

Testimony before the Ways and Means Subcommittee on Human Resources
Funding What Works: Proven Home Visiting Strategies to Improve Child Wellbeing and Support Economic Mobility

April 2, 2014

Submitted by: Darcy Lowell, MD, Founder and CEO, Child First, Inc.

Congressman Reichert and distinguished members of the Ways and Means Committee:
Good afternoon, my name is Dr. Darcy Lowell. I am honored to be here today. Thank you for the opportunity to testify about our efforts to markedly improve the lives of the most vulnerable children and families through an evidence-based home visiting program called Child First.

I am a developmental and behavioral pediatrician and the founder and CEO of Child First. I also serve as an Associate Clinical Professor in the Department of Pediatrics and Child Study Center at Yale University School of Medicine.

Child First is one of the HHS designated, evidence-based home visiting models within the Maternal, Infant, and Early Childhood Home Visiting initiative (MIECHV). We work with the most vulnerable young children and families, especially children that suffer from significant mental health and behavioral problems. Their families have experienced major challenges in their lives, including depression, domestic violence, abuse and neglect, substance abuse, homelessness, unemployment, food insecurity, and poverty. Currently, Child First operates in fifteen geographic areas throughout Connecticut and serves approximately 1,000 families per year. The need, however, is far greater.

I applaud the Committee's discussion of home visiting models as an important strategy to promote the wellbeing of children. The earliest years of our lives are crucial because they set us on paths leading toward – or away from – good health and wellbeing. While all parents want the best for their children, not all parents have the same resources to help their children grow up healthy. We most often think of family income, education, neighborhood resources and other social and economic factors, which so dramatically contribute to poor childhood outcomes. But even more important are parents' internal resources, their ability to establish strong, stable relationships which nurture and protect their children.

Child First and other home visiting models have a powerful opportunity to change the trajectory of children's lives. As home visiting models, we form an important continuum from health promotion for families that need only a little, to prevention for families with risk, to early and intensive intervention for the most vulnerable, which is the service which Child First provides. The MIECHV program has been a critical catalyst for states like Connecticut to develop strong and effective home visiting networks that strengthen vulnerable families. By intervening early, states can reduce the number of expensive and difficult interventions needed down the road, thus saving local, state, and federal dollars.

Let me tell you the story of Child First. Almost two decades ago, as a developmental and behavioral pediatrician at Bridgeport Hospital in Connecticut, I saw firsthand that many of my young patients had significant developmental, emotional, and behavioral problems. Children were expelled from preschool for aggressive behaviors, but there were no mental health services for them. Typically, the families of these children were struggling with complex issues such as profound poverty, violence, depression and mental illness, substance abuse, and chronic homelessness. The focus was narrowly on the functioning of the child, but no one was helping the families address the adversity in their lives. It was clear to me that to help the child, we had to decrease the enormous stress experienced by their parents. Only then could they be available to nurture and support their children. And to help the families, we had to engage community providers as essential partners – doctors, early education teachers, child welfare social workers, and adult mental health providers – to weave a web of supportive services around the family.

We needed to create a “system of care.” The goal was to foster strong, stable, nurturing relationships between parents and children and create a safer and healthier overall environment for the child.

Let me tell you about one of our families:

The Child First Clinician met a mother through a screening at a pediatric visit for her three year old daughter, Maria. The mother was severely depressed. She had run from her husband, with her three children, because of ongoing domestic violence. The husband was now in prison. She lived in an empty apartment, without beds, chairs, or a kitchen table, working three jobs to earn barely enough to pay the rent. She rarely saw her children. Little Maria was about to be expelled from preschool for kicking and hitting other children, and her two older children, once good students, were failing. She just had a car accident and repaired the car so she could get to work. Now she was significantly behind on rent payments, and her family was about to be evicted.

When taking a careful history, the Care Coordinator learned that the family was on TANF, but was no longer receiving a check. She immediately contacted the Department of Social Services, and found out that the check was sent to the husband in prison. In less than a week, the check was redirected to the mother. The family situation improved rapidly. Mom only needed to work one daytime job, and was able to spend time with her children. The Mental Health Clinician worked therapeutically with the mother and Maria together, which helped Mom understand the anger, pain, and fear that Maria – and her other children – experienced. The Clinician also worked with the preschool so that the teacher could understand Maria’s suffering, and Maria’s behavior improved enormously. At the same time, the Care Coordinator helped locate furniture donations and coached Mom as she worked out a schedule with the landlord to pay back rent. Mom began to feel competent and able. The life course of this family changed dramatically.

