

#### PROGRAM DESCRIPTION

#### WHAT IS THE PURPOSE OF THE SIXPENCE PROGRAM?

The Sixpence Early Learning Fund is a public-private partnership that is used primarily for grants to school districts to provide programs and services for infants and toddlers who are most at risk of school failure. The purpose of the Sixpence Programs is to help promote children's opportunities to experience positive environments that provide for their healthy growth and development during their earliest years. The Sixpence Programs promote community level partnerships that focus on meeting the developmental needs of very young children and support parents as their child's first and most important teacher, helping to ensure their child's success in school and later in life.

#### WHO ARE THE SIXPENCE PROGRAMS?

In the 2010-2011 program year, the Sixpence Early Learning Fund funded 13 programs across 11 school districts in Nebraska to provide evidence-based services to young children (birth through age three) and their families. The funded programs were based on one of three models: family engagement services, center-based infant/toddler care, or a combination of family engagement and centered-based services. Programs were funded through a combination of sources including Sixpence funds and federal and local sources. This was the third year of funding programs.

#### WHAT SERVICES WERE PROVIDED BY SIXPENCE?

Each of the Sixpence Programs was created as part of a community partnership and included an advisory board consisting of representatives from community stakeholders, who participated in the planning and implementation of the program. Each program identified evidence-based practices that were implemented as part of the services delivered. The majority of the family engagement services included individualized sessions that were delivered on a weekly basis in the families' home. For some families, the individualized services were provided in a community location. Many of the family engagement services also included group socializations, which were opportunities for children and families to gather together in learning activities. The majority of the center-based programs provided full-day services. All of the center-based programs included strategies to engage parents in their child's education program and conducted home-visits with the family.

#### **CHILD AND FAMILY DEMOGRAPHICS**

#### WHO WERE THE CHILDREN AND FAMILIES SERVED?

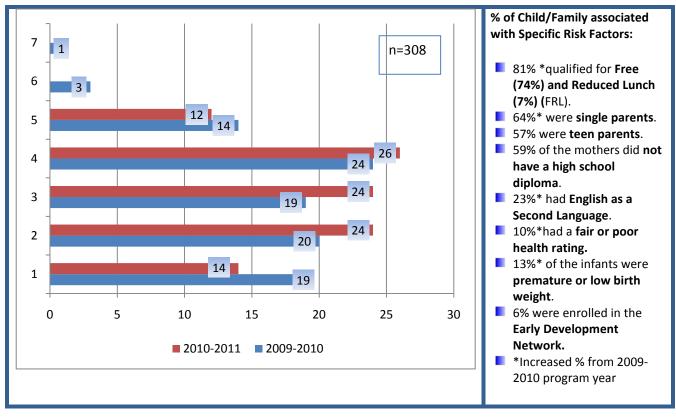
The targeted population for the Sixpence Programs is infants and toddlers (birth to age three) who are most at risk of failure in school. Sixpence Programs must serve infants and toddlers who have, at a minimum, one of the five identified risk factors. Parents who fall into one of the risk categories can also be served during the mother's prenatal period.

In addition to the five program-defined eligibility risk factors, three additional risk factors were tracked: single parents, children enrolled in the Early Developmental Network, and children with low health rating.

#### **Program Defined Risk Factors:**

- Children (birth to age three) whose family income qualifies them for participation in the federal free or reduced lunch program;
- Children (birth to age three) who were born prematurely or at low birth weight as verified by a physician;
- Children (birth to age three) who reside in a home where a language other than spoken English is used as the primary means of communication;
- Children (birth to age three) whose parents are younger than eighteen or
- Children (birth to age three) whose parents have not completed high school.

#### PERCENT OF CHILDREN/FAMILIES PER # OF RISK FACTORS



- 62% of the children and their families were associated with three or more risk factors.
- The categories of single parent, teen parent and eligible for FRL represented the largest percentages of families.
- A total of 308 children and 306 families were served by the program in 2010-2011. In addition, 29 mothers were pregnant. A total of 107 children have exited the program. The majority of these exited because the family withdrew from the program.

Reason for Exit (n=107)	% the Exited
Transitioned to preschool program (Head Start, community program)	16
Aged out – no other preschool program available	6
Parent graduated-no other program available	4
Family moved	13
Withdrew from Program : Family issues (9), Poor attendance (16), work interfered (7), family dropped (7),	40
Other:	21

#### Child Data:

57% of the children were under the age of 1 at the time of intake.

