN AT HOME

Over the 5 years, the 187 project children living at home at the initiation of services were followed to determine the extent to which they were able to remain safely at home. Table 4 shows that the majority (134) were able to remain with their parent(s) through the course of services. Of the 48 comparison, 40 children living at home at intake whose parents did not engage

**TABLE 4** Measures of Child Permanency and Safety

| Indicator                  | Degree of Involvement |      |          |      |          |      |             |      |
|----------------------------|-----------------------|------|----------|------|----------|------|-------------|------|
|                            | High                  |      | Some     |      | Slight   |      | Not Engaged |      |
|                            | <i>n</i>              | %    | <i>n</i> | %    | <i>n</i> | %    | <i>n</i>    | %    |
| Children remaining at home | 75                    | 74.3 | 43       | 74.1 | 16       | 57.1 | 40          | 83.3 |
| Children reunified         | 74                    | 91.4 | 37       | 86.0 | 24       | 77.4 | 20          | 71.4 |
| Reunified < 12 months*     | 15                    | 71.4 | 7        | 53.8 | 4        | 57.1 | 0           | 0.0  |
| Re-indication < 6 months   | 0                     | 0.0  | 3        | 3.5  | 3        | 6.4  | 2           | 2.9  |

\*Percentages are based on the number of children returning home who were removed after the start of project services.

in service remained at home. Differences between the four groups were not statistically significant ( $\chi^2 = 6.32, p = .097$ ).

#### REUNIFICATION

Of the 155 Project Connect children in out-of-home care (102 out at project start and 53 removed after initiation of services), 87% (135) were returned home. Of the 28 comparison children (20 removed prior to project contact and 8 following contact), 20 returned home. Reunification rates are shown for each group of children in Table 4. Reunification rates were significantly higher for children receiving project services ( $\chi^2 = 8.45, p = .038$ ). This finding is consistent with those of Choi et al. (2012) from the Illinois services integration project and the Regional Partnership grantees' experiences (US DHHS, 2014).

To assess the project's ability to effect timely return, reunification rates were examined for the 41 project children returning home who had been removed from the home following their families' initial contact with the project. Their 12-month reunification rate was 63% (26 of 41 children). Of those who were returned, only one project child re-entered care within 12 months of their return home. None of the three families failing to engage in Project Connect services whose children were removed following initial contact with the project and subsequently returned reunified within 12 months (Table 4). A larger sample would be needed to test these differences for statistical significance.

#### RECURRENCE OF MALTREATMENT

The Children's Bureau standard (US DHHS, 2012) calls for a 6-month re-incidence rate no higher than 5.4%. The six-month recurrence rate for Project Connect children was 2.1%. Rates are shown in Table 4 for each group of children. Although numbers were very small, thus precluding significance

testing, it is substantively noteworthy that none of the families who had been highly involved in services were re-indicated within six months of their enrollment in services.

#### SUBSTANCE ABUSE EXPOSURE

During the course of their pregnancy, expectant mothers were provided with supportive services to help in the delivery of healthy infants. Over the 5-year grant period, 33 children were born to parents whose cases had closed to the project. Of those, 30 children (91%) were born drug-free, with negative toxicology screens.

## DISCUSSION

### Limitations

The limitations of this study stem primarily from the design of the study and issues of generalizability. It is possible that factors beyond the scope of this research may have contributed to parents' involvement in services, and thus have confounded the outcomes. Parents may have relapsed, cases may have closed to the child welfare system, or parental rights may have been terminated, all of which could have contributed to less engagement in service. The study also did not collect self-report measures. This approach would have required additional data demands on families who were often in crisis when they entered the program, and who may not have been available at case closing to complete post-tests. Sample sizes further limited the analysis of permanency and safety outcomes.

The findings may not fully generalize under different implementation conditions. To maintain fidelity to the Project Connect model, the service team should include clinically trained staff with the same adherence to practice principles, intensity and duration of services. Differences in state resources and policies may affect program outcomes.

