The ♥ Strong Start ♥ Study

Strengthening Young Families affected by substance use through High Fidelity Wraparound

FINAL REPORT

Research & Demonstration Project

Quality Improvement Center on Early Childhood
Center for the Study of Social Policy

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I. Executive Summary

The Strong Start Study, through JFK Partners of the University of Colorado, was one of four Research and Demonstration projects funded through the Quality Improvement Center on Early Childhood to implement a collaborative intervention to prevent maltreatment of young children informed by the Strengthening Families framework. In partnership with the Colorado Office of Behavioral Health, Women's Substance Use Disorders Treatment, and the Colorado Office of Early Childhood, Early Intervention Colorado, the Study was conducted in the Denver metropolitan area from March 2010 through September 2013.

A. Overview of Strong Start Study

The Strong Start Study implemented a team-based Wraparound intervention to support families affected by substance use in building protective factors known to prevent maltreatment. The study provided facilitated collaboration and integrated planning among service systems and natural supports for pregnant and parenting women in early recovery, and provided routine developmental screening of their infants.

B. Summary of Evaluation Findings

Implementation Findings. The Strong Start Study found evidence of High Fidelity Wraparound being an effective intervention to increase protective factors to prevent maltreatment in young families affected by substance use. The Strengthening Families framework informed the approach and helped families build 1) Social Connections, 2) Concrete Supports, and 3) Parental Resilience by focused intervention at the different levels of the social ecology. Model fidelity was measured with the Wraparound Fidelity Index (WFI) and was rated

1.65 out of 2 by participants indicating good fidelity to principles and activities of the intervention provided.

Outcome Findings. Wraparound participants reported more positive experiences in health, family leadership, and significantly less family conflict. Wraparound mothers reported significantly fewer mental health problems and less severe trauma-related symptoms at 12 months postpartum Wraparound families were moderately higher on natural supports, especially with financial help and encouragement with recovery.

The Study provided routine screening of infants in the Wraparound group and was able to facilitate referral to Part C for assessment. Most infants were found to be within the range of typical development with the exception of infants with significant alcohol exposure who showed gross motors delays that tended to improve over time.

Barriers to Implementation. A delayed and shortened enrollment period resulted in a smaller sample than was projected. Lower numbers of admissions into the Special Connections treatment programs also limited participants for the study.

C. Key Lessons Learned: Protective Factors, Collaborative Partnerships, Social Ecology

The Social Ecological Framework of the QIC-EC projects provided an opportunity to examine multiple levels of intervention to build protective factors to strengthen young families: the Individual level for both child and parent, the Family level for social relationships, the Community level for neighborhood and resources, and the Societal level for policies and systems.

1. Building protective factors at the individual and family levels. For mothers in early recovery, Parental Resilience is a protective factor that is developed as she participates in

treatment and learns how to cope without using alcohol or other drugs. At the family level, Social Connections is a protective factors associated with positive and supportive relationships available through the Wraparound team. Concrete Supports are a protective factor built at the individual level when the parent can access resources to meet basic needs of the family.

2. Role of Collaborative in building protective factors at the community level. The Strong Start Study was instrumental in bringing the Strengthening Families approach to the women's treatment community through the Collaborative Partnership. Materials were provided during joint meetings with treatment and Wraparound staff and examples of protective factors seen in families were discussed.

3. Role of Collaborative in building protective factors at the societal level. The Strong Start Collaborative involved Special Connections treatment programs and providers in the Denver metro area who were receptive to the Strengthening Families approach. There is opportunity to share materials about the protective factors framework with the statewide network of women's treatment providers. Any future state legislation related to treatment for pregnant and postpartum women would also provide an opportunity to codify the approach with families in early recovery.

II. Introduction and Overview

A. Introduction and Project Administration

1. Purpose of the QIC-EC. The National Quality Improvement Center on Early Childhood (QIC-EC) was established in 2008 as a 5-year cooperative agreement between the Children's Bureau and three partner organizations: Center for the Study of Social Policy (lead agency); National Alliance of Children's Trust and Prevention Funds; and ZERO TO THREE: National Center for Infants, Toddlers, and Families.

The QIC-EC was established to test evidence-based and evidence-informed approaches that build protective factors and reduce risk factors in order to promote optimal child development, increase family strengths, and decrease the likelihood of abuse and neglect among infants and young children. To this end, the QIC-EC funded four research and demonstration projects. In addition, funding was provided for five doctoral students whose dissertation research was related to the focus of the QIC-EC. Through its Learning Network, the QIC-EC engaged a multidisciplinary group of professionals in dialogue and information exchange on key policy, research, and practice issues related to the prevention of child maltreatment. The QIC-EC is funded by the United States Department of Health and Human Services, Administration for Children, Youth and Families, Office on Child Abuse and Neglect, and is supported by matching funds from the Doris Duke Charitable Foundation.

2. Rationale for applying for funding. The funding opportunity through the QIC-EC for maltreatment prevention research was pursued to support a collaborative effort in addressing the needs of families affected by substance use who were parenting infants and other very young children. Reducing the known health and developmental risks associated with maternal

substance use during pregnancy has been a focus of specialized women's treatment programs in Colorado known as Special Connections, and addressing the developmental needs of infants and very young children has been a focus of Part C services through Early Intervention Colorado. As the lead applicant for the QIC-EC research funding, JFK Partners through the University of Colorado sought to examine the use of a High Fidelity Wraparound intervention with families as a way of supporting the parent's sustained recovery from substance use and mitigating any adverse developmental effects from prenatal exposure on infants. The funding award provided the resources necessary to build on existing working alliances among the collaborative partners and the joint effort in preventing maltreatment with this population.

Since the mid-1980s in the U.S, drug use among women of childbearing age has become more common, and a central focus for child welfare intervention. Beginning with the use of crack cocaine by women, child maltreatment concerns were drawn to drug use during pregnancy and the associated poor birth outcomes. Although the specific damaging effects of prenatal exposure remain difficult to ascertain, the drug-taking lifestyle of many women was not only dangerous, but unhealthy with poor nutrition and barriers to accessing prenatal care during pregnancy. Most drug-taking is polysubstance use, making it likely that in utero exposure involves neurological effects to infants from both alcohol and other drugs that can be a significant risk factor to their growth and development.

Estimates from the National Center on Substance Abuse and Child Welfare (NCSACW) suggest that of the four million infants born in the U.S. annually, 400,000 have been exposed to illicit drugs; the number grows to one million when prenatal exposure to alcohol and tobacco is included. Most relevant to this study is the estimate that only 5-10% of infants who are

prenatally exposed to alcohol and other drugs are identified at birth. Given the rather widespread use of potentially harmful substances by women during pregnancy, and the risk presented to very young children, focusing maltreatment prevention resources on this population for further study is warranted.

3. Funders. As required, matching funds for the QIC-EC grant was provided through JFK Partners of the University of Colorado and from the State of Colorado Office of Behavioral Health (OBH). JFK Partners funding supported a portion of salary for the Principal Investigator and the Lead Evaluator, as well as the time on the project by the JFK Grants and Contract Manager. OBH committed the state-funded portion of salary for the Manager of Women's Substance Use Disorders Treatment programs.

4. Collaborative Organization. As shown in the Strong Start Collaborative organizational chart (See Appendix 1.), the lead organization for the Strong Start Study, JFK Partners had primary responsibility for the administration of the research. The collaborative partners, Early Intervention Colorado (Part C) and Women's Treatment Services, are both state-level agencies that were a good 'fit' in the partnership since all share concern for the well-being of young children and all three influence policy and programs statewide.

5. JFK Partners: University Center for Excellence in Developmental Disabilities. In part due to the leadership of Dr. C. Henry Kempe, a pioneer in the child maltreatment field, a multidisciplinary clinic was founded within the Department of Pediatrics at the University of Colorado School of Medicine in 1966; the clinic later became the JFK Child Development Center. The name and mission 'JFK Partners: Promoting Families, Health and Development' was adopted in 1998 as the official name of this interdepartmental center of Pediatrics and

Psychiatry in the School of Medicine. Over its nearly 50 year history, JFK Partners has contributed to the training of hundreds of professionals, representing a number of disciplines which contribute to the diagnosis and treatment of persons with developmental disabilities and special health care needs and their families.

6. Local Evaluation. As shown in the logic model for the Strong Start Study (See Appendix 2), the planned intervention activities through Wraparound were designed to help families build protective factors known to prevent maltreatment. In addition to the common QIC-EC measures, local measures were selected to evaluate the pre and post conditions of the mother's mental health and substance use, the infant's health and development, and overall family functioning. Wraparound documents prepared with each family were used as a qualitative data source to understand their experiences with the intervention and the degree to which their priority needs were met through participation in the wraparound process. Utilizing both quantitative and qualitative methods for evaluation fit with the exploratory nature of the project intended to determine the effectiveness of integrating the Strengthening Families framework with the Wraparound intervention to achieve the overall QIC-EC outcomes of optimal child development, increased family strengths, and decreased likelihood of maltreatment.

7. Essential Project staffing and Roles. Staff and consultants for the Strong Start Study were employees of the University of Colorado and most had related work experience in similar research and with Wraparound (See Table 1). Early intervention through Part C is an area of expertise for the Principal Investigator and the Lead Evaluator, as well as key staff for the study. The Study Coordinator had extensive experience in project management and research

interviewing with families. Three of the four Wraparound Facilitators were trained in the model prior to the current study, and one of the Family Support Partners was assisting with the study prior to working directly families.

Table 1. Strong Start Study Staffing

Position	Duties	Qualifications	FTE
Principal Investigator	Design and oversee implementation of study; responsible for research protocol	PhD	.70
Lead Evaluator	Oversee evaluation plan and data analysis	PhD	.20
Study Coordinator	Conduct interviews for data collection, data entry; manage program office, assist with IRB	Bachelor's Degree	1.0
Wraparound Facilitator(s)	Engage families, establish teams, facilitate meetings, prepare documents	Bachelor's Degree or Related Experience	1.6
Family Support Partner(s)	Ongoing contact with parents to follow up with action steps; conduct developmental screenings	Related Experience	1.2
Wraparound Consultant	Training and Coaching of staff	Master's or Experience	.10
Evaluation Consultant	Expertise in population	PhD and Experience	.05
Grant & Contract Manager	Manage grant expenditures & provide financial reports	MBA or Equivalent	.05

8. Workforce recruitment, training, supervision, retention, and project staffing. A qualified and well-suited workforce is critical to the effective implementation of the Wraparound intervention. This fact became even more evident over the course of the study especially when working with families with substance use problems.

Recruitment of project staff. Recruitment began with identifying current and former JFK Partners staff with experience in research activities and who were familiar with the Wraparound intervention; the Project Coordinator, the initial Wraparound Facilitator and Family Support Partner were selected on this basis. The University personnel system was used to recruit others interested in staff positions with the Study and additional selections were made based on interviews with applicants.

Initial training of staff. A requirement of staff positions for Wraparound was completion of the four-day Wraparound 101 training. This was arranged for the Strong Start Study staff through scheduled training offered in Colorado Springs as the project was beginning. This initial training provided Wraparound materials, orientation to the Facilitator and Family Support Partner roles in the intervention, as well as practice opportunities for beginning skill development.

The Study staff met on a regular, weekly basis with the initial months focused on many of the logistics of the Wraparound intervention and the research protocols. The Family Support Partners (FSP) received training in developmental screening using the Ages and Stages Questionnaires (ASQ) that included 'practice' opportunities with infants. FSPs were also trained by the Project Coordinator in the administration of the Social Network Mapping (SNM) that included inter-rater reliability checks.

Orientation to the protective factors framework. The Strengthening Families through the Protective Factors framework was integrated into staff meetings and served as a contextual reference point for the Wraparound intervention over the course of the study. Materials on Protective Factors were given to the study staff and to collaborative partners in the women's treatment programs as well as families participating in Wraparound.

Staff supervision. Each staff person had both scheduled and 'as needed' individual time with the Principal Investigator who also provided Wraparound coaching and supervision. Staff meetings included ongoing 'coaching' on Wraparound skill sets and involved 'behavioral rehearsal' as a form of role play in practicing and developing specific skills used with families.

Staff retention plan. The intention was to hire staff for the study who would remain in their positions through the intervention period. The informal retention plan was the ongoing development of staff within their respective roles and as part of the Wraparound team based on the assumption that their investment in the work with families and their commitment to the intervention approach would be reinforcement for their continuation with the project. This plan proved true for some of the staff, but not for others as described below.

Professional development. As part of the Wraparound training process, each staff person identified areas of professional development within their role and specific skills associated with improvement. In addition, materials related to women with substance use problems were provided to staff and were referenced in ongoing staff training.

In one instance, a staff member requested as part of her own professional development to attend a training offered through the University on communication skills. Arrangements were made on her behalf through JFK Partners to pay the fee for her attendance and she was asked to share information garnered from the training with other study staff members.

Technical assistance. Ongoing consultation on the implementation of the Wraparound intervention was provided through a certified trainer and coach who met monthly with the PI. This consultation focused on team-building and troubleshooting with the staff as well as systemic issues impacting the study.

Staff Turnover and Response. Three staffing changes that occurred over the course of the study were challenging and affected the fidelity of the intervention with certain families.

Within the first year of implementation, the lead Wraparound Facilitator resigned from the position unexpectedly. This required the Principal Investigator who had experience in

Wraparound facilitation to assume the role with the already enrolled families. The change in staffing also required the reassignment of the experienced Family Support Partner into the role of Wraparound Facilitator for newly enrolled families, and the hiring of an addition Family Support Partner.

A staff person hired as a Family Support Partner based on her similar life experiences to the families in the study held the position for over two years before resigning rather unexpectedly. Despite her identification with women in recovery who were parenting, she was not well-suited to the personal engagement and initiative required for the position, or to the close collaboration and communication as a co-worker with the Wraparound Facilitator. Since hiring someone for the position was not feasible, additional time was shifted to the other Family Support Partner to work with the enrolled families.

Similarly, a staff person hired as a Wraparound Facilitator who had significant experience with young children, proved unable to fulfill the role consistently despite training and ongoing coaching. Ultimately, most of the families assigned to this facilitator were not engaged in the Wraparound process and her position with the study was ended with the remaining families reassigned to an ongoing facilitator and FSP. The staffing changes were challenging and did affect the fidelity of the intervention with certain families.

9. Challenges encountered and Response. The greatest challenge encountered in the implementation of the Strong Start Study was systems-level policies and procedures related public funding for women's substance use treatment especially when the family is involved with child welfare. To receive funding for her substance use treatment through Special Connections Medicaid, a woman must be admitted into the treatment program before she gives birth,

making her eligible for coverage for one year postpartum. This Medicaid coverage for treatment could also be used to pay for a residential program for the woman with her infant when needed; there is one 16-bed facility in the Denver metro area with a 60-day program available for these families. The standard operating procedure, however, of the four county-level child welfare agencies to assure protection of newborns in this population is separation of the mother and child from the hospital. Once a woman no longer has custody of her child, she loses Medicaid benefits that are a potential source of payment for treatment that could include her child in residence. Child welfare agencies seldom will use funds through 'core service' dollars to pay for residential treatment to keep the mother and child together because of the cost, preferring to pay for out of home placement in foster care.

Another current challenge to continuing the Strong Start Wraparound approach is the lack of public funds to support this intervention with families in this population. Proposals for additional grant funding have not been awarded despite positive review. Therefore, it is uncertain how the evidence from the Strong Start Study of benefits to these young families with complex and multiple needs, can be used for Wraparound to become recognized as an effective intervention supported by a sustainable source of public funding.

B. Overview of the Community, Population, and Problem

1. The 'community'. The Strong Start Study was implemented in the geo-political region of the Denver, Colorado metropolitan area, representing a mix of urban and suburban environments. There are four fairly diverse counties within this region, each with significant local influence on programs and services that are determined by the family's place of residence. For the target population of families in early recovery from substance use this meant variation

in their experiences depending on county-specific culture and norms. The women's substance use treatment community of programs and providers within the Denver metro area had the primary involvement with the Study and the participating families; in a less formal way the women's recovery community was important as well.

