

Evaluation of the Oregon Relief Nurseries

July 1, 2010 - June 30, 2012

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January 2012

Center for Improvement
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Executive Summary

Founded in 1976, there are currently 14 Relief Nurseries serving 15 communities in the state of Oregon. This report includes data provided by these 14 Nurseries for 2,156 families and 2,685 children served during the 2010-2012 biennium (July 1, 2010-June 30, 2012).



Introduction

Relief Nurseries provide services to families with very young children who are at high risk of involvement with the child welfare system (including some with current or previous involvement with this system). While services vary among the Relief Nurseries, all Nurseries provide therapeutic early childhood education in classroom settings, home visits, parent education classes and support groups, respite care, case management, and assistance accessing basic resources and other community services. Additionally, some Relief Nurseries provide adult and child mental health services, play therapy, Parent-Child Psychotherapy, and other intensive programming to meet the needs of children and families.

The Oregon Association of Relief Nurseries (OARN) contracted with Portland State University's Center for the Improvement of Child and Family Services (CICFS) to conduct the 2010-2012 evaluation of Relief Nursery Programs. The goal of the evaluation was to determine the extent to which Relief Nursery programs were successful in achieving primary program goals related to family and child well-being. Specifically, CICFS assessed the extent to which the 14 current Relief Nurseries helped families to:

1. Reduce child and family risk factors associated with increased risk of child maltreatment;
2. Improve family stability and family functioning (e.g., improved coping, consistent family routines).
3. Improve parents' ability to successfully parent their children, and
4. Support positive child development and well-being.

Key findings from these and other outcomes were evaluated using a case-control methodology to examine changes over time for Relief Nursery participants from intake to 6, 12, and 24

months post-enrollment. These results are summarized below. A second report examining the extent to which the Relief Nurseries helped children and families to avoid involvement with child welfare services and foster care will be available later in 2013, pending availability of state child welfare system data.

Families Served by the Relief Nurseries

In the 2010-2012 biennium, services were provided to 1,968 families and 2,560 children by the 14 Relief Nurseries. Of these families, primary caregivers were 59% Caucasian/White, 30% Hispanic, and 11% other race/ethnicities. In the current sample, 55% of the families were single parent families, and 81% of primary caregivers were unemployed at intake. Families enter the Relief Nurseries with a high level of risk – on average, about 16 total historical and mutable (changeable) risk factors (e.g., history of maltreatment, homelessness, substance abuse problems, lack of a high school diploma, and mental health problems). For example:

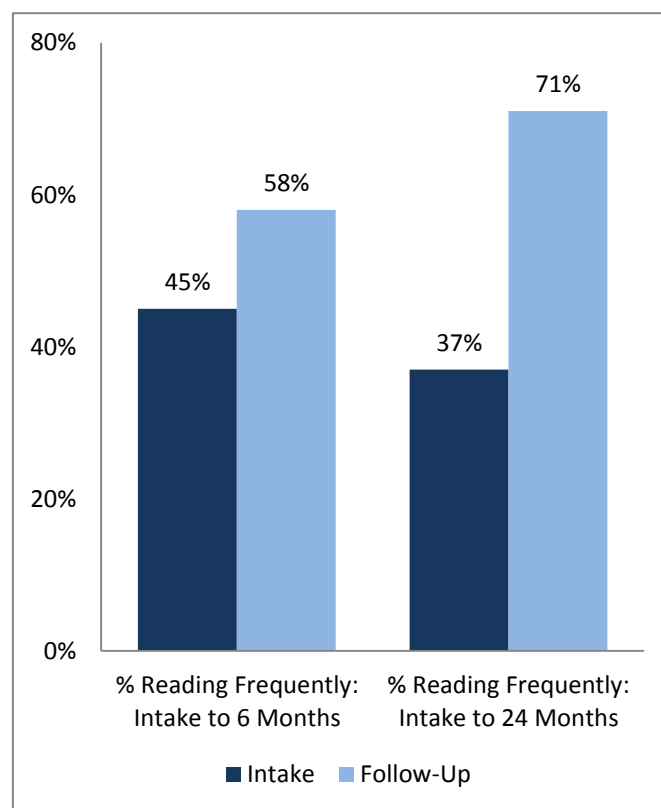
- 84% of parents are currently experiencing high levels of stress;
- 49% have a history of intimate partner (domestic) violence
- 56% of parents have a mental health problems;
- 43% of parents were raised by an alcoholic or substance abusing parent;
- 41% of parents have current anger management issues; and
- 33% have a history of incarceration.

Families remain in the Relief Nursery program an average of about 14 months. However, families who were still in the program at the time of this report had been receiving services somewhat longer, about 17 months; the range of program enrollment is large (from 1 month to 7 years), varying with individual family circumstances and needs.

Relief Nurseries Improve Family Functioning, Parent-Child Interactions, and Engagement in Early Literacy Activities

Two of the primary goals of the Relief Nursery are to stabilize families and to improve the nature and quality of parent-child interactions. Families that are experiencing multiple challenges related to poverty and other circumstances have difficulty providing the safe, stable environments that children need for positive development. Research on early brain development has clearly documented that engaged, nurturing parenting supports the early attachment relationships that are critical to children's development and school readiness, while harsh, disengaged, and unpredictable parenting is associated with child maltreatment and other negative outcomes (Shonkoff & Phillips, 2000; Zeanah, Boris, & Larrieu, 1997). The long-

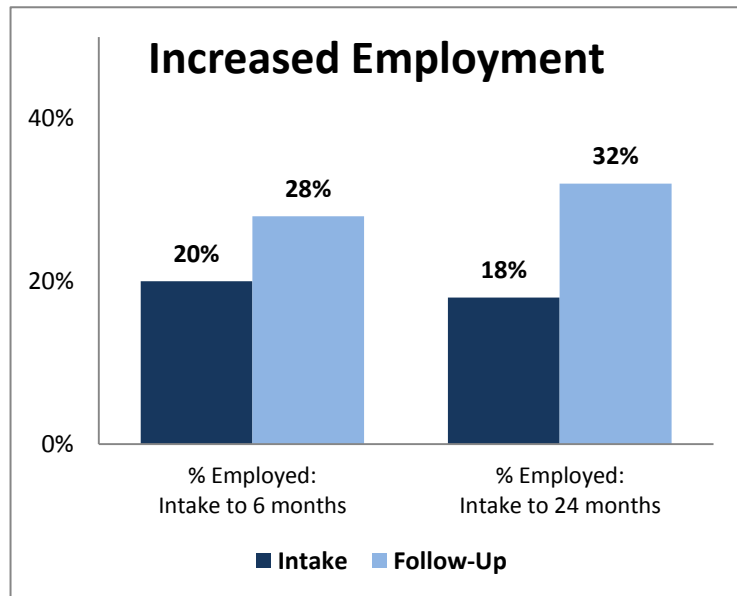
term developmental impacts of living in environments characterized by toxic stress (such as poverty, parental depression, and harsh/neglectful parenting) on children have been well-documented (Child Welfare Information Gateway, 2009). Finally, a recent meta-analysis of the literature on the risk of child abuse and neglect found that among a set of 39 risk factors studied in over 150 research studies, the most important factors that were consistently predictive of child maltreatment included the quality of parent-child relationships, parent stress, and family conflict (Stith, Liu, Davies, Boykin, Alder, Harris, Som, McPherson, & Dees, 2009). Thus, improvements in these areas represent key outcomes for parents and children served by the Relief Nurseries.