### Conclusions and Implications

Within the limitations of this dosage level design, the results show that participation in comprehensive home-based services with a focus on family engagement may contribute to significant improvements in the lives of child welfare involved families affected by substance abuse. Among the 52% who were most highly involved in services, clear gains were found in parenting abilities, parental mental health, and parent-child relationships, and in reducing substance use risks. Even moderate involvement, where parents kept at least 50% of their scheduled contacts, was associated with significant improvements in those conditions that might lead to their children being

placed outside the home. These findings compare favorably with results from other home visiting programs serving substance affected families, where researchers have found positive impacts on substance abuse, parenting practices, time in out-of-home care, and access to supportive services (Grant et al., 2005; Huebner et al, 2012; Mullins et al., 2005).

Positive outcomes were also achieved for children whose families actively engaged in services. While it is not possible to fully disentangle the effects of parent motivation and attachment, findings suggest that through reducing risk in the more highly involved families, the program was able to facilitate reunification. Success in completing substance abuse treatment and addressing other co-occurring issues has been shown to increase the likelihood of reunification (Choi et al., 2012; Marsh, Ryan, Choi, & Testa, 2006).

Lessons from Project Connect point to several implications for child welfare practice. Engaging parents when they are ready and able to work on recovery, and matching client need with the right service is key to achieving good outcomes (Wisdom, Pollock, & Hopping-Winn, 2011). The pretest measures showed greater risks for substance use severity and less commitment to recovery among families who were less involved in services. While some parents may not have been ready to address their substance abuse, or their life circumstances may have inhibited engagement at the point they were referred, it is also possible that parents may have needed a more intensive program or a different approach than Project Connect offered.

Several pretest measures of parenting were also associated with program involvement. The desire to be a good parent may encourage parents to remain involved in services (CSAT, 2009). This factor would suggest that if parents can be helped to strengthen their relationships with their children, through frequent and supportive visitation and curricula such as the *Nurturing Program for Families in Substance Abuse and Recovery*, this work may be able to more fully engage parents in services and support their recovery (Marsh et al., 2011).

A focus on parents' mental health needs, domestic violence, and living conditions are necessary for positive outcomes as well (Choi & Ryan, 2007; Marsh et al., 2006; Grant et al., 2011). It is concerning that risk measures showed less engaged families leaving the program with moderate mental health risks, parent conflict, and unmet housing needs. Despite collaborative efforts to increase access to mental health and other medical care, job training, affordable housing, and other supports, community resources affected the project's ability to address these concerns. There are relatively few mental health providers in the state who address co-occurring disorders. Similarly, parents face lengthy wait lists for affordable housing which can significantly affect a family's chances for reunification. Within the state, there are few residential treatment programs where children can reunify with their parents, particularly fathers. Domestic violence also factors into program success.

It may limit in-home contact, lead to criminal justice involvement, and in some cases relocation outside the state requiring the family's case to be closed. To the extent possible, project staff work to therapeutically engage both parents and link them with appropriate services.

Because there are so many systems involved with families working toward recovery, collaborative partnerships are essential (Children and Family Futures, 2011; Marsh et al., 2011). Our research suggests that through its comprehensive home-based work and collaboration with child welfare staff and other community providers, Project Connect was able to achieve positive results for families actively engaged in services. These findings support further testing of the program model.

## REFERENCES

- Amaro, H., Chernoff, M., Brown, V., Arevalo, S., & Gatz, M. (2007). Does integrated trauma-informed substance abuse treatment increase treatment retention? *Journal of Community Psychology, 35*, 845–862.
- Avellar, S., Paulsell, D., Sama-Miller, E., & Del Grosso, P. (2014). *Home visiting evidence of effectiveness review: Executive summary*. Washington, DC: Office of Planning, Research, and Evaluation, U.S. Department of Health and Human Services.
- Boles, S. M., Young, N. K., Dennis, K., & DeCerchio, K. (2012). The Regional Partnership Grant (RPG) Program: Enhancing collaboration, promising results. *Journal of Public Child Welfare, 6*, 482–496.
- Breshears, E. M., Yeh, S., & Young, N. K. (2009). *Understanding substance abuse and facilitating recovery: A guide for child welfare workers*. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Administration.
- Center for Substance Abuse Treatment (CSAT). (2009). *Substance abuse treatment: Addressing the specific needs of women* Treatment Improvement Protocol (TIP) Series 51. Rockville, MD: CSAT.
- Child and Family Services Improvement Act of 2006. Public Law No. 109-89.
- Children and Family Futures. (2011). *The collaborative practice model for family recovery, safety, and stability*. Irvine, CA: Children and Family Futures.
- Child Welfare Information Gateway. (2014, March). *In-home services in child welfare*. Washington, DC: U.S. Department of Health and Human Services, Children's Bureau.
- Choi, S., Huang, H. M., & Ryan, J. P. (2012). Substance abuse treatment completion in child welfare: Does substance abuse treatment completion matter in the decision to reunify families? *Children and Youth Services Review, 34*, 1639–1645.
- Choi, S., & Ryan, J. R. (2007). Co-occurring problems for substance abusing mothers in child welfare: Matching services to improve family reunification. *Children and Youth Services Review, 29*, 1395–1410.
- Covington, S. S. (2008, November). Women and addiction: A trauma-informed approach. *Journal of Psychoactive Drugs, SARC Supplement 5*, 377–385.
- Dehejia, R. H., & Wahba, S. (2002). Propensity score-matching methods for non-experimental causal studies. *Review of Economics and Statistics, 84*, 151–161.