2. Colorado Population, Maltreatment, and Substance Exposure Profiles. The state of Colorado has a population of five million people, one million under age 18. In 2012, there were 10,482 substantiated incidents of child maltreatment resulting in a state rate of 8.5 children and youth per 100,000, a decrease from the 1009 rate of 9.2 per 100,000 (USDHHS, 2012). Of the substantiated incidents, 82.6% were for neglect, 12.3% for physical abuse, and 9.9% for sexual abuse (USDHHS, 2012). Infants under one year represent the largest age group of substantiated maltreatment in Colorado at 17.9%, slightly lower than the national rate of 21.9% (USDHHS, 2012).

The statewide racial makeup of Colorado is 69.6% White, 21% Hispanic, and 4.3% Black (US Census Bureau, 2010). However, the racial distribution of substantiated incidents of child maltreatment showed an overrepresentation of Black and Hispanic children at 8.4% and 36.7% percent respectively, while the percentage of White children was 47.3% (USDHHS, 2012).

The four Denver metro area counties where they study was conducted represent one of the most densely populated regions of the State. In a ranking of twenty-five counties in the state where over 90% of the child population lives, the Colorado Department of Public Health and Environment (CDPHE) reported that two of the four counties were among the lowest on indicators of well-being: Denver County ranked the lowest of the twenty-five and Adams

County ranked twenty-third. As shown in Table 2, single-parent families, maternal education, and child poverty rates varied among the four counties.

Table 2. Child well-being indicators and ranking by county

County	Wellbeing Ranking	Single Parents	Mothers <HS Education	Child Poverty
Adams	23	28%	27%	17.5%
Arapahoe	15	28%	18%	15%
Denver	25	36%	27%	30.8%
Jefferson	7	25%	11%	11.4%

3. Target population. Women who were pregnant and receiving substance use treatment through the Special Connections programs in the Denver metro area, and their infants, were the target population for the Strong Start Study. As showing in Table 3, the number of women statewide admitted to Special Connections annually is low as is the retention rate. Based on available data, however, the goal of healthy birth weight overall is good.

Table 3. Admission to Women's Treatment, Retention, and Low Birth Weight

SPECIAL CONNECTIONS	2006	2007	2008	2009	2010	2011	2012
Statewide Admissions	317	261	282	195	243	208	170
Retention Rate	52%	48%	50%	46%	42%	52%	44%
Low Birth Weight	16%	16%	9%	17%	13%	15%	16%

Participants ranged in age from 18 to 40, with the average age being 27.4 years. Major ethnic group identification was 58.3% White, 44.0% Hispanic, 16.7% Black American, 16.7% Native American; 7.1% held multi-racial identities. 'Never married' was the status of 38.1% of the sample, and 10.7 % were separated or divorced; almost half of the sample, 48.8% were either married to or living with the father of the child. Women enrolled into the study at different stages of pregnancy with 19.0% in the first trimester, 47.6% in the second, and 23.8%

in the third; the remaining 11.9% had enrolled in late term pregnancy and gave birth before beginning Wraparound. The primary drug being used at admission to treatment was cocaine (17.9%), followed by cannabis (16.7%), amphetamines and heroin at 11.9% each, other opiates (10.7%), alcohol (8.3%), and hallucinogens, methadone, and sedatives at 1.2% each.

Implications of changes in target population's needs. The Strong Start Study proposal was intended to test an intervention for primary prevention of child maltreatment given the target population of pregnant women whose child was not yet born and therefore not involved with child welfare. However, given the participants were of childbearing age, it soon became evident that many families within this population already had current child welfare involvement related to another of their children. Additionally, some participants with known substance use were identified by their prenatal health care providers and experienced immediate child welfare intervention when their Strong Start infant was born resulting in the removal of the newborn from their custody in some cases.

The implications for this child welfare involvement by families in the target population impacted the course of the study in two primary ways: 1) child welfare caseworkers were identified as formal supports on the family's Wraparound team and participated as members to varying degrees, and 2) a priority need in families with open Dependency and Neglect cases due to maternal substance use was meeting the requirements of the Family Service Plan through child welfare to either regain or retain custody of their child.

4. Purpose, research questions, and project summary. The purpose of the Strong Start Study was preventing child maltreatment within the population of families affected by maternal substance use during pregnancy and the postnatal period, by reducing associated risks and

strengthening the protective factors within families through a collaborative intervention partnership among agencies dedicated to helping families at risk and securing early intervention services for infants and young children. The High Fidelity Wraparound intervention model provided a need-driven, strengths-based, and culturally-embedded facilitated collaboration approach that leveraged both formal and informal supports and resources for these families to test the effectiveness of the Strengthening Families approach in preventing maltreatment. With this focus, the Strong Start Study examined the extent to which this intervention could answer a number of related research questions, including:

- How can High Fidelity Wraparound reduce the risks associated with maternal substance use?
- To what extent can High Fidelity Wraparound increase protective factors for these families?
- How can women's substance use treatment join with Part C for collaborative interventions?
- How can Early Intervention services strengthen protective factors in these families?

The project's research evaluation questions are highly consistent with the overarching QIC-EC research question as it relates to this specific population of families:

"How and to what extent do collaborative interventions that increase protective factors and decrease risk factors in core areas of the social ecology result in increased likelihood of optimal child development, increased family strengths, and decreased likelihood of child maltreatment within families of young children at high-risk for child maltreatment *within young families affected by maternal substance use?"*

5. Impact of significant contextual conditions, events, or community changes. Staff turnover occurred within each of the three Special Connections treatment programs over the course of the study, and one treatment provider passed on. These changes impacted the women who had developed working relationships with their treatment providers and reacted to the loss of those connections. Changes in treatment staff and management also affected the study as some treatment providers who had worked with Wraparound teams were no longer available and new providers were not familiar with the intervention.

C. Overview of the Collaborative Partnership

1. Strong Start Collaborative: JFK Partners, Women's Treatment, & Part C. The collaborative partners for the study included three well established organizations within the state of Colorado that share common interest in the well-being of young children and their families: JFK Partners, Early Intervention Colorado, and the Women's Substance Use Disorders Treatment Programs. The nature of the interagency collaboration through the Strong Start Study built on this common interest through the development of the Wraparound intervention with pregnant women in substance use treatment and their infants who experienced prenatal exposure to alcohol and other drugs.

JFK Partners Role in forming Collaborative. As the lead organization for the Strong Start Study, JFK Partners had the initial role in forming the collaborative partnership by bringing the research proposal and funding opportunity to the State agencies for Part C and Women's Treatment for their consideration. There was interest and agreement early on that the collaborative partnership fit well with the missions of JFK Partners through the University, Early Intervention Colorado (Part C) and Women's Treatment Services. All three organizations share concern for the well-being of infants and all three could potentially influence policy and programs statewide.

Through the University, JFK Partners has a long established collaborative relationship with the State Part C agency and has provided contracted services for statewide data collection and other projects related to early intervention research and programs. The Strong Start collaborative was the first direct project between JFK Partners and women's treatment, and between women's treatment and Part C; the Principal Investigator for the study has worked

with both state-level agencies in the past and those previous working relationships facilitated the collaborative partnership for the Strong Start Study.

Role of Early Intervention Colorado for Part C. Interest in the collaboration with the Strong Start Study on the part of Early Intervention Colorado was based on a statewide goal of identifying more infants (under age 1) who were eligible for Part C services. In fact, it was the recommendation of the Part C office that Strong Start conduct the Ages and Stages Questionnaire (ASQ) developmental screenings as a way to facilitate referrals for assessment and eligibility determination. Over the course of the study, the State Part C office fielded questions regarding experiences of families with local Child Find teams, especially when infants with known prenatal exposure and some evidence of delay based on the ASQ screening were not found eligible for early intervention services. Representatives from the State Part C office also participated in the cross-site evaluation process during scheduled site visits in Denver.

Role of the Office of Women's Substance Use Disorders Treatment. The State Program Manager for Women's treatment played a significant role during implementation of the Strong Start Study and met regularly with the Principal Investigator for consultation purposes. The Program Manager was also available to address treatment issues and clarify funding policies impacting families in the study. The Program Manager had actively worked for many years to better integrate women's treatment with child welfare agencies in the metro area to little avail and supported the Strong Start Wraparound approach as an innovative way to provide the facilitated collaboration needed between the two systems.

Evolution of collaborative partnership. Almost from the beginning of implementation of the Strong Start Study it became evident that the day to day collaborative relationships were

occurring at the program-level for both women's treatment and early intervention services. This became a fundamental component of the study since the formal collaborative partnership was established between the University and the two state-level offices that oversaw the local programs but lacked direct influence on the programs' involvement with the Strong Start Wraparound being provided through the study. At the community and systems-level, existing tensions between programs and State offices became apparent and required cautious interface through the implementation process.

Linkages with other Child & Family Organizations. Programs available through the two other statewide prevention resources, the Colorado Children's Trust Fund (CTF) and the Community-Based Child Abuse Prevention (CBCAP) programs, were used as formal supports for young families through the Nurturing Parenting Programs and other services offered through the Family Resource Centers in the Denver metro area.

Child Welfare: An Unexpected Collaborator. The Strong Start Study was designed as a prevention approach to maltreatment; however, given the population of women who are pregnant and in substance use treatment, it was found that half of the families in the Study had an open child welfare care on another child at the time of enrollment. As a result, the Study included the child welfare caseworker and Guardian Ad Litem (GAL) as members of the family's Wraparound team; in some cases, a Dependency and Neglect case through the court was initiated on the Strong Start infant as well. In either situation, the requirements of the court documented in the Family Service Plan (FSP) were fully integrated into the Wraparound plan and were addressed by the team to assist the family in compliance to maintain or regain custody of their child.

2. Sustaining the collaborative partnership. Support for the state-level collaborative partnership over the course of the study was consistent as evidenced by the ongoing participation by the respective organizations. Collaboration with women's treatment programs and with local Part C agencies was less consistent requiring additional communication at times.

Opportunities and strengths of the collaborative partnership. The greatest opportunity afforded through the collaborative was the focused attention on what role each system had in helping families in the target population and the shared belief in the protective factors framework as a positive way of providing services.

Challenges encountered with the collaborative partnership. As noted elsewhere in this report, the one specific challenge encountered was the differences between the collaborative partnership at the state level and the program level of the actual services.

Unexpected events related to the collaborative partnership. The inherent tension between the state and local Part C and women's treatment systems was unexpected. In retrospect, the perceived power differential could have been anticipated as local programs saw the state offices as overseeing and perhaps scrutinizing their work.

Resources needed to support the collaborative partnership. An ongoing source of funding for the Strong Start Wraparound intervention is need to support the collaborative partnerships.

3. Roles of parents as collaborative partners. Parents as partners were used in limited ways as collaborators when the Strong Start Study was first proposed and implemented. Several parents in their own recovery from substance use gave input into the design of the study and the use of the Wraparound intervention. The parents and their young children also volunteered

to participate in practice sessions with FSP staff as they were gaining experience with the ASQ developmental screening and with the SNM measure.

Recruitment and support of parents as collaborative partners. A few women who participated in the Wraparound intervention and experienced the help provided by the Family Support Partner expressed interest in themselves working in that role with other families. Since Wraparound philosophy encourages a match with FSP life experience with families, the participant's interest was acknowledged and they were invited to apply for future FSP staff positions after at least two years of their own recovery.

Contributions made by parents in the local evaluation. The greatest contribution made by parents was through their participation in the Wraparound intervention. Their feedback during their transition from Wraparound about what worked and what didn't work with the intervention was invaluable. Parents' comment were used in the qualitative data analysis and incorporated into the local evaluation.

Challenges, opportunities, and lessons learned regarding partnerships with parents. The experiences of families who participated in the study brought awareness to the need for support of the 'women's recovery community' beyond the specialized treatment programs for women to provide peer support for their parenting role while in early recovery.

4. Strong Start Collaborative's influence on systems change. There is evidence of activities within the State Part C system and with the National women's treatment organization related to the work of the Strong Start Collaborative. While there is no evidence of the study's direct influence on these activities, there is better linkage at the State level that can be the basis for changes going forward.

Early Intervention Colorado. At the State level, the Office of Early Childhood has established a CAPTA Workgroup to evaluate current referrals from child welfare, many involving infants who have experienced prenatal exposure. The workgroup is also charged with considering possible legislation making all young children with a substantiated finding of maltreatment and referred through CAPTA categorically eligible for Part C early intervention services. This change could address the significant variation in eligibility determination that currently exists among local Child Find assessment teams.

Additionally, there is an opportunity to develop a protocol for assessing and monitoring infants with known prenatal exposure through the Denver County Community Centered Board (CCB) that oversees the Part C referral process and currently offers a 'second opinion' by an in-house evaluation team when young children are not initially found eligible through Child Find. JFK Partners has an extensive history of collaboration with this CCB related to early intervention services and preliminary discussions are underway to develop the expertise needed in assessing infants with developmental risks associated with prenatal exposure, including FASD.

Women's Treatment. A survey of State women's treatment coordinators is being conducted through the National Association of State Alcohol and Drug Abuse Directors (NASADAD) to determine the status of linkages with the Part C early intervention system throughout the country. The Strong Start collaborative partnership with women's treatment programs has added to the interest in better coordination with the Part C system and in identifying effective models addressing the needs of the infants with known prenatal exposure.

D. Overview of Project Model

1. Theoretical foundation for the Strong Start Study. The study was grounded in the theory of change and principles of High Fidelity Wraparound (HFW) as developed through the National Wraparound Initiative. Wraparound theory states that change is possible when the family identifies its priority needs, and receives support from a team comprised of professionals, and family and friends that help them meet their needs. Growth in self-efficacy occurs as success is experienced in incremental action steps toward their goals made manageable by an integrated planning process. The guiding principles of the HFW approach include respect for family voice and choice, persistence in effort, and inherent strengths of family members.

The study represents the first known project to utilize a HFW intervention with this population of young families affected by substance use who have complex needs and are involved with multiple systems and programs. These families face similar challenges to other families that have been helped through the HFW approach. Over the past twenty years HFW has been found effective in supporting families of youth with significant mental health problems in stabilization of behavior and maintenance of community-based services. Based on this evidence, the Strong Start Study was designed to test out the HFW intervention model with families at high risk of child maltreatment due to parental substance use problems and co-occurring mental health issues.

2. Project goals, activities, and outcomes. As detailed in the Logic Model (See Appendix 2), the specific goals of the study are to support the sustained recovery of women so they can parent their infants, and to facilitate protection and healthy development of the infant. Objectives toward these goals will be the development of protective factors associated with

maltreatment prevention. Engagement of women in the Wraparound process and the establishment of their team of supports for integrated planning purposes are primary activities of the intervention. At the Individual level, substance use and mental health status of the mothers will be measured before and after participation in the study; infant development will be routinely monitored referrals made when early intervention services are needed. At the Relationship level, natural supports will be included on the Wraparound team, including the father of the child when appropriate. At the Community level, resources and supports will be identified and access facilitated through the Wraparound process that will be documented in the written plan. Systems level policies will be considered as relevant to family needs and documented for study purposes. Anticipated outcomes will demonstrate increased family strengths through the development of protective factors, optimal child development, and decreased likelihood of maltreatment.

3. Supporting families in building protective factors. Basic components of the Wraparound intervention are correlated with helping families build protective factors. Beginning with the establishment of the Wraparound team, the family had Social Connections available to them during the critical period of early recovery. Consistent with Wraparound theory, the natural supports can continue in the lives of the families beyond their participation in the study with potentially stronger relationships than before thereby becoming important protective factors. Families were helped to access needed resources or Concrete Supports through the Wraparound team that contributed to their stability and sustained recovery. Building Parental Resilience occurred as women gained confidence in their problem-solving skills with the team and learned healthy ways of coping with life through their treatment.