The Relief Nursery evaluation includes three indicators designed to assess the quality of general family functioning and the frequency of positive parent-child interactions. These scales are completed by Relief Nursery staff at intake and every 6 months thereafter. The evaluation also includes a third measure that asks about the frequency of reading to children. Early reading to children has been found to be a key predictor of children’s language and literacy development (Snow, 1993). Results found that there were statistically significant improvements on all three of these outcomes for parents participating in the Relief Nursery for 6, 12, and 24 months. Specifically:

- Parents Read More Frequently to Children.** At program intake, fewer than half (about 45%) of all parents read to their young children several times per week or more; however, after participating in the Relief Nurseries for at least 6 months this increased to 58%. Seventy-one (71%) percent of families who remained for two years were reading frequently to their children.
- Family Functioning Improved.** The percentage of parents who were rated as having positive family functioning “most of the time” or “always” increased from 37% at intake

to 48% at the 6-month follow-up. For parents participating at least 12 months, 36% had positive family functioning at intake, compared to 50% at the 12 month follow-up. Families who remained in the program for two years or more showed the greatest improvement, with 37% of families rated as having positive family functioning at intake, as compared to well over half (57%) at follow-up.



- Parent-Child Interactions Were More Positive.** The frequency of positive parent-child interactions increased over time as well. After 6 months in the program 50% of families were rated as consistently engaging in sensitive, responsive parenting (compared to 36% at intake); this percentage increased to 54% after 18 months and 57% for those remaining two years or more.

Relief Nurseries Improve Family Economic Stability

Relief Nurseries strive to help families become stable economically, by providing assistance connecting with job training, education, employment assistance, as well as with community resources such as WIC, TANF, child care subsidies, etc. A lack of resources to meet basic family needs has been consistently linked to increased risk for child abuse and neglect (Brooks-Gunn & Duncan, 1997).

- Increased Employment & Income.** Results from this year's evaluation found that the Relief Nurseries are having considerable success in these areas, increasing the number of parents employed, especially for families remaining in services for two years or more, and reducing the number of families living in poverty from 92% to 88%. *Changes from intake to follow up are statistically significant, $p < .01$.
- Decreased Emergency Room Use.** Relief Nurseries are also successful in linking families to health care resources as evidenced by a decreased use of costly emergency room services for routine care. Families who received services for 12 months were

significantly less likely to use the ER for health care at follow-up than at enrollment (34% vs. 29%).

Relief Nurseries Decrease Overall Family Risk

Research on risk factors for child abuse and neglect suggests that while particular events and characteristics (e.g., poverty, parental childhood history of abuse) are clearly related to the increased likelihood that a child will be maltreated, the total number of risk factors experienced by parents and/or children may be even more important (Begle, Dumas, & Hansen, 2010; Mackenzie, Kotch, & Lee, 2011). For example, research on Oregon's Healthy Start~Healthy Families home visiting program consistently finds that the more psychosocial risk factors present in a family, the more likely it is that abuse will occur—children from families with four or more risk factors are more than ten times as likely to be abused than those with no risk factors.

Relief Nurseries services appropriately focus on helping to reduce risk factors in families as a means for reducing risk for child maltreatment. At program entry, families are screened using a detailed 47-item risk assessment tool that includes issues such as child welfare and foster care involvement, mental and physical health, poverty, and family violence. Of these 47 indicators, 23 are considered to be both mutable (changeable) and targets of intervention (for example, a non-mutable risk factor would be a parent's personal abuse history). Families are re-assessed using the risk factor checklist every 6 months. At enrollment, families have an average of 7 historical and 9 mutable risk factors.

Results found that parents who participated in the Relief Nursery showed significant reduction in the number of mutable risk factors in evidence:

- For families participating at least 6 months, the average number of risk factors was reduced from 9.16 risk factors at intake to 7.82 risk factors, a statistically significant reduction.
- For families participating at least 12 months, the average number of risk factors was reduced from 9.04 risk factors at intake to 7.51 risk factors, a statistically significant reduction.
- For families participating at least 24 months, the average number of risk factors was reduced from 8.73 to 7.31, a statistically significant difference.

Conclusion

Results of this evaluation suggest that the Relief Nurseries are providing services to a relatively large number of families whose children are at high risk for child abuse and/or neglect. Over 2,560 children received services from the 14 Relief Nurseries this biennium, with many receiving services for more than one year. Families enter the program with a myriad of risk factors related to poverty, mental health, child welfare system involvement, and family violence. Given the high-risk profile of Relief Nursery participants, overall results are all the more striking. The evaluation shows statistically significant and meaningful improvements across a variety of areas, including:

- Increased parent employment
- Improved quality of parent-child interactions
- Increased frequency of reading to children
- Reduced number of family risk factors
- Improved family functioning and stability
- Reduced use of emergency room services
- Increased rates of child immunizations

These results provide evidence of the effectiveness of Relief Nursery services in stabilizing families, improving parenting, and helping to set the stage for long-term success for children.

Introduction

This report presents findings from the 2010-2012 biennium for 14 Relief Nursery programs serving 15 communities in Oregon. Portland State University's Center for the Improvement of Child and Family Services was contracted to analyze data collected by the Relief Nursery programs through the statewide database currently managed through the Governor's Office (formerly by the Oregon Commission on Children and Families). Data from the 14 fully operational Relief Nurseries are included in this report. A subsequent report will include information related to the influence of the Relief Nursery programs on families' involvement with state administered child welfare services; however, these data were not yet available at this writing. In this report we provide a brief description of the program's history and implementation, and an overview of the data collection methods. Following this, we provide combined results for the 14 Relief Nurseries in the areas of family functioning, parent-child interactions, child well-being, family self-sufficiency, and reductions in risk factors.

Program History and Implementation



The first Oregon Relief Nursery program began in 1976 in Eugene, Oregon. The program was developed to address the needs of families whose young children were at risk for abuse or neglect. Although other Nurseries developed over the next few decades, expansion of the Relief Nursery Model occurred primarily during 2000-2005. Growth in the model was facilitated by Oregon Senate Bill 555, which provided funds for model dissemination. Presently, staff housed within the Governor’s Office (formerly from the Oregon Commission on Children and Families), provides support through local commission offices to Relief Nurseries in Albany, Bend, Corvallis, Cottage Grove, Eugene, Gladstone, Madras, Medford, Ontario, Pendleton, Portland, Roseburg, and Salem. Information from these programs is included in the present report.