There were slightly more females (52%) than males (48%) served by the program.

59% of the children served represented minority backgrounds.

50% of the children were in the program for over one year.

18% of the children were in the program for over two years.

#### Parent Data:

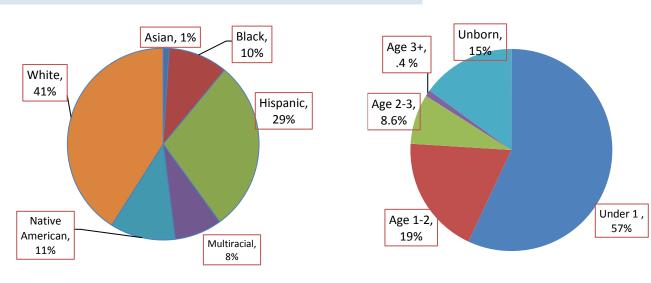
2% of the families had a CPS referral.

9% of the mothers were pregnant at the time of intake.



#### AGE DISTRIBUTION

#### **ETHNICITY DISTRIBUTION**



#### **EVALUATION FINDINGS**

A comprehensive evaluation process was conducted to monitor the implementation of the Sixpence Programs and progress towards identified program outcomes. A standardized evaluation process was developed to collect and report information uniformly across programs. A continuous improvement process was incorporated as part of the evaluation process. The following is a summary of the evaluation results of the implementation of the third year of Sixpence Programs.

#### WHAT WAS THE QUALITY OF THE CENTER-BASED SERVICES?

#### Infant/Toddler Environment Rating Scale-Revised (ITER-RS)

The ITER-RS was used to evaluate the overall quality of the classrooms. The ITERS is an observational assessment of 39 items across seven subscales designed to assess group programs for children from birth to 2½ years of age. At least one classroom was observed for each of the seven center-based programs for a total of sixteen classrooms.

#### A COMPARISON OF ITERS RATINGS ACROSS YEARS

Year	n	Space & Furnishings	Personal Care Routines	Listening & Talking	Learning Activities	Interaction	Program Structure	Parents & Staff	Overall Rating
2009-2010	16	6.13	4.77	6.54	5.55	6.5	6.55	6.17	6.03
Score Ranges		4.8-6.8	2.33-6.0	4.67-7.0	3.30-6.56	4.75-7.0	4.33-7.0	4.14-7.0	4.67-6.6
2010-2011	16	6.33*	4.73	6.80*	6.18*	6.75*	6.72*	6.53*	6.29*
Score Ranges		4.8-7	2.2-6.83	5.33-7	5.22-6.87	5.25-7	5.5-7	4.86-7	5.66-6.73

1= inadequate 3 = minimal 5 = good 7 = excellent

#### What is the quality of center-based programs?

- All of the 16 classrooms (100%) met the state overall rating for quality (a rating of 5 or higher) on the ITERS-R. Only 44% met the criteria cross all seven areas. A total of 81% met the criteria in all but one area.
- This year, 44% of the classrooms met the state standard in personal care routines (e.g., health practices, diapering, etc.). This was a decrease from 2009-2010, when 53% of classrooms met the state standard in personal care routines.
- The highest scores across classrooms were in the areas of listening and talking and interaction.

ITERS-R Infant/Toddler Environment Rating Scale – Revised

<u>Authors</u>: Harms, Cryer & Clifford, 2003

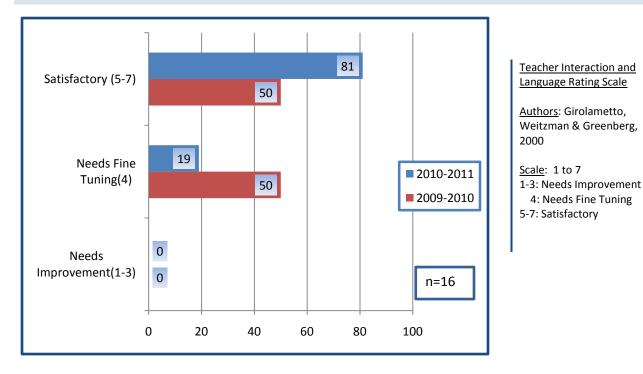
Scale: 1 to 71=Inadequate3 = Minimal5 = Good7= Excellent

#### Teacher Interaction and Language Rating Scale

The Teacher Interaction and Language Rating Scale evaluated how well teachers supported children's development of language skills. It is an observational assessment with 11 items designed to rate the teacher's interaction with the children in the classroom. Sixteen classrooms were observed across the seven center-based programs.