Impact of Adversity or “Toxic Stress” on Children

Today, with the current scientific research, we understand so much more about the direct impact of adversity or “toxic stress” on the early development of the brain and metabolic systems in the body. The members of this Committee may already be familiar with research on ACEs (Adverse Childhood Experiences, by Felitti and Anda) and the huge body of research gathered by the Harvard Center of the Developing Child. We now know that high levels of stress during early development – like extreme poverty, child abuse and neglect, maternal depression and other mental illness, parental substance abuse, domestic violence, and homelessness – can produce a rise in cortisol and other chemicals that can seriously damage the structure of the developing brain. These early experiences can lead to chemical changes in the DNA in the nucleus of cells which determine which genes are turned on and off. (This new field is called “epigenetics.”) This may lead to loss of cognitive potential and academic failure, serious mental health problems, and chronic disease, including the development of obesity, heart disease, cancer, and diabetes. Put simply, if children grow up scared, it will make them sick.

However, of critical importance is the fact that the research also tells us that the presence of a secure, consistent, nurturing relationship with a parent or caregiver is able to protect the young child’s brain from this damage, leading to healthy, positive outcomes. With this nurturing relationship, the body does not produce those harmful chemicals. “Toxic” stress becomes “tolerable” stress. But we must remember, 80% of brain growth is completed by three years of age. The older the child, the more difficult it is to change brain structure, and the greater the expense. We must, therefore, provide intensive intervention at the earliest possible time. This is the work of Child First.

Serving Two Generations

One element that makes Child First unique in its home visiting approach is that the home visiting team works with both the child and the parent(s). The Clinician provides psychotherapeutic intervention to parents and children together (indeed the “relationship is the patient”), while parents receive added services around their own depression, anxiety, or parenting challenges. The Care Coordinator provides

hands-on assistance to help children access high quality childcare and early intervention services, while they help parents find housing, food, clothing, job training, and other supports necessary to return to a safer and more functional environment. When the parents' mental health needs and social supports are being addressed, they can engage in more meaningful and healthy relationships with their children.

Two-Pronged Approach for Families

Based on the science, Child First developed a two-pronged approach to intervention, with its two member professional team working together with the child and family in the home:

- 1) Care coordination: A Bachelors' level Care Coordinator works with the parents or caregivers to connect them to comprehensive, community-based services and supports for all members of the family. This directly decreases the stress experienced by the family (e.g., food pantries, medical services, domestic violence services, safe housing, parent support groups), while simultaneously connecting them with growth-enhancing services (e.g., quality early care and education, IDEA Part C early intervention services, adult literacy). In this process, our Care Coordinator is not just making referrals to services; she is building the capacity of the parent, helping her to build internal organizational and executive function skills that will enable her to be successful as a parent and as a member of the workforce.
- 2) Psychotherapeutic and psycho-educational intervention: A Master's level, licensed Mental Health/Developmental Clinician facilitates the development of a nurturing, responsive caregiver-child relationship using Child-Parent Psychotherapy (CPP - developed by Alicia Lieberman and Patricia Van Horn). This remediates the effects of adversity and trauma while developing a secure attachment, which protects the brain from the toxic effects of stress. At the same time, the parent or caregiver learns to create a safe, growth-promoting environment where the child can explore, master, and learn. This is the foundation for child wellbeing and for school readiness and a critical strategy to close the achievement gap.

We have found that this two-pronged, two-generation approach works synergistically - the sum is so much greater than its component parts. Beginning "where the family is" and addressing concrete needs helps families feel heard, builds trust, and stabilizes them. This decrease in stress allows parents to begin to build a new, supportive, protective, and nurturing relationship with their child, promoting child emotional growth and cognitive development. This is the foundation for child wellbeing and for school readiness.

Services Families Receive

Child First serves children - from the prenatal period to age 6 years of age - and their families in the home. Children most often suffer from emotional/behavioral or developmental/learning problems, and families face multiple life challenges, especially the experience of trauma, which interfere with their ability to nurture and support their children's development. Many families are involved with child protective services. Referrals come from a broad array of community partner agencies, serving both children and adults, and from families themselves.