The stated goal of the Relief Nursery Program is: “To stop the cycle of child abuse and neglect through intervention that strengthens parents, builds successful and resilient children, and preserves families by offering comprehensive and integrated support services.” Relief Nurseries accomplish this by providing comprehensive family services to children under the age of six and their families who experience numerous risk factors that could lead to abuse and neglect. Relief Nursery services are voluntary and may include:

- Parenting education and support
- Therapeutic infant and preschool classrooms for children
- Advocacy and case management services
- Respite care
- Mental health services and referrals for adults and children
- Home visitation
- Family-centered recovery support
- Family literacy services

Families participate in two primary program components: (1) Therapeutic Early Childhood classrooms, (typically referred to as “center-based” services, and which also include home visits to participating families) and/or (2) the Home Visiting/Outreach component. In some Relief

Nurseries, families in the Home Visiting/Outreach component are provided periodic services to engage them while they are on the waiting list for center-based therapeutic classroom services. In other programs, Home Visiting/Outreach is offered as a stand-alone service module. Programs offer case management, respite care, and mental health services as needed. Relief Nursery programs are based on nationally recognized standards for best practices in early childhood education and family support, maintaining small teacher-child ratios in classroom-based settings and utilizing evidence-based parenting curricula such as Make Parenting a Pleasure (OJJDP, 1999). Relief Nurseries play a pivotal role in serving at-risk families with young children, and work closely with other programs such as Family Drug Court, Healthy Start, Early Intervention/Early Childhood Special Education (for special needs children), Early Head Start and Head Start.

Evaluation Purpose & Methodology



The purpose of the 2010-2012 evaluation was to examine the effectiveness of the Relief Nursery programs in influencing key outcomes, using information collected through a statewide database.

A series of assessment tools are currently being used by the Relief Nurseries to capture key program information. These include the following:

Risk Factor Checklist: Intake. This form includes 47 risk factors collected for each family during their intake assessment. The form includes 23 mutable risk factors (risk factors that can be changed or reduced by participating in the Relief Nursery program), 10 risk factors that may change but are not a target of the intervention (e.g., marital status), as well as 14 historical risk factors (e.g., the parents' childhood history of involvement with child welfare services) that provide key information about the family context but which cannot be changed by current services.

Risk Factor Checklist: Update. This form includes all of the mutable risk factors contained in the Intake Risk Factor Checklist. Families are re-assessed on the Risk Factor checklist every 6 months they participate in the program, and at program exit.

Family Assessment Form. This form includes basic demographic information about the family as well as information about the core family outcomes (parent-child interactions, family functioning, frequency of reading). The form also includes a set of optional items related to various family outcomes that Relief Nurseries can track if desired. The Family Assessment Form is completed at intake and every 6 months thereafter.

Child Data Form. The Child Data Form consists of key demographic information for all participating children as well as select child outcomes such as child welfare involvement and parent-child interactions. It is collected at intake and every 6 months thereafter.

Information is collected by program staff and then entered by programs into the web-based data system maintained by the Governor's Office/Early Learning Council (formerly by the Oregon Commission on Children and Families). A wide variety of reports are available through the data system for ongoing monitoring and accountability.

For the current study, PSU obtained data from the 14 Relief Nursery programs that is collected through these forms on the statewide data system¹. Data were downloaded on November 8, 2012; thus, the results presented here reflect information entered as of this date.

PSU is in the process of entering into a data-sharing agreement with Oregon Department of Human Services in order to obtain information about the extent of involvement of Relief Nursery families with the child welfare system. However, this information was not available as of this writing, and will be provided in a separate report pending finalization of data-sharing protocols.

¹ One Relief Nursery separately maintains their own data system; these data were provided directly to the evaluation by the Relief Nursery. Additionally, because 4 of the Relief Nurseries are relatively new, 24 month follow up data was not available for these programs.

Program Outcomes

Sample Description

Families and children were included in this report if at least one assessment of any type (risk assessment, family assessment, or child assessments done at intake, 6 months, 12 months, 18 months, 24 months, 30 months, exit, etc.) occurred between July 1, 2010, and June 30, 2012,



and this assessment was entered or uploaded into the statewide database by November 8, 2012. If a family met these criteria, all information available for this family was downloaded from the state data system. This represents the number of families served by the Relief Nurseries during the 2010-2012 biennium. Using this criteria, a total of 1,968 families and 2,560 children were identified as having received services from the Relief Nursery during FY2010-2012.

For inclusion in the outcome study, a family or child must have had an intake assessment completed (at any time), and at least one follow-up assessment that occurred during the biennium. Data were analyzed to compare changes over time at three time periods: Intake to 6 months post-intake; Intake to 12 months post-intake; and Intake to 24 months post-Intake. Table 1 presents the number of family, risk and child assessments available for analysis at each time period. Families that were served but who are not included in these analysis include families whose intake assessment was not included in the statewide database (usually because that family was enrolled in the program prior to the start of the statewide data system); families was not enrolled for long enough to have their first set of follow-up assessments completed at 6 months post-intake; and families missing follow up assessments for other reasons.

Table 1. Number of Assessments Available for Outcome Study

	Intake to 6 Months	Intake to 12 Months	Intake to 24 Months
Risk Assessments	1132	647	263
Family Assessments	1140	656	275
Child Assessments	1475	848	528

Participant Characteristics

Table 2 describes program participant characteristics. This table represents the total sample of 2156 families and 2685 children, although there is missing item-level data in some areas. Statewide, primary caregivers for Relief Nursery families are, on average, female (94%), and most likely to be Caucasian (59%) or Hispanic (30%). Most primary caregivers were not employed (19%), and the majority of families (91%) were living at or below the federal poverty level at intake. At intake, 55% of primary caregivers were unmarried, and 37% did not have a high school diploma or GED. Twenty-one percent (21%) were teen parents (age 17 or younger) at the birth of their first child. Most did have health insurance (96%). The average age of children in this sample was 1.59 years. Most families had either one or two children, although the range was 1-5.

Enrolled families present with a number of risk factors at enrollment, as shown in Table 3. Many of these are risk factors that have been found to be strongly associated with the likelihood of child abuse or neglect (Stith, et al., 2009). For example:

- 84% of parents are currently experiencing high levels of stress;
- 49% have a history of intimate partner (domestic) violence
- 56% of parents have a mental health problems;
- 43% of parents were raised by an alcoholic or substance abusing parent;
- 41% of parents have current anger management issues; and
- 33% have a history of incarceration.