<sup>\*</sup>Areas that were Improved over 2009-2010 scores

#### PERCENT OF TEACHERS IN EACH RATING CATEGORY



- 81% of the teachers demonstrated best practices in encouraging and supporting language development in young children. This was an improvement over the previous year.
- No programs in 2010-2011 scored in the "needs improvement" area.

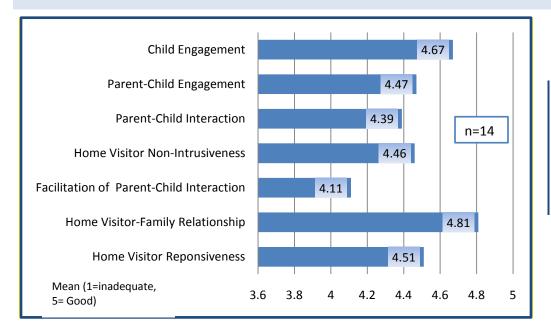
#### WHAT WAS THE QUALITY OF THE FAMILY ENGAGEMENT SERVICES?

#### Home Visitor Observation Rating Scale (HoVRS)

The *Home Visit Rating Scales-A* (HoVRS-A) is designed to assess the quality of family engagement sessions from a video of a direct observation. The measure includes seven rating scales that are collapsed into two scales for the purposes of analysis. The scales are based on a 5 point Likert scale. A total of 14 home visitors were rated.

The HoVRS ratings were completed on 14 home visitors across seven programs. The seven items on the HoVRS were collapsed into two scores. *The Home Visit Instruction* score is based on the home visitor's interactions with the family. It examines the extent that the home visitor facilitates parent-child interaction, builds relationships with the family, is responsive to their needs and interests and uses non-intrusive approaches. The *Parent and Child Engagement* score is based on the outcomes of the home visit, measuring the extent the child and parent are engaged in the session and the overall quality of the parent-child interaction. The results of the individual items and the collapsed scores are summarized in the following two figures.

#### AVERAGE SCORES BY ITEM ON THE HOVRS



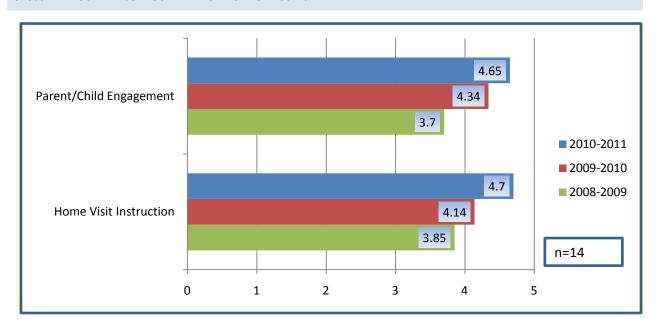
<u>HoVRS</u>

Home Visit Rating Scales

<u>Authors</u>: Roggman, Cook & Jump, Christiansen, Boyce & Innocenti, 2008

Scale: 5 point Likert scale

#### CROSS YEAR COMPARISON: SUMMARY OF HOVRS RESULTS



#### What is the quality of the family engagement programs?

- The quality of the home visit instruction improved over the previous two years. The results indicated that the family educators were effective in their practice as evidenced by the parent's and child's engagement in the session and their interaction with each other.
- The strengths of the family educators' instruction were their skills in establishing positive relationships with the family and the strategies they used to guide the parent-child interaction.