- Dube, S. R., Felitti, V. J., Dong, M., Chapman, D. P., Giles, W. H., & Anda, R. F. (2003). Child abuse, neglect, and household dysfunction and the risk of illicit drug use: The Adverse Childhood Experiences (ACE) Study. *Pediatrics, 111*, 564–572.
- Epley, P., Summers, J. A., & Turnbull, A. (2010). Characteristics and trends in family-centered conceptualizations. *Journal of Family Social Work, 13*, 269–285.
- Falconer, M. K., Clark, M. H., & Parris, D. (2011). Validity in an evaluation of Healthy Families Florida—A program to prevent child abuse and neglect. *Children and Youth Services Review, 33*, 66–77.
- Ferguson, C. J. (2009). An effect size primer: A guide for clinicians and researchers. *Professional Psychology: Research and Practice, 40*, 532–538.
- Gardner, S. (2014). *State-level policy advocacy for children affected by parental substance use*. Lake Forest, CA: Children and Family Futures.
- Grant, T., Huggins, J., Graham, C., Ernst, C., Whitney, N., & Wilson, D. (2011). Maternal substance abuse and disrupted parenting: Distinguishing mothers who keep their children from those who do not. *Children and Youth Services Review, 33*, 2176–2185.
- Grant, T., Ernst, C., Streissguth, A., & Stark, K. (2005). Preventing alcohol and drug exposed births in Washington State: Intervention findings from three Parent-Child Assistance Program sites. *American Journal of Drug and Alcohol Abuse, 31*, 471–490.
- Guo, S., Barth, R. P., & Gibbons, C. (2006). Propensity score matching strategies for evaluating substance abuse services for child welfare clients. *Children and Youth Services Review, 28*, 357–383.
- Holmes, W. M. (2013). *Using propensity scores in quasi-experimental designs*. Thousand Oaks, CA: Sage Publications.
- Huebner, R. A., Willauer, T., & Posze, L. (2012). The impact of Sobriety Treatment and Recovery Teams (START) on family outcomes. *Families in Society, 93*, 196–203.
- Kemp, S. P., Marcenko, M. O., Lyons, S. J., & Kruzich, J. M. (2014). Strengths-based practice and parental engagement in child welfare services: An empirical examination. *Children and Youth Services Review, 47*, 27–35.
- Kim, S., & Crutchfield, C. (2004). An evaluation of a substance abuse aftercare program for homeless women with children using a confounding variable-control design. *Journal of Drug Education, 34*, 231–233.
- Lamb, R., Preston, L., Schindler, C., Meisch, R., Davis, F., Katz, J., Henningfield, J., & Goldberg, S. (1999). The reinforcing and subjective effects of morphine in post-addicts: A dose-response study. *Pharmacology and Experimental Therapeutics, 259*, 1165–1173.
- Lundahl, B. W., Kunz, C., Brownell, C., Tollefson, D., & Burke, B. L. (2010). A meta-analysis of motivational interviewing: Twenty-five years of empirical studies. *Research on Social Work Practice, 20*, 137–160.
- Maluccio, A. N., & Ainsworth, F. (2003). Drug use by parents: A challenge for family reunification practice. *Children and Youth Services Review, 25*, 511–533.
- Manthey, T. J., Knowles, B., Asher, D., & Wahab, S. (2011). Strengths-based practice and motivational interviewing. *Advances in Social Work, 12*, 126–151.
- Marsh, J. C., Ryan, J. P., Choi, S., & Testa, M. F. (2006). Integrated services for families with multiple problems: Obstacles to family reunification. *Children and Youth Services Review, 28*, 1074–1087.