The two protective factors related to parenting were addressed through the role of the Family Support Partner who regularly discussed the infant's growth and development with the parent and offered suggestions on ways to promote development during daily routines, thereby contributing to the protective factor of Knowledge of Child Development and Parenting. Both the FSP and Wraparound team facilitated the connection with early intervention services when indicated which also helped build the parent's capacity to support the 'Social Emotional Competency of the Child.'

4. Logic Model. There are no changes from the proposed logic model (See Appendix 2).

E. Overview of Local Evaluation

1. Description of Evaluation Design. The evaluation for the study utilized an experimental design with random assignment to intervention and comparison groups to assess the impact of High Fidelity Wraparound on child and parent outcomes to reduce the risk of maltreatment within this population. Both quantitative and qualitative methods were used in data collection and analysis. The objects of this evaluation were: 1) to document project activities, 2) to monitor the quality of the services offered by the project, 3) to assess project outcomes in terms of impact on system policies, professionals, parents and children, 4) to use findings to shape practice and 5) to smoothly coordinate its activities with that of the cross-site evaluation.

Evaluation Questions: Implementation and Outcomes. The basic evaluation question related to the implementation of the study was how effectively the High Fidelity Wraparound intervention could help families build protective factors to preventing maltreatment. To determine fidelity to the Wraparound model during implementation, the Wraparound Fidelity

Index was used to measure adherence to principles and activities by participants and by facilitators. The evaluation question related to QIC-EC outcomes was how effective the Wraparound intervention was in helping families build protective factors through the Strengthening Families framework that resulted in optimal child development, increased family strengths, and decreased likelihood of maltreatment.

Description of local measures and instruments. The quantitative outcome evaluation focused on demographic and personal history questionnaires as well as standardized instruments to measure mental health symptoms, general health status, substance use, and other life domains. The quantitative data provided the basis for the statistical analyses of intervention outcomes based on the following measures:

- Life Domains/Addiction Severity Index (ASI). The Life Domains interview has been divided into three parts – the first part is administered at Intake, the second is administered three months after the baby is born, the third at twelve months postpartum. The majority of items in the Life Domains measure are from the Addiction Severity Index (ASI),a semi-structured instrument used in a face-to face patient interview conducted by a clinician, researcher, or trained technician. The ASI covers seven (7) important areas of a patient's life: medical, employment/support, drug and alcohol use, legal, family/social, and psychiatric. The instrument is designed to obtain lifetime information about problem behaviors as well as focusing specifically on the 30 days prior to assessment. The ASI has high reliability and validity, as confirmed in studies published in leading journals. It is a widely used addiction assessment tool throughout the United States and other countries. ASI-Lite is a shortened version of the

standard Fifth Edition Addiction Severity Index (ASI), developed by A. Thomas McLellan, Ph.D. and colleagues.

The ASI-Lite was developed in early 1997, in response to numerous requests from the substance abuse field. However all questions necessary to compute composite scores remain intact. This study used the Alcohol/Drugs section in its entirety, and used portions of the General Information, Medical Status, Employment/Support Status, Legal Status, Family/Social Relationships, and Psychiatric Status sections. Thirteen items from a self-report questionnaire on Natural Social Supports are included in this modified instrument to measure the level of support and encouragement received by a parent. Additional items regarding child welfare, court involvement, legal problems, level of prenatal care, relationship with baby's father and family planning were also added to the second and third parts of this measure.

- Brief Symptom Inventory (BSI). The Brief Symptom Inventory (Derogatis and Melisaratos, 1983), is a 53 item self-report questionnaire assessing psychological distress and symptoms over the past 7 days by nine symptom dimensions (Somatisation; Obsessive–compulsiveness; Interpersonal Sensitivity; Depression; Anxiety; Hostility; Phobic anxiety; paranoid ideation; psychoticism) and three global indices (Global Severity Index (GSI); Positive Symptom Distress Index (PSDI); and Positive Symptom Total (PST)). The BSI uses a five-point scale from 0 ("not at all") to 4 ("extremely"). The BSI is administered to Individuals 13 years and older by paper-and-pencil or computer administration and requires 8-10 minutes to administer.
- Posttraumatic Stress Diagnostic Scale (PDS). The Posttraumatic Stress Diagnostic Scale (PDS, Foa 1995) is a brief 49-item assessment that is designed to aid in the detection and diagnosis of posttraumatic stress disorder (PTSD). The PDS assessment parallels DSM-IV®

diagnostic criteria for a PTSD diagnosis and may be administered repeatedly over time to help monitor changes in symptoms. Items are framed in accessible language with questions relating to the frequency of distressing and intrusive thoughts, post-traumatic avoidance and hyperarousal. The PDS includes the following scales: PTSD Diagnosis; Symptom Severity Score; Symptom Severity Rating; Level of Impairment of Functioning. The PDS is administered to Individuals 18 to 65 years old by paper-and-pencil or computer administration and requires 10-15 minutes to administer.

- Connor-Davidson Resilience Scale (CD-RISC). The Connor–Davidson Resilience Scale (CD-RISC, Connor & Davidson, 2003) measures the ability to cope with adversity. This study will use the shortened form of the CD-RISC, a 10-item scale. Respondents rate items on a scale from 0 (not true at all) to 4 (true nearly all the time).
- Vineland Social Emotional Scales (SEEC). The Vineland SEEC Scales assess the social-emotional functioning of children from birth through 5 years, 11 months. The Vineland SEEC Scales were derived from the Socialization Domain of the Vineland Adaptive Behavior Scales (ABS). The SEEC is composed of 122 items that are organized into 3 scales: Interpersonal Relationships (44 items), Play and Leisure Time (44 items), and Coping Skills (34 Items). These three scales which combine into a Social-Emotional Composite, are used to evaluate a child's ability to pay attention, understand emotional expression, cooperate with others, construct and observe relationships, and develop self-regulation behaviors. This assessment is administered as a semi-structured interview with the child's parent or caregiver, in which the interviewer asks general open-ended questions relating to the child's activities and behavior to ascertain

key developmental milestones. Not all items are administered each time. The SEEC requires about 20 minutes to administer.

- Wraparound Fidelity Index. The Wraparound Fidelity Index - Version 4 (Wraparound Evaluation and Research Team/Bruns, 2010), was used in the proposed study to monitor fidelity to the Wraparound process. The WFI measures adherence to Wraparound principles for an individual child and team. Brief interviews assessed adherence to the 10 principles of Wraparound using caregiver (CG), and Wraparound Facilitator (WF) versions of the instrument. The WFI-4 interviews are intended to assess conformance to the wraparound practice model as well as adherence to the principles of wraparound in service delivery.

Random assignment. Study participants were randomized into the Intervention or Comparison groups after their baseline assessment using Minim minimization software. The minimization method for assigning participants achieves balance on prognostic factors by keeping a running total of how many participants have been assigned to each condition. The use of minimization techniques ensured that the intervention and comparison groups were balanced for the three substance abuse treatment programs and on key indicators including: whether women already had an open Child Welfare case, if her parental rights had ever been terminated and if she was required to be in treatment. After randomization the two groups of participants did not differ by condition on major study variables as shown in the table below.

Table 4. Comparison of Intervention and Standard Care Groups

Strong Start Randomization	Wraparound	Standard
Treatment Program		
Arapahoe House Case Management	13	13
Arapahoe House ASPEN Center	12	12
ARTS Women's Connection	18	16
Open Child Welfare Case		
Yes	7	6
No	36	35
Parental Rights Previously Terminated		
Yes	8	7
No	35	34
Required to be in Treatment		
Yes	14	12
No	29	29
Total	**43**	**41**

Sample size and estimated power. The sample size is smaller than projected due to shortened enrollment period, thus reducing the original power estimation and requiring caution in the reporting and interpretation of statistically significant findings.

Data collection timetable. Participation by pregnant women necessitated two data collection points for baseline, one at enrollment into the study and a second related to their parenting experience when their child was three months of age (See Table 5). Post-intervention data was collected for both groups at 12 months postpartum as shown in Table 6.

Data Analysis Plan. The Lead Evaluator for the Strong Start Study had responsibility for statistical analysis of the quantitative data collected from the standardized instruments. The Statistical Program for the Social Sciences (SPSS) software was used to compare outcomes between the intervention and standard care groups. Qualitative data from Wraparound documents were analyzed utilizing a constant comparison approach to identify patterns and themes associated with participants' experiences with the Strong Start Wraparound intervention.

Table 5. Baseline Data Collection Timeline

Time Point	Evaluation	Pre – Measures
T1 Intake / Entry	Local	Life Domains
	Local	Brief Symptom Inventory
	Local	Posttraumatic Stress Diagnostic Scale
	Local	Connor–Davidson Resilience Scale
	Common	Background Information Form - Parent
T2 30 Days After Enrollment	Common	Social Network Map
T3 3 Month Child/Parenting	Local	Vineland Social Emotional Scales
	Common	Background Information Form – Child
	Common	Parenting Stress Index
	Common	Adult-Adolescent Parenting Inventory
	Common	Self-Report Family Inventory
	Common	Caregivers Assessment of Protective Factors

Table 6. Post-Intervention Data Collection Timeline

Time Point	Evaluation	Post – Measures
T4 1 Year Child/ Parenting	Common	Social Network Map
	Local	Vineland Social Emotional Scales
	Local	Life Domains
	Local	Brief Symptom Inventory
	Local	Posttraumatic Stress Diagnostic Scale
	Local	Connor–Davidson Resilience Scale
	Common	Background Information Form
	Common	Parenting Stress Index, Long Form
	Common	Adult-Adolescent Parenting Inventory
	Common	Self-Report Family Inventory
	Common	Caregivers Assessment of Protective Factors

2. Problems in Implementation of Evaluation plan. None encountered.

3. Changes to Evaluation Plan. Two factors related to the referring programs into the study required revisions to participant eligibility. Historically, women entered Special Connections

treatment in later stage of pregnancy; however, we many women being tested through probation or other monitoring systems, their use of drugs was detected at earlier stages. A second factor was the overall reduction in the number of women admitted to Special Connections programs during the period of enrollment into the study from November 2010 through May 2012.

These factors were considered in expanding the eligibility criteria from women in the third trimester of pregnancy to include those in first trimester. Change was also made in the definition of substance use 'treatment episode' so that admission into a Special Connections program was considered a 'new' and distinct intervention. Other factors determining ineligibility for participation in the study included: age under 18, had baby before referred, left treatment before referred, lived outside of the four county metro area.

F. Cross-Site Evaluation

1. Participation in cross-site evaluation. The Strong Start Study fully participated in collecting and submitting data for the QIC-EC cross-site evaluation process. Participation included arranging evaluation meetings with collaborative partners in the study during site visits.

2. Allocation of roles & responsibilities. The Study Coordinator was responsible for conducting interviews, collecting and managing cross-site data, scoring and entering data on some measures. The PI had the lead in scheduling cross-site evaluation meetings with collaborative partners during site visits and coordinating with local staff when they were included. The Lead Evaluator was responsible for conducting statistical analysis of common measures for the local evaluation.

3. Alignment between local and cross-site evaluations. The Background Information Form (BIF) was a relevant measure for collecting important demographic, family, and general health information data. Common measures related to parenting (AAPI & PSI) aligned well with the focus on parenting; however, the measures were not particularly sensitive to parenting an infant, especially at baseline. The Social Network Map initially seemed very relevant to families in early recovery and the expected change in their social network over time. However, the analysis of the measure remains incomplete and therefore has not been useful to the local evaluation. The Self-Report Family Inventory (SRFI) was the common measure that showed significant differences between the two groups in the study on family health, conflict, and leadership. The Caregivers Assessment of Protective Factors seemed relevant to the local study but findings were inconclusive.

Baseline data was collected at two time points since the parenting measures could not be administered until the child was born; those measures were administered when the infant was 3 months of age, and again at 12 months of age.

4. Approach for collecting data for cross-site evaluation. Common measures were integrated with local measures during pre and post study interviews with participants. Cross-site data was scanned to maintain a local copy for reference then was expressed mailed to Wellsys for security purposes.

In addition, the Strong Start Study assisted in recruiting participants for a focus group on their experiences and how protective factors were developed within their families. The QIC-EC Project Director and cross-site evaluators conducted the focus group interview during the Spring 2013 site visit in Denver.

III. Implementation of the Strong Start Study

A. Eligibility, Recruitment, Screening, Intake, Retention, and Termination

1. Eligibility. All participants in the Strong Start Study were patients in the Special Connections substance use treatment programs for pregnant and postpartum women who met the following inclusion criteria: 1) Chronological age at least 18 years; 2) Confirmed pregnancy; 3) Enrollment in Special Connections treatment for drug or alcohol abuse, 4) Ability to consent to participate in the program. One exclusion criteria was used: 1) Non English speaking. The rationale for this exclusion was based on a survey of Spanish only treatment programs in the Denver area that indicated they tended to see recent immigrants, and substance use among women in this group, especially during pregnancy is not common, in fact rare.

2. Recruitment Plan. The initial recruitment plan for the Strong Start Study was for 120 participants to be identified and referred from three Special Connections treatment programs for pregnant women over a twenty-nine month period beginning in May 2010 through September 2012. However, the actual enrollment period began in November 2010 and ended in May 2012 allowing for recruitment over 19 months. Recruitment was also expanded from the initial plan of enrolling women in their last trimester of pregnancy to include women in early stages of pregnancy.

Potential Strong Start Study participants initially learned about the opportunity from their substance use treatment counselors with whom they worked. Special Connections treatment staff from three programs in the Denver metro area was trained in program eligibility and recruitment. The treatment staff gave information about the study to potentially eligible women. A referral form was completed for those interested and a HIPAA A form was

signed so that identifying information could be given to the Strong Start Study project coordinator who contacted the woman and invited her to participate. The Project Coordinator worked closely with each treatment program to assure an efficient recruitment and enrollment process that was the same for both the intervention and comparison groups, as well as providing ongoing support and technical assistance.

3. Enrollment & Informed Consent. The Project Coordinator met with participants individually to describe the Study, advise them on confidentiality, and explained the potential risks and benefits detailed in the Informed Consent they were asked to sign. During the nineteen months of enrollment into the Strong Start Study, a total of 96 referrals were received, with enrollment of 84 participants who met eligibility criteria representing 87.5% of all referred. It should be noted that the proposed enrollment of 120 participants was impacted by a delay of five months (June through October 2010) due to finalization of common measures. The minimum of 12-months postpartum needed for the intervention period further limited an extension of the enrollment period into the study.

4. Initial Assessment. Once the Program Coordinator met with a Strong Start participant and completed necessary informed consent, an interview was scheduled to complete a battery of both common and local evaluation measures. Common measures focused on parenting attitudes, parenting-related stress, and the family's social network. Local measures focused on the mental health and substance use status of the mothers who were pregnant and were often parenting other young children; all participants were enrolled, either voluntarily or as mandated, in the Special Connections substance use treatment

program. Some measures could not be completed until a child was born so some baseline data was collected when the infant was three months old.

The focus of the local evaluation was on the substance use and mental health status of women who were pregnant and preparing to parent their infants. The assessment instruments selected included the Addiction Severity Index (ASI) with modified Life Domains, the Posttraumatic Diagnostic Scale (PDS), the Brief Symptom Inventory (BSI), and the Conner-Davidson Resiliency Scale (CD Risc).

5. Incentives. Program participants were compensated for their time with a $50.00 gift card when they completed the initial baseline data collection, the three-month postpartum data collection, and again when they completed two visits for final data collection; an additional $25 gift card was given for completion of the Social Network Map at pre and post. The total compensation was $250 if participant completed all data collection. Providing payment for participation is standard methodology in doing this type of outcomes research. Because the amount is small it should not be considered coercive; neither does providing compensation as gift cards that can be redeemed for prosocial items undermine recovery. Additionally, following interview participation for data collection, participants were given the choice of small gift items for infants such as sleepers, bibs, tippy cups and other developmentally appropriate toys with a total value of $50.

6. Retention Plan. Research involving participants who are themselves in early recovery from substance use problems is known to have a high attrition rate that was projected at 20%; the actual retention rate was 75-80% with women participating in the intervention having a slightly higher rate than women in the standard care group. The Project

Coordinator secured contact information during initial enrollment and maintained contact with participants, especially in the standard care group, through mailings and reminders to update phone numbers with the Study.