Service Information

A limited amount of service information is tracked through the state data system. Staff report whether children received home visits, classroom-based services, or both, and record the number of home visits provided. For this sample, 1,473 children received classroom-based services during at least one 6-month period and 1,628 children received at least one home visit during the biennium. Children were most likely to have received classroom services for 2 assessments periods (about one year, 30% of children), although 11% received classroom services in 4 assessment periods (about 2 years). In the data provided, children received an average of 9 home visits during their enrollment period (although the range was large, from 0-71 home visits).

As shown in Table 3, for families who exited the Relief Nursery program, the average duration of services was a little over one year (14 months). However, if duration is calculated including

those still in the program, the average length of stay increases to almost 1 ½ years (17 months), suggesting that there are a substantial number of families who do remain in service beyond the one-year mark. Duration of enrollment ranged from less than one month to almost 7 years. Length of stay in the program can be quite individualized, depending on families' needs, and often depends on the availability of other age-appropriate services such as Early Head Start or Head Start.

Attrition Analyses

We conducted attrition analyses comparing the number of total baseline risks (total and total mutable) for families who only completed intake assessments to those who completed 6, 12, or 24 month follow-up assessments. This allows an analysis of whether families who remain in the program for these different intervals of time differ in meaningful ways from one another. None of the comparisons were significant, with one exception: families who had only intake assessments had significantly fewer risk factors than those who had both intake and 6 month follow-up assessments ($p < .01$). This suggests that families who left service prior to completing the six month assessment were generally lower in baseline risk factors, compared to those who remained in services. It appears, therefore, that the Relief Nurseries are doing a good job at retaining the higher risk families in services for longer periods of time.

Table 2. Participant Characteristics at Intake²

Primary Caregiver and Family Characteristics at Intake	
Average age of primary caregiver at intake	27.9 years
Race/Ethnicity (n=1912):	
African American	69 (3.6%)
Asian American	13 (.6%)
Caucasian	1089 (57%)
Hispanic	552 (29%)
Multi-Ethnic	8 (.4%)
Native American/Alaskan Native/Native Hawaiian	91 (4.7%)
Other	23 (1.2%)
Not Reported	67 (3.5%)
Percent Female (n=1925)	1818 (94%)
Percent of Families at/below the Federal Poverty Level at Intake (n=2040)	1853 (91%)
Percent Attending School (n=1933)	229 (12%)
Percent Single/Not Partnered (n=1899)	1041 (55%)
Percent Employed Full-or Part time (n=1869)	380 (19%)
Percent teen parents at birth of first child (n=1849)	383 (21%)
Percent with a High School Education (n=1890)	1193 (63%)
Percent with Health Insurance (n=1913)	1826 (96%)
Average Total Risk Factors at Intake (all risk factors, n=1563)	15.7
Child Characteristics at Intake	
Average age of child (n=2327)	1.59 years
Percent Male (n=2549)	1344 (53%)
Percent Female (n=2549)	894 (47%)
Race/Ethnicity (n=2492)	
African American	86 (4%)
White/Caucasian	1577 (63%)
Hispanic	642 (26%)
Multi-Ethnic	40(2%)
Average Number of Children in Family (n=2314)	1.62 children
Average Length of Stay in Program for Participants with Exit Assessments Only (n=919)	14.1 months
Average Length of Stay in Program for all Participants (n=1989)	17.31 months

² Note: Sample sizes may not equal the number of families served because of missing information.

Table 3. Family Risk Characteristics at Enrollment

Risk Factor	Percentage with Risk (n=2040)
Anger management issues	41%
Intimate partner violence	28%
One parent currently incarcerated or on probation	24%
Unable to consistently access food	45%
Caregiver is homeless	19%
No access to reliable transportation	42%
Child currently in DHS-mandated out of home care	8%
Family has open child welfare case	25%
High levels of parental stress	84%
Child has mental health/social emotional problems	26%
Parent has mental health problems	56%
Family lacks support system	58%
Family History	
History of incarceration/criminal justice involvement	33%
Parent raised by substance abuser/alcoholic	43%
History of intimate partner violence	49%
Parent has history of being abused/neglected	42%
Parent has history of being sexually abused	25%
History of homelessness	37%
History of child welfare involvement	30%
Family has had a child permanently removed from their care	8%
Family has had a child in foster care	22%

Key Outcome Variables

The Relief Nurseries measure several key outcomes that reflect the program goals of helping to stabilize families, improving the quality of parenting, and supporting children’s development. Key outcomes included in this report are described below.

Family and Caregiver Outcome Variables

Risk reduction. Families are screened using a 47-item risk assessment tool at program entry and every 6 months thereafter. Of the 47 risk factors, 23 are considered both changeable (mutable) and targets of intervention. This risk Assessment includes both mutable (changeable)

and non-mutable (non-changeable) risk factors. Examples of non-mutable risk factors include prior involvement with child welfare and past criminal history. Changeable risk factors fall into five categories: (1) Family violence/victimization (e.g., domestic violence, anger management problems); (2) Poverty (e.g., below federal poverty level; unemployed; unstable housing); (3) current Child Welfare involvement (e.g., current abuse, open DHS case); Mental Health (e.g., parental depression, high stress); and Other (e.g., lacks support, substance abuse).

Daily family functioning. The measure of daily family functioning is comprised of the following three items, rated by Nursery staff: “The family has consistent daily routines”, “The family handles routines”, and “The family has positive social support”. Workers use the following rating scale: ‘0’ = not at this time; ‘1’ = seldom; ‘2’ = sometimes; ‘3’ = most of time, and ‘4’ = almost always.

Increased reading to children. This single item outcome measure uses a four point scale: ‘1’ = less than once a week; ‘2’ = once a week; ‘3’ = several times week; ‘4’ = daily or more and asks whether an adult “reads to the child for at least 15 minutes every day.”

Employment status. Employment status is tracked on the Family Assessment form, and is coded as ‘1’= fulltime (30 hours a week or more), ‘2’= part time, ‘3’= employed seasonally, ‘4’= not employed/actively seeking work, and ‘5’= not seeking work. For analysis, this variable was recoded into a two categories: (1) unemployed; and (2) any employment.

Federal Poverty Level. Whether the family is at or below the federal poverty level (yes or no) is assessed using the risk assessment tool.

Use of emergency room services. Staff indicate on each assessment whether the family has used emergency services for routine health care in the past 6 months.