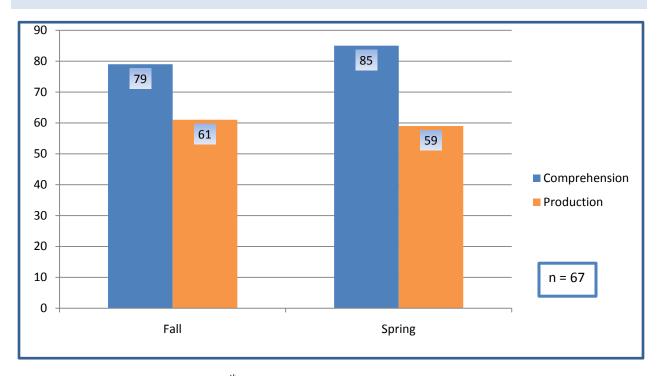
- The home visitors used a variety of strategies to facilitate parent-child interaction including discussing what the child was learning, providing information on strategies to support their child's learning, and using "teachable moments" to support the parent's interaction with their child.
- Sessions also supported the parent in learning about community resources, sharing family information, joint problem solving about issues presented by the parent, and addressing health issues.

#### WHAT WERE THE LANGUAGE OUTCOMES OF THE CHILDREN?

#### MacArthur-Bates Communicative Development Inventories (CDI- Short Form)

The MacArthur-Bates CDI – Short Form is a standardized assessment using parent report to measure language and communication skills of infants and young children (Ages 12 – 30 months). A total of 105 MacArthur-Bates CDI were completed in the spring and 67 children had both Fall and Spring data. The average time in the program was 19 months.

#### PERCENTAGE OF CHILDREN SCORING IN THE TYPICAL\*RANGE BASED ON PERCENTILE RANK RATINGS



Typical Rankings are higher than the 10<sup>th</sup> Percentile.

#### What were the language outcomes based on the MacArthur CDI?

- Language skills overall were within the average range and were maintained across time. There were higher percentages of children within the average range in the area of understanding words compared with production of words. These results need to be viewed with caution as the assessment was not normed with children from low income families.
- There were no significant differences between the fall and spring percentile rank scores for either comprehension (n=13. P=.73) or production (n=54, p=.53) based on a paired t-test analysis.

MacArthur-Bates CDI
MacArthur-Bates
Communicative
Development Inventories

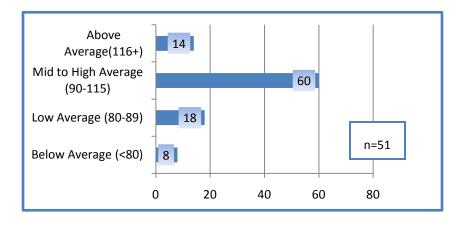
Authors: Fenson, Pethick, Renda, & Cox, Dale & Reznick, 2000

<u>Scale</u>: Standard score, percentile rank

#### Peabody Picture Vocabulary Test, 4<sup>th</sup> Edition (PPVT-4)

The PPVT-4 is a standardized assessment that measures receptive language (for children 30 months or older). A total of 51 assessments were completed in the Spring. There were 18 children who had PPVTs completed in both Fall and Spring. The average time in the program was 17 months.

#### PERCENTAGE OF CHILDREN BY CLASSIFICATION BASED ON SPRING PPVT-4 SCORES

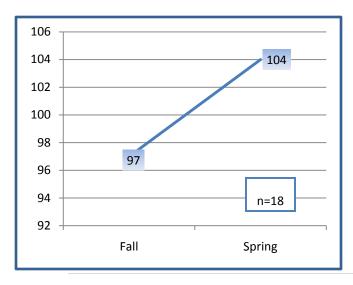


# PPVT-4 The Peabody Picture Vocabulary Test IV (PPTV-

Authors: Dunn and Dunn, 2004, 2007

<u>Scale</u>: The average score is 100, with an average range of 85-115.

#### FALL/SPRING COMPARISONS OF CHILDREN'S AVERAGE PPVT-4 SCORES



#### What were the language outcomes based on the PPVT?

- The majority (74%) of the children scored within mid-average or above range (90+) at the time of the spring assessment.
- 14% of the children who were assessed with the PPVT received Early Development Network services.
- Toddlers demonstrated significant gains in receptive language skills by the spring (p=.001, paired t-test).
- Time in program did not predict outcomes on the PPVT (n=48,slope=-.187, r<sup>2</sup>=0.125,p=.388, regression analysis).

#### WHAT WERE THE SOCIAL-EMOTIONAL OUTCOMES OF THE CHILDREN?

#### Devereux Early Childhood Assessment (DECA)

The DECA is a standardized assessment of young children's protective factors associated with child characteristics. – These child characteristics include: initiative, attachment/relationships and self-regulation. A total of 196 children had the DECA-IT (infant/toddler) or the DECA-P (pre-school) completed. A total of 135 children had Fall-Spring assessments completed. The mean age of the children was 23 months in the Spring with an average time in the program of 15 months.