7. Recruitment and Retention Input. Treatment staff was helpful in maintaining connections with participants and requesting them to contact the Project Coordinator for follow up. Family members who had been identified as contacts for participants also passed on messages and assisted in maintaining connections. Emails and text messages were also used to maintain contact with participants; some who were jailed during the course of the study were located through inmate locator services on the internet.

8. Challenges to Recruitment and Retention. The nature of recruiting women who have just entered treatment for substance use has inherent challenges the most immediate being the high incidence of those who leave treatment before establishing a relationship with the provider or engaging in the program activities. Following referral, phone numbers are subject to disconnection or change before contact with the Project Coordinator, as are mailing addresses. Participants who moved out of the area were not available for the Wraparound intervention, and were difficult to track when in the comparison group. Continued substance use and co-occurring mental health conditions presented additional challenges that were addressed by encouraging participation in treatment and incorporating into Wraparound planning with the team when possible. The loss of custody of their infant was another challenge to retention. If the participant was in Wraparound, regaining custody was a goal that was addressed through the team; for participants in the standard care group, the Project Coordinator encouraged continuation in the study.

9. Termination Process. Strong Start Wraparound facilitation remained available for families until priority needs and goals were adequately met, or one year postpartum. In the final phase of Wraparound known as transition, the family's ongoing needs and resources are systematically reviewed with them by the facilitator and FSP. Transition planning provides a 'debriefing' with the parent about their participation in Wraparound and the 'lessons learned.' Ongoing goals, needs, and supports are documented in a written transition plan prepared by the facilitator and reviewed during the final Wraparound team meeting. Families are invited to consider their transition from Wraparound as a reason for celebration of success with their team and recognition of their efforts.

B. Major Intervention Strategies Implemented

The intervention model implemented in the Strong Start Study was High Fidelity Wraparound. Eighty-four women who were pregnant and receiving treatment for substance use were enrolled into the Study and were randomized into the Wraparound or standard care group. Of the families in the Wraparound group, thirty-two engaged in the process and established teams of professional and natural supports to help address their needs. Families participated in Wraparound an average of nine months with an average of seven team meetings.

High Fidelity Wraparound. The Strong Start Study implemented a High Fidelity Wraparound intervention with young families in early recovery from substance use. Model fidelity was a priority during implementation of this team-based approach to facilitated collaboration among both formal and informal family supports. Consistent with the standards for practice developed through the National Wraparound Initiative, the Strong Start Study

intervention followed the identified phases and activities for High Fidelity Wraparound as summarized in this table:

Table 7. High Fidelity Wraparound Phases and Activities

Phase	Activities	Documentation
Phase 1. Engagement	Initial meeting with family Identification of team members	▪ Strengths, Needs, Culture Discovery ▪ Family Vision Statement
Phase 2. Planning	Initial team meeting Identification of priority needs Team member contributions	▪ Team's Mission Statement ▪ Team's Ground Rules ▪ Initial Wraparound Plan
Phase 3. Implementation	Ongoing team meetings Follow up on action steps Brainstorming resources/approaches	▪ Revised Wraparound Plan ▪ Completion of planned action steps ▪ Progress toward priority goals
Phase 4. Transition	Review of family's achievement Identification of ongoing needs	▪ Written Transition Plan ▪ Ongoing supports and services

Strengths, Needs, & Culture Discovery. The initial document prepared with the family during the engagement phase of Wraparound is known as the Strengths, Needs, & Culture Discovery (SNCD). Based on multiple in-depth conversations with the family, the purpose of the discovery process is to understand their unique strengths, priority needs, and ways of relating within the family and with others. The SNCD provides the basis for discussing with families their experiences in universal life domains such as family relationships, health, income, education, legal, and recreation.

During the initial Wraparound Phase 1 of Engagement, the SNCD process described above allows specific inquiry into a family's way of doing things, their beliefs and their values. From this perspective, a family's culture is broadly defined, not limited to race and ethnicity. Rather, family culture is reflected in the rules, roles, and rituals that are inherent patterns or ideals internalized by family members. This view of 'culture' recognizes the uniqueness of each family to inform the work with them through that context. Parenting is a fundamental aspect of family culture that must be understood to provide effective Wraparound intervention through

a context that is both respectful and relevant. Additionally, the expertise of collaborative members includes knowledge and experience with the 'culture' of early recovery so helped anticipate issues likely to arise in this regard.

The Wraparound Team. An important part of the SNCD is the identification of possible members for the family's Wraparound team who will participate with them in planning and implementing ways of meeting their needs and achieving their goals. Through the SNCD, families are asked about people in their lives that they can turn to in times of need; people they trust. Not surprisingly it is sometimes difficult for high risk families to identify trusted others who are available to them for support. Through persistence, however, the goal is for a Wraparound team to be formed that is comprised of family, friends, and formal supports. With most families participating in Wraparound, the Family Support Partner becomes a member of the Wraparound team and is often a transitional support until natural supports can be developed.

Informal Social Supports. From its beginnings, Wraparound has recognized the fundamental need to strengthen families by drawing upon natural supports. This emphasis is based on the belief that natural or informal supports, such as extended family and friends, will have ongoing relationships in the lives of these children and families long beyond the period of formal or professional support and intervention. Although the Wraparound model has been further developed and refined over the years, the identification and leveraging of the family's natural supports has remained an integral part of this intervention.

The planning phase begins when the Wraparound team has been gathered and has had an initial meeting. The facilitator helps the team define their mission in working together, and

establish ground rules for team meetings; these are documented by the facilitator and referred to as needed when team meetings are held. The Wraparound team begins work with a review of the family's SNCD and the priority needs identified by the family. The family vision from the SNCD serves as the focus for the team who helps with ideas and resources to enable the family attain their goals. A written Wraparound plan is developed that includes the priority needs and the action steps identified by the team to address their goal. The plan documents who-will-do-what-when, and what the evidence will be that the related goals have been met. Each subsequent team meeting continues from the previous one with a review of completed action steps or identification of barriers that delayed/prevented the planned action step, and an alternative plan.

Evidence that action steps are being taken with the desired results indicates the Wraparound process has moved into the implementation phase. The formal facilitation and documentation of the plan and follow-up keeps the family and team focused and accountable for progress in meeting the family's goals. The participation of formal professional supports on the Wraparound team also assured that appropriate services were being accessed and being coordinated or supplemented with other resources. During implementation, the Family Support Partner maintained ongoing contact with the family between team meetings to help with planned action steps. This contact was suited to the preferences of the parent and included phone calls, home visiting, accompaniment to appointments, and/or communication via texting and/or internet email.

The degree of participation by each family based on the highest phase of the Wraparound intervention was coded as follows: 0=Randomized but no SNC Discovery

completed, 1= SNC Discovery completed, no Wraparound team meeting, limited Engagement, 2= At least (1) Wraparound team meeting for Planning purposes, 3=More than (1) Wraparound team meeting for Implementation purposes, 4=Priority goals met, formal written Transition Plan developed. Eleven of the 43 families randomized to Wraparound participated only in Phase 1 of Engagement, representing 25.5%. Thirteen of the families established a Wraparound team and participated in Phases 2 and 3 of Planning and Implementation, representing 30.2% of the sample. The remaining 18 families participated through Phase 4 of Transition, representing 42%.

Of the 11 families in the Wraparound group that did not engage in the intervention, three were not available to continue in the study. One participant experienced a stillbirth of her child and two others moved away from the Denver area shortly after enrollment. Adjusting for those three participants, attrition from the remaining sample of 40 participants was 20%, resulting in a retention rate of 80%. As shown in the table below, it is significant that of the eight families who did not engage in the Wraparound intervention, six were assigned to the same facilitator, representing 75% of those not participating.

Table 8. Phase participation by Facilitator

Facilitator	P0	P1	P2	P3	P4	Total
WF1	1	2	0	7	12	22
WF2	0	0	0	5	5	10
WF3	6	1	0	1	1	9
WF4	1	0	0	0	0	1
WF5	0	0	0	1	0	1
TOTAL	**8**	**3**	**0**	**14**	**18**	**43**

Contextual events or community changes influencing the strategy. A challenge with the women's treatment community encountered early on during implementation was the

perception by one participating case management provider and by a residential program manager that Wraparound was 'duplicating' their existing program activities. Ongoing dialogue about the Wraparound team-based process and the integrated planning with other systems, as well as participatory evaluation meetings with staff and management from the women's treatment programs over the period of the project addressed the duplication issue to some degree. Staff experience on Wraparound teams and feedback from the staff to management also conveyed some of the benefits of the process that extended their own program efforts.

Facilitators to implementing the strategy. Women and their families who participated in Wraparound helped facilitate the implementation by being actively engaged in their own goal-setting and problem-solving. This active participation in the process was noted by professionals on the team who sometimes gained a better understanding of the parent and the family. The ongoing commitment and participation by women's treatment providers also facilitated the implementation of Wraparound as the benefits to their work with families were realized.

Challenges/barriers to strategy. Being in early recovery and being pregnant presents inherent challenges for women participating in the Study, including major lifestyle changes. The desire to live and parent sober can be motivated by pregnancy but must be done day by day with reliable support for making an often radical life change. During a critical time for support, many women need to leave significant relationships from husbands, boyfriends, friends, and family members associated with their substance use. Stopping substance use for many women means facing underlying emotional problems often from past trauma that they must find different ways of coping with and resolving. As a group, women with substance use problems

had difficulty asking for and receiving help from others that was an initial barrier to participating in Wraparound.

Lessons learned about addressing challenges regarding the strategy. The case for the 'value-added' through the Wraparound process needed to be more explicit at the provider-level with the women's treatment programs. It was not enough to agree with the programs about the complex needs of the women and the multiple systems often involved in their lives. More focus early on during implementation needed to address the role of the treatment provider in becoming a member of the family's Wraparound team and special effort by the facilitator to recognize and utilize the expertise of the treatment provider with the team.

The inherent complexity of early recovery for women who are pregnant was generally recognized, but the additional time required for stabilization and engagement should be a 'lesson learned' that informs any replication of the Strong Start Wraparound intervention with this population. A fundamental aspect of the women's experience during early recovery is the major shift in their social networks and identifying trusted natural supports for the Wraparound team who can reinforce their sobriety.

Protective factors addressed by the strategy. Initially, it was believed that Wraparound through the Strong Start Study would help parents build 'Parental Resilience' by sustaining early recovery from substance use. Over the course of the study it became evident that the Wraparound team itself provided the 'Social Connections' also critical to recovery and rebuilding a healthy support network. The team's focus on helping family's address their priority needs through identifying and accessing resources helped build the protective factor of 'Concrete Supports in Times of Need.' Additionally, the protective factors specific to parenting,

'Knowledge of Child Development' and supporting the 'Social-Emotional Competency of the Child' were addressed through the Family Support Partner's role on the Wraparound team in the routine screening and monitoring of the infant's health and development. This aspect of the intervention allowed for the ongoing conversation with the parent regarding their observations and expectations of their infant while also providing information about typical milestones and ways of promoting optimal development in daily routines.

Similarities & differences with comparison group experience. The similar experience between the Wraparound and standard care groups was their participation in gender-specific substance use treatment for pregnant and postpartum women. These comprehensive treatment programs are required to address any barriers to access such as transportation or child care, as well as providing parenting education and information about the possible effects of prenatal exposure to alcohol and other drugs. Within these standards, there is some variation by program that would determine the actual experience of a given woman whether in the Wraparound or comparison group. Beyond these program similarities, the Wraparound group received individualized planning based on their prioritized needs and related goals, and the ongoing input and support from their Wraparound team, as well as the assistance of the Family Support Partner.

C. Model Fidelity: Criteria and Assessment

Wraparound Quality and Fidelity. All Strong Start Study staff received the required four-day initial training in the approach, and the additional two-day training required for the Family Support Partner (FSP) role. Some staff with previous Wraparound experience served as role models for new staff as they observed and then discussed actual experiences with families. All

staff had written training materials that included detailed skill sets required for each phase of the Wraparound intervention. In addition, weekly 'coaching' focused on specific theoretical knowledge and skill development in both a group and individual setting; a certification process was also initiated for the respective positions based on in vivo observation and document preparation demonstrating skill attainment.

The Wraparound Fidelity Index (WFI) – Version 4 was the formal instrument used in the Strong Start Study to monitor fidelity to the Wraparound process. The WFI measured adherence to Wraparound principles for the intervention based on interviews with both the caregiver and facilitator. Both women who participated in Strong Start Wraparound (caregivers) and facilitators were interviewed for completion of the WFI. Results showed good Wraparound fidelity in the Study with Caregivers Total WFI score of 1.63 out of a possible 2, and Facilitators Total WFI score of 1.65 out of 2. The similarity of ratings by mothers and facilitators also suggests close agreement between the two groups regarding how Strong Start Wraparound was implemented.

Challenges to Model Fidelity. The greatest challenge to Wraparound fidelity in the Strong Start Study was the personal qualifications of staff. Training in the model and regular coaching cannot instill the qualities needed for working effectively with families through Strong Start Wraparound. There must be congruence between the staff person's own attitudes and agreement with Wraparound philosophy for the skill required. Through the Strong Start Study, this critical component of matching staff to the intervention model became evident early on when a facilitator with experience in Wraparound but not with the population, lacked the necessary confidence in the role and proved unable to work collaboratively with the assigned

FSP. Two other staffing issues that arose during implementation occurred when 1) an FSP could not personally extend herself in relation to the parents and proved unreliable in providing the necessary support, and 2) a new facilitator was hired, trained, and coached yet had ongoing personal problems with her health and finances that interfered with her consistent availability to families. It is believed that providing Wraparound to fidelity requires at least a year's experience to gain perspective and understanding on the approach; it cannot be 'just a job' for anyone with genuine interest.

D. Influence of Protective Factors Approach

The Strengthening Families through the building of Protective Factors approach was a good match with the philosophy of the Wraparound intervention tested through the Strong Start Study. Both approaches are strengths-based and believe in human resilience. Integration of the concepts of protective factors within the Wraparound process required a conscious translation of the work but one that was consistent with the fundamentals of the intervention itself. The study introduced the Protective Factors approach to the Strong Start collaborative partners, and over time it was evident that the concepts also fit with the women's treatment community and with the Early Intervention goals of the Part C agency as reflected in comments made during cross-site evaluation meetings. The influence of the approach overall was to reinforce the strengths perspective in working with families in early recovery and to provide an additional evidenced-based conceptual framework for preventing maltreatment.

IV. Project Outcome Evaluation

Outcomes from the Strong Start Study include findings from both common and local measures as well as findings from analysis of Wraparound document data. Analysis of three of the common measures administered through the Study - the Caregivers Assessment of Protective Factors (CAPF), the Parenting Stress Index (PSI), and the Adult-Adolescent Parenting Inventory (AAPI) - found no statistically significant differences between groups; the Self-Report Family Inventory (SRFI) was the one common measure that showed significant differences between Wraparound families and those in standard care. Local measures selected for the Study including the Addiction Severity Index (ASI), the Brief Symptom Inventory (BSI), the Posttraumatic Diagnostic Scale (PDS), and the Conner Davidson Resiliency Scale (CD-RISC) focused on the parent's mental health status and substance use; child developmental outcomes were measured by the Vineland Social Emotional Early Childhood Scales (Vineland SEEC).

A. Increased Likelihood of Optimal Child Development

1. Finding: Developmental Screening and Monitoring. Promotion of optimal child development through the Strong Start Study began during pregnancy as women participated in treatment for substance use problems to reduce the potential harms associated with prenatal exposure. The specialized treatment programs assured women were receiving prenatal health care during the pregnancy and provided parenting education on the possible developmental outcomes associated with exposure to alcohol and other drugs. Through the Wraparound intervention, infant development was routinely screened using the Ages and Stages Questionnaires (ASQ) beginning at two months of age and continuing through twelve months. Most infants were found to be within the typical range of development; several

were monitored for delays and subsequently found within the typical range. One infant known to have significant alcohol and other drug exposure through the fourth month of gestation, showed motor delays on screening but at eight months of age, his delays were not sufficient to qualify him for early intervention services. Another premature infant with very low birth weight (VLBW) was eligible for Part C services and was progressing well developmentally by twelve months of age with close medical follow up. Two other children in the Wraparound group received early intervention through Part C: one due to a seizure disorder from birth complications that was controlled over time by medication, and a second child with transition difficulties in child care who received support for her social-emotional development.