Quality of Parent-Child Interactions

Relief Nurseries use an observational rating scale to assess the quality of parent-child interactions. This tool was adapted from the High Scope Parent Behavior Rating Scale by the University of Minnesota (Cook, 1998). Staff rate the extent to which parents engage in each of the following behaviors (0=not at this time; 1=seldom; 2=sometimes; 3=most of the time; and 4=almost always); items are averaged to create a total parent-child interaction score:

- Enjoys child and expresses warmth and love
- Shows sensitivity to child’s feelings, needs, interests
- Uses effective, firm, but loving guidance
- Responds appropriately to child’s behavior and needs

- Adjusts environment and responses to child's temperament and needs
- Engages in reciprocal interactions, conversations, play involving taking turns
- Provides encouragement (both verbal and non-verbal support) for developmental advances
- Creates a developmentally appropriate learning environment for the child.

Child Outcomes

Relief Nurseries have the option of recording child developmental outcomes and other information in the statewide database. It appears that although 11 of the 14 Relief Nursery programs report at least some of this optional data, sample sizes for these outcomes were considerably smaller than for other areas, suggesting that this information is not consistently reported for all children. For example, data regarding diagnosed disability was present for about 75% of assessments but data regarding other developmental outcomes was present for less than half (~40%) of assessments. We recommend that all Nurseries enter this information into the statewide database in the future to allow more comprehensive reporting of these outcomes. The following outcomes are included:

1. ***Child welfare involvement***, specifically, whether Relief Nursery staff made a report to DHS and whether any child was removed from their parents' care.
2. ***Developmental delays***, specifically whether each child has a diagnosed disability, is receiving Early Intervention services, has identified developmental delays, and whether they have been referred to Early Intervention for further assessment or service.
3. ***Health care***, specifically whether each child's immunizations are up-to-date and whether they are linked to a primary health care provider.

Analysis Strategy

To examine whether outcomes improve over time, we conducted repeated measures Analysis of Variance (ANOVAs) (for continuous outcomes) or McNemar's test (for categorical repeated-measures variables) to evaluate change from program entry to follow-up for each of the outcomes described above.

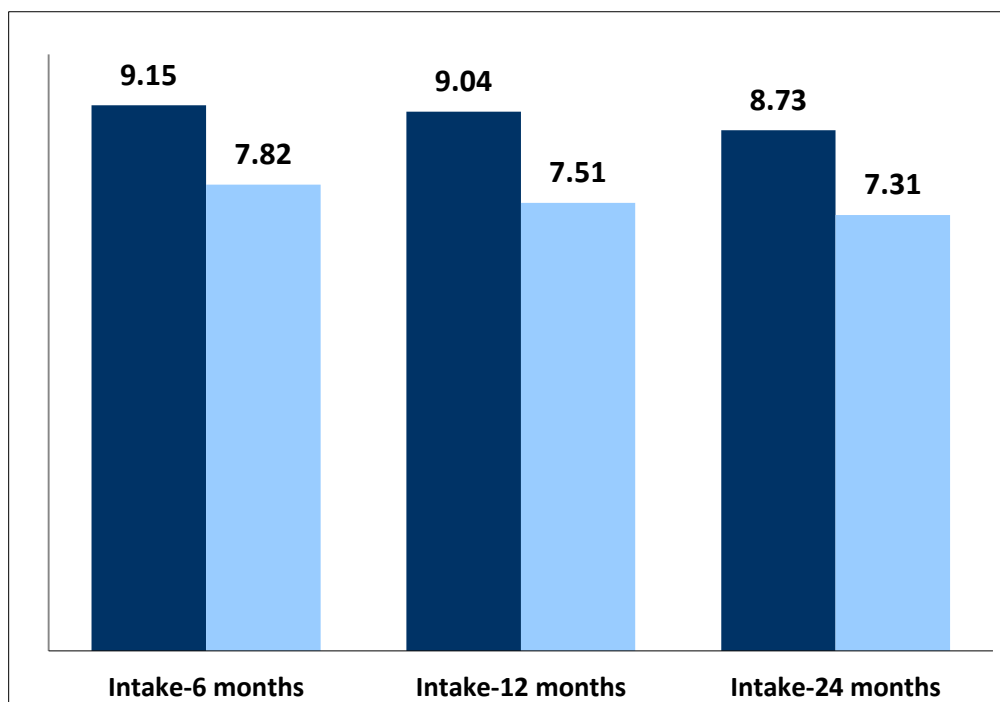
Risk Reduction Results

Research on risk factors for child abuse and neglect suggests that while particular events and characteristics (e.g., poverty, childhood history of abuse) are clearly related to the increased likelihood that a parent will become abusive, the number of risk factors experienced by parents and/or children may be even more important (Sameroff, Seifer, Barocas, Zax, & Greenspan, 1987). For example, research on Oregon's Healthy Start program consistently finds that the

more psychosocial risk factors present in a family, the more likely it is that abuse will occur—children from families with four or more risk factors are more than ten times as likely to be abused than those with no risk factors (Green, Lambarth, Tarte, & Snoddy, 2007).

At intake, families have an average of 7 historical and 9 mutable risk factors. Historical risk factors are those that cannot be changed (e.g., the parent was abused as a child); mutable risk factors are changeable, and thus the focus of the outcome analysis (e.g., high parenting stress). Data analyses found that families who participated in the Relief Nursery program showed a statistically significant reduction in the number of family risk factors over time, as shown in Figure 1.

*Figure 1. Reduction in Total Number of Family Risk Factors: Intake to Follow-Up**



*All changes from intake to follow-up are statistically significant, $p < .01$

Specifically, after 6 months in the program, the average total number of risk factors decreased from 9.15 risk factors to 7.82 risk factors; families who remained in services for 12 months showed evidence of a decrease from 9.04 to 7.51 risk factors. Families who remained in the program for 2 years showed similar decreases, from 8.73 risk factors at intake to 7.31 risk factors. All of these decreases were statistically significant, $p < .01$.

As shown in Table 4, there were substantial reductions across all of the key domains of risk for families. Families show statistically significant reductions in poverty-related risk factors, child welfare risk factors, mental health risk factors and other general risk factors. It should be noted that the sample size for the 24-month follow up sample is considerably smaller; this is both because the average length of stay in the program is about 1 ½ years (17.5 months) and because four of the Relief Nurseries have been operational for less than two years and thus had no families who could have been retained for this period of time.

Table 4. Average Number of Risk Factors in Each Area at Intake and Follow-Up

Outcome	Intake	6 Months*	Intake	12 Months*	Intake	24 Months*
	N=1132		N=647		N=263	
Total mutable risk factors	9.15	7.82	9.04	7.51	8.73	7.31
Total poverty-related risk factors	3.54	2.99	3.48	2.85	3.43	2.70
Total child welfare-related risk factors	.55	.43	.48	.37	.38	.29
Total mental health-related risk factors	2.26	2.02	2.23	2.01	2.14	2.11
Total family violence/victimization factors	.97	.84	.98	.80	.96	.72
Total other risk factors	1.85	1.54	1.86	1.48	1.81	1.49

*all changes from intake to follow-up were statistically significant, $p < .05$.