Essential components of the Child First intervention include:

- *Engagement*: Our families are extremely wary, often mistrusting the social service system. Our initial goal is to build a relationship of trust and respect with the family. Only with this engagement can true work be accomplished.
- *Comprehensive assessment*: Through engagement and partnership with the family, we develop an initial understanding of the family history, functioning, strengths, needs, and priorities. Continued assessments allow us to gauge family progress and reflect on ways to improve services for the family. By analyzing Child First cross-site outcomes, we are able to continuously refine and improve our services.

- *Plan of Care*: Our team partners with the family to develop a Child and Family Plan of Care, which is a blueprint for the therapeutic intervention and includes comprehensive supports and services for all family members.
- *Psychotherapeutic intervention*: The Mental Health Clinician provides a two-generation home-based parent-child psychotherapeutic and psycho-educational intervention using Child-Parent Psychotherapy, a trauma-informed evidence based treatment.
- *Mental health consultation in early care and school settings*: The Mental Health Clinician works with teachers and childcare providers to understand the child's challenging behavior in the early education environment and develop strategies and supports that lead to healthy emotional development and effective learning. This very frequently extends to other children in the classroom.
- *Care coordination*: The Care Coordinator provides coordinated, hands-on assistance to connect all family members with community-based services and supports.
- *Executive functioning*: The work of both the Clinician and Care Coordinator help the parent with essential skills in self-regulation, organization, planning, and problem solving, which prepare her to engage in further education or enter the workforce.

Child First Collaborates with the Early Childhood Community

An important component of the Child First model is its collaborative relationship with other providers within the community. For Child First to be most effective, it must be embedded within an early childhood continuum of care, serving the highest risk families, with oversight by an Early Childhood Community Advisory Board. Referrals most often come from other providers throughout the community who are seriously concerned about either the risks in the child's environment or the child's behavior. These partners include pediatric primary care, early care and education, IDEA Part-C early intervention, domestic violence, child welfare, and home visiting (e.g., Parents As Teachers, Nurse-Family Partnership, Healthy Families, Early Head Start) among many others. Furthermore, these early childhood and adult community providers are an invaluable resource for the Child First families, with connections ensured by the work of the Child First Care Coordinators.

Evidence-Based Model Based on Research Results

Child First conducted a randomized controlled trial (RCT - published in *Child Development* in 2011¹) to determine the effectiveness of the model. With the same high risk population that we currently serve, the Child First Intervention group demonstrated strong positive outcomes as compared to the Usual Care Control group.

Specific findings at 12 month follow-up include:

- Child First children were 68% less likely to have language problems.
- Child First children were 42% less likely to engage in aggressive and defiant behaviors.
- Child First mothers had 64% lower levels of depression and/or mental health problems.
- Child First families were 39% less likely to be involved with child protective services, (which were sustained at 33% at three years).
- Child First families had a 98% increase in access to community supports.

Child First Replication

Our goal was to replicate Child First throughout the state of Connecticut, so that we had an affiliate Child First program in each of the Department of Children and Families (DCF) geographic areas, to meet the needs of these very vulnerable children. Although we are extremely pleased that we now have 15 sites

¹ Lowell, D.I., Carter, A.S., Godoy, L., Paulicin, B., Briggs-Gowan, M.J. (2011). A Randomized Controlled Trial of Child FIRST: A Comprehensive, Home-Based Intervention Translating Research into Early Childhood Practice. *Child Development*, 82(1), 193-208.

and 40 teams, with a footprint in each DCF Area, we are unable to meet the demand for services – with long waiting lists at all our affiliate agencies – and almost 50% of the towns in Connecticut not covered at all. The need for this service in Connecticut is enormous. But, Connecticut is not alone in its battle to provide needed services to young children with mental health problems and extremely challenged families. In fact, Child First has been contacted by over 25 other states interested in replicating our model.

Training for Child First Clinicians and Care Coordinators

In order to ensure the same excellent results that we obtained with our randomized trial, intensive training and ongoing consultation and technical assistance are essential. We are working with families who have the most serious and costly problems. There is no easy “fix.” All new Child First affiliate agencies participate in a Learning Collaborative to learn the Child First model. This is a year-long process in which a minimum of twelve teams from four to six agencies implementing Child First learn the model together, using the most recent expertise with regard to adult learning. This entails a minimum of four multi-day, on-site trainings, as well as distance learning using video conferencing, on-line training, readings, and observations. A critical element of the learning process is the use of weekly/biweekly reflective clinical consultation, provided to each site by a Child First senior clinical consultant for a full year.