Interpretation and Implications of Findings. Through the collaborative partnership with the State Part C agency, the Study proposed to develop the linkages for families of infants with known developmental risk from prenatal exposure to local Child Find agencies for evaluation and eligibility determination. Routine ASQ developmental screenings are based on parent report and observation of the FSP as was recommended by the Part C agency as a preliminary step to determining if an evaluation was indicated. The findings suggest that the development of many infants with known prenatal exposure is within a typical range; monitoring of infants with mild delays often found no delays on follow up without formal intervention. The role of the FSP may contribute to helping the parent build the protective factor of 'Knowledge of Child Development and Parenting' in recognizing developmental milestones and ways to promote growth during daily routines with the infant. Bringing awareness of Part C Early Intervention services to parents and facilitating access when indicated can potentially contribute to the

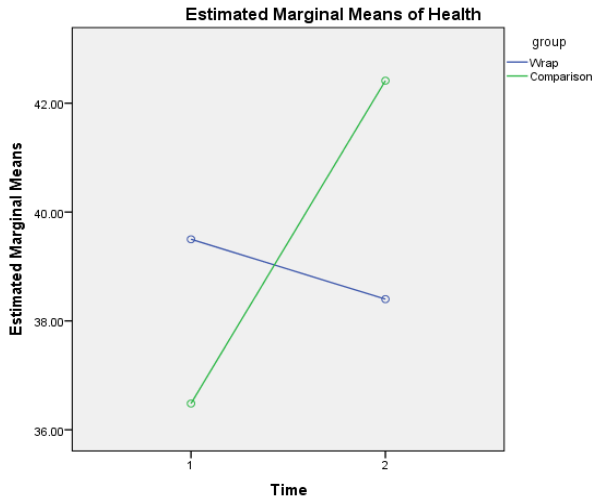
protective factor of the parent's capacity to 'Support the Social Emotional Competence' of the child.

2. Finding: Vineland Social Emotional –Early Childhood Scales (SEEC). The local measure used to directly assess infant development was the Vineland SEEC. Two of the three subscales Interpersonal Relationships, and Play and Leisure Time were used to assess infants; a third scale for Coping was standardized for children age two so could not be used with infants. The Interpersonal Relationships scale that examines responsiveness, expressing emotions, imitating sounds and behaviors was used to assess infant development at 3 months of age and 12 months of age. No statistically significant differences between the groups were found between groups at 3 months of age; however, both groups showed a statistically significant decline on the Interpersonal relationships scale over time, ($F=8.9$, $p=.004$). The Play and Leisure Time scale was used to assess infants at 12 months of age and found children in Wraparound families scored significantly higher ($t=2.8$, $p=.007$).

Interpretation and Implications of Findings. It is not clear why both groups declined on the Interpersonal Relationships scale and could have some relevance to the parent's own early recovery process and responsiveness to the infant. This is an important finding to be considered in the parenting education groups provided through the treatment programs that have an opportunity to support 'nurturing and attachment' between the mother and child. The better performance of the Wraparound group on Play and Leisure Time is promising and could be associated with the additional support experienced by these parents through the intervention. Further study is needed to fully understand these changes in child behavior and, perhaps, a closer examination of the sensitivity of the measure with these families.

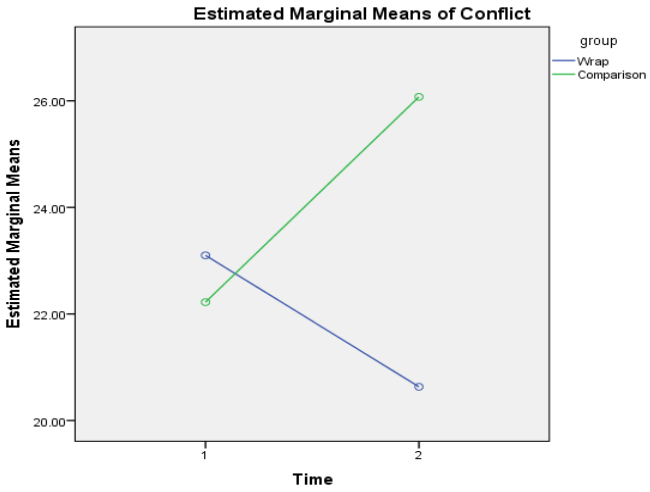
B. Increased Family Strengths

1. Findings: Self-Report Family Inventory (SRFI). Evidence of increased family strengths was demonstrated in significant differences between groups on three subscales from the SRFI: Health, Leadership, and Conflict. The Family Health subscale demonstrated positive differences between the two groups over time (F=4.276 p=.043), with Wraparound families reporting fewer health concerns.



As shown in the graph below, the Wraparound Group reported more positive experience within the families on the Leadership subscale over time (F=1.95, p=.017).

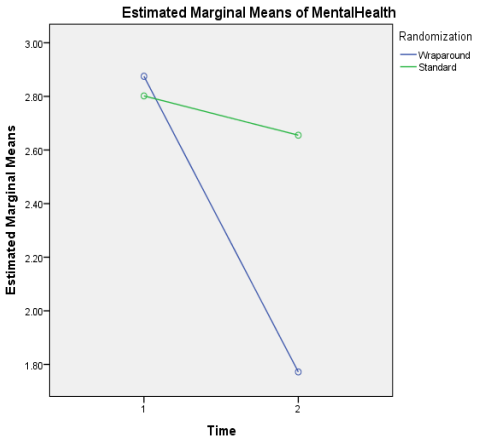
An even greater difference was found on the SRFI Conflict Subscale with Wraparound families reporting a significantly lower level of conflict at 1 year postpartum (F=8.98, p=.004) as shown in the graph below.



Interpretation and Implications of Findings. The group differences reflected in these findings suggest Wraparound families perceived their relationships in more positive terms. Certainly, the lower degree of conflict would be a positive indicator associated with family functioning and could reflect the protective factor of 'Parental Resilience' through improved problem-solving and coping skills. Less conflict could also be indicative of the reconciliation with family members that was a theme expressed by participants in Wraparound.

2. Findings: Maternal Mental Health. The Posttraumatic Diagnostic Scale (PDS) scores at baseline found 78.6% of all women in the Study had experienced a qualifying traumatic life event, with 40.5% meeting diagnostic criteria for Post Traumatic Stress Disorder (PTSD). At the end of the Study, Wraparound mothers reported less severe trauma-related symptoms at one year postpartum on the PDS measure, and fewer mental health symptoms on the BSI; however, no statistically significant difference was found between groups. On the ASI Mental Health

subscale, however, Wraparound mothers reported significantly fewer mental health problems at 12 months postpartum (F= 4.942 p=.03), as shown in the graph below**.**



The Natural Supports subscale on the ASI also showed Wraparound families were moderately higher on supports at 12 months postpartum in two areas Financial Help (t= 2.36, p= .02), and Help/encouragement with Recovery (t=2.38, p= .02).

Interpretation and Implications of Findings. The findings of improved mental health status for mothers in the Wraparound group suggest the families have been strengthened through the building of the protective factor of 'Parental Resilience.' The increase in natural supports in the areas of recovery and finances reflects the 'Social Connections' developed by the family perhaps through the Wraparound team process as well as the improved access to 'Concrete Supports' necessary for stability and sustained recovery.

C. Decreased Likelihood of Child Maltreatment

1. Finding: Emergency Room Visits. Background Information Form (BIF) data found Emergency Room (ER) visits for infants in the study were slightly lower for children in Wraparound families (43.8%) compared to 56.3% of Standard Care children although not statistically significant.

2. Finding: Child Welfare Involvement. Of all the families in the Study, 31% had their child removed by child welfare at least temporarily; there was no significant difference between the Wraparound or Standard Care groups. Half of the families (51%) had child welfare involvement with either the Study infant or another child; 1% previously had parental rights terminated on an older child.

Interpretation and Implications of Findings. Maternal substance use is often considered prima facie maltreatment and the reason for involvement with a child welfare agency, sometimes resulting in the removal of the newborn or infant from the parent. The fairly high incidence of child welfare involvement with families in the Strong Start Study seems consistent with this systemic response. One implication, however, is that these families were all involved with specialized treatment for the mother's substance use and half were participating in the Wraparound intervention, factors that could potentially ameliorate the risks to the infant. Further the somewhat routine removal of the infant and separation from the mother during a critical developmental period of bonding and attachment warrants further study as the outcomes seems to lessen the potential protective benefit of keeping the mother and child together in a safe, residential care environment.

3. Finding: Child Maltreatment Administrative Data. Colorado State data on maltreatment rates in for young children age three and under in the geographic area where the study was conducted show a decline in substantiated reports over the three most recent years in all but one of the four counties (See Table 9). Rates of removal decreased in two counties over the three year period and varied somewhat in the remaining two counties. A two year comparison

of Termination of Parental Rights (TPR) showed a slight reduction in two counties and fairly consistent rates in the other two.

Table 9. Colorado Child Welfare Outcomes for Children Aged 0 to 36 Months in Study Counties

	Substantiated Maltreatment Rate by 1000			Removed from Parent Rate by 1000			Parental Rights Terminated Rate by 1000		
	2010	2011	2012	2010	2011	2012	2010	2011*	2012
County									
ADAMS	4.60	3.44	3.22	1.06	.95	.51	.55		.53
ARAPAHOE	2.55	2.34	1.90	.59	.41	.43	.37		.42
DENVER	2.30	2.38	2.47	.74	.63	.79	.68		.52
JEFFERSON	3.24	2.76	2.70	.59	.43	.69	.45		.28

*[NOTE: *There was duplication for one set of data provided for 2010 & 2011 that has been referred back to the State for clarification.]*

Interpretation and Implications of Findings. The TPR data typically indicate outcomes for families whose involvement and removal of the child occurred at least 12 months prior. No correlation between the implementation of the Strong Start Study and the county-level data can be made or inferred. As a state, Colorado data is consistent with national data indicating the highest rates of maltreatment for infants and toddlers. The overall outcomes of the Wraparound intervention with families of infants may provide an alternative intervention model based on building protective factors.

D. Additional Local Outcomes

Written Wraparound documents were used as a source of qualitative data for evaluation of the Strong Start Study. Three documents prepared for families participating in the Wraparound intervention group - the Strengths, Needs, Culture Discovery (SNCD), the Wraparound Plan, and the Transition Plan - were analyzed using the constant comparison method to identify themes and family goals, and how the Wraparound process was utilized in supporting families in building protective factors related to attaining those goals.

1. Strengths, Needs, Culture, Discovery. During the development of the Strengths, Needs, Culture, Discovery (SNCD), all parents in Wraparound were asked about the meaning of family and parenting from their own life experiences; they were also asked about the meaning of safety and protection of children.

1.1 Family Values. Women in the Strong Start Study shared universal meanings of 'family' in their descriptions of the role of the family in passing on knowledge and values to children, as well as being 'a setting for learning and growth' and teaching 'the ways of life,' as Family is…'a sacred place where children are safe and nurtured.' Family also meant togetherness, sharing daily life, communication, and being a primary source of support, "Your biggest support...[loving] you unconditionally…a bond that's unbreakable."

1.2 Meaning of Parenting. As a group, women in the Strong Start Study were receiving treatment for substance use problems while they were pregnant. The majority of the pregnancies were not planned but most all were wanted; some women were parenting other young children or had other children not in their custody. Most women in recovery shared the universal sense of hope for the future in expecting a baby, and held hopes for their child's life. When a previous child had been 'lost' by being removed from the women's custody, pregnancy meant an opportunity to 'keep' their baby, still others acknowledged they would be parenting 'sober' this time. An important theme was the meaning that recovery and 'staying clean' had in a woman's preparation for the birth of her child and her being able to parent; in several instances both parents were in recovery and supporting each other in their readiness to parent.

Two basic components of parenting were described: the relationship aspect and the role. A parent's relationship with their child meant 'being there' and being available, loving

them and being patient. Relationship also meant being reliable and dependable, spending time with children, playing with them, and being an example for them. Parenting was viewed as a priority in life and having a purpose; the role of parenting meant providing for their children's basic needs for food, shelter, and clothing as well as teaching them right from wrong by having rules and setting boundaries.

1.3 Safety and Protection. Child protection for pregnant women in recovery meant "putting children's needs first." A confirmed pregnancy for most women resulted in a change in their smoking, drinking, and drug-using behaviors in an effort to reduce any harm to their baby from prenatal exposure to those substances. One woman left her relationship with the father of the child she was pregnant with to protect the baby from the mental and physical abuse the woman had experienced. As a group, their own histories of maltreatment motivated them to want better for their own children that took a variety of forms. One woman wanted her infant son to learn self-defense like Karate when he was older so he could protect himself. The theme of 'danger from others in the world' was noteworthy for these women and influenced their parenting by needing to both warn and prepare their children. Teaching about safety, like not going with strangers, was one way of safeguarding their children from others who might harm them. Knowing these kinds of rules and making sure children followed them was considered a form of protection. Providing a stable environment that was safe for their children was noted most often by women as necessary for protecting them. This meant child proofing the home and making sure "nothing dangerous is around your children." Protection also meant meeting their social and emotional needs as well by 'Not exposing children to people or places [that are] unsafe…'

1.4 Identifying Priority Goals. Conversations are held with families during the discovery process regarding their lives and they are asked to identify their main concerns. As shown in Table x, these concerns are then prioritized as needs within universal life domains and reframed as goals for planning purposes within the protective factors framework (See Table 10).

Table 10. Matrix of Prioritized Goals by Related Protective Factors

Ranking of Life Domains by Goals	**Life Domain**	**PF1**	**PF2**	**PF3**	**PF4**	**PF5**
1	Health/ Mental Health	√			√	√
2	Legal			√	√	
3	Family Relations		√		√	
4	Financial/Income			√		
5	Housing			√		
6	Education/Training	√		√		
7	Transportation			√		
8	Social/Recreational	√	√			
9	Spirituality	√	√			
10	Civic/Community		√	√		

Protective Factor Key: PF1 – Parental Resilience, PF2 – Social Connections, PF3 – Concrete Supports, PF4 – Knowledge of Child Development and Parenting, PF5 – Support for Social-Emotional Competence of Child

2. Developing Protective Factors through Strong Start Wraparound. Predominant themes that emerged from the Wraparound documents were 1) preparation for motherhood, 2) ambivalence in asking for and receiving help, 3) meeting basic needs, 4) perseverance, and 5) reconciliation. As reported here, these themes are woven within the Protective Factors framework and described as experienced by the participants, beginning with building Social Connections when the Wraparound team was established, building Concrete Supports by accessing resources through the team to meet basic needs, and building Parental Resilience as they received support in sustaining their recovery.

2.1 Building Social Connections: It Takes a Village…It Takes a Team! Team members selected by the parent became sources of support beginning during pregnancy and continuing through the first year postpartum. The specific inclusion of natural supports of family and friends on the team was key to establishing ongoing social connections available to the family; the father of the baby was included as a team member when the relationship indicated. Women in Strong Start Wraparound acknowledged that the ideas and input of team members provided guidance and support in their lives. Women expressed respect and appreciation for members of their team and the different perspectives they offered. The Wraparound team created a social network for a woman in early recovery and provided critical social connections for both herself and her baby.