Self-Sufficiency Results

Relief Nurseries strive to help families become stable economically, by providing assistance connecting with job training, education, and employment assistance, as well as with community resources such as WIC, TANF, child care subsidies, etc. A lack of resources to meet basic family needs has been consistently linked to increased risk for child abuse and neglect (Brooks-Gunn & Duncan, 1997). Relief Nurseries also work to ensure that all families are connected with a health care provider, have health insurance, and that children are receiving regular preventive health care.

Results in this area were positive, suggesting that the intensive case management and family support provided by the Relief Nursery have been successful in helping parents become employed and increase family income (see Table 5). Employment increased substantially and significantly even within the first 6 months of services, from 20% employed to 28% employed. For families who stayed in for two years, 32% were employed by the time of the 24 month assessment. Similarly, the percent of families at or below the Federal Poverty Level decreased for families who remained in the program at least 6 months, from 92% at intake, to 89% at the 12 month assessment, a statistically significant difference. This is especially notable given the current economic situation.

Table 5. Family Self-Sufficiency Outcomes

Outcome	Intake	6 Months	Intake	12 Months	Intake	24 Months
Below the Federal Poverty Level	92%	89%*	92%	90%	90%	88%
	N=1132		N=647		N=263	
Employed full or part time	20%	28%*	20%	25%*	18%	32%*
	N=1075		N=602		N=248	

*Indicates statistically significant change from program entry to Follow-Up, $p < .05$.

Health Results

Further, it appears that Relief Nurseries have also been successful in linking families to health care resources, and thus reducing costly emergency room use by families (see Table 6). This reduction was statistically significant for families at the 12-month assessment. The rate of child immunization also increased significantly over the course of program participation.

Table 6. Family Health Outcomes

Outcome	Intake	6 Months	Intake	12 Months	Intake	24 Months
ER use for routine care	33%	31%	34%	29%*	34%	31%
	N=1054		N=606		N=256	
Child immunizations up to date	88%	93%*	88%	94%*	88%	91%*
	N=783		N=430		N=148	

*Indicates statistically significant change from program entry to Follow-Up, $p < .05$.

Parenting Results

Two of the most important goals of the Relief Nursery are to help parents create stable, supportive family environments and to improve the nature and quality of parent-child interactions. Families that are experiencing multiple challenges related to poverty and other circumstances have difficulty providing the safe, stable environments that children need for positive development. Research on early brain development has clearly documented that engaged, nurturing parenting supports the early attachment relationships that are critical to children's physical, social, and cognitive development, while harsh, disengaged, and unpredictable parenting is associated with child maltreatment and other negative outcomes (Shonkoff & Phillips, 2000; Zeanah, Boris, & Larrieu, 1997). Further, a recent meta-analysis of the literature on the risk of child abuse and neglect found that among a set of 39 risk factors studied in over 150 research studies, the most important factors that were consistently predictive of child maltreatment included the quality of parent-child relationships, parent stress, and family conflict (Stith, Liu, Davies, Boykin, Alder, Harris, Som, McPherson, & Dees, 2009). Thus, improvements in these areas represent key outcomes for parents and children served by the Relief Nurseries.

Thus, improvements in these areas represent important outcomes for parents and children served by the Relief Nurseries. The evaluation also includes a third measure that asks about the frequency of reading to children. Early reading to children has been found to be a key predictor of children's language and literacy development (Snow, 1993).

Results from this year's evaluation (see Figures 2a, 2b & 2c) found extremely positive results in terms of improved parenting and family functioning, with statistically significant and substantive improvements documented at each assessment point. The percentage of parents

who were rated by staff as having positive family functioning (e.g., stable and predictable routines, and available social supports) either “most of the time” or “always” increased from 37% at intake to 48% at the 6-month follow-up. For parents participating at least 12 months, 36% had positive family functioning at intake, compared to 50% at the 12 month follow-up; and for those who remained 2 years or more, there was an increase from 37% to 57%.

Similarly, staff regularly rate families in terms of the quality of their interactions with their young children. The frequency of positive parent-child interactions also increased significantly over time, with 33% of parents showing regular, positive interactions with their children at intake, compared to 45% at the first follow-up assessment. For families participating at least 12 months, 33% demonstrated consistent positive interactions at baseline, compared to 50% after one year of Relief Nursery services. Even larger increases were apparent for those who remained in the program for two years; 32% of these families had regular positive interactions at baseline compared to 54% consistently showing positive interactions at the 24 month assessment.

Relief Nursery parents also showed dramatic and statistically significant improvements in the frequency of reading to children. At program intake, only 45% of parents read to their young children several times or more per week; however, after participating in the Relief Nurseries for at least 6 months this increased to 58%. For families participating at least 12 months, 40% read to their children several times per week or more at intake, compared to 51% at the 12-month Assessment. The largest gains were seen for those families participating at least 2 years; only 37% of these families read to their children regularly at intake; this almost doubled (to 71%) by the 2-year assessment.

Daily reading to children has been shown to be an extremely important activity that promotes children’s language and literacy development. At program intake, only 12% of parents read to their children on a daily basis; however, after participation the Relief Nurseries for at least 6 months, this increased to 18%. For families participating at least 12 months, 11% read to their children on a daily basis at intake, compared to 22% at the 12-month assessment. The largest gains were seen for those families participating at least 2 years; only 8% of these families read to their children on a daily basis at intake; this almost tripled by the 2-year assessment (to 24%). It should be noted, however, that these figures suggest considerable room for improvement daily reading activities by parents.