#### SOCIAL OUTCOMES: MEAN SCORE FALL/SPRING COMPARISON

Outcome Area	Number of Children	Fall Mean Score	Spring Mean Score
Attachment	135	51.44	54.66**
Initiative	135	52.84	56.00**
Self-Regulation	81	50.94	53.95**
Total Protective Score	135	52.30	54.76*

<sup>\*</sup>Significantly different from zero at the .05 level, two-tailed test

#### DECA-IT, DECA-P

Devereaux Early Childhood Assessment for Infants and Toddlers (DECA-IT), Devereaux Early Childhood Assessment, Pre-school

Authors: LeBuffe & Naglieri, 1999

<u>Scale</u>: The average score is 50, with an average range of 41 to 59.

#### What were the social-emotional outcomes based on the DECA-IT or DECA-P?

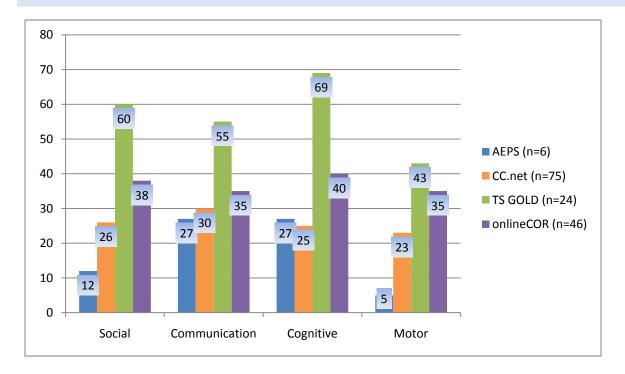
- Children gained social-emotional skills, with an increasing percentage of children scoring within the range of "strength" for the Total Protective Factor dimension by Spring.
- The results of the statistical analysis indicated the children made significant gains across all protective factor outcome areas. The most gain was in the area of Self-Regulation and Initiative.

#### What were the Functional Outcomes of the Children?

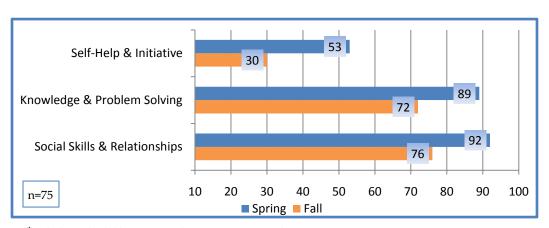
Results Matter in Nebraska includes a child outcome system designed to improve programs and supports for all young children birth to age five served by school districts, the Early Development Network, and their partners. It was initiated as part of the federal Office of Special Education Programs (OSEP) requirement for reporting child outcomes. Each Sixpence program chose one of three state approved assessments: High/Scope Child Observations Record, Creative Curriculum Developmental Continuum, or Assessment, Evaluation, and Programming System. These assessments helped to monitor children's progress towards achieving three functional and four developmental outcomes. A total of 151 children had fall/spring data.

<sup>\*\*</sup>Significantly different from zero at the .01 level, two-tailed test.

#### PERCENT OF MEAN GAINS FROM FALL TO SPRING BY DEVELOPMENTAL DOMAIN AND ASSESSMENT



### PERCENT OF CHILDREN MEETING THE STATE BENCHMARK FOR FUNCTIONAL OUTCOMES: FALL/SPRING COMPARISONS



<sup>\*</sup>Includes only children assessed on Creative Curriculum.