Data Analysis and Outcomes

How do we know that this intervention is actually working? We have collected both implementation and outcome data within our cross-site data systems from the onset of services, and required that all our affiliate sites meet rigorous benchmarks and fidelity standards. We are very pleased to report that our results have surpassed those in our original RCT with 89% of our families improving in at least one major area. For example, 87% of children improved in either social competence or behavior problems; 80% of caregivers experienced decreased depression. We are now intensifying our data analysis and hope to follow our children and families longitudinally to obtain data about long-term effectiveness and return on investment.

Funding Sources

Replication of the model in Connecticut was initially supported by a public-private partnership. Philanthropy has played an essential role with over \$7.7 million coming from the Robert Wood Johnson Foundation and more than \$2.5 million from state and local philanthropy, including the Grossman Family Foundation and more than 20 other funders. The Connecticut Department of Children and Families has contributed significantly since FY2010, now providing ongoing funding of \$4.4 million annually supporting nine affiliate agencies. MIECHV funds are providing \$3 million annually to Connecticut to support our five newest sites in extremely high need cities, with expansion in three others. This funding has been critical.

Given the demand for services, we hope that we will be able to become part of the State Medicaid Plan in order to leverage the current state expenditures and bring significant federal matching dollars to Connecticut. With this strategy, we hope to expand our reach so that any Connecticut child has the possibility of receiving our help. We are exploring this option with DCF and the Department of Social Services.

Cost-Savings

The implementation of Child First can lead to dramatic cost savings. The State of Connecticut is taking a proactive stance to prevent serious mental health, physical health, and academic problems, which are not only costly to the state now, but will dramatically escalate in cost in later years if not addressed. Child First has the potential to save the state millions of dollars if implemented broadly. The areas in which we see substantial savings are related not only to the child, but to the parents as well. They include child welfare (assessment, treatment, and foster care), special education, psychiatric and substance abuse treatment, emergency room usage and hospitalizations, and incarceration, among others. In fact, an initial cost-benefit analysis indicates that within a single year of implementation (with federal Medicaid funds

supporting 25% of cost), the Child First intervention is cost neutral for the State of Connecticut. Furthermore, the impact on the parent is significant, with increased capacity to enter the workforce and therefore reduced costs of TANF, Medicaid, and other federal and state assistance.

The cost of Child First services for a family of four is about \$6,900 (with variation due to salaries and travel time). The cost for residential treatment for psychiatric disturbance for a single child for a year is about \$115,000. If the child needs psychiatric hospitalization for just three months, it can cost \$130,000. Foster care costs more than \$17,000 per year for a single child. Special education services for language delay cost \$16,600 per child. The return on investment is very substantial.

Recognition

Child First has been recognized by the Coalition for Evidence-Based Policy and the Social Impact Exchange, and highlighted by the Harvard Center on the Developing Child, the Pew Home Visiting Campaign, Zero to Three, the National Conference of State Legislators, the American Hospital Association, and the Connecticut Hospital Association.

Conclusion

Mr. Chairman, you and your Committee members understand the impact that child abuse, poverty, and domestic violence have upon children and families. Thanks to cutting edge research, we now have essential knowledge about brain science and the impact “toxic stress” has on children and the adults they will become, if it is not diagnosed and effectively treated. That said, we can and should take a comprehensive approach that envisions a culture of health for all families and especially for our most vulnerable children and families. This means we must include prevention in all of our efforts.

We have the research and knowledge. We must act on it:

- Intervene during the earliest years, when the brain is most rapidly developing.
- Utilize a broad, two-generation approach:
 - Focus on the development of a nurturing parent-child relationship as fundamental to protecting the child from adversity.
 - Weave a web of comprehensive, supportive services for children and their families, decreasing the stress and improving parental capacity and stability, so that all family members can thrive.
- Build comprehensive early childhood systems that provide a continuum of care, so that each family has the opportunity to receive the unique level of support and services essential for healthy outcomes.

Child First continues to work diligently to achieve excellent outcomes with the most vulnerable children and parents. I thank you and your Committee for your support of home visiting programs and your interest in the wellbeing of vulnerable children and the economic stability of their parents.

Thank you so very much for this opportunity to appear before the Committee.