"Wraparound helped to identify what I needed help with…talking out loud, not keeping it to myself"

While some pregnant women enter substance use treatment on their own initiative, many others are referred by probation or child welfare. Most all, however, are aware of needing help. The difficulty in asking for help was a barrier acknowledged by women who participated in Strong Start Wraparound. Some felt shameful about their drug use and so were uncomfortable asking for help. Others indicated they did not know who would be there to help or care about them, "To be honest, from the beginning I didn't know how to ask for help." Strong Start parents indicated that learning what help was available, and learning how to accept and receive help benefitted their families and was an important life lesson for their future as well. As one participant said, "I learned to reach out…I will be able to do this on my own when I need help."

Given the poor relationship histories of many women with substance use problems, the purposeful structure of the Wraparound team in bringing together both natural and professional supports provided a context to experience social connections in a unique and therapeutic way; the 'positiveness' of the Wraparound process was noted as contributing to 'trust' in the support of the team. Women in early recovery had an opportunity to identify their needs and what they wanted for their families, as well as the guidance, encouragement, and acknowledgement for their successful efforts "to move forward to the future." Participants came to appreciate the need for positive social connections that sometimes meant resolving conflicts with their own families. Reconciliation of relationships within the family was a common experience of participants; the woman's recovery was often parallel to her family's recovery. The evidence of improved family relationships was the reconnection and support that was described by many women; being close with their family, having the support of their own parents, and learning positive ways to talk with each other were examples given.

The increase of supports for Wraparound families at one year postpartum was significant, especially for financial help and encouragement with recovery. Strong Start participants reported less conflict in their family relations and often realized the enduring support of their families.

> "Going through difficult times has shown the family that they are fortunate and [they] are very grateful for what they have…"

2.2 Building Concrete Support in Times of Need: Maslow's Hierarchy Revisited. Meeting basic needs such as income, housing, health care was common among families in the study. Helping a family meet its basic needs through Wraparound contributed to the building of the protective factor Concrete Support in Times of Need. There was agreement among participants

that their 'recovery', within the health and mental health domain, was the highest priority need on which attainment of all others depended.

During the first team meeting the initial Wraparound plan is developed by identifying specific ways to attain the goals in meeting the family's basic needs. Strong Start participants found the written plan to be 'helpful in keeping track' and staying organized. The greatest benefit reported by participants was in breaking down tasks into doable 'action steps' that made them manageable rather than overwhelming. Success with one step gave encouragement for taking another step, a process that contributed to self-efficacy.

> "Wraparound helps breaking down needs to small and specific steps."
>
> "Developing a plan and sticking to it helped… Follow through is important"
>
> "Wraparound team process helped me see the importance of being prepared and organized—it makes…me feel better and in control"

Once priority goals were established and action steps were identified, progress or roadblocks were systematically reviewed and revised by the team, holding participants accountable while supporting their follow through and attainment of goals.

Life Domain: Housing. Having a place to live was a basic need for families in the Study. In the year prior, families in both groups reported multiple moves with only 7.1% in the Wraparound group having no moves in the past twelve months; 28.6% of families reported four or more moves during the past year. Housing goals were met by 41.9% of women, with progress made by another 38.7% (See Table 2). Families were grateful to have an apartment of their own and not having to 'stress over' where they would be living. For some families this meant housing provided by or shared with other family members. For others, a transitional housing program with a stay of up to two years added to their stability and security.

Life Domain: Financial. A fundamental need for any family is the ability to pay or provide for their needs on a regular basis through income from gainful employment, Temporary Assistance to Needy Families (TANF), or disability benefits. For pregnant women in the study who had no other source of financial support, TANF benefits began in the last trimester. By the time their infant was one year of age, women were typically employed. Most women were working full time and described the jobs as 'good' especially noting those jobs that provided benefits for the family. Some said they 'loved' their jobs and felt 'good' about being able to pay bills and provide for the needs of the family. At twelve months postpartum, 79.2% met or made progress toward their financial goals.

Life Domain: Education. At twelve months postpartum, 71% had attained or made progress toward their educational goals. Though most had areas of interest for training beyond high school, completing the GED remained a common goal. For women continuing their education meant finishing training so they could be certified in a vocation, taking online classes, or community college. A few women were using their education loans to cover living costs for the families, enabling them to attend school.

Life Domain: Health. Concrete Supports in Times of Need as a protective factor relates to women accessing behavioral health services for both mental health and substance use treatment. At baseline, 78.6% had experienced a qualifying traumatic life event with 40.5% meeting diagnostic criteria for Post Traumatic Stress Disorder (PTSD); however, even direct team advocacy with community mental health programs to secure treatment for participants could not address the systemic barriers to accessing professional treatment. Women

participating in Wraparound, however, reported fewer mental health symptoms and less severe PTSD symptoms at twelve-months postpartum.

Increasing Concrete Supports through Wraparound helped meet the basic needs of families in the study, thereby improving their stability during early recovery. An important change was their confidence in their own abilities to secure and utilize concretes supports when needed. Wraparound helped women know 'where to go for help' when needed. As one woman noted, "I'm using resources that I didn't know were out there!"

2.3 Building Parental Resilience: One day at a time…One action step at a time. Parental Resilience is an important protective factor for women in early recovery who are parenting infants. Success in recovery depends on getting through life without using alcohol or other drugs 'one day at a time'; in Strong Start Wraparound, recovery is achieved one action step at a time. ASI data found that all women in the study reduced their drug use significantly over time with no difference between groups. For Wraparound participants, the change in their drug use behavior demonstrated 'Parental resilience' and was shown in sustaining their first year of recovery and focusing on their own health and the health of their infant; 85.9% met or made progress toward their health goals. The relationship with their treatment provider and addressing past traumas were associated with continuing the recovery process. Women continuing in recovery expressed their desire to remain clean and were continuing in treatment or actively working a 12-step program with a sponsor; completion of a treatment program and reaching the first anniversary of their sobriety date were significant milestones. As one participant reflected, "it gets easier to be sober the longer you're sober."

Further evidence of parental resiliency was an optimistic and hopeful attitude about their future that allowed the women to see the possibilities in their lives; women who persevered and 'never gave up' despite the difficulties they faced exemplified resilience. Reflections on life changes by one participant who sustained her recovery and dealt with the effects of her substance use on her family offer evidence of her resilience in this way:

> "[Strong Start] Wraparound has been a part of my growth and has helped me become stronger…I have a little bit of a voice now…I can't tell you how empowered I feel."

The relationship with the father of their child was noted by many as a positive factor, especially when the father was doing well in his own recovery. Whether married or not, many women reported enjoying their child with the father and parenting together. A positive relationship with the father was also an important source of support associated with a woman's recovery at twelve months postpartum.

As a group, women in the study reduced or no longer used alcohol or other drugs at one year postpartum; the motivation for their recovery was to be 'better' mothers. For some, the toll on their lives from substance use made them grateful to be 'alive' and with their children. Most all recognized the need for ongoing support, were using resources, and had closer connections with friends and family.

3. Findings from Transition Plan: Strong Start Wraparound – Strong Start Families. Wraparound Facilitators rated the attainment of goals at the time of transition based on the self-efficacy criteria of 'do for, do with, cheer on.' Ratings of '3' indicated the goal had been attained; a '2' indicated progress toward the goal, and a '1' indicated no progress. Full goal attainment was highest in the family and health domains, with good progress towards goals in the legal domain; good progress was also noted in the domains of housing and financial (See Table 11).

Table 11. Rating of Goal Attainment by Life Domain

Ranking of Goals by Life Domain	Rating of Goal Attainment			Examples of Goals
	1	2	3	
Health	14.1%	30.1%	55.8%	Recovery, healthy baby
Legal	5.3%	43.9%	47.4%	Compliance with court, probation
Family	10%	28%	62%	Reconcile relationships, regain custody
Financial	16.7%	37.5%	41.7%	Source of income, job, TANF
Housing	19.4%	38.7%	41.9%	Affordable, stable, place to live
Education	29%	48.4%	22.6%	Finish GED, pursue training

3.1 Benefits of Wraparound Process. Helping Strong Start families 'stay focused and grounded' was the benefit mentioned most often by participants. Attention from the team as women identified goals for their family, the persistence in follow up, and acknowledgement when progress was made provided life lessons that would be used by the parents after Wraparound.

- When I first started [Wraparound] I was discouraged. I saw it as another thing I had to do and thought it wasn't going to help. [The team] gave good advice and emotional support…I would look forward to going to the meetings…I had hope after talking to them.

- It was like a team came together to help me better myself, the team revolved around me…I really enjoyed someone helping me to break down the steps, motivate me to keep on track, remind me of my goals and deadlines, and encouraging me to follow through.

- Working on things step by step always gave me a sense of accomplishment and motivation to keep going…I never felt judged; they were very understanding [and] helped me just to deal with life…It was helpful to have them say 'you've got it, you can do it, [we're] proud of you. Wraparound was a great experience for me.

- Wraparound was a good framework, a monthly check-in [to] keep me in line with my goals. Keeping me sober was work I had to do on my own.

3.2 Fidelity Implementation. The Wraparound Fidelity Index (WFI) measures adherence to Wraparound principles for family teams. Both women who participated in Strong Start Wraparound (caregivers) and facilitators were interviewed for completion of the WFI. Results showed good Wraparound fidelity in the Study with Caregivers Total WFI score of 1.63 out of a

possible 2, and Facilitators Total WFI score of 1.65 out of 2. The similarity of ratings by mothers and facilitators also suggests close agreement between the two groups regarding how Strong Start Wraparound was implemented.

E. Relationship Among Outcomes

Findings from the Strong Start Study provide evidence that a collaborative Wraparound intervention with families in this population can 1) strengthen families by supporting the building of protective factors, and 2) contribute to optimal child development by routine screening with the parent and linking with early intervention services when indicated; the findings do not provide evidence that substantiated maltreatment based on maternal substance use is less likely with this population.

The outcome of increased family strengths through the protective factors framework was demonstrated by the statistically significant difference between families participating in Wraparound and those in the standard care group in less family conflict and more natural supports, as well as fewer and less severe mental health symptoms reported by the mothers. The Wraparound team process provided the structure and consistency for 'Social Connections' that became resources in accessing needed 'Concrete Supports' and supported the mother during early recovery while she developed healthy coping and problem-solving skills contributing to her 'Parental Resilience.'

The outcome of optimal child development was demonstrated through the role of the Family Support Partner with Wraparound families in the routine developmental screening and monitoring of infants with known prenatal exposure to alcohol and other drugs. As a collaborative partner in the Study, the State Part C agency recommended such screening to

determine when an eligibility determination for early intervention services was warranted. The focus on typical milestones with the FSP provided the parent with information about their infant and encouragement to promote development through daily routines thereby helping to building the protective factor of 'Knowledge of Child Development and Parenting.' The parenting education provided through the specialized women's treatment programs also helped the parent in understanding possible developmental affects from prenatal substance exposure. Although most infants were found to be within a typical range of development, the parent gained awareness of the help available through Part C should they have concerns about their young child beyond their participation in the study. For infants who received Part C early intervention due to special health or developmental needs, the parent received help in their capacity to support the 'Social-Emotional Competency' of their child.

In addition to maternal substance use during pregnancy, the main similarity of families in the study was their socioeconomic status and lack of resources. Maternal education and histories of trauma related to their own maltreatment and intimate partner violence reflect the multiple needs within these families that the Wraparound intervention was well-suited in addressing through the collaborative partnership with specialized women's treatment and Part C early intervention. The implications drawn from these findings are that a mother's early recovery from substance use can be sustained with adequate support and appropriate resources that complement her own desire and motivation to parent. Further, the response of women invited to participate in this intervention suggests that similar efforts have the potential to both reduce the risks associated with maltreatment and promote optimal child development for infants who have experienced prenatal exposure.

F. Community and Societal Domain Outcomes

1. Part C System & Infants. In Colorado, Part C is administered at the county level through local school districts that provide Child Find teams for evaluation and eligibility determination; the State level office was the collaborative partner in the study. Over the course of the study, it was evident that local Child Find teams operated differently in regard to the ways that assessments were conducted and subsequently whether or not a particular infant was deemed eligible. In consultation with both the State Part C office and with a local agency that provides Service Coordination for Part C, it was confirmed that 1) Fetal Alcohol Syndrome (FAS) diagnosis was the only categorical eligibility related to prenatal substance exposure, and that 2) most local Child Find teams do not have expertise in the assessment of infants under one year. There is interest within the Part C system in further examining the needs of infants with known prenatal exposure and ways of providing early intervention to young children whose parents are in recovery. The need is to improve monitoring of development even if delays do not meet statistical significance in eligibility criteria for services.

2. Mental Health and Substance Use Treatment Systems. The high incidence of trauma experiences in women with substance use problems is well documented in the research literature and is considered a co-occurring disorder, or referred to as dual diagnosis. The Study found, however, that women receiving specialized treatment for substance use faced systemic barriers to accessing professional treatment through community mental health agencies. For some women whose mental health status prevented their stabilization so they could remain in substance use treatment, access to community mental health programs, especially in a timely

manner, was not possible. Without such treatment, success in substance use treatment and recovery is less likely and the likelihood of impaired parental functioning is high.

3. Federal & State Child Welfare Policy. The unexpected incidence of child welfare involvement of families in the study and the local norms in each of the four counties provided numerous opportunities to observe the impact of federal and state policies related to Expedited Permanency Planning (EPP) for young children in out of home placement and the related policy on Termination of Parental Rights (TPR). National data confirms that when infants are removed from their parent for maltreatment, more than half do not return but are subsequently adopted by a non-relative; in Colorado the infant is often adopted by the fos-adopt family that is pre-approved for adoption of children they foster. This outcome of permanent separation from the birth family deserves further investigation especially when infants are removed at birth and there is a strict 12-month timeframe for the parent to stabilize, sustain recovery, and provide for their infant. At the least, there is evidence that the efforts of the child welfare agency to access the risk of harm to the infant and assisting the parent in obtaining the necessary treatment and other resources needed should be examined.

4. National Center on Substance Abuse & Child Welfare (NCSACW). The combined efforts of the Children's Bureau and the Substance Abuse and Mental Health Services Administration (SAMHSA) have supported the NCSACW over the past decade. Colorado participated in one of the early Regional Partnership grants to bring together the substance use treatment and child welfare interests in helping families; Denver County also received a Children's Bureau grant to develop the response to substance exposed newborns as required by amendments to the Child

Abuse Prevention and Treatment Act (CAPTA). Despite these endeavors, there remain systemic gaps in addressing the needs of families affected by parental substance use.

Specifically, the Study found that residential treatment for women with their infants was not a ready option supported by child welfare caseworkers who seemed to lack an understanding of the expertise of women's treatment providers in identifying risks associated with problem substance use and parenting. The research literature suggests that caseworkers experience 'risk aversion' in their role of child protection that precludes consideration of other options to removal, especially with an infant. This may be especially true in the State of Colorado where several child fatalities have in occurred in recent years when child welfare had prior contact with the family in which the death occurred.

Currently, NCSACW advocates 'collaboration' between and among systems working with families affected by substance use, as does the Drug Endangered Children (DEC) organization based in Colorado. Collaboration between and among agencies is important, and is inherent to the High Fidelity Wraparound approach tested in the Study. The distinction is that building on family strengths and hearing their voice is at the center of the facilitated collaboration process, a mechanism that shows promise with young families affected by substance use.

V. Sustainability and Integration

The relative success of the Strong Start Collaborative in helping families in early recovery build protective factors through High Fidelity Wraparound warrants further study. Nationally and in Colorado there are ongoing efforts to fund Wraparound through provisions of the Affordable Care Act. Once the intervention is a covered 'service' it can be funded in different settings. The findings from the Strong Start Study will be presented at the national Wraparound conference in March and may generate interest in replication. An article focused on the implementation of the Strong Start Wraparound intervention is also being developed for publication.

A. Prospective Sustainable Funding

As the study ends, there is no funding to continue Strong Start Wraparound. Two proposals for funding through the Children's Bureau Abandoned Infants Assistance (AIA) grant in 2012 and again in 2013 were not awarded. Reviewer comments from 2012 indicated the proposal was strong although not selected for funding; reviewer comments were positive from the 2013 application and the proposal received a score of 100 points out of a possible 100 points. An additional proposal for the 2012 Regional Partnership grants intended to better integrate child welfare and substance use treatment was not awarded; that funding would have supported Strong Start Wraparound through residential treatment for women and their newborns as an alternative to out of home placement.