### Child Functional Outcomes:

#### Self-Help & Initiative

Child uses appropriate behaviors to meet her needs

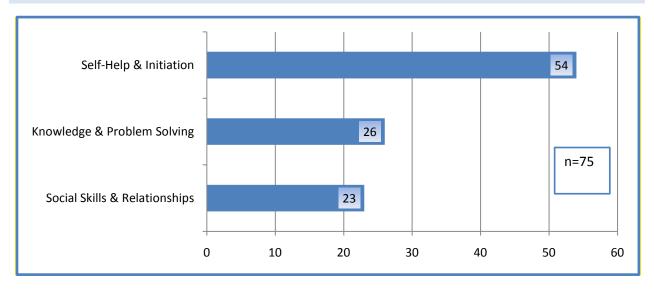
### **Knowledge & Problem Solving**

Child acquires knowledge and skills, including early language and literacy

#### Social Skills &

Relationships Child has positive social-emotional skills and enjoys healthy relationships

#### PERCENT OF CHILDREN WHO MADE GREATER THAN EXPECTED CHANGE IN THEIR RATE OF DEVELOPMENT



#### What were the developmental benefits of participating in Sixpence Projects?

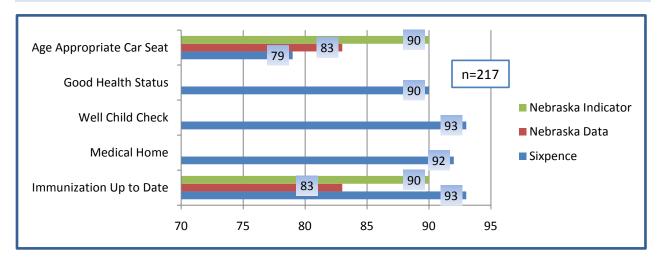
- The majority of the infant and toddlers assessed on Creative Curriculum met the state benchmark set for child outcomes in social skills and knowledge and problem solving skills.
- Typically, without intervention, children's skills will continue to develop at a constant rate. Participation in Sixpence programs resulted in greater than expected growth for at least a quarter of the children. The largest percentage of growth was in the area of self-help and initiative. Children scored the lowest in this area in the fall.
- Very few children made less than expected gains [knowledge and problem solving (1%) and self-help and initiation (5%)].

#### WHAT ARE THE HEALTH OUTCOMES OF THE CHILDREN?

#### **Health Survey**

In the spring, providers completed the health survey for each of the families they served to assess the children's health status. Surveys were completed on 217 families. These results were compared to state health indicators (based on Nebraska 2010 Goals and Objectives and Nebraska findings (Kids Count 2007). In addition, health data was also collected for those 17 mothers enrolled in Sixpence who were pregnant.

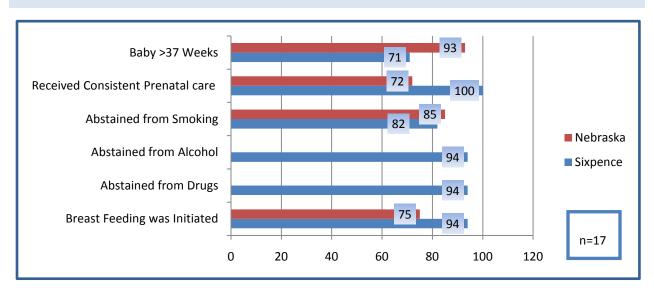
#### PERCENTAGE OF CHILDREN WHO MET THE MET THE HEALTH INDICATORS



#### What were the health outcomes of the children?

- There was much variability of gains in mean score based on the assessment tool. The most gains across assessments were in the area of communication and cognitive development.
- Children served in Sixpence Programs had a higher rate of immunization than Nebraska children as a whole and were above the criteria set in the Nebraska 2010 Goals and Objectives.
- High percentages (over 90%) of children had a medical home and were up to date on well check exams.
- Overall, the majority of the children's health was rated as good or higher.
- There is a need to increase the number of parents who use care seats.

#### PERCENTAGE OF MOTHERS MEETING PRENATAL HEALTH INDICATORS



#### What were the prenatal outcomes for the mothers and infants?

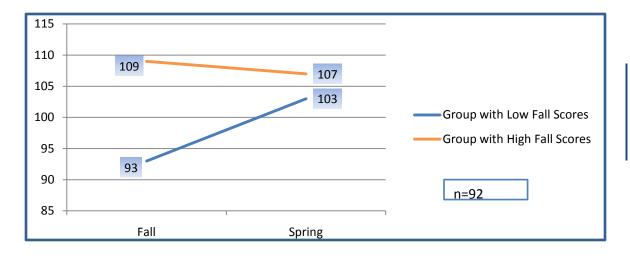
- All mothers participating in Sixpence received consistent prenatal care. This percentage was higher than mothers reported in Nebraska.
- Mothers in Sixpence had a higher rate of initiating breastfeeding than mothers reported in Nebraska.
- High percentages of mothers abstained from alcohol and drugs and initiated breast feeding.
- Mothers in Sixpence had a higher rate of premature babies and had slightly less who abstained from smoking than the mothers reported in Nebraska.