With warm regards,
Darcy Lowell, MD

Contact information:

Darcy Lowell, M.D., CEO, Child First, Inc.
E-mail: darcylovell@childfirst.com
Telephone: (203) 538-5222
Address: 917 Bridgeport Avenue, Shelton, Connecticut 06484
www.childfirst.com



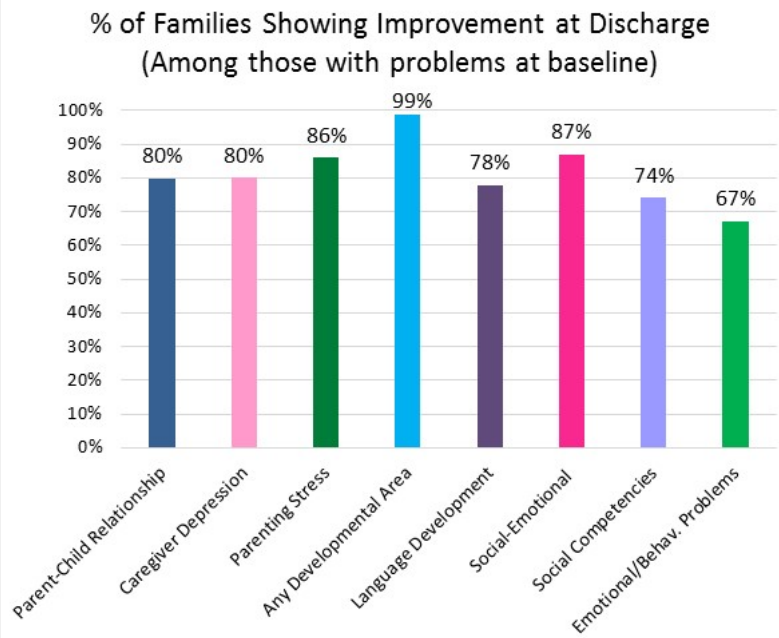
Graphs of Outcomes Cohorts 1 and 2, Oct 2011 – Sept 2013

OVERALL OUTCOMES

Improvement by Areas

Of those children and parents who had problems at baseline, this graph shows the percentage that had clinical improvement in each area.

Overall **88.6%** improved in at least one areas, **69.4%** improved in a least two areas, and **54.1%** in at least three areas



CHILD OUTCOMES

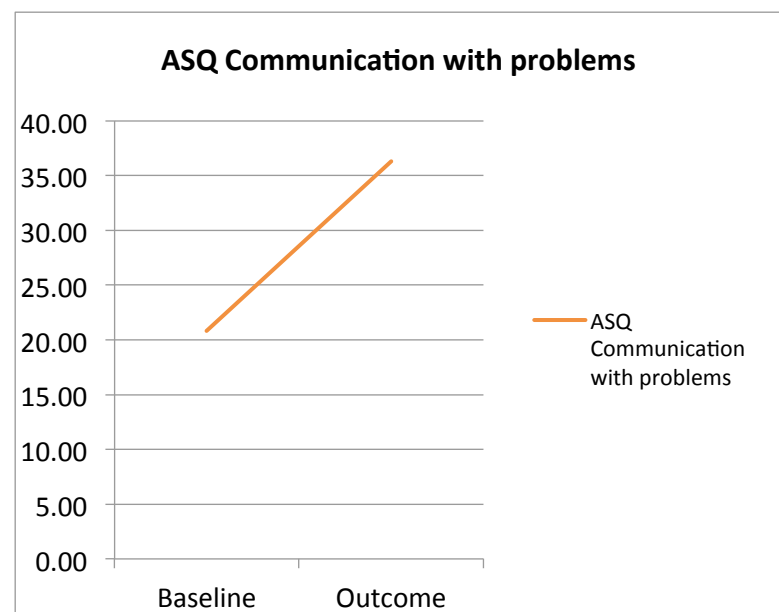
CHILD LANGUAGE

(ASQ Communications)

Children with language delay at baseline showed strong improvement.