Strong Start Wraparound could be sustained through two existing funding sources: 1) Child Welfare core service dollars or 2) Medicaid coverage as intensive care coordination through the mental health system. For core service funding, a county child welfare agency would have to

designate Wraparound as a covered intervention for families and this option will continue to be pursued. For Medicaid coverage, efforts are currently underway to determine how changes through the Affordable Care Act that fund care coordination can be accessed for Wraparound. JFK Partners through the University of Colorado, the State Women's Substance Use Disorders program, and Early Intervention Colorado for Part C at the State level – all agencies in the Strong Start collaborative – continue to support the need for this intervention with the population of families in early recovery with young children who have experienced prenatal exposure to alcohol and other drugs. The Principal Investigator (PI) for the Strong Start Study will join a State-level workgroup focused on CAPTA referrals from Child Welfare to Part C that will allow input on infants and families in the target population.

B. Collaborative Effort toward Sustainability

The collaborative effort of the University and the State programs for women's treatment and early intervention has served to focus systems-level attention and resources on the specific needs of this population of families. Collaborative partners from the Special Connections programs have experienced the potential benefit of the Strong Start Wraparound model in facilitating the collaboration of supports and services needed by these families. The specific facilitation with child welfare and Part C early intervention has been noted as 'value added' from this approach. Without current funding support, informal efforts will continue by the PI through the established relationships within these systems and programs to secure sustainability for Strong Start Wraparound.

A. Anticipated Sustained Practice, Program, Administrative, or Policy Changes

Unfortunately, no specific sustained changes can be noted at this time.

B. Integration of Strengthening Families Protective Factors Approach

Women's treatment providers from the Special Connections programs seemed receptive to the Strengthening Families approach and could readily identify 'Protective Factors' associated with their work. The perspective gained through their participation in the Strong Start Study served to reinforce their efforts based on this approach while supporting a strengths-based framework with families.

Child Welfare caseworkers and Guardian Ad Litems (GAL) who participated in Wraparound through Strong Start, varied in their responses to the Strengthening Families approach. The most positive were able to consider strengths and protective factors while maintaining their priority on child safety. Others were reluctant to embrace the perspective fully, in part due to the semi-contentious relationship with the parent when child custody was at stake. One caseworker who doubted a mother's ability to change her drug-using behavior and resolve other life issues to the degree needed to parent her infant daughter, documented in her report to the court that Strong Start Wraparound was actually 'enabling' the mother by focusing on her strengths and the positive efforts she was making.

C. Products Developed by Project

The primary products developed through the Strong Start Study were Wraparound forms designed to assure consistency in the intervention with families based on the requisite knowledge, skills, and processes for both the Wraparound Facilitator and the Family Support Partners. Samples of these forms are included in the appendices for the Implementation Manual and can be accessed through the JFK website. Sample brochures, logo, and other study materials are available online as well.

F. Cost Tracking

Aggregate costs for implementing the Strong Start Study are reported here for the funding period of March 1, 2010 through September 29, 2013.

a. Salaries and Fringe Benefits = $909,156
b. Volunteer/In-Kind Labor - N/A
c. Contracted Services = $20,000 Arapahoe House
d. Staff Training = $2,485
e. Incentives for Participants = $21,000*
f. Office Space – Included in F&A/Indirect Cost
g. Supplies and Materials = $18,235
h. Travel = $16,171 (Not local mileage)
i. Indirect Costs = $258,011 (F&A at 26% Off-campus rate)
j. Development of Collaborative Partnership – Data unavailable
k. Local Evaluation and Quality Improvement Activities – Data unavailable
l. Estimated Costs of Project Components – Data unavailable

a. Outreach to and Recruitment of Participants– Data unavailable
b. Initial Screening and Assessment– Data unavailable
c. Services and Activities Delivered– Data unavailable
d. Mileage to Participants or Meetings = $26,308

1. Matching Funds = $159,380 TOTAL
   - JFK Partners, University of Colorado Denver = $120,587
   - State of Colorado, Office of Behavioral Health = $38,793

Barriers to securing matching funds. Two barriers were identified in securing matching funds for the Strong Start Study: 1) The amount of State funding to support the work of JFK Partners was reduced during the grant period, and 2) By rule, only the State portion of salary contributed through the Office of Women's Substance Use Disorders could be used for match thereby limiting the amount available.

2. Additional funds received beyond the federal grant and matching funds. The original budget included the cost of incentives to participants estimated at $30,000. When enrollment was delayed by five months due to final decisions on common measures, the QIC-EC sought to offset the expense incurred by the Strong Start Study in paying staff during that period by

providing gift cards in the amount budgeted. When enrollment did not occur as projected, QIC-EC requested that $6,000 in gift cards be return for reallocation to other projects.

3. Real or recommended cost-savings. Local mileage was much greater than expected due to the large geographic area covered. Strong Start Wraparound is community-based so staff travel should be expected. Data collection for program evaluation purposes is also done in the community. A possible cost-saving could come from staff being assigned families based on county of residence. This would focus the needed travel within a smaller geographic area overall and could also facilitate knowledge of and access to resources that are often based on local geo-political boundaries.

4. Volunteerism or in-kind service. No in-kind or volunteer services were utilized in the implementation of the Strong Start Wraparound project. There are, however, two potential ways that in-kind services could be integrated into the model: 1) graduate student interns, and/or 2) peer supports through the Advocates for Recovery group. Educational programs for Masters in Social Work (MSW) degrees require 16-20 hours per week in internship experience in social services. The value of this internship time is estimated at $16,000 per year and can be considered as program contribution when matching funds are required.

Women in recovery from problem substance use who participate in the Advocates for Recovery group would be good candidates for training as Family Support Partners (FSP) for families in a Strong Start Wraparound program. While 'in-kind' involvement is an option and often considered a form of give-back to the recovery community, payment for this role would also be appropriate.

VI. Conclusions

A. Response to the QIC-EC's overarching research question:

"How and to what extent do collaborative interventions that increase protective factors and decrease risk factors in core areas of the social ecology result in increased likelihood of optimal child development, increased family strengths, and decreased likelihood of child maltreatment within families of young children at high-risk for child maltreatment?"

The Strong Start Collaborative brought together two systems that support families with young children - women's treatment and Part C early intervention. Through a Wraparound team process, mother's in early recovery accessed important social connections and concrete supports that helped prepare them to parent by increasing their resilience. Their infants benefited from routine monitoring following prenatal exposure and referral for early intervention services when warranted. This is an example of a collaborative intervention that builds on family strengths and promotes healthy relationships. For these families, however, maternal substance use during pregnancy often results in substantiation of maltreatment regardless of treatment and recovery efforts.

Table 12. Strong Start Study: Protective Factors by Level of the Social Ecology

	PF1 Parental Resilience	**PF2** Social Connections	**PF3** Concrete Supports	**PF4** Knowledge Of CD & Parenting	**PF5** Capacity to Support SE Competency
Individual Child/Parent	X			X	X
Social Family/Friends		X	X		
Community Neighbors/Resources			X	X	X
Societal Policy/Systems			X		

B. Overall impact in helping families to build protective factors. The Strengthening Families framework provides a positive way to understand protective factors that can support healthy relationships. The women who participated in Strong Start Wraparound expressed appreciation for the strengths-based approach that offered them hope and encouragement. The Wraparound team helped them with problem-solving skills that increased their self-efficacy and belief in themselves.

Many women in the study had histories of traumatic experiences that impacted their mental health and contributed to their substance use. They reported fewer and less severe mental health symptoms following their participation in Wraparound without the benefit of professional treatment suggesting the support available through the intervention contributed to their improved mental health. Wraparound participants also reported significantly less family conflict over time and more natural supports in their lives.

All Strong Start infants experienced prenatal exposure to alcohol or other drugs. Most were found to be developing within a typical range and some with minor delays improved without formal intervention; a few qualified for Part C early intervention services for their development. About a third of the infants were removed from their parent's custody temporarily over the course of the study due to maltreatment from maternal substance use.

C. Overall impact on agencies and organizations. The collaborative partners in the study were interested in finding effective ways of working with families in early recovery who were parenting very young children.

Early Intervention Colorado – Part C. The impact of participation in the Strong Start Collaborative with the State Part C organization was the specific focus brought to the

developmental needs of infants with known prenatal substance exposure and how they can be better addressed through the Part C early intervention service system. There is consideration being given to State legislation that would establish categorical eligibility for all young children referred to Part C through CAPTA due to maltreatment as are many of these infants. At least one local Part C agency is interested in developing a recommended protocol for assessment and monitoring of these infants.

Women's Treatment – Special Connections. The impact of the study on collaborative partners through women's Special Connections treatment programs was an expansion to their role in participating as a member of a Wraparound team. Some treatment providers were more open to this change than others. Some who participated came to appreciate the benefit of team-based planning and the inclusion of the natural supports in a women's treatment. Other providers considered the Wraparound team as unnecessary and a duplication of effort.

D. Community impact. The most direct impact of the Strong Start Collaborative was on the Women's Treatment Community in the Denver metro area with programs, treatment providers, and women receiving treatment through Special Connections. Findings have yet to be formally shared with the community so the actual response is not known. The study provided the opportunity to introduce the Strong Start Wraparound intervention and to begin relationship-building with the programs and providers. There was a need for ongoing role clarification that seemed to improve the collaboration over time. The value added that was acknowledged was the availability of Wraparound to outreach to family members and other natural supports for the team as well as the added facilitation with other systems including child welfare and Part C. In addition to a general willingness of the Denver treatment providers to resume the

collaborative with additional funding, there is some growing statewide interest in the Strong Start Wraparound intervention.

VII. Key Recommendations

A. Recommendations for replication of project

1. Selection of Wraparound staff. For effective implementation of Strong Start Wraparound, staff must be well suited to not only to a High Fidelity intervention but to respectfully working with the population. Personal qualities of Wraparound staff are critical to the relational work they are asked to do and should be evidenced in a willingness to be available and persistent during engagement, as well as initiative in following through with supporting parents in taking the planned action steps toward the family's goals.

2. Support for professional participation. Consistent with recommendations from the National Wraparound Initiative, it is critical that potential team members who hold professional roles with families have the organization or agency support for their time and availability to participate in Strong Start Wraparound. This requires outreach from the Strong Start Wraparound program and agreement at the management and/or administrative level with any community agency involved with the family such as Child Welfare or Probation.

3.Residential treatment capacity. The treatment needs of pregnant and postpartum women in early recovery from problem substance use often require a residential program for both the mother and her infant. The availability of this level of treatment and the funding for at least six months is necessary to stability and safety. An explicit agreement should be in place between the Strong Start Wraparound program and the treatment program on how integration will occur and duplication avoided.

B. Recommendations for CB/QIC/other potential funders

1. Local implementation timeframe. Implementation of the Strong Start Wraparound intervention is designed to begin during the prenatal period and continue with the family through the first year of life of the infant. When the funding period is limited, the intervention timeframe must be considered as it constrains the initial enrollment period of families to only those who can participate for the length of the intervention. This issue became apparent during the Strong Start Study when the projected timeframe for enrollment of 24 months was reduced to 19 due to delays in selection of common measures, resulting in a smaller sample size than proposed (84 v. 120).

2. Internal mechanisms to monitor fidelity. Over the course of the Strong Start Study, mechanisms for tracking the Wraparound intervention with families were developed and updated on a monthly basis. These included logs of assigned families indicating phase of intervention, tracking and review of Wraparound documentation related to phase activities, and coaching with both the Wraparound Facilitator and the Family Support Partner. It is recommended that these internal mechanisms be identified and implemented so that fidelity can be closely and objectively monitored.

3. Mechanism for public funding support. Additional public funding to support Strong Start Wraparound has not be awarded despite three applications during the current QIC-EC grant period. It would seem that a mechanism for extending funding support for Research and Demonstration projects that show evidence of positive intervention results should be available. Children's Bureau support in some form for adoption of the Strong Start Wraparound intervention for the target population of families at the State and local levels would help

expand replication of the R & D projects as new approaches to prevent maltreatment, thereby extending the research to practice benefit of the work.

C. Recommendations to Possible Collaborative Partnerships on Implementation

1. Importance of Collaborative mission. Just as the High Fidelity Wraparound model involves the development of a 'Team Mission' statement, it is recommended that collaborative partners also develop a written 'Collaborative Mission' statement. This would have been helpful in the implementation of the Strong Start Study when, despite similar missions held by collaborative partners, an explicit shared mission would have better informed the joint effort.

2.Local community v. State administration. The collaborative partnership for the Strong Start Study was established with the University and two State-level offices with oversight responsibility for Women's treatment and Part C early intervention services. Families in the study, however, were involved with services through programs at the local-level that did not necessarily have established collaborative organizational relationships with the State-level offices that held oversight authority with them. As a result, the Study was sometimes in a slightly antagonistic position when the expressed alignment was with the State offices. The recommendation, therefore, is that collaborative relations for Strong Start Wraparound are established at the local program level as well as with State-level offices.

3.Participatory Evaluation process. It is recommended that any replication of Strong Start Wraparound include an ongoing participatory evaluation process with collaborative partners. The need for such a process arose during the Strong Start Study in clarifying the working relationships with the one residential treatment program in which management raised a concern that the Wraparound intervention was duplicating the comprehensive services already

being provided. The treatment staff at the program who had directly participated on Wraparound teams was able to confirm for management that the Strong Start Study actually extended the programs efforts to include family in the woman's recovery as well as providing continuity and support for women as they transitioned to community-based outpatient treatment. The participatory evaluation process facilitated a needed discussion of how the Wraparound intervention was affecting the role of treatment staff, and was a reminder to Strong Start Study staff of the recognition and respect needed for the collaborative partners.

D. Recommendations on Building PFs at the Individual/Family Levels

1. Strengths-based = Parental Resilience. Pregnant and postpartum women with problem substance use by definition need support in sustaining their recovery to be able to protect and nurture their infants. Most women in this population also need to learn healthy ways of coping and problem-solving as fundamental to their functioning in a parental role. Strong Start Wraparound's strengths-based approach is well-suited to helping families build the parental resilience necessary in providing adequate care for young children.

2. Team-based = Social Connections. Identifying and including both formal and informal supports on the family's Wraparound team is fundamental in helping to strengthen social connections. Not only does the team approach assure integrated planning to address the family's needs, it also strengthens the linkages with both the professional and natural support networks that can be important social connections beyond the formal intervention period.

3. Community-based = Concrete Supports. Strong Start Wraparound is considered a community-based intervention rather than a clinical intervention. This can be an advantage in identifying and accessing needed resources for families since many programs serve discrete

geopolitical areas; this is especially true of public benefit programs administered at the county-level. The systematic identification of a family's needs and the plan for addressing those needs through Strong Start Wraparound helps with concrete supports available in the community both immediately and should a similar need arise in the future.

E. Recommendations on Building PFs at the Community/Societal Levels

1.Recognizing Explicit Local 'norms.' Strong Start Study families were sometimes involved with local child welfare agencies and it was observed that each county agency responded to parental substance use in distinct ways reflective of that particular geopolitical community. Based on this observation, it is recommended that the Standard Operating Procedures of child welfare agencies working with a Strong Start Wraparound program be understood as enacting community 'norms' related to this population of families. Such norms can be considered as either consistent with the Strengthening Families through Protective Factors framework, or could be counter to the framework but open to considering an alternative perspective.

2.Family-focused Policy. Based on the experiences of Strong Start families with child welfare agencies, parents in early recovery were deemed unable to protect and provide for the needs of their infants without an appropriate assessment of their functional abilities. Especially with newborns and very young children, the typical response was to assure protection of the child by placement with a relative or foster parent. The recommendation, therefore, would be for child welfare to reconsider policies that are more family-focused, not solely child-focused. With appropriate supports that help build parental resilience, many mothers in recovery are capable of adequate parenting.