#### DOES PARTICIPATION IN SIXPENCE PROGRAMS IMPROVE THE HOME ENVIRONMENT?

#### Home Inventory –Short Form (SF): Birth to Three (Teacher and Family Survey)

The HOME-SF is a standardized assessment of the home environment and maternal-child interaction. It consists of 18 items, 8 based on maternal report and 10 items based on provider observation. The scale measures both cognitive stimulation and emotional support. A total of 92 Fall/Spring surveys were completed.

### COMPARISON OF FAMILIES BASED ON FALL SCORES (LOW OR HIGH) ON THE HOME INVENTORY — CHANGE OF MEAN SCORE OVER TIME



#### **Home Inventory**

Author: R. Bradley

<u>Scale:</u> Standardized score

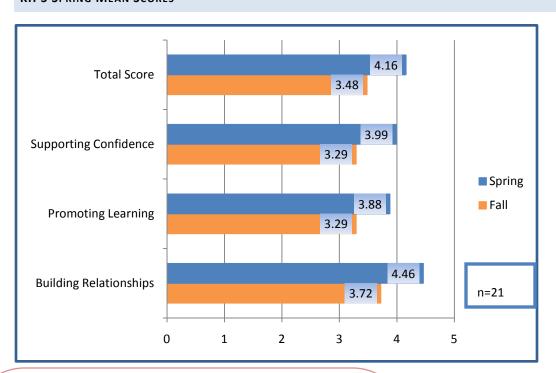
#### Does Sixpence result in positive changes in the home environment?

- By the spring, the majority of the families scored within the average range, suggesting that their homes provide positive cognitive stimulation and emotional support.
- Families who scored in the mid to high average range in the fall maintained their skills so there were not significant gains in skills by spring (n=69, p=.145, paired t-test).
- Families who scored in the low average area or below in the fall, achieved significant positive gains by spring (n=23, p=.000, paired t-test).
- The number of risk factors did not predict Home Inventory Scores (slope=-.678, r2=.018, p=.36)

#### **Keys to Interactive Parenting (KIPS)**

The KIPS assesses 12 key parenting behaviors across three primary areas including: building relationships, promoting language, and supporting confidence. Families participating in home visitation services were videotaped as they interacted with their child. Interactions were scored to evaluate the quality of their interactions. A total of 21 parents had Fall and Spring assessments. A total of 61 families had spring assessments. The average time in program was 24 months.

#### KIPS SPRING MEAN SCORES



KIPS
Keys to Interactive
Parenting Scales

Author: Comfort & Gordon, 2008

Scoring: Five point Likert

scale

#### Program promotes self-confidence as a parent (Broken Bow).....

T is a young mother of two children, ages 18 months and 6 months. This shy, timid mother faces mental and medical challenges which make it difficult for her to communicate with others and challenges her self-esteem.

When our visits first began, T questioned her parenting abilities, was nervous to ask questions and felt intimidated by professionals in her and her children's lives. Each time I would visit with T, I would see new confidence emerge. She began asking more questions about her children and their development...She gained the confidence to contact professionals in her life on her own, instead of having her mother or husband do it. T began attending monthly socializations and even joined our local Planning Region Team as a parent representative!

#### What was the impact on parentchild interaction skills?

- By spring, the majority (90.5%) of the parents (n=61) demonstrated positive interactions with their children .Strengths were in the areas of building relationships.
- Parents achieved significant positive gains by spring in their interactions with their children (n=21, p=.001, paired t-test).

#### ARE PARENT OUTCOMES ASSOCIATED WITH CHILD OUTCOMES?

Participation in the Sixpence projects resulted in improved parenting for those who initially scored low on parenting assessments. Further analyses were completed to determine whether parent outcomes predicted child outcomes. A regression analyses was completed to determine what variables were the best predictors (quality of the home environment or the parent-child interaction) of child outcomes. The results found:

#### Home Inventory Scores Predict Children's Social Emotional Skills

- The scores on the Home Inventory (a measure of the family environment) did not predict the scores on the DECA TPF (slope=.019, r²=0.017, p=.855).
- The scores of the Keys to Interactive Parenting were not predictive of scores on the DECA TPF (slope=-.004, r²=0.004, p=.980).