Figure 2a. Improvements in Key Parenting Outcomes: Intake to 6 months

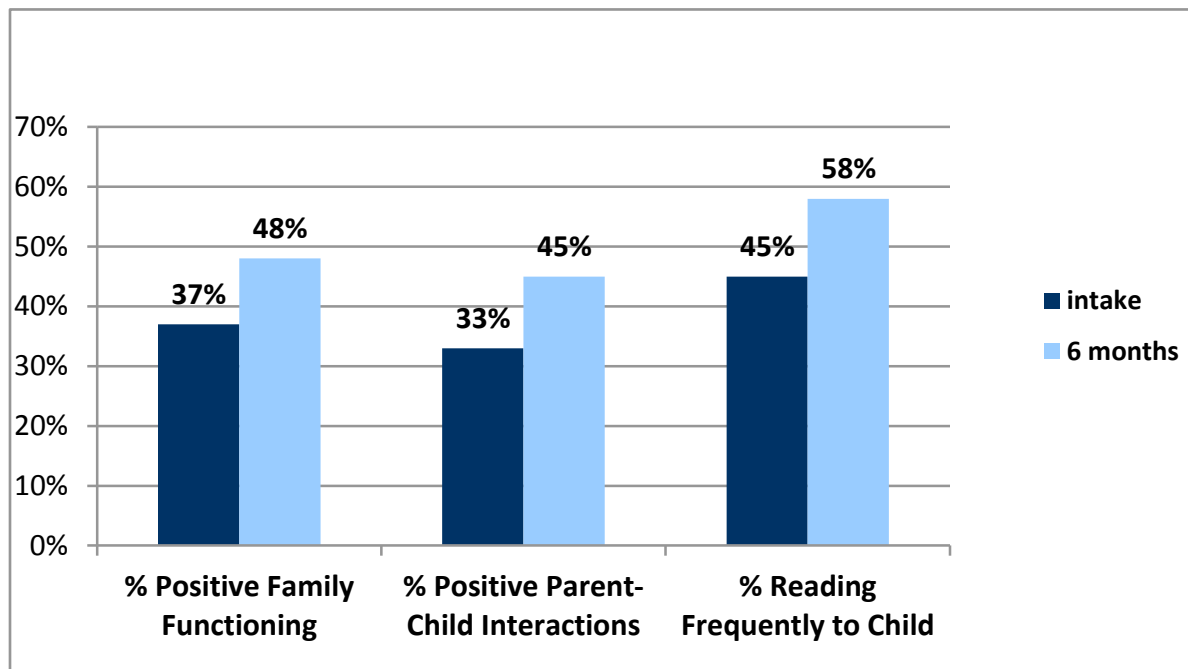


Figure 2b. Improvements in Key Parenting Outcomes: Intake to 12 months*

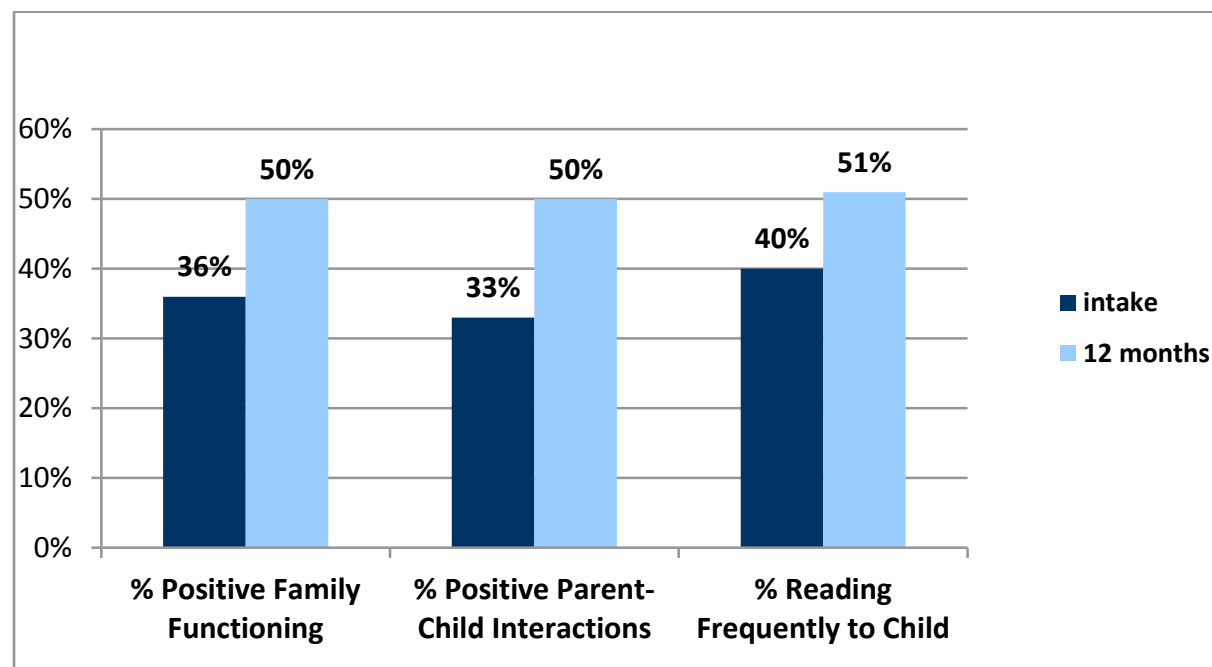
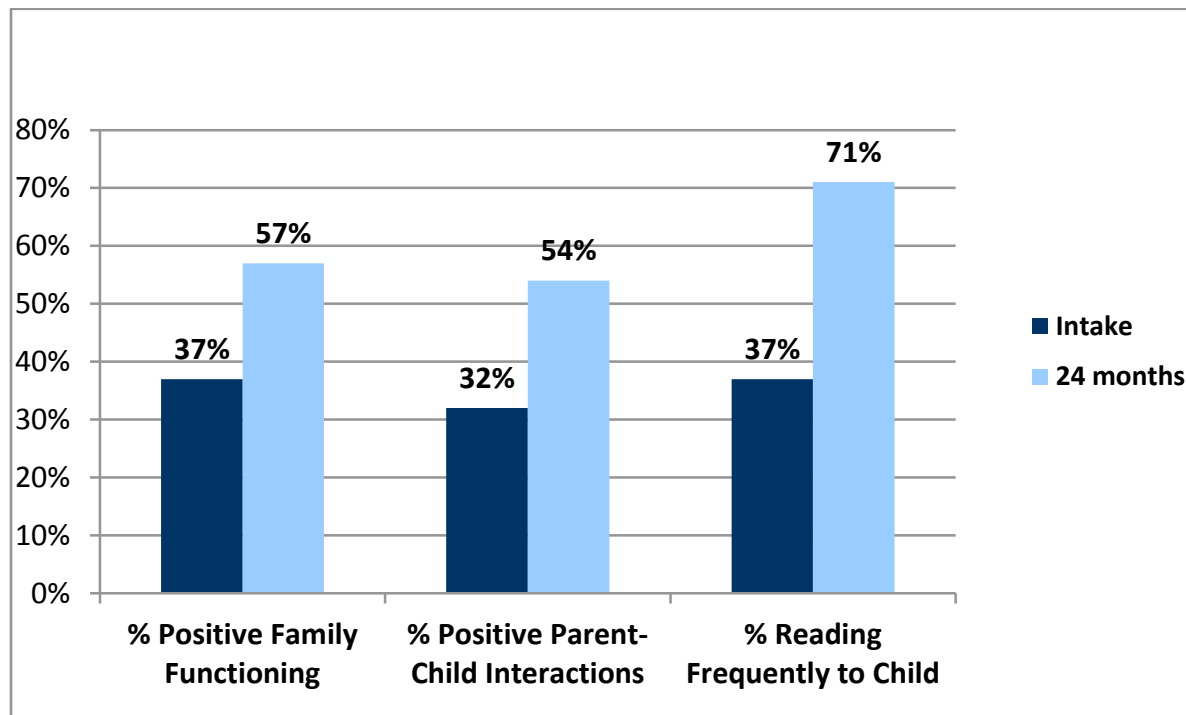


Figure 2c. Improvements in Key Parenting Outcomes: Intake to 24months



*all changes from intake to follow-up are statistically significant, p<.05

Child Outcome Results

Several child outcomes were available through the statewide database. However, it should be noted that these outcomes are not a required part of data entry for the Relief Nurseries, and therefore do not reflect the status of all participating children. Three outcome areas are included in the data system: (1) involvement in child welfare services; (2) developmental status and linkages; and (3) health-related indicators. Relief Nurseries regularly conduct developmental assessments on enrolled children to identify areas of development that may need additional support or referral to Early Intervention services. Eleven of the fourteen Relief Nurseries reported some data in these areas; however, not all children receiving services from those 11 Nurseries had data available on these outcomes.