$p < 0.0001$

Effect size: Cohen's $d = 1.06$



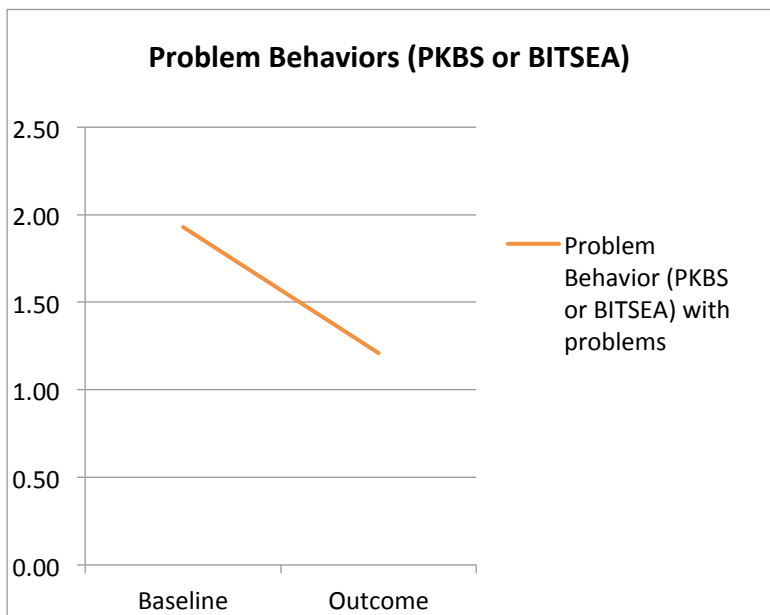
PROBLEM BEHAVIORS

(PKBS-2 or BITSEA)

Children that presented with problem behaviors at baseline showed strong improvement

$p < 0.0014$

Effect size: Cohen's $d = .68$



PARENT OUTCOMES

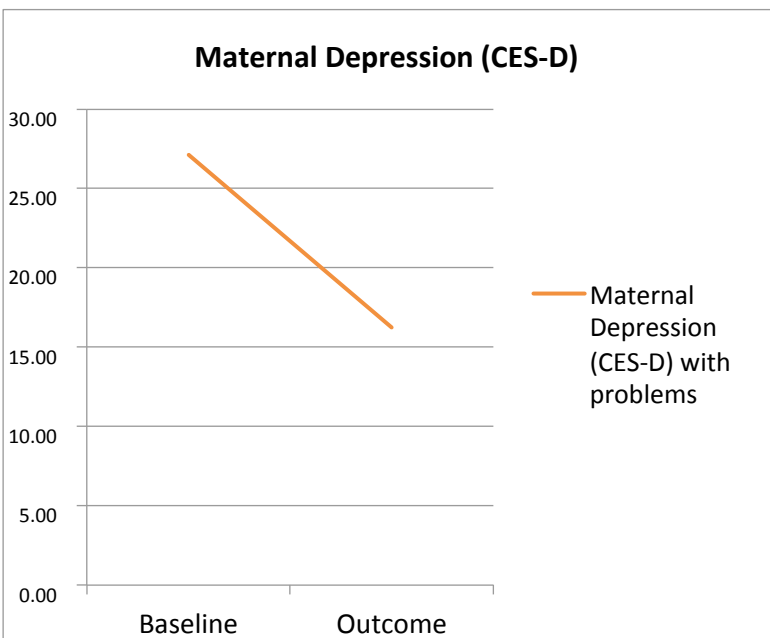
MATERNAL DEPRESSION

(CES-D)

Mothers that presented with depression at baseline showed strong improvement.

$p < 0.0001$

Effect size: Cohen's $d = 1.07$





CHILD FIRST OUTCOMES

Cohorts 1 & 2, April 2010 – September 2013

HIGHLIGHTS: Outcome Data Analysis

Outcome data is provided for the entire period of time that families were receiving services. We are presenting total combined data for Cohorts 1 and 2 for the period of April 2010 – September 2013. All data is analyzed by the Research and Evaluation Team at the University of Connecticut Health Center (UCHC) and reported back to the Child First Central Program Office (CPO) every three to six months.

Baseline data at intake for Cohorts 1 and 2:

- **Trauma:** 96.2% of parents scored positive on the Life Stress Checklist (LSC) and 83.1% of children were reported to have experienced at least one traumatic event (TESI - a serious accident, child abuse or neglect, witnessed violence, etc.).
- **Stress and depression:** 70.7% of parents scored positive for parental stress (PSI) and 43.1% for maternal depression (CES-D)
- **Emotional/behavioral problems:** 69.1% of children scored positive for behavior problems and 49.4% had impairment in social skills/competence, with 78.2% having impairment in either behavior or social skills (BITSEA or PKBS-2).
- **Language and other developmental issues:** 48% were identified with developmental issues (ASQ). Specifically, 25.6% had delays in language and 26.3% had delays in cognition.