#### Home Inventory Scores Predict Children's Expressive Language Skills

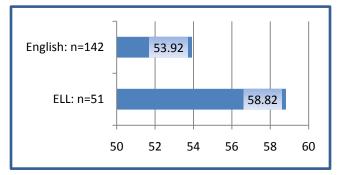
- The scores on the Home Inventory (a measure of the family environment and their support of children's learning) positively predicted the production scores on the MacArthur CDI (slope=1.602, r<sup>2</sup>=0.456, p=.003, n=37).
- The scores of the Keys to Interactive Parenting were not predictive of scores on the MacArthur CDI (slope=.241, r<sup>2</sup>=0.089, p=.687).

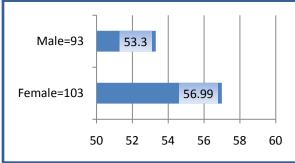
## Are there differential child results based on child Outcomes and family demographic factors?

Independent Sample T-Tests were used to determine if there were differences in the mean child outcome scores based on gender, English Language Learners (ELL), and Free Lunch (FL).

### COMPARISON OF CHILDREN'S MEAN DECA TPF SCORES BASED ON GENDER







#### Were there differential results based on demographic variables?

- There was a statistically significant difference based on families' primary language. Children whose parents are ELL performed significantly better on the DECA TPF score in the spring compared to their English speaking peers (n=193, p = .016).
- There was a statistically significant difference based on gender status with females performing significantly better on the DECA TPF score in the spring compared to males (n=196, p = .038).
- There were no statistically significant differences in spring scores based on Free Lunch status (p=.086); however, there was a trend of children not eligible for free lunch scoring higher on the DECA TPF.
- There were no significant differences between groups when gain scores on language scores were compared.

#### **Summary**

**Program Description**. During the third year of implementation, Sixpence Programs served 338 infants and toddlers and pregnant mothers who were at high risk of school failure. Thirteen programs across Nebraska implemented family engagement services and/or center-based infant care which were based on evidence-based practices.

**Quality of Services**. All of the center-based infant care programs were of overall high quality, meeting the state identified standard for quality. Continuous improvement activities could be targeted in the areas of personal care routines.

**Health Outcomes**. Children in the Sixpence Programs met the state indicator for being up to date on immunization. The majority had a medical home and were up to date on their routine well check appointments. Overall, providers rated the children's health positively (good or higher). Continued support of car seat use is recommended.

**Child Outcomes**. Overall, infants maintained their language skills across the year with no significant gains noted. In contrast, Toddlers demonstrated a significant increase of skills by spring. Participation in Sixpence positively impacted social-emotional skills. The majority of the children demonstrated social-emotional skills within the average range and demonstrated significant increase of skills over the year.

**Family Outcomes**. Participation in Sixpence positively impacted families. Parents that had low scores both with respect to the extent that their home environment promoted emotional support and cognitive stimulation or their interaction with their child, demonstrated significant increases in skills. Parents that scored high on these measures, maintained high quality environments and interaction skills. Parents in the family engagement component demonstrated significant increases in parent-child interactional skills.



#### Program supports a student's promising future.....

S got pregnant her sophomore year of high school. When the baby was born, not only did she struggle to deal with parenting at such a young age, but she also struggled to live in a household full of chaos and on-going drama, including living with her sister who also got pregnant as a teen. Despite all of the obstacles she faced, S was able to maintain her good grades. She graduated this past May and got a scholarship to the College of Saint Mary's where she plans to attend in the fall. S is also an outstanding parent. She is incredibly patient with her son. S naturally has a good sense of how to parent because she really keeps her son's feelings and interest in mind. You can tell S is very thoughtful in the choices she makes as a parent and she also uses the staff at the center as a resource when she has particular questions about potty training, bed time routines, or discipline.

Evaluation Report prepared by Barbara Jackson\*, Ph.D. Lisa Alvarez, B.S., & Rosie Zweiback, M.A. Interdisciplinary Center of Program Evaluation The University of Nebraska Medical Center's Munroe-Meyer Institute: A University Center of Excellence for Developmental Disabilities

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