In terms of child welfare involvement, the role of the Relief Nursery staff as mandated reporters is quite clear, as evidenced by the number of children reported by Relief Nursery staff at the 6 and 12 month follow-up assessments. However, given the high risk status of these families, it is hardly surprising that reports to DHS-child welfare would be needed. Further

examination of the patterns of child welfare system involvement for Relief Nursery clients will be conducted in late winter 2013, pending availability of state administrative data, to better understand the influence of the Relief Nurseries on child welfare-related outcomes.

As would be expected, the Relief Nurseries provide services to a relatively high percentage of children with diagnosed disabilities and/or identified developmental delays. Almost all of the children with diagnosed disabilities are also receiving services through Early Intervention/Early Childhood Special Education. Although the Relief Nurseries have nearly doubled the rate of referrals to Early Intervention since the last biennium, from 36% of children with delays at intake (Green & Rodgers, 2010) to 69% in 2010-12, the number of referrals being made is still somewhat lower than what might be expected. There are several issues complicating the Early Intervention (EI) referral process however. First, because Relief Nurseries have well-trained staff and low teacher: child ratios they may choose to delay making a referral, especially in cases in which the child's delays are not severe, instead choosing to support these children within the program. This is a cost-effective approach and takes advantage of the Relief Nurseries' highly trained staff, who can provide support and potentially ameliorate delays without involving more extensive (and costly) EI services. Further, especially for very young children, parents may be resistant to being referred to Early Intervention. In these cases, Relief Nursery staff continue to support the child and typically make referrals only if the developmental issue continues to be present at subsequent assessments.

In terms of health care outcomes, it appears that the majority of children enter the Relief Nursery already linked to primary health care providers. As mentioned earlier, child immunization rates, however, did increase during program participation and families used significantly fewer ER services.

Table 6. Children's Health and Developmental Status

	At Intake	At 6 Month Follow-Up	At 12-Month Follow-Up	At 24-Month Follow-Up
Number of children reported to DHS by RN staff within the last 6 months	25 (1%) N=2253	67 (5%) N=1313	53 (7%) N=728	23 (8%) N=278
Number of children removed from home within the last 6 months	86 (4%) N=2243	48 (4%) N=1302	33 (5%) N=727	10 (4%) N=277
Number of children with diagnosed disability	201 (10%) N=1976	139 (14%) N=1001	95 (17%) N=566	49 (21%) N=235
Of children with a diagnosis, #/% receiving Early Intervention services	136 (86%) N=136	109 (90%) N=121	78 (92%) N=85	44 (96%) N=46
Number of children with identified delays (RN assessment)	242 (34%) N=722	179 (29%) N=619	98 (25%) N=391	43 (26%) N=163
Of children with identified delay, #/% referred for further assessment	152 (69%) N=221	112 (67%) N=168	55 (59%) N=94	25 (58%) N=43
Number of children with a primary health care provider	1386 (95%) N=1456	769 (97%) N=792	439 (96%) N=457	155 (96%) N=161

Summary of Results and Recommendations

Results from this evaluation provide evidence of the success of the Relief Nurseries in helping high risk families to improve their parenting, reduce family risk, and support the healthy child development that is the foundation for school readiness. Specifically, the evaluation found that:



- The total number of family risk factors decreased by 15% after 6 months;
- Positive parent-child interactions increased by 36% after 6 months and by 69% for those remaining for 2 years;
- The number of families rated as having positive family functioning increased by 30% from intake to six months, and by 54% after two years;
- The total number of family violence/victimization risk factors decreased by 13% after 6 months and by 25% for those enrolled for 2 years or more;
- Frequency of reading to children increased by 29% after 6 months and by 92% after 2 years;
- The percentage of families using the emergency room for routine health care decreased by 15% after 12 months;
- The percentage of families living above the Federal Poverty Level increased by 38% after 6 months; and,
- Family employment increased by 40% after 6 months, and by 78% for those remaining for 2 years.

Perhaps most striking among these results is the ability of the Relief Nurseries to affect outcomes during the first six months of service – a relatively short duration given the high risk nature of these families. Further, the programs appear to be doing a good job in retaining these high risk families over time, and working with families to support continuing positive change. The findings from this evaluation highlight the success of Relief Nurseries in achieving important outcomes for children and families. Working with families at very high risk for poor outcomes, the Relief Nurseries have shown considerable success in reducing family risk factors associated with child maltreatment, and supporting families to provide safe, stable environments for their children. Data that directly examines the impact of the Relief Nurseries

on families' child welfare involvement was not yet available at the time of writing. A report examining state child welfare data for the 2010-2012 biennium will be released in Spring 2013, pending availability of the state data.

Data also suggest a few areas for improvement. First, while outcomes related to reading to children showed significant and substantial improvements, these families are still reading much less frequently than the national average, even for low income families, of whom 67% report reading daily to their children (ChildTrends, 2009). The Relief Nurseries should continue to emphasize the importance of daily reading to children, even from infancy. Relief Nurseries may also want to consider providing services focusing on adult and family literacy, as it is likely that a substantial number of adults in this program have relatively low literacy skills themselves. Such services are already available at some of the Relief Nursery programs. Home visits may be an especially important service to help support parents to increase the frequency of their reading to children.

Staff may also want to provide more targeted efforts to improve the parenting practices of parents who are not providing consistent, positive, parent-child interactions. Again, while the percentage of families who are improving their parenting skill increased significantly over time, only about half the RN families were rated by staff as demonstrating these skills consistently. Parent coaching and other intensive, hands-on parenting support may be needed to provide opportunities for parents to practice skills that they are learning from staff.

Overall, however, the results suggest a pattern of consistent, positive outcomes for families who received services from the Relief Nurseries during the past biennium. Especially given the high-risk profile of these families, the pattern of positive outcomes across a number of domains is very encouraging, and suggests that the Relief Nurseries are helping families to provide safe and stable environments for their children that will help them to avoid involvement with the child welfare system and support positive long-term outcomes.

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