Overall Improvement:

Data was analyzed to see what percentage of our children and families improved by at least 8% (representing a clinically significant change) in at least one important measure. All scores were converted to T scores for this analysis. **88.6% of children and families showed improvement in at least one area**, 69.4% in at least two areas, and 54.1% in at least three areas.

Improvement by Domain:

Data was analyzed to determine if there was statistically significant change in functioning from baseline to discharge scores in those children or parents who presented with problems in each of the key areas targeted for improvement. Child First has continued to show very strong outcomes (as expected by the results of our randomized controlled trial) when evaluated across all Cohort 1 and 2 replication.

For each domain, we report:

- a) % of those with baseline problems that showed at least an 8% improvement.
- b) p value or statistical significance of the finding, reflecting the certainty that these are real, not chance results. A $p < .05$ is considered a “statistically significant” finding. (e.g., $p < .05$ means that there is a 1 in 20 possibility that this finding was by chance.) In most cases, our p values are $p < .0001$, meaning that there is only 1 in 10,000 that this finding was by chance.
- c) Cohen’s d or “effect size,” reflecting the magnitude or importance of the effect that we have had on the outcome (0.2 is small, 0.5 is moderate, .8 is large, and 1.0 is very large). In most analyses, our effect size is large to very large.

Outcomes:

- **Emotional/Behavioral Problems or Social Competence among all children with problems at baseline (measured by BITSEA or PKBS-2):**
 - **Problems in behavior or social skills/competence: 87.0% improved**
 - **Emotional/behavioral problems only:**

- (a) **66.8%** improved
 - (b) Statistically significant improvements from baseline to discharge ($p < .0014$)
 - (c) Moderate to large effect size: (Cohen's $d = 0.68$)
- *Social skills/competence impairment only:*
 - (a) **74.4%** improved
 - (b) Statistically significant improvements from baseline to discharge ($p < .0001$)
 - (c) Large to very large effect size: (Cohen's $d = 0.97$)
- **Language or Cognitive Development among children with problems at baseline (measured by ASQ):**
 - *Developmental problems* in any domain of the ASQ: **98.8%** improved
 - ↑ in Problem Solving: **83.3%** improved, with Cohen's d of 1.12 and $p < .0001$
 - ↑ in Communication: **77.8%** improved, with Cohen's d of 1.06 and $p < .0001$
 - ↑ in Personal Social Skills: **81.3%** improved, with Cohen's d of 1.01 and $p < .0001$
 - ↑ in Gross Motor skills: **91.7%** improved, with Cohen's d of 1.42 and $p < .0001$
 - ↑ in Fine Motor skills: **83.3%** improved, with Cohen's d of 1.12 and $p < .0001$
- **Maternal Depression or Stress among all parents with problems at baseline:**
 - *Maternal depression (measured by CES-D):*
 - (a) **80.0%** improved
 - (b) Statistically significant improvements from baseline to discharge ($p < .0001$)
 - (c) Very large effect size: (Cohen's $d = 1.07$)
 - *Parenting stress (measured by the PSI):*
 - (a) **85.9%** improved
 - (b) Statistically significant improvements from baseline to discharge ($p < .0001$)
 - (c) Very large effect size: (Cohen's $d = 1.00$)
- **Parent-Child Relationship among all parent-child dyads with problems at baseline (using CCIS):**
 - (a) **79.9%** improved
 - (b) Statistically significant improvements from baseline to discharge ($p < .0002$)
 - (c) Very large effect size: (Cohen's $d = 1.12$)
- **Community relationships:** All Child First sites have active Community Advisory Boards made of diverse groups of early childhood and young adult (parent) stakeholders. Cohort 1 has reported 73 referral sources since October 2011.
- **Referrals and families served:** Many more referrals are made to Child First than we are able to serve. Each site of two teams is only able to serve a maximum of 52 families per year. Therefore, families must be prioritized based on intensity of need. In addition, DCF cases are given priority. Frequently, families with lesser needs must be triaged to other, often less optimal, services. Other families are connected to interim support services but remain on our waiting list.
 - For Cohort 1, 1098 families were referred; and 820 families served from October 2011 - September 2013. For Cohort 2, 335 families were referred, and 211 families served from May 2012 - September 2013.
 - Over the past year, for Cohort 1, 78% of Child First families received their first visit within 2 weeks of being assigned the case; for Cohort 2, 90% of Child First families received their first visit within 2 weeks of being assigned the case.
 - As of 2/28/14, there were 140 children on waitlists.