- Marsh, J., Smith, B., & Bruni, M. (2011). Integrated substance abuse and child welfare services for women: A progress review. *Children and Youth Services Review, 33*, 466–472.
- McKay, J. R., & Weiss, R. V. (2001). A review of temporal effects and outcome predictors in substance abuse treatment studies with long-term follow-ups: Preliminary results and methodological issues. *Evaluation Review, 25*, 113–161.
- Miller, W. R., & Rollnick, S. (2002). *Motivational interviewing: Preparing people for change* (2nd ed.). New York, NY: Guilford.
- Moore, J., & Finkelstein, N. (2001). Parenting services for families affected by substance abuse. *Child Welfare, 80*, 221–238.
- Mullins, S. M., Bard, D. E., & Ondersma, S. J. (2005). Comprehensive services for mothers of drug-exposed infants: Relations between program participation and subsequent child protective services reports. *Child Maltreatment, 10*, 72–81.
- National Resource Center for In-Home Services. (n.d.). *Evidence-based in-home services*, Retrieved from <http://www.uiowa.edu/nrcihs/evidence-based-home-services>
- Olsen, L. J., Allen, D., & Azzi-Lessing, L. (1996). Assessing risk in families affected by substance abuse. *Child Abuse and Neglect, 20*, 847–856.
- Rapp, R. C., & Lane, D. T. (2013). “Knowing” the effectiveness of strengths-based case management with substance abusers. In D. Saleebey (Ed.), *Strengths perspective in social work practice* (pp. 149–160). Boston, MA: Pearson.
- Reed-Ashcraft, K., Kirk, R., & Fraser, M. W. (2001). The reliability and validity of the North Carolina Family Assessment Scale. *Research on Social Work Practice, 11*, 503–520.
- Rockhill, A., Green, B. L., & Newton-Curtis, L. (2008). Accessing substance abuse treatment: Issues for parents involved with child welfare services. *Child Welfare, 78*, 63–93.
- Rubin, D. B. (1997). Estimating causal effects from large data sets using propensity scores. *Annals of Internal Medicine, 127*, 757–763.
- Saleebey, D. (2013). *The strengths perspective in social work practice*. Boston, MA: Pearson.
- Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs*. Boston, MA: Houghton Mifflin.
- Staton-Tindall, M., Sprang, G., Clark, J., Walker, R., & Craig, C. (2013). Caregiver substance use and child outcomes: A systematic review. *Journal of Social Work Practice in the Addictions, 13*, 6–31.
- U.S. Department of Health and Human Services (US DHHS), Children’s Bureau. (2014). *Targeted grants to increase the well-being of, and permanency outcomes for, children affected by methamphetamine or other substance abuse: Third Annual Report to Congress*. Washington, DC: US DHHS Children’s Bureau.
- U.S. Department of Health and Human Services (US DHHS), Administration for Children and Families. (2012). *Child maltreatment 2011*. Washington, DC: US DHHS Administration for Children and Families. Retrieved from <http://www.acf.hhs.gov/programs/cb/research-data-technology/statistics-research/child-maltreatment>
- U. S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration. (2009). *Children living with substance-dependent or*

- substance-abusing parents: 2002–2007. The NSDUH report.* Rockville, MD: US DHHS Substance Abuse and Mental Health Services Administration.
- Traube, D. (2012). The missing link to child safety, permanency, and well-being: Addressing substance misuse in child welfare. *Social Work Research*, 36, 83–87.
- Wisdom, J. P., Pollock, M. N., & Hopping-Winn, A. (2011, October). *Service engagement and retention for women with substance use disorders* Research to Practice Brief. Berkeley, CA: National Abandoned Infants Assistance Resource Center.

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