3.Supporting Attachment & Nurturing. Policies that reflect societal level values can support interventions that build protective factors rather than damaging them. It is recommended, therefore, that public funding be made available for residential treatment where women in early recovery and their newborns can be in a safe and stable environment. This policy would facilitate the bonding and attachment that are recognized as protective factors, rather than the disruption to the maternal child relationship that occurs with the current child welfare practice of separating a mother and newborn.

F. Recommendations on Partnering with Parents

1. Family Voice & Choice. A recommendation for partnering with parents is the Wraparound principle of 'family voice and choice.' Practicing this principle through the Strong Start Study meant respect for the parent's perspective and preference for their family rather than an agency or other person determining what is best and how things should be done. This principle is based, in part, on the understanding that people tend to operate in their own self-interest and are more likely to act in ways consistent with their own beliefs. A related principle that applies directly to Wraparound teams is 'nothing about us without us' meaning that parents are respected by agreement that no family-related matters will be discussed among members when they are not present, thereby maintaining transparency among professionals.

2. Parental Peer Support for Recovery. A recommendation is that parents in early recovery have peer support, preferably from other parents who have longer life experience in their own recovery. In a Strong Start Wraparound program, this could be accomplished through selection of Family Support Partner staff from women with established recovery from problem substance use who also have experience in parenting. For some in recovery, helping others is considered a

'give back' to the community and could be critical in building 'social connections' as a protective factor.

3. Parent Ambassadors. There is evidence from the Strong Start Study that parents who participated in the Wraparound intervention and benefited from the process, were able to describe what helped them and what they learned that they would continue to use in their lives. As reported in the findings from the study, knowing help was available and being willing to ask for and receive support was fundamental to participating in Wraparound. Gaining in self-confidence, coping, and problem-solving abilities were also attributed to the intervention. The recommendation is that successful participants in Strong Start Wraparound should be considered ambassadors for the program who can provide compelling support for the work.

G. Recommendations on Social Ecology Framework in Research

1. Embrace Complexity. Use of the Social Ecology Framework in the Strong Start Study allowed an expanded examination of the experiences of families in early recovery from problem substance use that included their social relations, community environments, and policies impacting their lives. The challenge of considering these larger social systems is defining and measuring the multiple and complex interplay of factors contributing to the well-being and/or risk of families and children within those families. The recommendation is that the nature of the social ecology with all of its inherent complexity be embraced by researchers from a genuine interest in gaining knowledge and understanding of these critical factors and how they can contribute to helping families build protective factors.

2. Addressing Systemic barriers. Studying the social ecology in relation to families can increase the points of intervention associated with building protective factors and thereby preventing

maltreatment. In the Strong Start Study that examined the experiences of a specific population considered at high risk for maltreatment, the social ecology framework was particularly useful in identifying common experiences with various systems and specific barriers within those systems. An example is the limited availability of longer term residential treatment for women with very young children. This level of treatment would be a 'concrete support' that could provide the opportunity to develop other protective factors including parental resilience and attachment. It is recommended that this perspective in research be utilized for this potential benefit to addressing systemic barriers to resources known to strengthen families.

3. Requirement of Research Funding. As with the QIC-EC funding opportunity, research informed by the social ecology can be considered a requirement. This may present a challenge in developing proposals that address the multiple and dynamic factors involved at the differing levels; however, the funding support available would facilitate more research utilizing this perspective. The recommendation is for continued federal support for research requiring examination through the framework of the social ecology.

4. Social Policy Implications. The High Fidelity Wraparound approach implemented through the Strong Start Study considers the universal needs of families and relies on the families themselves to identify their most important needs. This universality of needs can also be understood within the social institutions through which these needs are met within the larger social ecological system that comprises the family's environment. It is recommended, therefore, that this holistic view of how family and children's needs are addressed inform social policy, especially child welfare policy, as such policy can be most relevant when informed by lived experience and is reflective of positive societal values.

VIII. Dissemination

A. State Dissemination Efforts and Impact

1. Collaborative Partners. The Executive Summary will be disseminated to the collaborative partners for the Strong Start Study: Special Connections treatment programs, the State Office of Behavioral Health/Women's Treatment, and the State Office of Early Childhood/Part C. A power point presentation will also be prepared for meetings with the programs and staff for debriefing and discussion of findings, anticipated to be held in early 2014.

2. Quarterly statewide women's treatment meetings. PI Teel will disseminate findings from the Strong Start Study at a quarterly statewide women's treatment meeting in the spring of 2014. Power point handouts will be prepared and a link provided to the JFK Partners website for additional information. An invitation will be made for replication of the approach in other programs in the state as funding sources are identified.

B. National Dissemination Efforts and Impact

See national conference presentations described below.

C. **Research Publications** (In progress)

1. Zero to Three Journal – Innovative Approaches to Maltreatment Prevention
   Publication date November 2014.
2. Journal articles. PI Teel and Evaluator Rosenberg will be preparing an article on the implementation of High Fidelity Wraparound through the Strong Start Study.

D. Local, Regional, National, and/or International Conference Presentations

Table 12. Conference Presentations for the Strong Start Study

Date	Conference	Location	Presenter	Description
April 2011	Abandoned Infants Assistance (AIA) Grantees Meeting	Washington DC	PI Teel	Invited speaker & workshop presentation on the Strong Start Study & High Fidelity Wraparound
June 2011	Strengthening Families Conference	Washington DC	PI Teel	Panel Presentation by QIC-EC Research and Demonstration projects
April 2012	National Conference on Child Abuse and Neglect	Washington DC	PI Teel	Panel Presentation by QIC-EC Research and Demonstration projects
October 2013	International Drug Policy Reform Conference	Denver, Colorado	PI Teel & Strong Start Staff	Exhibit table with Strong Start Wraparound materials. PI panel presenter on drug policy impact on parenting women

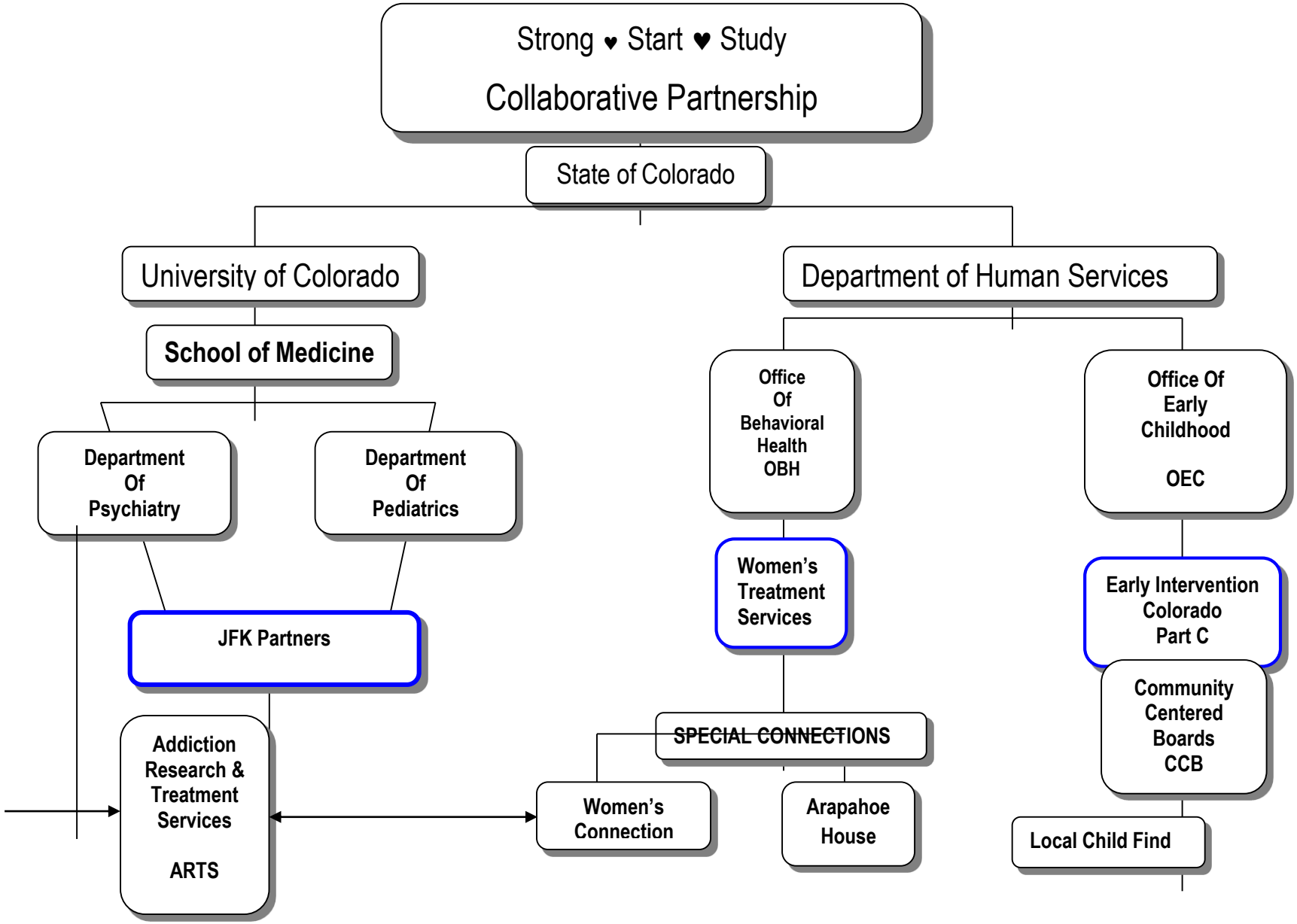
E. Dissemination Plans Beyond Project Conclusion 12-31-2013

1. Model Replication. PI Teel will use the findings from the Strong Start Study in funding proposals to replicate the model with women in early recovery who are parenting infants. Specifically, a proposal for an NIH-R21 research opportunity for the mental health of pregnant and postpartum women. Planning is underway with the Mental Health Center of Denver for collaboration in providing treatment for Special Connections women for their own mental health needs as well as relationship therapy with their infants.

2. National conference presentations. As shown in the table below, results from the Strong Start Study will be presented at two national conferences in early 2014.

Table x. Scheduled conference presentations

Date	Conference	Location	Presenter	Description
March 2014	National Wraparound Conference	Cocoa Beach, Florida	PI Teel HFW Coach Beckel WF/FSP Nichols	Strong Start Wraparound with Young Families Affected by Substance use
April 2014	National Conference on Child Abuse and Neglect	New Orleans, Louisiana	PI Teel	Panel presentation on QIC-EC R&D projects


Strong ♥ Start ♥ Study
Collaborative Partnership
State of Colorado
University of Colorado
School of Medicine
Department Of Psychiatry
Department Of Pediatrics
JFK Partners
Addiction Research & Treatment Services
ARTS
Department of Human Services
Office Of Behavioral Health OBH
Women's Treatment Services
SPECIAL CONNECTIONS
Women's Connection
Arapahoe House
Office Of Early Childhood
OEC
Early Intervention Colorado Part C
Community Centered Boards CCB
Local Child Find

Strong Start Study Logic Model

Program Vision: To strengthen young families affected by maternal substance use through Strong Start Wraparound by building protective factors so that infants and young children can be safe, healthy, and thriving.

↓

Population Served: Women receiving substance use treatment who are pregnant and their infants and young children who are at heightened risk of maltreatment.

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Population Needs to be Addressed by Services: Women often become pregnant during a period of their lives when they are using alcohol and other drugs. Many of these women seek out substance use treatment despite stigma and fear. Most all women involved with problem substance use have personal histories of trauma and related mental health conditions that are co-occurring and must be considered when help is offered them. Due to the multiple needs of these women during the critical prenatal and postnatal period, a comprehensive and well-informed approach is needed. Nurturing children can be a motivating factor for women in reducing or stopping their substance use, yet continued substance use can pose a significant risk to the safety and well-being of infants and young children. Building on parent and child strengths, and developing a team of both informal and formal supports through High Fidelity Wraparound can help these families have a strong start.

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Assumptions: Facilitation of a team-based approach to develop and implement an integrated plan involving evidenced-based formal supports while effectively utilizing informal supports has been shown to reduce out of home placement for youth with complex mental health conditions by strengthening their family's capacity for meeting their needs within the community through High fidelity Wraparound. This approach has also been found beneficial for families who have young children with complex developmental and health care needs involved with multiple systems and providers. Young families affected by substance use have similar complex social and emotional needs that can be addressed through the High Fidelity Wraparound model to strengthen protective factors and reduce risk factors known to be associated with child maltreatment.

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Services: 60 Young families involved with substance use treatment will participate in High Fidelity Wraparound and access early intervention services through Part C when indicated.

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Resources: High Fidelity Wraparound Model utilizing certified Facilitator, Family Support Partner (FSP), and Coach; ongoing skill-based training and team coaching.

Child Maltreatment in Young Families Affected by Maternal Substance use Occurs…when multiple factors at the individual, family, community and cultural/societal levels combine in an amount and intensity that potentially harmful risk factors outweigh the amount and intensity of protective factors.

	WRAPAROUND	PROTECTIVE FACTORS (6)	PFS INDICATORS	OUTCOMES

INDIVIDUAL	**Phase 1. Engagement** ▪ SNCD Discovery - Priority Needs **Phase 2. Planning** ▪ Integrated Wraparound Plan **Phase 3. Implementation** ▪ Measureable Action Steps **Phase 4. Transition** ▪ Plan for Ongoing Supports	**1. Parental Resilience** Participants have adequate rest, exercise and nutrition & find time for healthy activities they enjoy. **2. Nurturing and Attachment** Participants respond immediately when their infants express distress & soothe their infants **3. Children's Social & Emotional Competence** Child interacts positively with others and communicates his/her emotions effectively	**1.1** Participants take care of their personal needs for health & well-being **1.2** Participants manage family life to promote self-sufficiency and stability. **2.1** Participants demonstrate empathy and responsiveness to infants' physical and emotional needs. **2.2** Participants provide appropriate supervision according to the developmental need/stage of the child **3.1** Children demonstrate bonding & secure attachment with their parent **3.2** Children show responsiveness to parental soothing	**OUTCOME 1** **Optimal Child Development**
RELATIONSHIP	**Phase 2. Planning** ▪ Wraparound Team Planning **Phase 3. Implementation** ▪ Participate in Action Steps **Phase 4. Transition** ▪ Role as Ongoing Supports	**4. Social Connections** Participants ask reliable, safe and appropriate friends, family members and neighbors for support and assistance when they need it.	**4.1** Participants have a mutual support network of friends, family and neighbors they use for support and assistance as needed. **4.2** Participants receive help and support from safe, appropriate, and reliable friends and family members when they are experiencing stress.	**OUTCOME 2** **Increased Family Strengths**
COMMUNITY	**Phase 2. Planning** ▪ Wraparound Team Planning **Phase 3. Implementation** ▪ Formal Services & Programs **Phase 4. Transition** ▪ Determine need for formal supports	**5. Concrete Supports for Parents** Participants contact the agencies that are most likely to help them meet their family's needs. Participants who abuse substances enroll in an appropriate treatment program Participants who are pregnant receive prenatal care. **6. Knowledge of Parenting & Child Development** Participants access appropriate services needed to support their child's optimal health & development.	**5.1** Participants access formal support systems in their communities as needed. **5.2** Participants and/or family members access appropriate treatment when their family is affected by substance abuse or dependency. **5.3** Participants attend routine prenatal visits pregnancy & have the necessary supplies, feeding plans, and support systems in place when they bring their baby home. **6.1** Routine well-child appointments **6.2** Participants provide or facilitate treatment that is appropriate to their child's special needs	**OUTCOME 3** **Decreased Likelihood of Maltreatment**
SYSTEMS	**Collaborative Partnership** ▪ JFK Partners - School of Medicine ▪ DBH - Women's Treatment Services ▪ Part C - Early Intervention Colorado	Study management Assure service collaboration Policy & Procedural review & revision	▪ State-level communication ▪ Research advisory meetings ▪ Support for study activities	**OUTCOME 4** **State-level Prevention**